The Role of Epistemic Communities in the Global Response to Severe Acute Respiratory Syndrome: Implications for Global Health Governance

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Thesis submitted in accordance with the requirements for the degree of Doctor of Philosophy of the University of London

March 2015

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Funded by Central Research Fund, University of London

ABSTRACT

The aim of this thesis was to understand the role of epistemic communities in the global response to Severe Acute Respiratory Syndrome (SARS), through the theoretical lens of Social Constructivism, in order to explain the extent to which ideational factors and normative power constructed through them contributed to the shaping of Global Health Governance (GHG) surrounding infectious disease outbreaks. The methodology of this thesis combined key informants interviews with archival document-based research. Archival research consisted of gathering and reviewing government documents, publications of intergovernmental organizations, media reports, press briefings, and policy papers. Discourse analysis was employed to systematically examine the wide range of data gathered.

The thesis explored how different discourses have driven the changes in public health reasoning and practice, in the form of prioritisation of certain actions in the global response to SARS at various points in time. In order to show the ideational shifts over time, the SARS story was divided into three key phases in terms of the progress of the outbreak. This thesis finds that the global response to the SARS outbreak over three phases was shaped by contestation among various discourses, which framed the perceived priority issues and policy responses pursued. These ideas did not simply arise as governing norms, but ideational success occurred as a result of collective advancement by actors who were coalesced around particular policy ideas. The thesis provided an account of the interplay between policy ideas and key actors, in the form of epistemic communities, and how epistemic communities served as key sources of advice to policy making during the SARS outbreak.

The thesis demonstrates that in many ways, the GHG of SARS mirrored, the GHG of other global health issues in terms of framing of issues and the actors in the formation of and justification for interests in global health. By illustrating the origins and significance of the multiplicity of ideas shaping collective action on SARS, this thesis underscores that governance response in terms of policy outcomes is the product of reconciling health with a plethora of competing priorities, and political economic goals via social construction of reality. The thesis considered the implications of the findings for conceptual understanding of GHG of infectious diseases, and for strengthening policies and practices to address the global infectious disease outbreaks.

DECLARATION

I, Sung-Won Yoon, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

ACKNOWLEDGEMENTS

I would like to express my utmost gratitude to my supervisor, Professor Kelley Lee, for her thoughtful guidance, tremendous patience, meticulous readings and constant encouragement throughout the research and writing of my dissertation. Professor Lee is also the very living embodiment of a perfect female academic who can balance work-family responsibilities extremely well, and is my intellectual inspiration for years to come. I feel very privileged to have had such a wonderful mentor. I am also grateful to all of the interviewees, both cited and not cited, who spared the time to talk to me and provided often critical information for this research project.

I would also like to convey special thanks to my family for all of their encouragement. My husband, Victor, has been a pillar of support throughout this rich but rewarding endeavour. My appreciation also goes to my son, Jason, who has made me a stronger and patient person all through these years. His laughter has inspired me to press on whenever I faced difficulties during my research.

Last but not least, this doctoral thesis is dedicated to my parents who have encouraged and inspired me in my life in so many ways. My mother has been a vital and constant source of emotional support, friendship and encouragement throughout my education. My father passed away before the project's completion but his determinism, moral conviction and remarkable optimism have influenced me on a profound level.

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LIST OF ABBREVIATIONS

ADB	Asia Development Bank
ARVs	anti retrovirals
ASEAN	Association of Southeast Asian Nations
US CDC	[US] Centers for Disease Control and Prevention
CSO	civil society organization
ECDC	European Centre for Disease Control and Prevention
FAO	Food and Agriculture Organisation
G8	Group of Eight (G' group of advanced industrial democracies plus Russia)
GFATM	Global Fund to Fight HIV/AIDS, Tuberculosis, and Malaria
GHG	global health governance

HIV/AIDS	human immunodeficiency virus/acquired immunodeficiency syndrome
IHG	international health governance
IHR(s)	International Health Regulations
ILO	International Labour Organization
IPRs	intellectual property rights
LNHO	League of Nations Health Organisation
MDGs	Millennium Development Goals
NGO	nongovernmental organization
OIE	World Organization for Animal Health
PEPFAR	[US] President's Emergency Plan for AIDS Relief
PHC	primary health care
PHEIC	Public Health Emergencies of International Concern
RF	Rockefeller Foundation
SARS	severe acute respiratory syndrome
TRIPS	Trade Related Aspects of Intellectual Property Rights
UNAIDS	United Nations Programme on HIV/AIDS
UNCEF	United Nations Children's Fund
UNDP	United Nations Development Programme
UNSIC	United Nations System Influenza Coordinator
WHO	World Health Organization
WPRO	World Health Organization Western Pacific Regional Office

CHAPTER ONE

INTRODUCTION

1.1. RATIONALE FOR THE STUDY

Throughout history the threat posed, and the disastrous consequences brought upon human societies, by acute infectious diseases are a story that has been told and retold. Despite their tremendous destructive power, epidemics by definition with some exceptions (such as the bubonic plague of 12th century) are confined within a certain geographical territory. Transmission has been commensurate with prevailing forms and reach of human mobility, largely in a linear geographical manner historically, until the 20th century. The "traditional" response under the existing international states system was correspondingly focused within a specific geographical territory and/or conceived by a limited set of actors who were directed by a national government with the requisite authority. The sometimes conflicting interests of nation-states, in addressing these epidemics, created considerable tensions in achieving collective action.

Today, it is now widely recognised that many infectious diseases are not as readily bound by territorial geography or national borders.[1] The contemporary intensification of globalisation has increased the potential speed, frequency and geographical reach of certain types of infectious diseases. As a result, the transnational spread of pathogens has come to be seen as emanating from a range of globalising forces beyond the control of individual states or governments, making infectious diseases a key collective action challenge. The traditional division between the national and international domains, in particular, is no longer an accurate reflection of the institutional terrain with which we are familiar. Outbreaks such as Severe Acute Respiratory Syndrome (SARS), and the H5N1 avian influenza and H1N1 influenza have demonstrated that the governance needs surrounding infectious diseases are more multifaceted and complex, and confront existing jurisdictional designations. In short, infectious diseases have come to exemplify most starkly the complexity and interconnectedness of the world we live in.

Growing awareness of the specific governance challenges posed by what can be described as transnational disease outbreaks has been at the centre of global health policy debates. Of particular concern has been the need to build effective forms of governance which manage the new kinds of threats posed. With special reference to (acute) disease outbreaks of potential global reach, scholars from a variety of disciplines have begun to explore the challenges of Global Health Governance (GHG). In particular, it has been argued that the transnational spread of pathogens has exposed

[1] Saker L, Lee K, Cannito B, Gilmore A, Campbell-Lendrum D (2004), *Globalisation and infectious diseases: a review of linkage,* Geneva: World Health Organisation.

vulnerabilities in existing governance structures defined by the territorial boundaries of sovereign states.[2] Scholars highlight the expanding roles that non-state actors, for example, might play in an increasingly globalised world.[3] The potential capabilities of information and communication technologies for data collection and dissemination have been described as challenging the authority of, as well as potentially reinforcing the role of existing and new actors within emerging configurations of GHG.[4] In this process, many authors link the increasingly fluid and diffused global health arena with specific disease problems or issues, leading to changing modes of GHG.[5]

The existing literature appears to allude to mounting evidence that transnational nature of policy making (often understood as a process in which the role of the sovereign-state is diminishing) appears to be a growing feature of collective action in infectious disease policy.[6] As will be discussed fully in section 1.3, much of this is ascribed to changes in *material power* such as the role of powerful state or non-state actors. To date, few analyses have examined the role of *ideational power* in global health policy making; in particular, to explain why certain ideas and norms were promoted and prevailed over others, thereby defining global health problems and guiding responses in particular ways.[7] For example, during the H1N1 outbreak in 2009-2010, why did full-scale vaccination programmes become a dominant response to the pandemic across many countries? Why did the vast majority of governments compete with each other to stockpile H1N1 vaccines, while growing concerns from the public regarding the safety of the vaccines, arising from Guillain-Barré Syndrome, were largely disregarded? Were there alternative ways to address the challenges posed by the pandemic and why were they not taken forward? How did the consensus on vaccination emerge as the major international response? How does such consensus emerge? In short, how do the ideas which determine practice in GHG surrounding disease outbreaks evolve the way they do?

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[2] Lee K and Fidler D (2007), "Avian and pandemic influenza: progress and problems in global health governance," *Global Public Health*, 2 (3): 215-234.

[3] Zacher M (2007), "The transformation in global health collaboration since the 1990s," In Cooper A, Kirton J and Schrecker T (eds.), *Governing Global Health: Challenge, Response, Innovation,* Aldershot: Ashgate Publishing; Kickbusch I (2005), "Action on global health: addressing global health governance challenges," *Public Health*, 119: 969-973.

[4] Calain P (2007), "Exploring the international arena of global public health surveillance," *Health Policy and Planning,* 22: 2-12; Fidler D (2004), "Constitutional Outlines of Public Health's New World Order", *Temple Law Review*, 77: 247-290; Fidler D (2004), *SARS, Governance and the Globalisation of Disease*, London: Macmillan; Fidler D (2004), "Germs, Governance and Global Public Health in the Wake of SARS". *The Journal of Clinical Investigation*, 113(6): 799-804; Fidler D (2005), "Health, Globalisation and Governance: An Introduction to Public Health's New World Order", in Lee K and Collin J (eds.), *Global Change and Health*, Berkshire: Open University Press.

[5] Kathryn W and Banda M (2009), "The role of civil society in pandemic preparedness," in Cooper A and Kirton J (2009), *Innovation in Global Health Governance: Critical Cases*, Surrey: Ashgate Publishing: 105-127; Lee K et al. (2009), "Global governance for health," in Labonte R, Schrecker T, Packer C and Runnels V (eds.), *Globalization and Health: Pathways, Evidence and Policy*, New York: Routledge: 289-316.

[6] Zacher M and Keefe T (2008), *The Politics of Global Health governance: United By Contagion,* New York: Palgrave MacMillan.

[7] Lee K (2003), *Globalization and Health: An Introduction.* Palgrave Macmillan: Hampshire.

These questions have largely been neglected in the mainstream GHG literature to date, amid a preoccupation with the quest to identify the most "effective" technical intervention or institutional mechanisms for delivering it. What is "effective", however, raises fundamental questions about how effectiveness is defined and decided. Based on the assumptions of inherent material conditions and institutional setting, the existing literature has been engrossed with assessing the operational requirements with regard to international collaboration between multiple actors, or the administrative effectiveness of global health institutions. Little attention has been given to the normative basis of how the GHG of disease outbreaks has been constructed. Some studies, such as by Shiffman, McInnes et al. and others, have begun to provide insights into how different paradigms or normative frameworks shape global health cooperation.[8] To date, however, few studies offer a detailed critical examination of what norms have been influential, and how such norms come to dominate the GHG of specific infectious diseases.[9]

Understanding ideational power in GHG is important, not only because it fills an important knowledge gap in mainstream GHG studies, which has largely neglected the role of ideas contributing to the shaping of policy, but because it helps clarify why certain issues assume a position of priority attention (if not domination) in the global agenda while others are overlooked. In this regard, what Kelley Lee calls a "contested landscape" of GHG is inspiring. Based on Robert Cox's writings on critical theory in International Relations, Lee seeks to reframe current debates on GHG by focusing attention on underlying normative differences in perspectives about what agreed goals should be achieved in global health, and how to pursue them most effectively.[10] It therefore might be interesting to see and comprehend the rise and fall of different, and sometimes competing, perspectives in a given issue area, and to explain the factors that promote certain perspectives to prominence over others. An analysis of the manner in which global health issues are articulated and institutionalised provides a fuller understanding of the power of ideas and the emerging nature of GHG.

This thesis seeks to contribute to this critical approach to the study of GHG by understanding how the global policy response to the SARS outbreak was shaped by normatively-based perspectives. The argument presented in this thesis is, not that the

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[8] Stuckler D and McKee M (2008), "Five metaphors about global-health policy," *The Lancet*, vol. 372: 95-97.

[9] Shiffman J (2009), "A social explanation for the rise and fall of global health issues," *Bulletin of World Health Organisation*, vol. 87: 608-613; McDougall C, Upshur R, and Wilson K (2008), "Emerging norms for the control of emerging epidemics," *Bulletin of World Health Organization*, vol. 86(8): 643-645; Labonte R and Gagnon M (2010), Framing health and foreign policy: lessons for global health diplomacy, *Globalisation and Health*, 6: 14; McInnes C, Kamradt-Scott A, Lee K, Romer-Mahler A, Rushton S, Williams OD (2014), The Transformation of Global Health Governance, New York: Palgrave McMillan; Lee K and Kamradt-Scott A (2014), The multiple meanings of global health governance: a call for conceptual clarity, *Globalisation and Health*, 10: 28.

[10] Lee K (2009), "Understanding global health governance: the contested landscape," in Kay A and Williams O (eds.), *Global Health Governance: Crisis, Institutions and Political Economy*, London: Palgrave Macmillan.

ideational dimension provides a complete account of GHG, or that material based accounts do not contribute to the understanding of global policy responses to infectious disease outbreaks. Rather, it suggests that fuller understanding of the GHG of infectious diseases must include both analysis of material and ideational factors which underpin the emerging GHG landscape. As Lee puts it, "any debates about the future of GHG must begin with a critical analysis of the normative basis of its study and practice."[11]

To fulfil this task, this thesis draws on conceptual and analytical insights from the discipline of International Relations – specifically the theoretical approach of Social Constructivism – to examine how the terms of discourse on infectious disease issues, and SARS in particular, have been socially constructed over time. Social Constructivism, discussed in Chapter Two, is crucial to this study in two ways. First, it highlights the role of discourse and ideas in analysing policy decisions and collective action, which is so far largely ignored in the current literature. From a Social Constructivist perspective, the evolution of ideas is more than just a rational response by self-interested powerful actors. Rather, it is about the way that actors form intersubjective understandings of ideas which, in turn, influence material reality. Second, it uncovers the processes that have generated consensus on public health measures, through which policy ideas and the rationale that underpins them have been developed. Thus Social Constructivism helps us to understand why certain policies were developed and implemented over others, whose ideas informed these developments and predominated.

Understanding the ideational aspects of GHG leads us to the need to identify and explain whose ideas are deemed legitimate and important, and how these ideas are played out in the GHG landscape. In this thesis, the researcher focuses particularly on the role of key "experts" and their networks, what Peter Haas calls "epistemic communities"[12], to explain how the process of ideational development shaping GHG is inextricably intertwined with individuals engaged in fostering policy changes. The epistemic communities concept is particularly relevant to this study because it demonstrates that the key to understanding policy evolution lies in understanding the actors whose control over knowledge is vital in providing the rationale for policy and in creating and sustaining a normative and ideational framework. Additionally, the epistemic communities concept aids in explaining how such ideational construction contributes to our understanding of the changing nature of GHG for infectious diseases with a global reach, and wider responses to disease issues in particular. The concept of epistemic communities, by recognising the discursive terrain of policy making, will broaden the study of global health by enhancing the understanding of how global health policy

[11] Lee K (2009), "Understanding of global health governance: the contested landscape," p. 28.
[12] Haas P (1992), "Introduction: Epistemic Communities and International Policy Coordination", *International Organization*, Vol. 46, N0.1: 1-35, p. 3; Haas P (2001), "Policy Knowledge: Epistemic Communities", in Smelse N and Bates P (eds.), *International Encyclopaedia of the Social and Behavioural Sciences*, Amsterdam: Elsevier, pp. 11579-60.

making takes place. A fuller discussion of the concept of epistemic communities is found in Chapter Two.

Using the above conceptual and analytical approach, this study provides an empirical account of the evolution of global policy making on the SARS outbreak through a two-pronged strategy. First, it identifies key individuals and their linkages with each other during the course of policy development, their underlying rationales and ideas, and the major issue-areas that have been shaped by such actors. Second, it uses this account to explore and understand wider questions concerning the changing nature of the GHG of infectious diseases. In this process, the practices of global health policy making, where certain ideas become the legitimizing principles of global health policy actions battling against SARS, will be more fully assessed.

1. 2. RESEARCH AIM AND OBJECTIVES

The aim of this thesis is to understand the role of epistemic communities in the global response to SARS, through the lens of Social Constructivism, to explain the extent to which ideational factors and the normative power constructed through them contributed to the shaping of GHG surrounding infectious disease outbreaks. In undertaking the above research, this study seeks to enrich understanding of GHG on infectious diseases through both conceptual and empirical analyses. Conceptually, this thesis aims to strengthen the existing literature on GHG of infectious diseases by demonstrating how the *ideational* power which epistemic communities hold and exercise influences policy action in GHG. In doing so, this research bolsters our understanding of Social Constructivism as a useful theoretical perspective in health policy analysis, filling explanatory gaps in the area of GHG. Practically, this thesis enhances the understanding of the *process* of global policy making towards infectious disease outbreaks through an in-depth investigation of the mechanisms by which epistemic communities serve as key sources of advice to policy making. This serves to address a significant gap in the existing global policy-making literature as to how certain practices come to be constructed as legitimate. Ultimately, during a period of much policy debate about how to achieve effective and appropriate forms of collective action in a globalising world, such knowledge may contribute to more reflective and critical debates on GHG.

To achieve the above aim, the research will fulfil a number of specific objectives, supported by key research questions, as presented in Table 1.1.

Table 1.1. Objectives of the research and key research questions

Objectives	Key Research Questions
1. To critically review the existing literature on GHG of infectious	• How has the term GHG been defined and applied in relation to infectious

disease outbreaks	diseases in the literature to date? • How has the governance of SARS been analysed to date? • To what extent has discourse been analysed in the GHG of infectious diseases, SARS in particular? • What are the current limitations of the existing literature?
2. To develop a conceptual framework to analyse the SARS outbreak based on the concept of epistemic communities	• To what extent can the concept of epistemic communities be used to analyse SARS? • What are the strengths and weaknesses of such a conceptual framework?
3. To locate the transnational epistemic communities concerned with SARS by identifying key actors and their linkages to each other	• What key actors contributed to the global response to the SARS outbreak? • What interests and ideas characterised these individual and institutional actors? • How did these actors interact with other actors? • What institutional linkages were formed?
4. To analyse the discourses constructed by this epistemic community	• How was the problem of SARS framed? • Which actors can be identified with which discourses? • In which issue-areas was it dominant?
5. To understand how, and to what extent, the discourses put forth by the epistemic communities impacted on the practical policy response to SARS	• How did each discourse influence policy decisions and actions on SARS over time? • Was any discourse(s) distinct in shaping the global response to SARS? • Which actors have been dominant?
6. To draw conclusions about the nature of emerging forms of GHG	• What does this analysis tell us about how the policy agenda and action have been defined and pursued at the global level? • What characterises the political nature of the GHG of SARS? • How do we revisit the notion of GHG, particularly of infectious diseases in light of this analysis?

1. 3. A REVIEW OF THE LITERATURE

1.3.1. Global governance: multiplicity, intersection and blurred boundaries

The concept of global governance arose within the academic fields of Government, Politics and International Relations during the 1980s. Over the past four decades, the global governance literature has expanded in breadth, depth and sophistication. The literature expanded especially alongside the study of globalisation.
Globalisation can be defined as "the widening, deepening and speeding up of worldwide interconnectedness in all aspects of contemporary social life, from the cultural to the criminal, the financial to the spiritual".[13] The process of globalisation is best summarised as the intensification and acceleration of cross-border flows of people, goods, services and ideas.[14] Globalisation indeed can be understood by the following three characteristics: First, the spatial reach and density of global and transnational interconnectedness weave complex webs and networks of relations among communities, states, international institutions, non-governmental organisations and corporations, and these overlapping and interacting networks both empower and constrain communities, states and social forces. Second, social and political activities are increasingly "stretched" across the globe and significantly, they may no longer primarily and solely be organised according to territorial principles. At the same time, they may generate pressures for socio-activities to be re-territorialised in the form of sub/supra-national zones or modes of governance. Third, globalisation is concerned with the expanding scale by which power is organised – the exercise of power in one locale can have effects on another.

Through its principal drivers, globalisation has brought about a large number of unprecedented problems, and intensified existing ones, by modifying their individual nature and cross-linking the issues to form a myriad and sophisticated network of challenges. This network of interconnectedness, which is the principal theme behind the idea of globalisation, essentially reduces the constraints of time and space through the following five drivers:[15] (a) the changing infrastructure of global communications linked to the information technology revolution; (b) the development of the global market in goods and services, facilitated by new information distribution channels; (c) the pressure of migration and the movement of people, linked to shifts in patterns of economic demand, demography and environmental degradation; (d) the end of the Cold War and the diffusion of democratic and consumer values across many of the world's regions, alongside some marked reactions to this; and (e) the emergence of a new type and form of global civil society, with the crystallisation of elements of a new global public opinion. Globalisation has therefore created a public domain by which *various*

[13] Held D, McGrew A, Goldblatt D, Perraton J (eds.) (1999), *Global Transformations: Politics, Economics and Culture*, Cambridge: Polity Press, chapter 1, in particular p. 27.
[14] Ibid., pp. 15-16.
[15] Held D (2006), "Reframing Global Governance: Apocalypse Soon or Reform!" *New Political Economy*, 11(2): 157-176.

actors assert their claims, defend their interests, debate rules and policies, contest truths and construct norms. In short, the globalisation process has intensified the density of social and political interactions on a global scale.[16]

Experts disagree on the implications[17] [18] of globalisation – on whether the process of globalisation brings about more opportunities[19] [20] than threats.[21] [22] But as debate rages, there is consensus that new models of transnational governance are needed to supersede the existing forms of "international co-operation" mandated by the Westphalian system. The need for new forms of governance stems from the challenges humanity is facing on a daily basis as they grow in intensity and extensity, but the approaches in handling these challenges are weak and incomplete. Even as humanity stands at the forefront of the knowledge frontier, with remarkable progress in the field of science and technology, humanity stands at the edge of an abyss of a range of global externalities which could lead to catastrophic consequences for humanity's continued survival, if left unaddressed. There are many of these challenges. The lack of a framework to tackle the risks of global warming and environmental degradation; the absence of an overarching supra-national authority to control, if not eliminate, weapons of mass destruction; the deficiency in capacity to deal with illicit activities and criminal acts; and the inability of existing global institutions to work towards effectively achieving equitable human development goals in areas of education, poverty eradication, sustainable development and health; all of which goes to highlight the ineffectiveness and inefficiency of humanity in tackling these challenges. The perceived inadequacy of existing institutional frameworks to tackle these challenges, as well as the rise of the global civil society from the 1970s onwards, is often attributed to the increasing "ineffectiveness" of current international co-operation.[23]

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[16] Ruggie JG (2004), Reconstituting the Global Public Domain – Issues, Actors and Practices, *European Journal of International Relations*, 10(4): 499-531.
[17] For example, see Dahlman C (2007), "Technology, globalization, and international competitiveness: Challenges for developing countries." Available at: http://www.un.org/esa/sustdev/publications/industrial_development/1_2.pdf
[18] Davis LE (2003), Globalization's Security Implications, Rand Issue papers, http://www.rand.org/content/dam/rand/pubs/issue_papers/2005/IP245.pdf; also see Werlhof C (2008), *The Consequences of Globalization and Neoliberal Policies. What are the Alternatives?* Centre for Globalization Paper, http://www.globalresearch.ca/the-consequences-of-globalization-and-neoliberal-policies-what-are-the-alternatives/7973.
[19] Depending on the individual state's attributes, including its size, relative power and economy structure, globalisation is thought to have very different implications for different countries. See Friedman TL (2000), *The Lexus and the Olive Tree: Understanding Globalization*, New York: Picador.
[20] Bhagwati J (2007), *In Defense of Globalization*, Oxford: Oxford University Press; also see Chamberlain W, Bhagwati J, Armington P (2012), *Globalization, Free Trade and World Health: Set the People Free*, Create Space Independent Publishing Platform.
[21] Mishkin F (2008), *The Next Great Globalization: Disadvantaged Nations Can Harness Their Financial Systems to Get Rich*, New Jersey: Princeton University Press, chapters 4 to 7 in particular discuss the challenges financial globalization brings to emerging markets.
[22] Serra N and Stiglitz J (2008), *The Washington Consensus Reconsidered: Towards a New Global Governance*, Oxford: Oxford University Press.
[23] Stiglitz J (2002), *Globalization and its Discontents*, New York: W.W. Norton and Company.

In response to this, there appears to be a consensual voice with the opinion that a new form of concerted effort to tackle global collective action problems is needed, and this is loosely termed as global governance. This form of governance is increasingly seen as critical to the survival of mankind. Scholars have therefore in recent years worked towards building a more comprehensive understanding of the concept of global governance and what it entails. The problems envisaged by scholars belong to very different domains, even though they are interlinked, and almost all require complex solutions that would involve efforts across geographical boundaries and disciplinary divides. These domains include international peace and security, economy and finance, environment, sustainable development and health, among others. These problems all require herculean efforts and wisdom to solve, beyond the means of a single nation-state regardless of how powerful it is. This indicates that global governance requires a range of institutions, regimes, processes, partnerships, and networks to contribute to global collective action and problem solving. This definition subsumes formal and informal arrangements, as well as the role of non-state actors, in global settings. Regional cooperation may also be regarded as an element of global governance insofar as it contributes to broader efforts.

Conceptually, *governance* differs from *government*, the latter of which implies sovereign prerogatives and hierarchical authority. Thus, global governance does not equate to world government.[24] The absence of a world government per se is not a new phenomenon in the study of International Relations. In fact, anarchy, defined as the absence of a supra-arching nationality, is a fundamental assumption in both the realist and liberal theories of International Relations. This traditional understanding of international relations is founded on negotiations among national governments based on an aggregate of positions achieved from domestic consensus at the national level (in turn, a result of negotiation among national governments, interest groups, businesses, and unions, etc.). The events at the international level are a direct result of negotiations among states. Both neo-realists and neo-liberals agree that this essentially is a question of material power. Globalisation, however, has established transnational spaces that prevent the aggregation of interests at this level, and this in turn encourages the interaction between state and non-state actors that limits the political options of states.[25]

In terms of ability, there are four difficulties[26] with the traditional interpretation of International Relations in regards to interstate relations. First, there is no clear division between intergovernmental agencies, as their functions often overlap, mandates frequently conflict, and aims and objectives too often get blurred. Second, there is inertia in the system of intergovernmental agencies, and far too often these agencies fail

[24] *Global Governance 2025: At a Critical Juncture*, p. 17, available at: http://www.iss.europa.eu/uploads/media/Global_Governance_2025.pdf
[25] Hein W and Moon S (2013), *Informal Norms in Global Governance*, United Kingdom: Ashgate, pp. 18-19.
[26] Held D (2006), "Reframing global governance: apocalypse soon or reform!" *New Political Economy*, 11(2), pp. 166-167.

to mount collective problem-solving solutions, when faced with disagreement over means, objectives, costs, and so on. Third, a growing number of issues can be characterised as *intermestic* – that is, issues which cross the international and domestic. Fourth, there is the question of an accountability deficit which in turn is related to power imbalances between states, and between state and non-state actors, in the shaping of global policies and practices. All point to the changing nature of global governance characterised by a multiplicity of actors, no overarching authority, and inability to set a coherent agenda. The result has been, according to McInnes et al., a failure to grasp a consensual meaning of global governance:

> *It is unclear whether [global governance] really does refer to governance of the world on a global scale, or of whatever governance there is taking place in the world. Although clearly more than a "worldwide tilt from states to markets", there is no consensus about what this diverse set of changes to actors, norms and procedures actually means. Held and McGrew argue that it represents a shift from states to regimes; Avant et al. suggests a change in agenda setting, rule-making, implementation and monitoring; Rossenau suggests the emergence of a multi-centric globalised space, where political agendas are set and different rule systems collide; whereas others point to the emergence of new transnational networks.*[27]

Recognising multiplicity in global governance, marked by a diverse range of actors and interests, McInnes et al. characterize the nature of global governance by arguing that: (1) global governance is contested; (2) the transformative change is clear and rooted in the narrative of globalisation; (3) this transformation in global governance is far more than an increase in the speed and intensity of inter-state exchanges – it is on a horizontal axis linking states as well as a vertical axis linking supranational actors with sub-national ones; and (4) multi-level governance is observed within an overall context of transformed global governance.[28]

What the above characterisation implies is that global governance constitutes a number of different domains (for example, global financial governance, global environmental governance, and global health governance; see figure 1.1) with substantially overlapping (often competing) agendas and interests. At the same time, within each domain, one can expect that different actors would be competing over the representation of the issues at multiple levels in pursuit of common global goals. As we will see in the next sub-section, the emergence of GHG reflects on many of these features identified in global governance.

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[27] Mcinnes C, Kamradt-Scott A, Lee K, Roemermahler A, Rushton S and Williams OD (2014), *The Transformation of Global Health Governanc*e, New York: Palgrave Macmillan, p. 6.
[28] Ibid., p. 6.

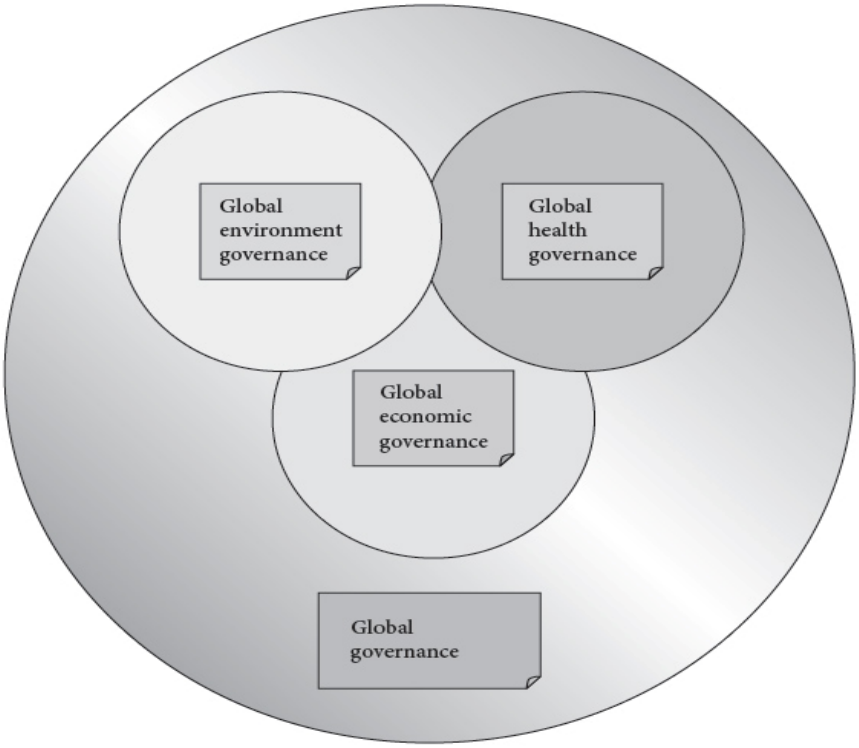

Figure 1.1. Global governance as overlapping interests
Source: McInnes et al. (2014), *The transformation of global health governance*, New York: Palgrave Macmillan.

1.3.2. Changing institutional architecture and actors in GHG

The subfield of Global Health Governance (GHG) has received growing attention since the late 1990s. GHG lies at the intersection between International Relations and Public Health. The concept of global governance has emerged in response to a large number of non-traditional actors that have taken on roles of governance due to changes in global contexts and to the capacity of sovereign states. The concept of global governance has been applied to the health field since the early 2000s. Focusing on the challenges creating a governance gap from International Health Governance (IHG) to GHG, this literature provides an important provenance to the analysis of GHG.[29] Dodgson et al.[30] coined the term Global Health Governance as "the actions and means adopted by a society to organize itself in the promotion and protection of the health of its

[29] Dodgson R et al. (2002), "Global Health Governance: A Conceptual Review", *Discussion Paper No. 1*, Centre on Global Change and Health and World Health Organization; Fidler D (2002), "Global Health Governance: Overview of the Role of International Law", *Discussion Paper No. 3*, Centre on Global Change and Health and World Health Organization; Lee K (2003); Loughlin K and Berridge V (2002), "Global Health Governance: Historical Dimensions of Global Governance", *Discussion Paper No. 2*, Centre on Global Change and Health and World Health Organization.
[30] Dodgson R et al. (2002), "Global Health Governance: A Conceptual Review", p. 16.

population". GHG is driven by the need to address health determinants and outcomes that spill over and disregard territorial space.[31] Although the term has come to be widely used by scholars and policy makers, the term "GHG" does not have a shared understanding.

In their systematic review of the GHG literature, Lee and Kamradt-Scott identified that three distinct meanings of GHG emerged in GHG scholarship on the basis of their ontological variations: "globalisation and health governance", "global governance and health", and "governance for global health".[32] The conceptualisation of "globalisation and health governance" primarily deals with the institutional actors, arrangements and policymaking processes that govern health issues in an increasingly globalising world. The use of "global governance and health" focuses on policy decisions of multilateral financial institutions such as the World Bank, IMF and WTO, and the need to improve good governance within these institutions. The meaning of "governance for global health", which seems close to what this study intends to use given the normative underpinnings reflected in the term, concerns what governance arrangements are needed to further agreed global health goals. As Lee and Kamradt-Scott suggest, this conceptual diversity is derived from the multidisciplinary nature of GHG scholarship, where the theory and practice of GHG are rarely brought together. Arguably, the conceptual imprecision would also mean a greater complexity in defining existing institutional arrangements within emerging GHG and their normative underpinnings.

Indeed, structures of global health have emerged alongside increased state interdependency, a growth in global trade, and the movement of goods and people. With the accelerated impact of globalisation, there has been a flourishing of actors and arrangements to address and harness issues pertaining to global health inequality, creating what Rosenau terms as "multiple spheres of autonomy."[33] Today, like global governance as a whole, global health is characterised by a shift from the traditional idea of international health cooperation, with a nation-state as a central actor, towards multiple approaches to global health issues through concerted efforts by both supra and sub-national actors. Scholars have discussed the role of emerging actors with the common interest of global health but differing approaches as to how this goal can be achieved. The following briefly outlines the role some of these actors play and how these approaches to global health present policy and practice.

The World Health Organization,[34] together with the World Bank,[35] remains a significant actor in GHG. The WHO is the United Nations specialised agency for health with 194

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[31] Lee K (2003), *Globalization and Health: An Introduction*; Fidler D (2005), "Health, Globalisation and Governance: An Introduction to Public Health's New World Order".
[32] Lee K and Kamradt-Scott A (2014), The multiple meanings of global health governance: a call for conceptual clarity, *Globalisation and Health*, 10: 28.
[33] Rosenau JN (1990), *Turbulence in World Politics*, New Jersey: Princeton University Press, p. 192; also see Rosenau JN (2003), *Distant Proximities: Dynamics beyond Globalization*, New Jersey & Oxford: Princeton University Press, chapter 3 in particular.
[34] See the official World Health Organization website, available at http://www.who.int/en/

member states. Established in 1948, it played a leading role in the eradication of smallpox, and a central role in the control of HIV/AIDS, tuberculosis and malaria, as well as non-communicable diseases, mental health, and sexual and reproductive health, amongst others. The budget of the WHO in 2012-2013 was $3,959 million.[36] Underpinning the WHO is the fundamental idea that health is a human right and intrinsic to the personal, social and economic development of individuals, states and the societies in which we live. The WHO therefore has prioritised these concerns through sustained interventions into specific health issues and diseases, and emphasises the need for primary healthcare provisions and the role of health system strengthening. The WHO has, however, struggled to balance its fundamental commitment to a right to health against the growing presence of market-based health policies. This has created what Lee calls the problem between an idealised version of health for all, and the practical aspects of implementing governance of global health that have defined the WHO.[37]

The World Bank, on the other hand, is not an institution that has a direct mandate for health, but rather a financial institution that is a constituent of the World Bank Group and a member of the United Nations Development Group. The World Bank's main mandate is providing financing for economic development and poverty reduction. Through its programs aimed at the promotion of international trade and investment, it is often the main funding source for certain health programs. The Bank's approach to global health can be outlined by its co-financing of health sector programs, neoliberal reform and structural adjustment in the late 1980s and early 1990s. Underpinning the Bank's health lending are neoliberal values[38] supporting the reduction of state provision, the role of market and decentralisation within health sector reform. Studies have found that these policies have led to the reduction of healthcare provision in many developing countries.[39] The Bank has expanded its role in global health through its poverty reduction strategy as part of a broader approach to development. It promoted a good governance agenda with an aim to ensure transparency, accountability and participation within borrower states. The idea of good governance is held up by some as a transformative concept that can facilitate poverty eradication. Yet, critics argue that aid donors and the Bank tend to use good governance in a narrow and technocratic

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[35] See World Bank Website, available at http://www.worldbank.org
[36] The Budget of the World Health Organization, published on the WHO Website. See http://whqlibdoc.who.int/pb/2012-2013/PB_2012–2013_eng.pdf?ua=1
[37] Lee K (2009), *The World Health Organisation*, London: Routledge.
[38] Harman S (2009), "The World Bank and health," In Kay and Williams O (eds.), *Global Health Governance: Crises, Institutions and Political Economy*, London: Palgrave.
[39] Ugalde A and Jackson J (1995), "The World Bank and international health policy: a critical review" *Journal of International Development*, 7(3): 525-41; Nuruzzaman M (2007), "The World Bank, health policy reforms and the poor," *Journal of Contemporary Asia*, 37(1): 59-72.

sense, leading to focus on the effectiveness of state rather than the equity of the economic system and the legitimacy of the power structure.[40]

The governments of high-income countries have growing interests in health mandates and initiatives, and are often involved in a host of initiatives not only independently,[41] but also bilaterally[42] and multilaterally.[43] [44] In particular, the G8 countries – the US, Russia, Japan, Canada, the UK, France, Italy and Germany – engage in health financing and service provision as exemplified in the development of the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund). The Global Fund was created by G8 members in 2001 to combat three diseases (HIV/AIDS, malaria and Tuberculosis). Infectious diseases have been the focus of G8's agendas as part of wider social aspects of development particularly in Sub-Saharan Africa along with the UN Millennium Development Goals.[45] In terms of the G8's contribution to GHG, a great deal of attention is paid to vertical interventions into big diseases, with HIV/AIDS at the top of the agenda, while socioeconomic determinants of health such as health system strengthening remain unaddressed in this forum. This is partly because, according to Harman, health is not fundamental to G8's agenda and is in fact a second tier to issues of the global political economy. [46] Indeed, the G8 have not considered global health in either their 2011 or 2012 agendas. [47]

Beyond the G8, a notable initiative by the government of nation-states is also found in the US's engagement in global health. The US government stands as one of the largest donors to many global health initiatives, ranging from HIV/AIDS and malaria

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40 Stiglitz J (2003), "Democratizing the International Monetary Fund and the World Bank: governance and accountability", Governance: An International Journal of Policy, Administration and Institutions, 16 (l): 111-139; Santiso C (2002), "Governance Conditionality and the Reform of Multilateral Development Finance: The Role of the Group of Eight," G8 Governance, No 7.

41 For example, Japan has been a supporter of G8 efforts and multilateral efforts such as the Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria and non-communicable diseases. In 2013, Japan established the Global Health Innovative Technology Fund, essentially something Japan perceives as the new model for funding health research. See Prime Minister's Abe's commentary on Japan's Strategy on Global Health. http://www.mofa.go.jp/files/000014304.pdf; Also see Japan's Centre for International Exchange, JCIE's website for more information on Japan's grant activities. http://www.jcie.or.jp/cross/globalhealth/cgh-jc01.pdf

42 For example, Canada-Australia Research Partnership for the Prevention of Emerging Diseases, available at http://www.ghri.ca

43 For an example of a multilateral G8 co-operation on the Muskoka initiative, see http://www.acdi-cida.gc.ca/acdi-cida/acdi-cida.nsf/En/FRA-119133138-PQT

44 In June 2010, Prime Minister Stephen Harper announced at the G-8 Summit in Muskoka, Canada's commitment of US $2.85 billion over five years to help save the lives of mothers, children and newborns in developing countries. Of that, $1.1 billion was new funding for the Muskoka Initiative on Maternal, Newborn and Child Health while the remaining $1.75 billion maintained current funding levels for similar initiatives through the Canadian International Development Agency (CIDA).

45 Kirton J and Kokotis E (2007), "Keeping faith with Africa's health: catalyzing G8 compliance," In Cooper A, Kirton J, Schrecker T (eds.), *Governing Global Health: Challenges, Response, Innovation*, Aldershot: Ashgate.

46 Harman S (2012), *Global Health Governance*, New York: Routledge.

47 Glassman A (2012), *What happened to health at the G8?* Washington: Centre for Global development.

eradication to maternal health. [48] As one of the largest donors, the US has committed at least USD$15 billion to fight HIV/AIDS, as embodied by the President Emergency Fund for AIDS Relief (PEPFAR).[49] The initiative involves government bodies formulating and implementing policies, but more often than not, it involves them collaborating with other entities such as NGOs or transnational civil society organizations to effect change.[50] PEPFAR is seen by many as a key part of the effort to scale up universal access to antiretroviral treatment for people living with HIV/AIDS. While humanitarian at first sight, PEPFAR was very slow to allow the use of cheaper generic drugs as part of the HIV/AIDS treatment regimen. Some believe that PEPFAR was put into place to protect the commercial interests of the US pharmaceutical industry and preserve these corporations' place in the global supply chain for the rolling-out of HIV/AIDS treatment during the early years of its programme.[51]

One relatively recent phenomenon is the increasing role of private actors (both for and not-for-profit) in GHG. Although private actors have long played a role in the financing and provision of health care, the scope and scale of their involvement in global health agenda setting have somewhat transformed the landscape of GHG in a way that was unseen two decades ago. Besides the emergence of private businesses, we are also seeing public-private partnerships and philanthropic organisations in setting and contributing to the global health agenda. The private for profit actors, often out of direct business interests, partake in activities making them important actors in GHG. Large pharmaceutical companies, such as GlaxoSmithKline and Pfizer[52] intervene directly through the research and manufacture of drugs. They negotiate with governments and international regimes over a host of health issues, regulations and questions pertaining to medicines. These actors have often been criticized for their apparent disregard for the poor and focus on profits, concentrating efforts on research and development of drugs for the relatively wealthy. There has also been a significant rise in the number and scope of private philanthropic organisations (e.g. Clinton Foundation, Bill and Melinda Gates Foundation,) since the 1990s, with many focusing their efforts on selected diseases such as HIV/AIDS. These organisations shape the international agenda on health cooperation through funding specific health interventions, notably biomedical research. These organisations are described by literature as having employed business tools to select projects where progress can be monitored.[53] While this results-oriented and entrepreneurial approach is claimed to

[48] For a full list of the US government's Health initiative's health targets, see Annex A, http://www.pepfar.gov/documents/organization/136504.pdf
[49] See the Fund's website, http://www.pepfar.gov
[50] Maclean S and Brown S (2009), "Introduction: The Social Determinants of Global Health – Confronting Inequities" In Maclean S, Brown S and Fourie P (eds.), *Health for Some: The Political Economy of Global Health Governance*, New York: Palgrave Macmillan, p. 12.
[51] Ingram A (2009), "The international political economy of global responses to HIV/AIDS," In Kay and Williams O (eds.), *Global Health Governance: Crises, Institutions and Political Economy*, London: Palgrave.
[52] For an overview of Pfizer's global programs, see http://www.pfizer.com/responsibility/global_health/global_health
[53] The Lancet editorial (2007), "Governance questions at the Gates Foundation," *The Lancet*, 369: 163.

demonstrate innovations in terms of efficiency gains and project selection, some view that it leads to the neglect of certain health issues that do not demonstrate an adequate return on donor investment but are nonetheless significant in improving the health of the marginalised population.[54] Studies highlight that the redirection of functions towards private not for profit organisations has significant consequences for global health priority-setting. For example, the initiatives of the Gates Foundation primarily focus on disease eradication through vaccine research on malaria, HIV/AIDS, guinea worm and polio. Although the foundation provides increased funding support, it has been criticised by some scholars for skewing attention towards biomedical and technological interventions into selected diseases.[55]

A shift from international to global health is also marked by the rise of global public-private partnerships (GPPPs). GPPPs, formalized as a central feature of international health in the mid to late 1990s, have been portrayed as an opportunity to expand funding and improve efficiency in global health efforts. Examples of GPPPs include the Global Alliance for Vaccines and immunisation (GAVI), Roll Back Malaria (RBM), Stop TB Partnership (Stop TB), and Global Polio Eradication Program (PEI), among others. The GPPPs involve a private for-profit organisation, an intergovernmental organisation and civil society, and the core partners have joint shares in both the efforts and rewards. While these three parties are collaborating, they aim to achieve a win-win outcome. [56] For multilateral organisations, partnership with the private sector seems to extend and increase resources available, whereas for private entities, a partnership with non-state actors offers increased corporate influence in global policy-making and enhanced corporate authority through association with the UN and other international bodies.[57] The GPPPs have been driven by multiple bilateral and multilateral agencies such as the World Bank, Rockefeller Foundation, United States Agency for International Development (USAID), and UK Department for International Development (DFID). Sridhar and Woods examine the impact of "multi-bi" aid – the practice of donors choosing to route non-core funding earmarked for specific themes, countries or regions through multilateral agencies. "Multi-bi" aid is characterized by narrower problem-based mandates, individual country-driven goals and governance, outcome-oriented legitimacy, and voluntary and discretionary funding as opposed to long-term

[54] Global Health Watch (2008), *Global Health Watch 2: An Alternative World Health Report*, London: Zed Book.
[55] Ibid.; also see Sridhar D and Batiji R (2008), "Misfinancing global health: a case for transparency in disbursements and decision making," *The Lancet*, 372(9644): 1185-91; McCoy D, Chand S and Sridhar D (2009), "Global health funding – how much, where it comes from and where it foes," *Health Policy & Planning,* 24(6): 40-417; McCoy D and McGoey L (2011), "Global health and the Gates Foundation – in perspective," In Ruston S & William OD (eds.) (2011), *Partnership and Foundation in Global Health Governance*, London: Palgrave MacMillan.
[56] McCoy D and McGoey L (2011), "Global health and the Gates Foundation – in perspective"; also see Youde J (2011), "The Clinton Foundation and global health governance", In Ruston S & William OD (eds.), *Partnership and Foundation in Global Health Governance*, London: Palgrave MacMillan.
[57] Buse K and Harmer AM (2007), "Seven habits of highly effective global public-private health partnerships: practice and potential," *Social Science and Medicine*, 64(2): 259-271.

commitments and no in-country based presence for service delivery. [58] The scope of GPPPs has been mainly limited to the big three diseases (HIV/AIDS, malaria and TB) with a focus on new vaccines and drug delivery. This means that "win-win" or mutually beneficial strategies would primarily receive the funding and attention necessary for success, leaving broader and systemic global health goals including the burden of non-communicable diseases largely unaddressed.[59] Williams and Rushton[60] note that whereas global health partnerships and private not-for-profit foundations[61] perform their own specific global health functions, they are motivated by the similar ideas and worldviews of the nature of global health problems and how they should be tackled within larger governance arrangements – prioritisation of vertical disease-specific programmes underpinned by the belief in the power of science and biomedicine and the principles of modern business practice. The role of these partnerships and foundations has been debated over the claims that:[62] (a) these partnerships and foundations are filling gaps in the GHG; (b) they bring new sources of knowledge and expertise; (c) they provide higher levels of efficiency; and (d) they have huge reserves to draw on. There are no obvious conclusions, but what is certain is that these partnerships and foundations have been criticized for their lack of accountability and transparency but at the same time noted for their influence and impact in GHG.[63]

As described above, the number and diversity of actors and initiatives makes GHG a complex phenomenon based on multiple relationships that represent a combination between health and non-health specific policies. Additionally, the number of actors and initiatives involved in global health creates a policy space characterised by contestation of ideas emanated from different approaches, perspectives and definitions of the problem at hand. Recognising the perceived and apparent inadequacies in GHG, suggestions have been made as to how the current GHG mechanisms can be improved. While some suggest that the structures of political economy that underpin GHG should be addressed,[64] others agree that GHG needs to identify areas of dysfunction to enhance

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[58] Sridhar D & Woods N (2013), "Trojan multilateralism: global cooperation in health," *Global Policy,* 4 (4): 325-335.

[59] Sridhar D, Brolan CE, Durrani S, Edge J, Gostin L, Hill P, McKee M (2013), "Recent shifts in global governance: implications for response to non-communicable diseases, *PLOS Medicine* 10: 7.

[60] Ruston S & William OD (eds.) (2011), *Partnership and Foundation in Global Health Governance*, London: Palgrave MacMillan.

[61] The private foundation is distinguished from NGOs by the sources of wealth. NGOs draw from multiple sources whereas foundations such as the Bill and Melinda Gates Foundation or the Rockefeller Foundation draw on their corporate reserves or private wealth.

[62] See Ruston S & William OD (2011), pp. 14-18.

[63] Editorial (2009), "Who runs global health?," *The Lancet*, 373 (968): 2083; McCoy D, Chand S and Sridar, D (2009), "Global health funding: how much, where it comes from and where it goes," *Health Policy and Planning*, vol. 24(6): 407-17; Buse K and Harmer AM (2007), "Seven habits of highly effective global public-private health partnership: practice and potential," *Social Science and Medicine*, 64(2): 259-71; Buse K and Walt G (2002), "Globalisation and Multilateral Public-Private Health Partnerships: Issues for Health Policy," In Lee K, Buse K and Fustukian S (eds.) *Health Policy in a Globalising World*, Cambridge: Cambridge University Press.

[64] See Kay A and Williams OD (2009), *Global Health Governance: Crisis, Institutions and Political Economy*, New York: Palgrave MacMillan; Maclean S, Brown S and Fourie P (2009) (eds.), *Health for Some: The Political Economy of Global Health Governance*, New York: Palgrave Macmillan.

harmonisation of diverse actors and processes, thereby building up effective mechanisms.[65] What is common in these suggestions is that innovation is needed in the approaches to tackling global health challenges. However, there remains a lacuna in how a complex interplay of multiple actors with competing interests and resources is compromised, given the differing ideas as to which global health issues should be prioritized and promoted. This is crucial to understanding why the structures of GHG have evolved the way they have. This aspect has not, to date, received sufficient analytical attention. The next sub-section critically discusses how GHG of infectious disease outbreaks has been defined and understood in the existing academic work and elaborates on where the limitations lie.

1.3.3. GHG of infectious disease outbreaks: approaches and limitations

To date, the state of scholarship on the subject of the GHG of (acute) infectious diseases with pandemic potential has shifted focus from national policies to understanding how these policies are shaped by broader structures and processes emanating from global forces.[66] As we will see below, the literature seeks to understand the GHG of infectious diseases by employing theoretical lenses that can be classified broadly as being rationalist or liberal institutionalist perspectives in orientation. With a particular focus on global efforts to respond to emerging and re-emerging infectious diseases, studies analysed diverse issues such as regime changes,[67] the North-South divide,[68] International Health Regulations,[69] health system strengthening,[70] mapping global health actors,[71] interfaces between national and global policy making,[72] and

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[65] Cooper AF, Kirton J (2009) (eds.), *Innovation in Global Health Governance: Critical Cases*, Aldershot: Ashgate.

[66] Zacher M and Keefe T (2008), *The Politics of Global Health governance: United By Contagion,* New York: Palgrave MacMillan.

[67] Fidler D (2004), "Constitutional Outlines of Public Health's New World Order"; Fidler D (2004) *SARS, Governance and the Globalisation of Disease*; Fidler D (2004),"Germs, Governance and Global Public Health in the Wake of SARS"; Fidler D (2005), "Health, Globalisation and Governance: An Introduction to Public Health's New World Order".

[68] Aginam O (2004), "Between Isolationism and mutual vulnerability: A South-North Perspective on Global Governance of Epidemics in an Age of Globalisation", *Temple Law Review* 77 (2): 2997-312; Aginam O (2005), *Global Health Governance: International Law and Public Health in a Divided World*, Toronto: University of Toronto press.

[69] Gostin L (2004), "International Infectious Disease Law: Revision of the World Health Organization's International Health Regulations", *JAMA*, 291(21); Gostin L (2004), "The International Health Regulations and Beyond", *The Lancet*, Vol. 4 October; Baker M and Fidler D (2006), "Global Public Health Surveillance under New International Health Regulations", *Emerging Infectious Diseases*, 12(7): 1058-1065; Fidler D and Gostin L (2006), "The New International Health Regulations: An Historic Development for International and Public Health", *Journal of Law, Medicine & Ethics*, spring: 85-94; Rushton S (2009), "Global governance capacities in health: WHO and infectious diseases," In Kay A and Williams OD (2009), *Global Health Governance: Crisis, Institutions and Political Economy*, New York: Palgrave Macmillan; Kamradt-Scott A, Rushton S (2012), The revised International Health Regulations: socialization, compliance and changing norms of global health security. *Global Change, Peace and Security*, 24(1): 57-70.

[70] Siddiqi S et al. (2009), "Framework for assessing governance of the health system in developing countries: gateway to good governance," *Health Policy*, 90(1): 13-25.

[71] Kickbusch I (2000), "The Development of International Health Policies – Accountability Intact?" *Social Science and Medicine* 51: 979-989; Kickbusch I (2002), "Global Health Governance: Some theoretical

securitisation of infectious disease outbreaks.[73] In recent years, there has also been a growing literature on the global governance of pandemic influenza, primarily pertaining to legal preparedness and governing functions respectively.[74] While these scholarly works have broadened the GHG landscape for infectious disease outbreaks conceptually and empirically, much of the literature, it is argued here, does not sufficiently capture the underlying complexity of emerging GHG. As presented below, this research divides the literature into two broad categories in terms of their analytic focus, thereby systematically critiquing the current scholarship's preoccupation with governing mechanisms and functions: (a) GHG of infectious diseases witnesses the decline of sovereignty with the corresponding ascendance of a new framework for global health (i.e. Post-Westphalian governance); and (b) the GHG of infectious diseases has been overwhelmed by the magnitude of newly emerging actors and their interests. Regardless of their analytical focus, both perspectives maintain that the result has been institutional deadlock, or lack of a "system", in the face of serious disease risks, and that there is a need to strengthen institutional arrangements to create an innovative GHG system.

The first category of literature maintains that there has been erosion in the authority of the sovereign state. Increased participation in global surveillance and monitoring by global entities (e.g. Global Outbreak Alert & Response Network, European Centre for Disease Prevention and Control), supported by both state and non-state actors, and the global spread of new information and communication technologies, is believed to undermine the ability of governments to control epidemiological information within

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considerations on the new political space", In Lee K (ed.), *Health Impacts of Globalization: Towards Global Governance.* London: Palgrave: 192-203; Kickbusch I (2003), "SARS: wake-up call for a strong global health policy: how to stop a virus that doesn't respect sovereignty", *Yale Global Online*: Yale Center for the study of Globalization; Kickbusch I and Payne L (2004), "Constructing Global Public Health in the 21st Century", *Meeting on Global Health Governance and Accountability*, Harvard University: Cambridge; Kickbusch I (2005), "Action on Global Health: Addressing Global Health Governance Challenges", *Public Health*, 119: 969-973; Kickbusch I (2006), "Mapping the Future of Public Health: Action on Global Health", *Canadian Journal of Public Health*, 97(1): 6-8.

[72] Calain P (2006), "From field side of the binoculars: a different view on global public health surveillance," *Health Policy and Planning*, 1(22): 13-20; Kamradt-Scott A, Lee K (2011), The 2011 Pandemic Influenza Preparedness Framework: Global Health Secured or a Missed Opportunity? *Political Studies*, 59(4), 831-847.

[73] Davies S (2010), Global Politics of Health, Cambridge: Polity Press; McInnes C (2009), "National security and global health governance," In Kay and Williams O (eds.), *Global Health Governance: Crises, Institutions and Political Economy*, London: Palgrave; Kamradt-Scott A (2009), "The World Health Organization & SARS: the challenge of innovative responses to global health security," In Cooper AF and Kirton J (eds.), *Innovation in Global Health Governance: Critical Cases*, Aldershot: Ashgate, pp. 63-82.

[74] Fidler D (2008), "Influenza virus samples, international law and global health diplomacy," *Emerging Infectious Diseases,* 14 (1): 88-94; Koh GCH et al. (2008), "Avian Influenza: a global threat needing a global solution," *Asia Pacific Family Medicine*, 7(5): 1-6; Lee K and Fidler D (2007), "Avian Pandemic Influenza: Progress and Problems with Global Health Governance", *Global Public Health*, 2 (3): 215-34; Fidler D and Gostin L (2011), "The WHO pandemic influenza preparedness framework: a milestone in global governance for health," *JAMA*, 306(2): 200-201; Kamradt-Scott A (2012), "Changing perceptions of pandemic Influenza and Public Health Responses," *American Journal of Public Health*, 102(1): 90-98; Kamradt-Scott A (2013), "The politics of medicine and the global governance of pandemic influenza," *International Journal of Health Services*, 43(1): 105-121.

their territories. This change is suggested to have been prompted by the experiences from SARS and the revision of the IHR (2005) which allowed the WHO to collect information from non-state actors and authorise WHO to act upon such information.[75] Scholars contend that the IHR revision process demonstrate that the surveillance system for Public Health Emergencies of International Concern (PHEIC) operates within a framework of GHG, with sovereignty now subordinated to the collective interests and technologies of global disease surveillance.[76] For instance, Fidler and Gostin[77] note that the new IHR, not only radically departs from the traditional approach to international disease control, but also privileges GHG over state sovereignty.

Among others, Fidler's argument that there has been a "radical transformation" in GHG architecture, and a consequent decline of state sovereignty in health governance, is particularly noteworthy in this regard (see Table 1.2). As an expert in international law on infectious diseases, he identifies two models of health governance – the Wesphalian and Post-Westphalian – and describes the governance "revolution" triggered by the global containment of SARS. He states that the pathology of SARS revealed that the governance of infectious disease outbreaks requires a firm transition from Westphalian to Post-Westphalian models.[78] He contends that the WHO's new competency, to gather and disseminate information, has given the organisation a new authority to compel the actions of member states to the extent that state sovereignty has been curtailed within national borders. This assumption resonates through the subsequent GHG literature. Some scholars discuss the nature of GHG on the basis of this assumption.[79] For example, Kirton and Cooper claim that the world is moving away from the Westphalian model, with the state as the dominant pillar, and that sovereignty as the defining principle of GHG is eroding.[80] Using WHO's independent authority during the SARS outbreak as an

[75] World Health Organization (2005), International Diseases of Potential Risk for travellers, *International Travel and Health*, Geneva. Available at http://libdoc.who.int/publications/2005/9241580364.pdf; Fidler, 2005b.
[76] Baker M and Fidler D (2006), "Global Public Health Surveillance under New International Health Regulations".
[77] Fidler D and Gostin L (2006), "The New International Health Regulations: An Historic Development for International and Public Health", p. 86.
[78] Fidler D (2004), "Constitutional Outlines of Public Health's New World Order"; Fidler D (2004), *SARS, Governance and the Globalisation of Disease*; Fidler D (2004), "Germs, Governance and Global Public Health in the Wake of SARS"; Fidler D (2005), "Health, Globalisation and Governance: An Introduction to Public Health's New World Order".
[79] Budd L, Bell M and Brown T (2009), "Of plagues, planes and politics: controlling the global spread of infectious diseases by air," *Political Geography*, 28(7): 426-435; Hein W and Kohlmorgen L (2007), "Transnational norm-building in global health: the important role of non-state actors in Post-Wesphalian politics," presented at the Sixth Pan-European Conference on International Relations, Turin (12-15 September 2007); Roger K and Harris A (2007), "Governing the sick city: urban governance in the age of emerging infectious diseases," *Antipode*, 39(5): 846-873.
[80] Cooper AF and Kirton J (2009), "Innovation in global health governance," In Cooper A and Kirton J (eds.), *Innovation in Global Health Governance: Critical Cases*, Aldershot: Ashgate.

example, Cortell and Peterson similarly argue that a shift to a post-Westphalian framework is occurring.[81]

Table 1.2. Fidler's Typology of Health Governance

Model	Westphalian Health Governance	*Post-Westphalian Health Governance*
Period	Pre-SARS	*Post-SARS*
Role of Nation-State	State Monopoly	*Restricted Power*
Role of Intergovernmental Organization	Restricted (e.g. IHRs)	*Independent Authority* *(e.g. travel advisory)*
Role of Non-state actors	Limited role	*Inclusion of non-state actors (i.e. global surveillance networks)*
Response to Infectious Disease	*Manage germ traffic between States (Horizontal Strategies)*	*Reduce disease threats within States (Vertical Strategies)*

This table is based on Fidler D (2004), *SARS, Governance and the Globalisation of Disease*, London: Macmillan.

The perceived decline of sovereignty, and the resultant regime transformation suggested by Fidler and others, has elicited considerable debate. Some maintain that the current governance system for infectious disease is still founded on principles articulated by sovereign states, particularly the "powerful" few. Hein and Wogart [82] suggest that states continue to be formally sovereign, to a very different degree, to aggregate power resources. Aginam[83] addresses the power of developed countries, stating that advancing microbial forces paradoxically reinforce the powers of the state in the global North. Similarly, based on the linking of acute infections and national security, as observed by McInnes and Lee, the global health agenda has become skewed in favour of the interests of selected states.[84] In their study of SARS in China and Canada, Price-Smith and Huang also found that the epidemic did not generate significantly increased compliance by sovereign states with the international health

[81] Cortell A and Peterson S (2006), "Dutiful agents, rogue actors, or both? Staffing, voting rules, and slack in the WHO and WTO," In Hawkins DG, Lake DA, Bielson DL, and Tierney MJ (eds.), *Delegation and Agency in International Organisations*, Cambridge: Cambridge University Press.
[82] Hein W and Wogart JP (2006), "Global Health Governance and the Poverty-Oriented Fight of Diseases: Conclusion".
[83] Aginam O (2004), "Salvaging Our Global Neighbourhood: Critical Reflections on the G8 Summit and Global Health Governance in an Interdependent World", p. 301.
[84] McInnes C and Lee K (2006), "Health Security and Foreign Policy", *Review of International Studies,* 32(1): 5-23.

regime.[85] Referring to the IHR 2005, Davies argues that assertions it heralds the supremacy of global governance over sovereign states in the area of infectious diseases are premature because developing states may be reluctant to cede their sovereignty for fear of the WHO serving as a Trojan horse for external interferences in their domestic affairs.[86] In short, the role and function of state sovereignty within the GHG of infectious disease outbreaks remain contested in the current literature.

However, what is common in the first category of literature is the assumption that GHG of infectious diseases is a discrete area, driven by the rise and fall of particular actors (i.e. nation-state versus non-state actors) leading to the perpetuation or reform of the existing regime. It also has tendency to take a linear or uni-dimensional view of the GHG architecture suggesting that the WHO's use of unofficial information in outbreak detection brought about new order of governance which changed the way in which states exercise their sovereignty. As a result, the first category of literature does not seek to explain why particular governance responses, whether Westphalian or Post-Wesphalian, persist or change. Additionally, it neglects to acknowledge the complex and multi-dimensional process of policy evolution related to infectious diseases in GHG which constitutes different domains, overlapping interests and agendas, and competing ideas. . In short, this literature takes an institutional perspective, limiting the focus to appraising how collective action, and shift in power within the global infectious disease arena, takes place. It provides little understanding of what underlying factors facilitate and constrain the development of GHG in the first place. The recurring theme in these analyses is the critique of the current architecture of GHG, with the risks posed by the globalisation of infectious diseases as given, and how the GHG can best be operationally achieved. What remains unexplored is why forms of GHG come to be shaped the way they are.

The second category of literature pays particular attention to the increasingly complex institutional arrangements, linking the emergence of GHG with the growth of new actors entering the policy sphere and playing governance roles. As observed in Section 1.3.2, this is not unique to the GHG of infectious disease outbreaks. Indeed, like the policy landscape of GHG in general, the GHG of infectious disease outbreaks began to embrace new set of actors who play an ever more important role, with the redirection of their functions shaping what Kickbusch terms "a new political ecosystem of health."[87] The literature maps the emergence of these new actors, alongside the "old" intergovernmental organisations such as the WHO, World Bank, FAO (Food and Agriculture Organization), OIE (United Organization for Animal Health), and UNDP (United Nations Development Program). The existing intergovernmental organisations were joined by UNSIC (United Nations System Influenza Coordination) in 2005,

[85] Price-Smith A and Huang Y (2009), "Epidemic of fear: SARS and the political economy of contagion," in Cooper A and Kirton J (2009), *Innovation in Global Health Governance: Critical Cases*, Aldershot: Ashgate Publishing, pp. 23-47.
[86] Davies S (2010), *Global Politics of Health*, Cambridge: Polity Press.
[87] Kickbusch I (2005), "Action on Global Health: Addressing Global Health Governance Challenges," p. 970.

launching various programmes and initiatives aimed at strengthening surveillance of and response to infectious diseases.

The emergence of regional players is noteworthy. For instance, ASEAN (Association of South-East Asian Nations), along with other institutions such as the ADB (Asia Development Bank), has shown a fair amount of political will and commitment through the promotion of regional cooperation initiatives in response to the challenges posed by pandemics and other infectious disease outbreaks, although it has been less active on other global health issues.[88] In the wake of SARS, APEC established Health Taskforce in late 2003 recognising the importance of ongoing regional cooperation in the response to emerging infectious diseases.[89] In 2006, ASEAN created a stockpile of antiviral medications for the explicit use of ASEAN countries in the event of an outbreak. [90] Similarly, the EU created the ECDC (European Centre for Disease Control and Prevention) in 2004 with the aim of pooling Europe's health knowledge, so as to develop authoritative scientific opinion about the risk posed by emerging infectious diseases.[91] In addition to these intergovernmental initiatives, a number of international partnerships have been established to enhance response capabilities and facilitate international collaboration. For example, Offlu (FAO/OIE Network of Expertise on Animal Influenza) was jointly established in 2005 by the World Organisation for Animal Health (OIE) and the Food and Agriculture Organisation of the United Nations (FAO) to coordinate and support global efforts to strengthen the links between animal and human health sectors. [92] While there may be differences in resources and capacity among these networks, institutions and partnerships, the experiences of SARS and the potential threat of pandemic influenza were clearly the driving forces behind the development of these players.While some consider this proliferation a significant achievement for GHG, others raise the question of whether the emergence of new actors translates into an effective system for responding to the challenges posed by global disease risks. Coordination and cooperation among actors are one of the challenges focused on by scholars as the global response to emerging infectious disease risks has become crowded by a range of agencies, funds, and programmes, together with partnerships and alliances. They regard it as "congestion" which leads to unproductive

[88] Coker R and Mounier-Jack S (2006), *Pandemic Influenza Preparedness in the Asia-Pacific Region: An Analysis of Selected National Plans*, London: London School of Hygiene and Tropical Medicine; Coker R et al. (2011), "Emerging infectious diseases in Southeast Asia: regional challenges to control," *Lancet,* 377: 599-609.

[89] Asia-Pacific Economic Cooperation (2008), *Health Working Group (Health Task Force)*. Available at http://www.apec.org/apec/apec_groups/som_committee_on_economic/working_groups/health.html

[90] Association of South East Asian Nations (2007), *Third executive report progress of implementation of the ASEAN-Japan plan of action*. Available at http://www.asean.org/asean/external-relations/japan/item/third-executive-report-progress-of-implementation-of-the-asean-japan-plan-of-action

[91] Coker R and Mounier-Jack S (2006), *How Prepared is Europe for Pandemic Influenza: An Analysis of National Plans*, London: London School of Hygiene and Tropical Medicine.

[92] OIE/FAO (2006), "OIE/FAO Network of Expertise on Avian Influenza – About OFFLU". www.offflu.net.; OIE (2008), "Avian Influenza". Available at www.oie.int/eng/info_ev/en_AI_avianinfluenza.htm; Asia-Europe Network (2009), " Towards an Asia-Europe Network for Public Health". Available at www.asef.org/index.php?option=com

duplication, competition and waste of scarce resources. In addition to problems of coordination, there are also concerns about the diffusion and reconfiguration of power among various players. This has led to questions of whether emerging forms of GHG of infectious disease outbreaks fulfil ideal notions of "good governance", "global public goods",[93] "humane global health order"[94] or "global social rights".[95] For example, scholars argue [96] that despite attempts to strengthen international rules for responding to infectious diseases, systems for responding to infectious disease epidemics and pandemics are hindered by a lack of standards of practice, as indicated by the Indonesia's controversial decision to cease sharing H5N1 avian influenza virus samples with the Global Influenza Surveillance Network in 2007. Although PIPF (Pandemic Influenza Preparedness Framework) was passed by the World Health Assembly in 2011, following four years of lengthy negotiations, scholars such as Kamradt-Scott and Lee view that the new framework agreement has done little to amend the existing governance structures or ensure the benefits that it was designed to address.[97] Policy harmonization, institutional deficits, jurisdictional overlaps or procedural gaps have been identified as major obstacles to achieving an effective governance mechanism in the response to emerging infectious diseases.[98] The regulatory and policy vacuum that spans human and animal health and agriculture underlines the deficiencies of the existing governance system and the need for building multisectoral collaboration as well as for articulating an agreed operational definition among key global institutions.[99] The engagement of commercial sectors, specifically pharmaceutical manufacturers, in the provision of influenza vaccine has proven controversial and raises questions about transparency and accountability in GHG of infectious diseases.[100]

To summarise, the second category of GHG literature points to the role that emerging institutional actors have come to play in the collective response to infectious diseases, yet describes current governance as deficient in dealing appropriately with the

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[93] Kickbusch I (2005), "Action on Global Health: Addressing Global Health Governance Challenges"; Kickbusch I (2006), "Mapping the Future of Public Health: Action on Global Health".

[94] Aginam O (2004), "Between Isolationism and Mutual Vulnerability: A South-North Perspective on Global Governance of Epidemics in an Age of Globalisation"; Aginam O (2005), *Global Health Governance: International Law and Public Health in a Divided World*.

[95] Hein W and Kohlmorgen L (2005), *Global Health Governance: Conflicts on Global Social Rights*; Hein W and Wogart JP (2006), "Global Health Governance and the Poverty-Oriented Fight of Diseases: Conclusion".

[96] Kamradt-Scott A (2013), "The 2011 PIP Framework: Progress & Challenges to Implementation", *Health Diplomacy Monitor*, 4(4): 9-11.

[97] Kamradt-Scott A, Lee K (2011), "The 2011 Pandemic Influenza Preparedness Framework: Global Health Secured or a Missed Opportunity?" *Political Studies*, 59(4): 831-847.

[98] White K and Banda M (2009), "The role of civil society in pandemic preparedness," In Cooper A and Kirton J (eds.), *Innovation in Global Health Governance*, chapter 6, Aldershot: Ashgate.

[99] Lee K and Brumme ZL (2013), "Operationalising the One Health approach: the global governance challenges," *Health Policy and Planning*, 28 (7): 778-785; see also One Health Global Network. Available at http://www.onehealthglobal.net/?page_id=38

[100] Cabellero-Anthony W et al. (2013), "Health", In Cabellero-Anthony and Cook A (eds.), *Non-Traditional Security in Asia: Issues, Challenges and Framework for Action*, Singapore: ISAES Publishing, 15-39; Youde J (2010), *Biopolitical Surveillance and Public Health in International Politics*, United States: Palgrave Macmillan.

aspirations of these diverse actors.[101] The limitation of this literature is that it tends to emphasise the institutional and technical features of GHG actors and policies, and their impacts on mechanisms operating in GHG. Logically, this leads to the conclusion that operation and reform of the existing governance mechanisms with more resources, better coordination and stronger political will would sufficiently address, for example, the persistent lack of coherence, duplication of efforts and neglect of certain issues and populations. However, it is argued in this research that, while institutional reforms or innovations may be important in terms of technical outcomes, it inevitably neglects to understand why certain global infectious disease policies are made over time. As a result, scant attention is devoted to the question of why there is a gap between perceived health needs and governance mechanisms and, more fundamentally, why certain agendas and actions surrounding disease outbreaks are pursued and forged instead of others at different points in time, amid an eternal plethora of competing and divergent priorities and limited resources.[102] Moreover, the existing literature does not adequately address a number of fundamental questions – In what ways and how major challenges related to disease outbreaks are framed? What ideas matter in responding to the aforementioned problems? Why are particular forms of collective action advanced over others? In other words, much of the existing literature sees GHG from a rationalist perspective (i.e. looking for the "best" technical and institutional solutions to existing global health challenges), largely neglecting what is termed the *world of ideas* in shaping the perceived nature and causes of global health problems, and the appropriate solutions to address them.[103] To more fully understand the GHG architecture, and the range of actors taking part, this research argues that it is necessary to critically scrutinize how ideas shape what defines or sustains a particular GHG mechanism.

1.3.4. Broadening the focus: GHG as a policy space of contestation

In recent years, there has been an emerging body of literature that problematises current approaches to the study of GHG. This sub-section briefly reviews these works and locates this thesis within this developing body of scholarship. The important departure point in this emerging literature is recognition of the plurality of interests, ideas and institutions in terms of priority setting in GHG. A seminal work is done by Shiffman who argues that the ascendance and sustainability of particular issues in global health is, not only driven by the objective severity of the nature of the problem, but by how such issues are *framed* as imperative and crucial.[104] Through analyses of cases such as newborn survival, HIV/AIDS, and maternal mortality, he identifies factors

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[101] Weinberg J (2005), "The Impact of Globalisation on Emerging Infectious Diseases", Lee K and Collin J (eds.) *Global Change and Health*, Berkshire: Open University Press.
[102] Sylvan DA and James F (2011), *Problem Representation in Foreign Policy Decision Making*, Cambridge: Cambridge University Press.
[103] McInnes C, Kamradt-Scott A, Lee K, Romer-Mahler A, Rushton S, Williams OD (2014), *The Transformation of Global Health Governance*, New York: Palgrave McMillan.
[104] Shiffman J (2009), "A social explanation for the rise and fall of global health issues," *Bulletin of World Health Organisation*, vol. 87: 608-613.

behind the emergence of certain global health issues as global health priorities.[105] He notes,

> *The rise, persistence and decline of a global health issue may best be explained by the way in which its policy community – the network of individuals and organisations concerned with the problem – comes to understand and portray the issue, and establish institutions that can sustain this portrayal. This explanation emphasises* ***the power of ideas*** *and challenges interpretations of issue ascendance and decline that place primary emphasis on material, objective factors such as mortality and morbidity levels, and the existence of cost-effective interventions [emphasis added].*[106]

Central to Shiffman's argument is an understanding of the manner in which health issues are framed, thereby generating particular response to the issues. An important cross-cutting work by McInnes et al. further identifies the way in which GHG has been influenced by "worldviews" (pathways of governance response based upon shared understandings) across a range of health issues such as tobacco, access to medicine, HIV/AIDS and pandemic influenza.[107] They contend that the nature of emerging global health problems, and the necessary mechanisms of GHG to deal with them, have historically been narrowly understood in both the policy and academic worlds. They also maintain that these limitations have failed to understand how GHG is shaped by different and, at times, competing perspectives and worldviews.

As this sub-section describes below, normative understandings of GHG has become the subject of growing scholarship in recent years. For example, Ruger identifies the lack of an ethical framework in GHG for solving global health problems and suggests the need for advancing the concept of "human flourishing" for delivering health equity on a global scale.[108] Noting the importance of values, Brown argues that the current theorizing about global health rests on opposing ontological perspectives about what global health should prioritize and that these presuppositions result in distinctively antagonistic normative demands about how we should distribute, who gets what and why.[109] *Framing* as a tool of persuasion in generating actions on global health issues has been a particular focus in recent scholarly work. For example, in their analysis of policy-related documents and academic literature, Labonte and Gagnon identify seven policy

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[105] Shiffman J and Smith S (2007), "Generation of political priority for global health initiatives: a framework and case study of maternal mortality", *Lancet*, 370, 1370-9; Shiffman J (2008), "Has donor prioritization of HIV/AIDS displaced aid for other health issues?", *Health Policy and Planning*, 23 (2), 95-100; Shiffman J (2010), "Issue attention in global health: the case of newborn survival," *Lancet*, 375: 2045-2049.

[106] Shiffman J (2009), "A social explanation for the rise and fall of global health issues," p. 608.

[107] McInnes C, Kamradt-Scott A, Lee K, Romer-Mahler A, Rushton S, Williams OD (2014), *The Transformation of Global Health Governance*.

[108] Ruger JP (2006), Ethics and governance of global health inequalities. *Journal of Epidemiology and Community Health*, 60(11): 998-1003.

[109] Brown GW (2012), "Distributing who gets what and why: four normative approaches to global health," *Global Policy*, 3: 292-302.

frames – security, development, global public goods, trade, human rights, and ethical/moral reasoning – that prevail and their influences on the state's actual foreign policy decision-making.[110] Kamradt-Scott and McInnes examine how pandemic influenza has been presented as a security issue to generate support for emergency plans and preparation,[111] while Kamradt-Scott explores, in a separate paper, the influence of evidence-based medicine on pandemic influenza preparedness and how vaccines and antiviral medicines are promoted as indicators of pandemic preparedness.[112] In particular, he notes how evidence-based medicine has further reinforced the advocacy of drug-based solutions, placing vaccines and antivirals in the focus of attention while downplaying alternative preparedness measures. Reubi identifies how a network of activists successfully framed tobacco control as a human rights issue in order to link it into existing legislation on human rights,[113] while Williams identifies how the patent system has been framed in economic terms as necessary in establishing a system that allows new drugs to be developed and traded.[114] He finds that this has created a range of difficulties for access to medicines and ultimately a dysfunctional global drug market. Woodling and colleagues examine how economic development framing strategically repositioned HIV/AIDS as a co-dependent of a wider development project, stressing AIDS' dependency on broader development progress rather than merely its contribution to it.[115] They argue that framing is a strategic activity, used in order to forward particular claims about prioritisation, and in order to maintain resources for HIV/AIDS.

Overall, this recent body of scholarship, located within Social Constructivism, seeks to understand GHG as a process of contestation among normative frameworks. This approach requires fuller reflexivity on the origins and significance of the multiplicity of ideas shaping collective action on global health issues. This literature directly informs this thesis. Drawing from Social Constructivism, and building on this recent literature on normative approaches to GHG, this research begins with the argument that understanding of ideas, and the process through which such ideas are legitimised or institutionalised by epistemic communities, provide key insights into the underlying nature of GHG in a constitutive way rather than taking it for granted. A fuller discussion of these ideas, and the concept of epistemic communities, is provided in Chapter Two. The next section provides a brief overview of the global SARS outbreak, and discusses

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[110] Labonte R and Gagnon M (2010), "Framing health and foreign policy: lessons for global health diplomacy," *Globalisation and Health*, 6: 14.
[111] Kamradt-Scott A and McInnes C (2012), "The securitisation of pandemic influenza: framing, security and public policy," *Global Public Health*, 7(S2): S95-S119.
[112] Kamradt-Scott A (2012), "Evidence-based medicine and the governance of pandemic influenza," *Global Public Health*, 7(S2): S111-S126.
[113] Reubi D (2012), "Making a human right to tobacco control: expert and advocacy networks, framing and the right to health," *Global Public Health,* 7(S2): S176-S190.
[114] Williams OD (2012), "Access to medicines, market failure and market intervention: a tale of two regimes," *Global Public Health,* 7(S2): S127-S143.
[115] Woodling M, Williams OD and Rushton S (2012), "New life in old frames: HIV, development and the 'AIDS plus MDGs' approach," *Global Public Health,* 7(S2): S144-S158.

why SARS is particularly relevant to the study of the normative frameworks shaping the global governance of infectious disease outbreaks.

1. 4. SARS AND GLOBAL HEALTH GOVERNANCE

1.4.1. A Brief Overview of Global SARS Outbreak

SARS provides a useful case study for understanding the role of epistemic communities in the governance of infectious disease outbreaks because, for the first time, the outbreak brought together state and non-state actors to address what Fidler[116] describes as the first pandemic of the 21st century. SARS is a newly identified human infection caused by a type of coronavirus unlike any other known human or animal virus in its family. An analysis of epidemiological information from the various outbreak sites shows that the overall case fatality ratio approached 11 per cent, with much higher rates among elderly people.[117] Transmission mainly occurred person-to-person through exposure to infected respiratory droplets expelled during coughing or sneezing, or following contact with body fluids during certain medical interventions.[118] Contamination of the environment, arising from faecal shedding of the virus, is thought to have played a small role in disease transmission. Management of SARS relied on standard epidemiological interventions: identification of those fitting the case definition, isolation, infection control, contact tracing, active surveillance of contacts, and evidence-based recommendations for international travellers. Though demanding and socially disruptive, particularly when a large number of people were placed in quarantine, these standard interventions, backed by high-level political commitment, were said to be sufficiently effective to contain the global outbreak less than four months after the initial alert.[119]

The earliest cases of SARS are now thought to have emerged on November 16, 2002 in China when the first patient was hospitalised and treated in Foshan No. 1 Hospital. The patient went on to infect 11 other people, including nine medical workers.[120] On December 15, two SARS patients were hospitalised in the city of Heyuan and five medical workers were then infected. Driven by a rumour that Heyuan was being attacked by an unknown and highly contagious virus, this prompted panic buying of vinegar and anti-viral medicine in late December.[121] The atypical pneumonia cases

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[116] Fidler D (2004), *SARS, Governance and the Globalisation of Disease*, London: Macmillan.
[117] Anderson R et al. (2005), "Epidemiology, transmission dynamics and control of SARS: the 2002-2003 epidemic," in McLean A et al. (eds.), *SARS: A Case Study in Emerging Infections*, Oxford: Oxford University Press.
[118] World Health Organization (2003), *Update 95 – SARS: Chronology of a serial killer*, Geneva: World Health Organization. Available at www.who.int/csr/don/2003_07_04/en/print.html; World Health Organization 2003. *SARS: Status of the Outbreak and Lessons for the Immediate Future*, Geneva: World Health Organization. Available at http://www.who.int/csr/media/sars_wha.pdf
[119] Leung PC and Ooi EE (2003), *SARS War: Combating the Disease*, London: World Scientific Publishing.
[120] Pan H (2003), "Interviewing the first reported SARS patient," *Information Time.*
[121] Chen G, Wang C and Duan G (2003), "Calm response to settle the crisis – historical records of Guangdong's battle against atypical pneumonia," *Southern Daily*, February 20, 2003.

were reported to the Guangdong Health Bureau on January 2, 2003. The next day the Heyuan Centre for Disease Control and Prevention (CDC) became the first official Chinese voice discussing the outbreak by publishing a notice in the *Heyuan News*. It claimed that there was no epidemic in Heyuan, and that the symptoms, which were caused by unusually cold weather, could be cured with immediate medical treatment. On January 16, a patient from Zhongshan, whose symptoms were similar to the Heyuan atypical pneumonia cases, was transferred to the Guangzhou People's Liberation Army Hospital. However, a CDC official in Zhongshan denied the existence of any cases of atypical pneumonia in the city and called the news "mere rumour". On January 21, the Guangdong Health Bureau produced, but did not release to the public, a full report on the outbreak situation.[122]

The initial phase of the Guangdong outbreak, characterized by small, independent clusters and sporadic cases, was subsequently followed by a sharp rise in cases during the first week of February 2003. This was thought to result from amplification during the care of initial patients in hospitals. Cases gradually declined thereafter. Altogether, some 1,512 clinically confirmed cases occurred in the Guangdong outbreak, with healthcare workers in urban hospitals accounting for up to 27 per cent of cases. This pattern was repeated as the disease began to spread outside Guangdong Province to other areas in China, and then internationally.

On February 10, GPHIN and other GOARN partners identified reports of a "strange contagious disease" with respiratory symptoms affecting health workers in Guangdong hospitals and causing widespread panic. An urgent alert was sent to network members. The next day, the WHO received reports from the Chinese Ministry of Health confirming the outbreak of an acute respiratory syndrome with 300 cases and five deaths in Guangdong Province, with the government claiming that the situation was coming under control. Concern intensified on February 19, when authorities in Hong Kong reported an outbreak of avian influenza in members of families who had recently travelled to southern China. The WHO alerted its collaborating laboratories and activated its influenza pandemic plans.[123]

After the disease had spread from the southern Chinese province of Guangdong, Hanoi, Hong Kong, Singapore and Toronto became "hot zones"[124] of SARS, characterised by a rapid increase in the number of cases, especially among healthcare workers and their close contacts. In these locations, SARS first took root in hospital settings where staff, unaware that a new disease had surfaced, exposed themselves to the infectious agent without barrier protection. All of these initial outbreaks were subsequently characterized by chains of secondary transmission (i.e. direct human-to-human

[122] Wong J and Yongnian Z (2004), *The SARS epidemic: challenges to China's crisis management*, London: World Scientific Publishing.
[123] World Health Organization (2003), *Update 95 – SARS: Chronology of a serial killer*, Geneva: World Health Organization. Available at www.who.int/csr/don/2003_07_04/en/print.html
[124] World Health Organization (2003), *SARS: Status of the Outbreak and Lessons for the Immediate Future*, Geneva: World Health Organization. Available at http://www.who.int/csr/media/sars_wha.pdf

transmission between a primary care who is infected and the secondary case who becomes infected or ill from that contact) within and outside the healthcare environment such as hospitals and clinics. Secondary attack rates of greater than 50 per cent were observed among healthcare workers caring for patients with SARS in both Hong Kong and Hanoi.[125] Within two weeks, similar outbreaks occurred in various hospitals in Singapore and Toronto.[126] This eventually culminated in a global alert and the institution of worldwide surveillance measures, as declared by the WHO on March 12, 2003.[127]

The WHO issued a global alert after being notified of mounting cases of severe atypical pneumonia among staff in Hanoi and Hong Kong hospitals. After receiving additional reports of cases in Singapore and Toronto over the next three days, the WHO responded by issuing a series of emergency travel recommendations to alert health authorities, physicians, travellers, airlines and the public to the potential threat which this then unidentified illness could have on healthcare systems all over the globe.[128] These travel recommendations marked a turning point in the early course of the SARS pandemic.[129] Areas with cases detected before the WHO recommendations were issued – namely Vietnam, Hong Kong, Singapore and Toronto – experienced the largest and most severe outbreaks. After the recommendations were issued, all countries with imported cases, with the exceptions of Taiwan and the interior provinces of China, were able, to either prevent further transmission or keep the number of additional cases at a level manageable with existing resources through prompt detection and isolation of cases, strict infection control measures, rigorous contact tracing, and quarantine measures in some circumstances.[130]

During the last week of April, the outbreaks in Hanoi, Hong Kong, Singapore and Toronto showed signs of peaking. On April 28, Vietnam became the first country to stop

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[125] US Centre for Disease Prevention and Control (2003), "Outbreak of Severe Acute Respiratory Syndrome – Worldwide, 2003", *MMWR*. 52(11): 226-228. available at http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5211a5.htm

[126] World Health Organization (2003), *SARS: Status of the Outbreak and Lessons for the Immediate Future*, Geneva: World Health Organization. Available at http://www.who.int/csr/media/sars_wha.pdf

[127] World Health Organization (2003), "Acute Respiratory Syndrome in Hong Kong Special Administrative Region of China and Vietnam," 12 March 2003. Available at http://www.who.int/csr/don/2003_03_12/en/

[128] World Health Organization (2003), "World Health Organization issues emergency travel advisory," 15 March 2003. Available at http://www.who.int/mediacentre/news/releases/2003/pr23/en/

[129] World Health Organization (2003), WHO update 92. "Chronology of travel recommendations, areas with local transmission". 1 July 2003. Available at http://www.who.int/csr/don/2003_07_01/en/index.html

[130] World Health Organization (2003), Update 83. "One hundred days into the outbreak," 18 June 2003. Available at http://www.who.int/csr/don/2003_06_18/en/; CDC (2004), "Public Health Guidance for Community-Level Preparedness and Response to Severe Acute Respiratory Syndrome, Version 2," 8 January 2004. Available at http://www.guideline.gov/summary/summary.aspx?doc_id=4591; World Health Organization (2003), Update 17. "Travel advice – Hong Kong Special Administrative Region of China, and Guangdong Province, China," 2 April 2003. Available at http://www.who.int/csr/sarsarchive/2003_04_02/en/; World Health Organization (2003), Update 93. "Toronto removed from list of areas with recent local transmission". 2 July 2003. Available at www.who.int/csr/don/2003_07_02/en/

local transmission of SARS. However, new probable cases, including cases among hospital staff, additional deaths, and first cases imported to new areas continued to be reported from several countries. The cumulative total number of cases surpassed 5,000 on April 28, 6,000 on May 2, and 7,000 on May 8. By then, cases had been reported from 30 countries on six continents. Most new cases were reported from Beijing and increasingly other parts of Mainland China. Of the cumulative global total of 7,761 probable cases and 623 deaths reported on May 17, 5,209 cases and 282 deaths had occurred in Mainland China. Also of concern was a rapidly growing outbreak in Taiwan with a cumulative total, on May 18, of 344 cases, including many hospital staff, and 40 deaths.[131] This was particularly worrying given that Taiwan was not a recognised member state of the WHO and thus had limited access to information or international support.

On July 5, 2003, the WHO reported that the last human chain of transmission of SARS had been broken.[132] On the same day, the WHO declared that outbreaks of SARS had been contained worldwide. While there have been a few cases of infection with the SARS virus in Singapore, Taiwan and China since the summer of 2003, the WHO did not put forward recommendations concerning travel or other restrictions.[133] Nevertheless, SARS demonstrated dramatically the widespread global effects that can be created by a single yet deadly new emerging infectious disease.

1.4.2 Why study SARS?

Infectious diseases, in general, have received the bulk of attention to date in the study of GHG. In selecting the case study for this thesis, it is important to recognise that there are many different types of infectious disease, each posing particular governance challenges. As shown in Table 1.3, infectious diseases can be classified by a range of characteristics including morbidity and mortality rate, existing knowledge, current and potential geographical reach, transmissibility (likelihood to be transmitted to others), pathogenicity (likelihood to cause disease), and rate of spread. This table seeks to offer a simple conceptualisation of the main types of risk posed by specific infectious diseases. The nature of the main risks presented in the table indicate the actual risks in medical terms, but these risks may typically intensify and heighten the perceived risks, mediated by other factors such as rapid international travel, changing human behaviour, and the inadequacy in healthcare infrastructure. While additional categories of classification could be added (e.g. incubation period), and some diseases classifiable

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[131] World Health Organization (2003), *SARS: Status of the Outbreak and Lessons for the Immediate Future*, Geneva: World Health Organization. (http://www.who.int/csr/media/sars_wha.pdf)
[132] World Health Organization (2003), Update 96. "Taiwan, China: SARS Transmission interrupted in last outbreak area", 5 July 2003. Available at http://www.who.int/csr/don/2003_07_05/en/
[133] World Health Organization (2003), Update. "SARS in Singapore". 10 September 2003. Available at http://www.who.int/csr/don/2003_09_10/en/index.html; World Health Organization (2003), Update. "SARS in Taiwan, China". 17 December 2003. Available at http://www.who.int/csr/don/2003_12_17/en/index.html; World Health Organization (2004), Update 7. "China's latest SARS outbreak has been contained, but biosafety concerns remain", 18 May 2004.

across multiple categories, the key point here is the need for more careful categorisation of infectious disease when analysing GHG responses.

Table 1.3. Definition and classification of infectious diseases

Degree		Relatively low	Relatively high
Characteristics of diseases	Morbidity rate	Common cold scabies	vCJD HIV/AIDS Ebola **SARS**
	Geographical reach (local/global)	Ebola Kuru Rift Valley Fever	Influenza Tuberculosis HIV/AIDS **SARS**
	Mortality rate	West Nile Virus Caliciviruses Hepatitis A Ricin toxin Salmonella Diarrheagenic E coli	Anthrax Botulism Plague Smallpox Tularemia Viral hemorrhagic fevers (e.g. Ebola, Marburg) Influenza
	Transmissibility	West Nile Virus Caliciviruses Hepatitis A Ricin toxin Salmonella Diarrheagenic E coli	Anthrax Botulism Plague Smallpox Tularemia Viral hemorrhagic fevers (e.g. Ebola, Marburg) **SARS** Influenza
	Pathogenicity	Polio	Smallpox
	Existing knowledge	Influenza Tuberculosis	**SARS** vCJD
	Impact on social and economic stability	Intestinal hemorrhagic Escherichia coli	HIV/AIDS Influenza **SARS** Multi-drug resistant tuberculosis
	Mode of diseases	• Food borne and water borne: Hepatitis A, Typhoid fever, Cholera • Vector-borne: Yellow fever, Dengue fever, Tick-borne	

		encephalitis • Zoonoses: Rabies, Brucellosis, Leptospirosis, Viral haemorrhagic fevers, Avian influenza, **SARS** • Sexually transmitted: Hepatitis B, HIV/AIDS, Syphilis • Blood borne: Hepatitis B, C, HIV/AIDS, Malaria • Airborne: Influenza, Meningococcal disease, Tuberculosis, **SARS**

This table is compiled on the basis of Lee K (2005), "Decision Making in the Face of Public Health Emergencies of International Concern", in Drager N and Smith R (eds.), *Rapid Assessment of the Economic Impacts of Public Health Emergencies of International Concern: Lessons from SARS*. Geneva: WHO Department of Communicable Disease Surveillance and Response 5; GAO (2004). *Emerging Infectious Diseases: Review of States and Federal Disease Surveillance Efforts*, United States Government Accountability Office, GAO-04-877; World Health Organization (2005), International Diseases of Potential Risk for travellers, *International Travel and Health*, Geneva available at http://libdoc.who.int/publications/2005/9241580364.pdf

From this table, it can be seen that some infectious diseases pose a particular threat within a globalising world, given their high rates of morbidity and mortality, geographical reach, transmissibility, social and economic impact, and at the time uncertainty in their nature, and that consequently there is a greater need for effective GHG to address them. From this subcategory of infectious diseases, there are a number of reasons why SARS provides an appropriate case study for understanding GHG for infectious disease outbreaks. Interesting here is that SARS produced a considerable gap between actual risk and perceived risk due to the combination of its unique characteristics described below.

First, SARS was distinct from other infections in its ability to strike fear in people by its combined spatial and temporal aspects of global reach. Infectious diseases that have emerged in the past tended to "burn out" within a relatively located geography. However, an airborne disease such as the SARS virus, with an incubation period of a few days, can be transmitted farther afield via global air travel. Given that nearly 1.5 billion passengers travel by air every year, creating countless opportunities for diseases to spread rapidly across the globe, the number of infections and deaths caused by the SARS outbreak highlighted the risk to infectious disease control posed by globalisation and In this respect, the confluence of globalisation and the characteristics of SARS led to it becoming the first pandemic of the 21st century. Its epidemiology changed the perception of disease risk that global outbreaks pose.

Second, SARS was different from other infectious disease outbreaks in the recent past (such as plague, avian influenza and cholera), in a sense that, the source of the contagion was unknown. Before the SARS outbreak, there was almost no knowledge of the virus that caused the disease. Initially, it was believed that the outbreak of the mysterious

respiratory disease might have been linked to avian influenza. In fact, the disease constituted a novel coronavirus that was not previously identified in human populations. Some coronaviruses undergo frequent mutation, thereby frustrating the development of effective vaccines. At the time, both the epidemiology and pathogenesis of SARS were not known. Accordingly, the novel virus and the severe disease it caused, generated significant concern worldwide. Although the emergence of a new virus in human populations occurs regularly, combined with the mortality rate and geographical reach of the virus, SARS generated significant worldwide attention in a short period of time. These features evoked an unprecedented governance response which makes the virus especially useful for this analysis.

Third, the SARS virus was highly transmissible person-to-person, and therefore had the potential to spread more readily. Some infectious diseases have limited capacity to threaten large populations because of inefficient human-to-human transmission. Or their transmission was dependent on food products, animals or vectors such as insects.[134] This limited the vulnerability of such infection to discrete populations. Compared with influenza or smallpox, the respiratory transmissibility of SARS was relatively low. However, even when the 1997 avian influenza virus outbreak occurred, which was caused by the H1N1 virus moving from poultry to humans, it did not lead to onward person-to-person transmission. In contrast, SARS was readily transmitted from human to human.

Fourth, a key defining feature of SARS was the rapid speed of its spread. SARS is widely believed to have originated from Foshan in Guangzhou Province, China in November 2002. The disease found its way to Hong Kong, and then was spread rapidly onwards to countries such as Singapore, Taiwan, Vietnam and Canada. The disease spread swiftly around the world: the number of worldwide cases exceeded 1,500 by the end of March, and then rapidly soared to 4,000 on 23 April, 5,000 on 28 April, 6,000 on 2 May, and 7,000 on 8 May, when cases were reported from 30 countries. During the peak of the outbreak, near the start of May 2003, more than 200 new cases were being reported each day across the globe.[135] The rate with which SARS spread and infected multiple people alarmed both governments and the international community, and caused much concern, panic and even fear among the populace in countries most severely affected. Whereas SARS did not turn into an epidemic, scientists and experts were concerned that the disease might still spread widely among the general population, given the potentially highly contagious nature of the SARS virus.

Lastly, while the number of cases and deaths from the initial SARS outbreak was relatively small in comparison, for instance, with tuberculosis, the considerable impacts of SARS on social and economic stability worldwide distinguished the outbreak from previous events. The perceived risk of SARS was many times greater than the actual

[134] World Health Organization (2003), *SARS: Status of the Outbreak and Lessons for the Immediate Future*, Geneva: World Health Organization.
[135] Bloom BR (2003), Lessons from SARS. *Science* 300: 701.

risks.[136] However, in retrospect the responses proved disproportionate partly because SARS occurred amidst the context of increasing fears about the intentional use of pathogens (i.e. bioterrorism), especially following the events of 11 September 2001 and the US anthrax attacks.[137] Many governments – such as those of Singapore, Australia and the US – therefore adopted increased health security measures including stricter border screening and controls, suspension of air transportation, and regulation of migration to and from certain locations. At the same time, public anxiety about becoming infected, represented best by the mass donning of white surgical masks across Asia, led to individual choices to reduce unnecessary contacts. Further afield, individuals decided not to travel to the region for business, tourism and other purposes, adversely impacting on the region's economy.[138] As a consequence, GDP growth rates seriously declined in countries affected by SARS. The US National Intelligence Council estimates nearly US$100 billion was lost.[139] While the economic impact caused by infectious disease outbreaks was not new, SARS sparked growing concerns about national security and economic stability amongst both governments and the international community. The instability created by SARS offers the opportunity to conduct empirical analysis of the framing of the issue by a wide range of stakeholders.

Given the above, this research argues that an analysis of SARS offers an important opportunity to analyse the ideational factors that shape the GHG of infectious disease outbreaks. In practice, the nature of the SARS outbreak meant that traditional divisions between national and global health policy was inadequate. During the outbreak, this prompted governments to pursue collective action to address a global disease outbreak. At the same time, there was contestation throughout the outbreak and beyond in terms of the form that GHG should take and the corresponding responses deemed appropriate. Hence, the SARS outbreak illustrates that global collaboration against infectious disease outbreaks is not only a matter of institutional and technical interventions, but of discursive power embedded within diverse normative frameworks. In short, the outbreak offers a particularly valuable opportunity to understand the interplay between the material and ideational, showing how the ideas and normative frameworks held by epistemic communities shape GHG responses.

1.5. OUTLINE OF THE THESIS

This chapter has introduced some of the main research objectives and rationale for this study. The chapter examined the gaps in the existing literature on GHG by highlighting

[136] Smith RD (2006), "Responding to Global Infectious Disease Outbreaks: Lessons from SARS on the Role of Risk Perception, Communication and Management", *Social Science and Medicine*, vol. 63(12): 3113-23.
[137] Stolberg S (2003), "The SARS epidemic: the American scene; Lessons of anthrax attacks help US respond to SARS," *The New York Times*, 2 May 2003.
[138] Lau et al. (2005), SARS related perceptions in Hong Kong, *Emerging Infectious Diseases*, 11: 417-424.
[139] US National Intelligence Council (2003), *SARS: Down But Still a Threat*, Intelligence Community Assessment ICA 2003-09, Washington DC: National Intelligence Council.

the paucity of normative understanding of GHG research, which has received little attention thus far. Conceptually, this research seeks to complement existing GHG literature as it provides the normative underpinnings to how SARS was governed. Following a brief overview of how the world battled against the SARS outbreak, the chapter explained that a case study of an acute infectious disease outbreak such as SARS can illuminate how certain ideas became dominant over others and what this means for GHG of infectious diseases. The conceptual framework provides a window into ideational explanations of why GHG has evolved as it has to date, and may hold answers to the puzzles concerning the underlying drivers that shape the current architecture of global infectious disease governance.

Chapter Two provides the theoretical anchor used to ground the basic arguments that will be put forward in this thesis. The chapter draws upon Social Constructivism in International Relations, focused on the concept of epistemic communities, to explain why certain actions and agendas at the global level are formed amid diverse, and often contested, ideas and material interests. The significance of this theoretical framework for the thesis is that it offers an explanation of how ideas, stemming from key knowledge-based actors about how certain health issues should be addressed, may crucially influence public health policy making and collective action on global health. In order to substantiate this ideational framework, this chapter then identifies a number of discourses in terms of their core tenets. Through a chronological account, the researcher draws particular attention to how respective discourses have established a pervasive presence in global infectious disease control over time, thus informing GHG.

Chapter Three describes the research design and methodology used in this research. The methodology of this thesis combines key informants' interviews with archival document-based research. In order to understand the role that ideas play within the context of the GHG of infectious disease outbreaks, archival research on the global response to SARS was undertaken, consisting of gathering and reviewing government documents (Hong Kong, Singapore, China, Vietnam, and Canada), publications of intergovernmental organizations (WHO, UNDP, FAO, ADB, ASEAN, and OIE), media reports, press briefings, and policy papers. Unpublished materials pertaining to the SARS outbreak were included in the review. The primary focus in this archival research was on the discursive framing of the global response to the SARS outbreak. To this end, the researcher also consulted published articles on the SARS outbreak that she had collected through public health databases. In addition to the archival document-based research, semi-structured interviews with 35 key informants were conducted at four major locations (Geneva, Manila, Hong Kong and Singapore) to gain a fuller understanding of the policy "process" and to supplement and "triangulate" the documentary sources. Discourse analysis was usefully employed to systematically examine the wide range of data gathered.

In **Chapter Four**, the researcher applies the concept of epistemic communities to identify the SARS epistemic community. In order to locate possible members of the SARS epistemic community, the chapter begins by examining the terrain of global infectious disease outbreaks involving research and policymaking in mid and late 1990s. This enables the researcher to account for the backdrop of how infectious disease outbreaks were problematised and what coherent set of norms was developed by which actors prior to SARS outbreak. The chapter then proceeds to trace experts who came to hold a central position in the shaping of global knowledge on SARS and identify the factors facilitated this process. In order to demonstrate the collective nature of these actors, which centers on the explanation of the epistemic communities concept, the chapter examines the mechanism by which members interacted with one another to generate and influence policy discourses. In essence, the chapter draws attention to the factors which cohere key actors with one another in terms of Hass's three defining criteria: a) a set of shared normative principles; b) mutual engagement based on a common notion of validity; and c) common policy enterprise. Through the analysis, the chapter intends to introduce key features of the SARS epistemic community.

In **Chapter Five**, the research presents empirical analysis of how issues surrounding SARS were normatively framed in the context of GHG. The analytic stance of the chapter takes up the discourse as constituent of the reality which shapes how public health issues (i.e. SARS) are conceived and portrayed, including what should be done to address them. The chapter explores how different discourses have driven the changes in public health reasoning and practice, in the form of the prioritisation of certain actions in the global response to SARS at various points in time. The researcher seeks to demonstrate that, where a particular discourse gained dominance, other ways of conceiving in global public health practices were largely marginalized, which is indeed a clear reflection of the pivotal role that ideas play amid the contestation of global health policy making processes. In order to show the ideational shifts over time, the SARS story is divided into three key phases in terms of the progress of the SARS outbreak. Through analysis of discourses, the chapter also illustrates that ideas do not simply arise as governing norms, but ideational success occurs as a result of collective advancement by the key agents (i.e. epistemic community) who are mobilized around an idea.

Next, **Chapter Six** draws together the empirical findings presented in Chapters Four and Five to understand the nature of the global response to SARS outbreak as socially constructed, and draws broader implications for GHG of infectious diseases more generally. The chapter first links key discourses constructed during the outbreak and the agents who advanced them to elucidate the idea-agency nexus in the global response to the SARS. It then proceeds to focus on discourses outlining how different framing was used to gain influence and policy purchase. It explains why certain discourses came to the fore or receded at different points in time and places during the

outbreak, and examines the contexts within which the cooperation and contestation within and between different discourses take place. In so doing, it illustrates the importance of framing in the formation and legitimation of interests underpinning global health policies. Next, the chapter discusses key analytic elements characterising the SARS epistemic community and assesses the extent to the SARS epistemic community confirms or challenges the epistemic communities framework that Haas originally suggested. The chapter then considers the implications of the findings of this study for conceptual understanding of GHG of infectious diseases, and for practical policies and practices to address the global disease outbreaks.

Chapter Seven summarises the main findings of the study, and discusses the contributions this study makes. It also considers limitations of the study, and suggests possible future research directions. The chapter concludes with a reflection on what this study tells us about the nature of GHG of infectious diseases and the prospects for strengthening collective action for shared global health needs.

CHAPTER TWO

THEORETICAL FRAMEWORK

2.1. INTRODUCTION

This thesis seeks to understand how ideas shape the process of global health policymaking and, in particular, collective action surrounding infectious disease outbreaks by exploring the ideational role of epistemic communities. The research aim, articulated in Chapter One, raises the following key questions: what is an epistemic community, and how can such a community effectively promote and bargain certain ideas over others that inform policy-decision for addressing the transnational problems at hand? In order to explore these questions, a theoretical framework that allows the ideational dimension of power to be examined is required. Together, the theory of social constructivism and the concept of epistemic communities described in this chapter provide a framework to explore these questions, and develop a more comprehensive understanding of Global Health Governance (GHG). Briefly, this framework argues that convergence in ideas and the placement of experts in positions of power, by means of a distinct sort of legitimacy they possess and credibility related to their work, facilitate international coordination and enhance the prospect for certain norms and ideas. As Goldstein and Keohane noted, such a concept may provide the "transmission mechanisms that propel a particular set of ideas forward."[140]

This chapter first outlines the basic tenets of Social Constructivism, and the concept of epistemic communities, and demonstrates how these explanations can be applied to a fuller understanding of the global response to SARS outbreak. These explanations have been selected for their distinctive applicability to the role of ideational factors within GHG, which elucidate the nature of global SARS governance. The chapter then provides an exploration of a range of discourses in terms of the core ideas that underpin them, and how the respective discourses have informed the GHG of infectious disease outbreaks. In short, the primary aim of this chapter is to provide a theoretical framework to understand the role of ideas in the global health policy making process, and the actors responsible for these ideas, in relation to the empirical analysis presented in Chapters Four and Five.

[140] Goldstein J and Keohane RO (1993), "Ideas and foreign policy: an analytic framework", Goldstein J and Keohane RO (eds.), *Ideas and Foreign Policy: Beliefs, Institutions, and Political Change*, Ithaca: Cornell University Press, p. 14.

2.2. A CONCEPTUAL REVIEW: SOCIAL CONTRUCTIVISM AND EPISTEMIC COMMUNITIES

2.2.1. Social Constructivism

The core assumption of social constructivism is that ideas, norms, values, and shared beliefs shape behaviour. Here, social construction refers to an underlying understanding of the social world that places meaning-making at the centre. Human interpretations of the world, in turn, produce social reality; shared understandings among people give rise to rules, norms, identities, concepts, and institutions. According to Ruggie, constructivism is about human consciousness and its role in international life.[141]

Social constructivism has several distinct arguments that are useful in analysing the role of epistemic communities in GHG. First, it holds that "material resources only acquire meaning for human action through the structure of knowledge through which they are embedded."[142] Constructivism also emphasizes the importance of normative and ideational structures in shaping the social identity of political actors. Second, constructivism stresses the importance of understanding how actors develop their interests, as "identities are the basis of interests".[143] This means that communally held thoughts and beliefs construct the interests and identities of such actors, not the other way around.[144] Third, constructivism argues that normative and ideational structures cannot exist in the absence of knowledgeable practices of those actors. Therefore, constructivists claim that knowledge is a socio-cultural process in which learning occurs through communicative processes among people.

Two crucial features distinguish Social Constructivism from more mainstream power-based and interest-based theories of International Relations: it has a different conception of power and a different conception of interest-formation. First, unlike power-based theory, shared ideas rather than material forces determine the structures of human association, and shared ideas construct actors' identities and interests. Therefore, how ideas evolve is a central concern for social constructivists. In contrast, power-based theory views that ideas arise from and reflect the material conditions in which they are generated. Thus power-based theory presents an overly materialist conception of ideas (where ideas are materially dependent). Second, unlike interest-based theory, the evolution of ideas is not simply a result of the most powerful (economic) actors satisfying their interests, and it is more than just a rational response

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[141] Ruggie JG (1998) "What makes the world hang together? Neo-utilitarianism and the social constructivist challenge", *International Organization* 52 (4): 855-885. p. 856.
[142] Wendt A (1994), "Collective identity formation and international state", *American Political Science Review*, vol. 88 (2): 384-396, p. 390.
[143] Wendt A (1994), "Collective identity formation and international state".
[144] Finnemore and Sikkink (2001), "Taking stock: the constructivist research program in international relations and comparative politics", *Annual Review of Political Science*, vol. 4: 396-416.

by self-interested actors to ensure more legitimate and effective governance. The evolution of ideas is also about the way that social actors form intersubjective understandings of assumptions and definitions. In other words, Social Constructivism follows a "logic of appropriateness" while the other two perspectives follow a "logic of consequentialism."[145] The logic of appropriateness dictates that actors do the right thing and treat interests as capable of changing through interaction, whereas per the latter logic, egoistic actors are driven to cooperate and collaborate only when such cooperation promises to maximize their own utility.[146] In contrast to the power-based and interest-based theories that do not accord an important and independent causal force to ideas, social constructivism argues that ideas matter, and seeks to explain why and how they matter.

Constructivist principles of "intersubjectivity" and "shared ideas" are useful in understanding the nature of the GHG of SARS. First, whereas the existing material - based understandings are unable to explain fully how agreed goals for addressing imminent public health problems such as disease outbreaks were achieved, Social Constructivism allows room for such an exploration. In the former, commitment to rationalism leads one to assume interests and identities as given *a priori* and exogenously – "that is to say external to and unexplained within the terms of their theories."[147] By contrast, the latter enables one to understand these interests as socially constructed on the basis of intersubjectively shared meanings and understandings. Thus under this assumption, one can safely argue that dominance of particular types of global disease governance does not mean the understanding of the reality itself. Rather, it may be understood as the construction of experienced reality. Secondly, Social Constructivism views that cooperation is not a given that is forced upon actors (or states). Instead, it can be seen how particular ideas and norms are effectively persuaded and shape cooperative practices. In other words, cooperation between actors (or states) is dependent on the way actors (states) view each other via social construction of reality. In the eyes of social constructivist, cooperation is a result of perceptions towards other actors (states), not a mere outcome of material structure or self-interest. In looking at the GHG of infectious disease outbreaks, this constructivist view allows one to explore the motivations of identity construction and the formation of preferences in the policymaking process. What constructivist called "intersubjective beliefs" rest on collective intentionality, and thus offers room to take into account the mechanisms through which consent and credibility for particular policy choices are created in bringing about and consolidating consensus between various social forces.

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[145] Keohane R (1988), "International institutions: two approaches", *International Studies Quarterly*, vol. 32: 379-396, p. 381.
[146] Risse T (2000), "Let's Argue!: communicative action in world politics", *International Organization*, vol. 54(1), winter 2000: 3-4.
[147] Ruggie J (1998), *Constructing the World Polity: Essays on International Institutionalisation*, London: Routledge, p. 9.

In relation to infectious disease outbreaks, the type of questions arising is: why did the idea of, for example, a "health security" threat emerge when it did; why was it accepted; how was it possible; who were the actors involved in advocating for such idea?

Methodologically, in order to analyse the ideational basis of governance, constructivists have often turned to discourse analysis. As will be discussed in Chapter Three, discourse analysis performs best as a way to understand the social context and meanings that constrain and enable certain policy choices and regulate social conflict. It can generate revealing descriptions that identify competing discourses and how such contestation might influence the legitimacy of particular policy choices. This thesis, which seeks to examine the ideas underpinning the GHG of infectious disease outbreaks, attempts to unveil the nature of norms as based in intersubjective meanings through the analysis of what constructivists refer to as discourse. A focus on epistemic communities, as an idea producer and disseminator, further accomplishes this task.

Unlike most studies of GHG, that focus on how best to structure institutions or address institutional shortcomings to achieve effective GHG, this research begins by asking why a particular configuration of institutional arrangements are formed and how they are produced amid contested discourses that seek to inform policy decisions on infectious disease outbreaks. In this context, a *discourse* is defined in this research as a set of normative frames that provide legitimisation or generate support for a particular response. Thus, discourse here is referred to as shared meanings of core norms that set out the foundations of framework for policy action. . The importance of ideational elements in International Relations comes about through their collective legitimation – that is, ideas constructed through individuals or groups with causal properties can become institutionalised. The material-based approach in IR does not explain this ideational content of institutions, primarily because interests are exogenous, thus failing to explain the construction of an interest. The attention to the role of ideas in international politics arose to overcome the limitations of rationalist approaches by including explanations of why a reconceptualisation of interests occurs.[148] This is where the idea-based explanation, i.e. social constructivism, actually comes in.

2.2.2. The concept of the epistemic communities

The concept of epistemic communities has garnered much attention in the international relations literature especially on environmental issues, where it has been used to explain international cooperation, policy change and learning. Many scholars argue that epistemic communities are indispensable actors in the making of international eco-regimes. While it has not yet made inroads into the field of international health policy and politics, it is argued here that the concept may be valuable for explaining the mechanisms of how global health policy making takes place. The epistemic communities

[148] McInnes C & Lee K (2012), "Introduction" in Global Health and International Relations, London: Polity Press.

concept has been most closely associated with the work of Peter Haas, who developed and applied the concept in a study of efforts by Mediterranean countries to coordinate marine pollution control practices. In *Saving the Mediterranean,* he examined the influence of knowledge held by expert actors operating in networks. Haas subsequently edited a special issue of the journal *International Organization* in which a more developed conceptual framework was outlined. Building on the idea of a central role of science in the formation of environmental regimes, Haas developed a knowledge-based account of state behaviour in which epistemic influence, derived from a positive and normative understanding shared by an elite community of experts, explains much of the observed international coordination and policy change.

According to Haas, an *epistemic community* is defined as "a network of professionals with recognised expertise and competence in a particular domain area and an authoritative claim to policy-relevant knowledge within that domain or issue-area."[149] Epistemic communities are qualitatively different from interest groups or the population of a particular profession or discipline. What brings individuals together as an epistemic community is their shared "knowledge about the causation of social or physical phenomena", and a "common set of normative beliefs about what actions will benefit human welfare" within a specific issue area.[150] Although often drawn from a variety of disciplines, these professionals share a common set of characteristics: (1) a shared set of normative and principled beliefs, which provide a value-based rationale for the social action of community members; (2) shared causal beliefs, which are derived from their analysis of practices leading or contributing to a central set of problems in their domain and which then serve as the basis for elucidating the multiple linkages between possible policy actions and desired outcomes; (3) shared notions of validity – that is, inter-subjective, internally defined criteria for weighing and validating knowledge in the domain of their expertise; and (4) a common policy enterprise – that is, a set of common practices associated with a set of problems to which their professional competence is directed, presumably out of the conviction that human

[149] Haas P (1992), "Introduction: Epistemic Communities and International Policy Coordination", *International Organization*, 46 (1): 1-35, p. 3.

[150] On the notion of epistemic communities, other analysts, while not denying that epistemic communities are communities of experts, underline a common policy enterprise or a common vision that defines these communities. For instance, Sebenius argues that an epistemic community can be understood as a special kind of *de facto* natural coalition of believers whose main interest lies not in the material sphere but instead in fostering the adoption of the community's policy project. Stone notes that an epistemic community is a network of specialists with a common world-view about cause and effect relationships and common political values about the type of policies to which they should be applied. See Sebenius J (1992) "Challenging Conventional Explanations of International Co-operation: Negotiation Analysis and the Case of Epistemic Communities" *International Organisation*, vol. 46 (1): 321-34, p. 324; Stone D (2005), "Knowledge networks and global policy", In Stone D and Maxwell S (eds.), *Global Knowledge Networks and International Development*, Abingdon: Routledge: 89-105; Stone D (2001), "Think Thank, Global Lesson-Drawing and Networking Social Policy Ideas", *Global Social Policy*, 1(3): 338-360; Stone D (2002). "Introduction: Global Knowledge and Advocacy Networks, *Global Network"*, 2(1): 1-11

welfare will be enhanced as a consequence.[151] This definition is founded on the premise that control over knowledge and information is an important dimension of power, and that the diffusion of ideas and information can generate "new" patterns of behaviour and thereby determine the course of international policy coordination. The suggestion here is that an epistemic community is capable of developing some form of "prospect" concerning a particular issue before introducing it into the political policy arena.[152]

In terms of membership, while often associated with the natural sciences community, members of an epistemic community need not be natural scientists.[153] They can be "social scientists or individuals from any discipline or profession who have a sufficiently strong claim to a body of knowledge that is valued by society. Nor need an epistemic community's causal beliefs and notions of validity be based on the methodology employed in the natural sciences; they can originate from shared knowledge about the nature of social or other processes, based on analytic methods or techniques deemed appropriate to the disciplines or professions they pursue."[154] The notion of "an area highly valued by society" is perhaps open to interpretation, for there are, in practice, manifest conflicts between things valued by society and actions taken on behalf of society by officials. Mass quarantine policy during a disease epidemic is a good example. Through a Quarantine Order, the interests of society are clearly served by protecting citizens from the spread of disease, but not if officials are allowed to use practices that infringe on individual human rights without valid evidence. It is the existence of such sets of principled values that marks out epistemic community members from other social groups.

Importantly, the epistemic community is not content to provide information passively, at the request of decision-makers. Rather, they actively strive to bring about better policy by seeking access to governing institutions.[155] Moreover, given the speed of modern communication and the relatively free flow of information internationally, these networks of specialists often operate (but not always) transnationally. Thus members of epistemic communities today do not need to meet regularly in a formal setting to promote their ideas. Instead, epistemic communities can diffuse their ideas worldwide through in person and virtual "conferences, journals, research collaboration,

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[151] Haas P (1992), "Introduction: Epistemic Communities and International Policy Coordination", *International Organization*, Vol. 46, N0.1: 1-35, p. 3; Haas P (2001), "Policy Knowledge: Epistemic Communities", in Smelse N and Bates P (eds.), *International Encyclopaedia of the Social and Behavioural Sciences*, Amsterdam: Elsevier, pp. 11579-60.

[152] According to Haas, they are also distinct from the broader scientific communities, professions and disciplines, and bureaucrats since the latter do not necessarily hold a consensual understanding of the problem and solution.

[153] Haas P and Haas E (2002), "Pragmatic constructivism and the study of international institutions", *Millennium*, vol. 31(3): 573-602

[154] Haas P (1992), "Introduction: Epistemic Communities and International Policy Coordination", p. 16.

[155] Haas P (2000), "International institutions and social learning in the management of global environmental risks", *Policy studies Journal*, vol. 28 (3): 558-575.

and a variety of informal communications and contacts."[156] New findings are conveyed and discussed across national borders. As long as the members of an epistemic community can reach consensus on important issues in their field of study, they establish relatively independent sources of scientific evidence and authority. As a result, a transnationally interacting epistemic community can serve as a central vehicle for international collective action.

According to Haas, there are three conditions that determine whether scientists or other experts will have a greater or lesser impact on international policy coordination. First, if a high degree of uncertainty about the problem exists among policymakers, there is a stronger likelihood of impact.[157] It often takes a crisis or a shock to overcome institutional inertia and habit to spur policy makers to seek help from an epistemic community.[158] He states that "failed policies, crises, and unanticipated events that call into question their understanding of an issue-area are likely to precipitate searches for new information, as are the increasing complexity and technical nature of problems."[159] Indeed, as globalisation increases the interdependency of human action, and also makes networks more complex, it may be argued that the role of epistemic communities will become even stronger. Such uncertainty disrupts power (creating a vacuum into which ideas–explanations can step), and focuses attention (which requires analysis and interpretation). Second, scientific convergence within an epistemic community is necessary to effect policy change.[160] Members of an epistemic community derive power domestically and internationally from their authoritative claim to knowledge. They increase their effectiveness by exhibiting a strong consensus on the nature of the problem and policy conclusion. Leaders of governments turn to the epistemic community to help them identify their own interests and policies in areas where they are poorly informed and uncertain. An epistemic community can help limit the range of policy options governments consider by identifying the parameters of the problem and solutions based on their own causal and value framework. Third, the members of an epistemic community gain ideational power in order to influence policy implementation and regime formation.[161] Decision makers seek advice that will justify or legitimate a policy that they wish to pursue for "political ends."[162] While Haas does not explicitly acknowledge the possibility that epistemic community members may offer and tailor advice in ways that make it congruent with the preferences of decision-makers, such a view runs counter to the idea that community members are pure "idea brokers", suggesting that they are both constrained by, and reflectively aware of political and

[156] Haas P (1992), "Introduction: Epistemic Communities and International Policy Coordination", p. 17; also see Haas P (2002), "UN Conferences and constructivist governance of the environment", *Global Governance*, vol. 8 (1): 73-91.
[157] Haas P (2001), "Policy Knowledge: Epistemic Communities", p. 11581.
[158] Haas P (1992), "Introduction: Epistemic Communities and International Policy Coordination", p. 14.
[159] Ibid., p. 29.
[160] Adler E and Haas P (1992), "Conclusion: Epistemic communities, world order, and the creation of a reflective research program", *International Organization*, vol. 46 (1), p. 371.
[161] Haas P (2001), "Policy Knowledge: Epistemic Communities", p. 11583.
[162] Haas P (1992), "Introduction: Epistemic Communities and International Policy Coordination", p. 15.

social conditions. Haas in fact suggests "epistemic communities called in for political reasons may succeed in imposing their views and moving towards goals other than those initially envisioned by the decision-makers."[163] This does seem to acknowledge that policy-related ideas are considered within a prevailing social and political context, thus illuminating the potential nexus between "knowledge" and social processes in framing the issues (to be demonstrated in Chapter Five).

Drawing on a number of case studies, although none from the global health field, Hass argues that epistemic communities can influence the creation and maintenance of international regimes at four stages of the policy process.[164] First, epistemic communities can influence the *framing* of issues at the policy innovation stage. Subsequent negotiations are then conditioned by the information initially provided by the epistemic community. The *framing* of issues is of particular relevance to this thesis in that it has important implications for the nature of processes in which certain explanations are marginalised and delegitimised through increased emphasis on the scientific or professional logic of epistemic communities. This framing function has been explored in a wide range of empirical studies on nuclear arms control,[165] international management of whaling,[166]protection of the stratospheric ozone layer,[167] the European Commission's framework of programme,[168] EU acid rain policy,[169] and labour migration policy in the UK.[170] Second, epistemic communities can exert influence at the highly politicised stage of *policy selection* if they are able to provide integrative formulas to resolve complex negotiations.[171] Dunlop finds in her study on the policy surrounding hormone growth promoters in the EU that policy credibility was achieved when decision-makers selected an epistemic community whose views were socially legitimate.[172] Third, epistemic communities can be important agents for *policy diffusion*. Due to their transnational links, experts can communicate new ideas and policy

[163] Ibid., p. 16. This indicates that one should not assume that "experts" within an epistemic community derive their expertise from objective facts. Instead, they are shaped by their respective normative frameworks and thus their expertise can be subject and interest-based. Epistemic communities as such can be highly political in their interaction with policy making.
[164] Haas P (2004), "Addressing the global governance deficit", *Global Environmental Politics*, 4 (4): 1-15; Haas P (2000), "Prospects for effective marine governance in the NW Pacific region", *Marine Policy,* 24: 341-348.
[165] Adler E and Haas P (1992), "Conclusion: Epistemic communities, world order, and the creation of a reflective research program".
[166] Peterson MJ (1992), "Whalers, Cetologists, Environmentalists, and the International Management of Whaling", *International Organization*, 46: 147-186.
[167] Haas P (1992), "Introduction: Epistemic Communities and International Policy Coordination".
[168] Brine J (2000), "TSER and the Epistemic Community of European Social Researchers", *Journal of European Social Policy*, 10(3): 267-282.
[169] Zito A (2001), "Epistemic Communities, Collective Entrepreneurship and European Integration", *Journal of European Public Policy*, 8(4): 585-603.
[170] Balch A (2009), "Labour and Epistemic Communities: The Case of 'Managed Migration' in the UK". *British Journal of Politics & International Relations*, 11(4): 613-633.
[171] Adler E and Haas P (1992), "Conclusion: Epistemic communities, world order, and the creation of a reflective research program", p. 383.
[172] Dunlop C (2010), "Epistemic communities and two goals of delegation: hormone growth promoters in the European Union", *Science and Public Policy*, 37(3): 205-217.

innovations to their colleagues in other countries, who, in turn, influence their governments. Adler[173] found that an American epistemic community played a key role in creating an internationally shared understanding of the dynamics of nuclear arms control that led to the Anti-Ballistic Missile Treaty. Similarly, Dolowitz et al.[174] and Hulme[175] respectively argued that epistemic communities have been instrumental in the exchange of ideas leading to the Americanisation, in form and content, of British higher education and social policy. Ervik pointed out that particular concepts and policy solutions on pension programmes have been diffused around the world by epistemic communities, attaining global status as a means of describing the future financing burden of public pay-as-you-go pension systems.[176] Fourth, epistemic communities can play a key role in *regime persistence* by defending established regimes as the best-suited means to eliminate or alleviate the problems they were meant to resolve.[177] Once in place, ideas put forth by epistemic communities are likely to persist and eventually become the basis for policy enforcement.[178] For instance, analysts of International Political Economy identified the ideational dynamics in the dissemination of major economic doctrines through a process of epistemic persuasion, which became institutionally embedded. The Washington Consensus or neoliberal understanding of macroeconomics behind the vertical/selective programmes of global disease policy can be an example for this.

Overall, empirical research findings from across a variety of disciplines have found epistemic communities to impact in defining ideas and problems, and then carrying them through the decision-making process. It is also clear that there has been a growing appreciation for the role of ideas and the concept of epistemic communities, particularly in the literature of International Relations and policy studies. Within the health field to date, however, there have been limited accounts of how epistemic communities can shape how global health policy making takes place or what processes enable certain ideas to be translated into policy. The main utility of the epistemic community concept is to shed light on the ways in which the generators and carriers of ideas and expertise shape particular global health policies. One example is Lee and Goodman who apply the epistemic community concept to examine the global policy network related to health care financing reform (HCF).[179] Mapping the key

[173] Adler E (1992), "The emergence of cooperation: national epistemic communities and the international evolution of the idea of nuclear arms control", *International organization*, 46(1).
[174] Dolowits D et al. (2000). *Policy Transfer and British Social Policy*, Buckingham: Open University Press.
[175] Hulme R (2006), "The Role of Policy Transfer in Assessing the Impact of American Ideas on British Social Policy", *Global Social Policy*, 6(2): 173-195.
[176] Ervik R (2005). "The Battle of Future Pensions", *Global Social Policy*, 5(1): 29-54.
[177] Haas P (1993), "Epistemic Communities and the Dynamics of International Environmental Co-operation" in Rittbergerm V (ed.) *Regime Theory and International Relations*, Oxford: Clarendon Press, p. 189.
[178] Haas P (2001), "Policy Knowledge: Epistemic Communities", p. 11581.
[179] Lee K and Goodman H (2002), "Global Policy Network: the Propagation of health care financing reform since the 1980s", in Lee et al. (eds.), *Health Policy in a Globalising World*, Cambridge: Cambridge University Press.

individuals/institutions and their formal linkages, they found evidence of a strong influence by an elite community on decision-making with regard to HCF reform at the global level. Similarly, Youde describes a "counter-epistemic community", defined as "a network of professionals with recognised expertise in opposition to the recognised expertise of the dominant epistemic community", in his analysis of the development of AIDS discourses in South Africa.[180] He argues that the South African government responds to the fundamental disjuncture between the international AIDS control regime and the South African government by embracing a counter-epistemic community, which translates South Africa's history with public health interventions and its identity into policy outcomes. Mukherjee and Rkanayake explore the role that key individuals, the WCTOH (World Conference on Tobacco or Health), scientific research and research networks play in the making of the FCTC (Framework Convention on Tobacco Control). They observe that epistemic communities played a crucial role by being better able to convince public policy makers about the need for the FCTC, by relying on and successfully disseminating its knowledge, expertise and ideas. They maintain that the key to the success of the FCTC was overwhelming scientific evidence as to the need for effective tobacco control measures. Its common policy enterprise brought about globally effective measures of tobacco control by means of a binding treaty under the auspices of the WHO.[181] Eyles and his colleagues examined the existence and shape of epistemic communities for heart health promotion in Canada. They found that there is an epistemic consensus on risk factors which are portrayed in terms of cause and effect.[182] This literature, while limited and applied to varying levels of analysis, offer important insights on the role of epistemic communities in health policy.

The emphasis on scientific expertise renders the epistemic community concept highly applicable to global policy-making on the SARS outbreak. Haas argues that epistemic communities are most likely to be found where scientific or highly specialised technical disciplines have been applied to policy-oriented work. Thus, epistemic communities arise in disciplines associated with the natural sciences, as well as ecology, law, engineering and even economics.[183] In this sense, the concept of epistemic communities is pertinent to the analysis of medicine/public health as this field is predominantly occupied by technical and medical experts whose composition is more exclusive and specialised in its scientific knowledge base. A case study on the SARS outbreak offers favourable conditions to assess the role of epistemic community influence as an issue requiring specialist scientific knowledge. In the GHG of an infectious disease outbreak, the power of expertise, it is argued, is likely to matter a great deal.

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[180] Youde J (2005), "The Development of a Counter-Epistemic Community: AIDS, South Africa and International Regimes", *International Relations*, 19(4): 421-43.
[181] Muekherjee A and Ekanayake EM (2009), "Epistemic communities and the global alliance against tobacco marketing", *Thunderbird International Business Review*, vol. 51 (3): 207-218.
[182] Eyles J, Robinson K and Elliott S (2009), "An epistemic community comes and goes?: local and national expressions of heart health promotion in Canada", *BMC Health Services Research*, vol. 9(35): 1-9.
[183] Haas P (2001), "Policy Knowledge: Epistemic Communities", p. 11581.

Haas also argues that the importance of epistemic communities is even greater during times of uncertainty, such as following a shock or amid a crisis. This is directly relevant to this analysis, given the features of an infectious disease outbreak such as SARS. Under conditions of uncertainty, over the identification and control of a disease outbreak, policy-makers may not be able to make a decision on the basis of existing knowledge or past experience, and may therefore turn to expert groups in an effort to ameliorate uncertainties. Faced with uncertainty, policy-makers who are also required to address a broad range of issue areas can understandably often look to epistemic communities for information and guidance. As will be shown in this research, the SARS outbreak was a case in point. As Adler and Bernstein put it, normative ideas of science are more than just a resource that encourages states to act in ways that are consistent with the specific knowledge in question. Rather, the most far-reaching effect of epistemic communities "may be the reproduction or transformation of identities and interests, on the basis of which, new types of islands of global governance are conceived."[184] Thus the epistemic community concept can illuminate how communities of experts emerge and become active in shaping the terms of a policy discourse in an ambiguous policy environment where causes of and cures for a disease are poorly understood. At the same time, this concept will demonstrate the extent to which the political domains of the SARS outbreak are distinctively influenced by scientific knowledge and those who interpret it.

In sum, this research argues that the epistemic community concept can stimulate empirical assessment of the mechanics and dynamics of decision-making around international/global health issues. It focuses on the participants in this process, drawing attention to the role of knowledge and ideas in affecting outcomes with the complexities of transnational interaction. We can view epistemic communities as being the channels that circulate ideas from research institutions to policymakers beyond territorial space. Thus the heuristic value of this concept is particularly relevant to this study.

2.2.3. Applying the epistemic communities concept

Defining the boundaries of an epistemic community is a challenging proposition. Before we look at the major features of an epistemic community on SARS, it is important to have a clear understanding of who, in fact, constitutes an epistemic community. Haas points out that the research techniques to identify the epistemic community are straightforward but painstaking:

> *Identifying community membership, determining the community members; principled and causal beliefs, tracing their activities and demonstrating their*

[184] Adler E and Bernstein S (2004), "Knowledge in power: the epistemic construction of global governance", paper presented at the annual meeting of the *International Studies Association*, 17 March 2004, p. 10.

influence on decision-makers at various points in time; identifying alternative credible outcomes that were foreclosed as a result of their influence, and exploring alternative explanations for the actions of decision-makers.[185]

Additionally, Haas suggests that epistemic communities are not part of the trans-governmental and international bureaucratic elite (in which states retain formal decision-making power); they are somehow autonomous from these structures.[186] This conception may clearly demarcate the epistemic community from other type of actors such as policy elites or policy entrepreneurs.

Stemming from elite theory, the concept of policy elites suggests that a small number of people influence policy either directly through their positions or through the utilization of interests groups in the political system of many countries.[187] This small minority is often drawn from either economic or policy realms[188] and holds their influence independent of democratic elections. They often draw their power from corporations, think tanks, and policy discussion groups. Similarly, a *policy entrepreneur* is defined as an individual who exploits an opportunity in order to influence political results for his/her own benefit, in the absence of the resources required for such activity.[189] Policy entrepreneurs generally refer to business entrepreneurs, politicians and policymakers or actors who attempt to pursue a certain policy. The idea of policy entrepreneurs has not reached a consensual definition. Scholars have used different terms (political entrepreneur[190]; institutional entrepreneur[191]; public entrepreneur[192]; policy

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[185] Haas P (1992), "Introduction: Epistemic Communities and International Policy Coordination", *International Organization*, 46, p. 34.
[186] Ibid., p. 34
[187] See Heclo H (1978). "Issue Networks and the Executive Establishment." In King A. *The New American Political System,* Washington, D.C.: American Enterprise Institute; also see Kraft ME and Kamieniecki S, eds. (2007). *Business and Environmental Policy: Corporate Interests in the American Political System*. Cambridge: MIT Press.
[188] For example, see Putnam R, "Elite Transformation in Advanced Industrial Societies: An Empirical Assessment of the Theory of Technocracy," *Comparative Political Studies*, vol. 10 (October 1977), pp. 383-412; also see Putnam R. Bureaucrats and Politicians: Contending Elites in the Policy Process," in *Perspectives on Public Policy-Making*, William B. Gwyn and George C. Edwards, III (eds.), New Orleans: Tulane University Studies in Political Science, vol. 15 (1975), pp. 179-202.
[189] Cohen N (2011), Policy Entrepreneurs and the Design of Public Policy: Conceptual Framework and the Case of the National Health Insurance Law in Israel, working paper, Working Paper, No. 7, The Open University of Israel, http://www.openu.ac.il/policy/download/maamar-7.pdf
[190] Meydani A (2008), Political Entrepreneurs and Electoral Capital: The Case of Israeli State Economy Arrangement Law, Constitutional Political Economy, 19(4), pp. 301-312; also see Schneider M & Teske P (1992), Toward a Theory of the Political Entrepreneur: Evidence from Local Government, The American Political Science Review, 86(3), pp. 737-747.
[191] Campbell JL (2004), Institutional Change and Globalization, Princeton/Oxford: Princeton University Press.
[192] Ostrom E (2005), Unlocking public entrepreneurship and public economies, EDGI Discussion paper no. 2005/01, Expert Group on Development Issues, United Nations University; Schneider M, Teske P & Mintrom M (1995), Public Entrepreneurs: Agents for Change in American Government, New Jersey: Princeton University Press.

entrepreneur[193]) loosely to refer to this notion in a wide variety of cases, thus making this term nebulous and difficult to define. Mintrom and Norman[194] have stipulated four elements central to policy entrepreneurship: (1) displaying social acuity in terms of locating social interests; (2) defining and framing problems (which is always a political act); (3) building teams and mobilizing other players (in the policy arena); and (4) leading by example to advocate policy change (to reduce risk).

While the concepts of policy elites or policy entrepreneurs provide a useful explanation for collective policymaking, there is a distinction between these concepts and the epistemic community. First, policy elites or policy entrepreneurs seek to study and influence policy, even if they do not agree on the definition of the problem or how to solve it. In contrast, the epistemic community concept embraces the notion of shared normative principles and causal belief among members. Second, policy elites and policy entrepreneurs may not necessarily be characterized by professional expertise whereas specialist knowledge and technical expertise coheres members of the epistemic community together. Third, policy elites and policy entrepreneurs are inclined to take actions to influence public opinion on particular policy in a manner to their advantage. By contrast, as conceptualized by Haas, members of the epistemic community are primarily concerned with gaining the support of policymakers.

Given the focus of this study, looking at the role of the community of scientific experts in defining policy issues and shaping the way responses are made on the basis of shared normative beliefs, the concept of epistemic communities appears to be more pertinent as a theoretical lens.[195] While the difference between an epistemic community and other type of policy actors reflects the importance of epistemic element, it should be acknowledged that the line between epistemic communities and policy communities and/or policy entrepreneurs is not as easy to distinguish in practice. In fact, the idea of policy communities is likely to be incorporated into considerations of epistemic communities since they share the similar definitional characteristics. For example, if policy experts are active for normative reasons in debates over policy issues and they define policy issues by exchanging knowledge about a particular subject, they can be regarded as an epistemic community as well as policy communities/entrepreneurs, because they would pursue a policy informed by their shared normative beliefs and preferred value judgments.

Additionally, distinguishing members of epistemic community from those of other groups renders some analytical difficulties in the study of the GHG of SARS. First, it fails to take sufficient account of the complex and diverse career patterns of public health

[193] Kingdon JW (1984), Agendas, Alternatives and Public Policies, Boston: Little and Brown Company; Mintrom M & Normal P, (2009) Policy Entrepreneurship and Policy Change, Policy Studies Journal, 37(4), pp. 649-667.
[194] Mintrom M & Norman P (2009), *Policy Studies Journal*, 37(4).
[195] Keck ME & Sikkink K (1998), *Activists Beyond Borders: Advocacy Networks in International Politics*, London, Cornell University Press.

professionals involved in SARS who may hold positions across different types of social groups including academic institutions, governmental and intergovernmental organizations, and the private sector at different times. For instance, it appeared that many experts, if not all, joined the global SARS operation at various stages of the outbreak. Some were recruited on short-term contracts during the outbreak, due to the lack of required expertise at the WHO Secretariat, and then became regular staff during or in the aftermath of SARS.[196] Others, having served in national bureaucracies during SARS as technical advisors, joined WHO after the outbreak ended. In a similar vein, some experts joined the global research network while in government positions. Others joined while based in their respective academic institutions. This indicates that individuals can have multiple social identities and thus should be characterised by their expertise. If we do take into account the various individuals who shared similar normative principles, yet may have held different social positions, we capture a fuller picture of the way different experts and their ideas interacted in the response to the SAR outbreak.

Second, WHO Secretariat officials, while assuming the role of coordinators in various operations, were arguably also deeply engaged in the idea construction stage of the policy-making process. Due to the nature of their expertise and experience in the field of public health and infectious diseases, instead of turning to other specialists for advice, they appeared to offer or tailor advice in ways that made it congruent with the preferences of their policy decisions. Therefore, these individuals were not simply carrying out "policy prescription", but shaping the policy making process by virtue of the gatekeeping nature of having specialist technical knowledge. Without taking sufficient account of the role of these technocrats within the international bureaucracy, an analysis of how agenda and actions on SARS were actually formulated or shaped would only result in a partial depiction.

Indeed, when one reviews research practices previously used by other scholars in the literature of epistemic communities (in particular, articles appeared in the *International Organisation*'s special issue in 1992), one would find the analytical problems related to the identification of the epistemic community. That is, researchers tend to assume that there is a clear and undisputed set of shared normative belief regarding the specific issue or policy in question. Consequently, there is no difficulty in identifying who is to be a member of the epistemic community with respect to that particular issue. It is argued in this research that a shared causal and normative belief must be defined empirically rather than assumed a priori. In other words, one needs to explore defining ideas - be they causal or normative beliefs - related to the particular policy issue and see

[196] For example, Dr. Angela Marianos was an academic in an Australian institution. She joined the WHO during SARS as a temporary technical expert. She later played a role as the SARS focal point overseeing the SARS coordination effort. In the aftermath of SARS, she became a full-time staff member of the WHO. Likewise, Dr. Keiji Fukuda was Chief of the Epidemiology Unit, Influenza Branch at the US CDC. He was dispatched to several countries including Hong Kong and China during SARS. After the SARS epidemic, he moved to the WHO in 2005 working as coordinator of the global influenza programme.

if these ideas are congruent among certain experts. Such analysis allows a researcher to identify whether there is more than one episteme/normative belief (i.e. discourse) and thus the existence of multiple epistemic communities which may consist of different sets of actors.

Given the discussion above, this thesis excludes those actors who: a) do not share the common set of normative principles that underlie the global response to the SARS outbreak; b) work outside a framework of shared notions of validity that cohere individuals together; c) do not hold shared commitments and consensus about the goals of policy practice to arrive at a joint acceptance of policy issues and present a unified response to the SARS outbreak. These criteria come at the expense of considerable simplification; nonetheless, one can effectively circumscribe the members of epistemic communities and integrate participating individuals.

Hence in terms of membership of an epistemic community, this thesis suggests that potentially important technical actors, regardless of their affiliation with national governments or intergovernmental organizations, public or private sector, must have been engaged in the analysis of SARS. Following Haas's terminology and criteria, but taking into consideration the analytical difficulty in drawing boundaries around the epistemic communities concept in global public health policy field, this thesis defines the epistemic community related to the SARS outbreak as *a group of professionals from disciplines pertaining to infectious disease outbreaks who were centrally involved in global response to the SARS outbreak, in a position to offer an authoritative claim to SARS, and critically involved in norm articulating events*.

How epistemic communities emerge and form, and to what extent the discourses emanating from epistemic communities, exert influence on the way SARS was addressed globally, will be analysed in Chapters Four and Five. A brief overview of the evolution of international/global discourses surrounding infectious diseases is provided in the next section.

2.3. COMPETING DISCOURSES IN THE GHG OF INFECTIOUS DISEASES

Public health policy response to infectious diseases has changed over time. Before analysing the role of epistemic communities in collective action, and in turn the power that ideas exert on the GHG of SARS, it is necessary to provide a brief overview of the key discourses surrounding infectious diseases. This will enable us to determine the extent to which they were prominent or not in the GHG of SARS.

The existing literature suggests that GHG has been shaped by a number of competing discourses. Lee proposes that global public health issues have been shaped by four key

discourses.[197] First, the *biomedical discourse* is a branch of medical science that applies biological and other natural-science principles to clinical practice. The biomedical sciences generate atomised approach to health alongside the scientific search for "magic bullets" at the macro-level rather than interventions at the level of community. Second, the *economic discourse* frames global public health issues from a utilitarian viewpoint whereby economic rationales take priority. Third, the security *discourse* frames global public health issues as threats to national (and by extension global) interests; for example, placing emphasis on biological weapons and emerging acute infections. Lastly, the *social medical discourse* is inspired by the health as a human right perspective, where the emphasis is placed on equitable access to medicines and healthcare, as well as life opportunities to meet basic needs and achieve personal well-being (e.g. poverty reduction). These discourses are neither unified, containing diverse perspectives within each, nor mutually exclusive.

A number of scholars have sought to analyse specific discourses in relation to global health issues. The work of the STEPS (Social, Technological and Environmental Pathways to Sustainability) Centre at the University of Sussex identifies "narratives" focusing mainly on avian and pandemic influenza. Scoones and Forster observe that the response to avian and pandemic influenza has been largely defined as an "outbreak narrative" which has placed emphasis on tracking disease events and incidents on the basis of scientific techniques, risk management, a protectionist security stance, universal application of disease control or public education, and activity-based outcome assessment.[198] While they used the term "narrative"[199] [200] as recurring features that emerged in the global avian and pandemic influenza response, their analysis broadly focused on how particular narratives became dominant and associated with actors and networks in the policy process. In this sense, the narratives in their work can be viewed as socially constructed ideas on outbreak issues through which actors, interests and institutions interact. Likewise, Tuong Vu identifies in his analysis of the response to avian influenza in Vietnam five key narratives: the power narrative, the nationalist narrative, the populist narrative, the technical narrative, and the protectionist narrative.[201]

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[197] Lee K (2009), "Understanding of global health governance: the contested landscape", in Kay A and Willams O (eds.) *Global Health Governance: Crisis, Institutions and Political Economy*, London: Palgrave Macmillan.
[198] Scoones I and Foster P (2008), *The International Response to Highly Pathogenic Avian Influenza: Science, Policy and Politics*, STEPS Working Paper 10, Brighton: STEPS Centre.
[199] Wald P (2008) Contagious: Cultures, Carriers, and the Outbreak Narrative,
Durham, NC: Duke University Press.
[200] Narrative in its original term refers to a representation of a particular situation or process in such a way as to reflect or conform to an overarching set of aims and values. Donald E. Polkinghorne, Narrative Knowing and the Human Sciences. Albany New York: State University of New York Press, 1988.
[201] Vu T (2009). *The Political Economy of Asian Influenza Response and Control in Vietnam*, STEPS Working Paper 19, Brighton: STEPS Centre.

Similarly, Foster explored the failure of Indonesia to address the Highly Pathogenic Avian Influenza (HPAI) in terms of three conceptual factors. The first one was the lack of a modern Weberian bureaucracy, coupled with the assumption by many in the international agencies leading the H5N1 response that such bureaucratic structure should exist. The second conceptual factor that contributed to the Indonesia's relative failure to address the HPAI effectively was the mismatch that existed between the global construction of risk associated with H5N1, which was driven most significantly by the global public good, as illustrated by slogans such as 'One World One Health', and the weak Indonesian conception of a national public good. . The highly stratified nature of Indonesian society – the rich and the poor, the urban and the rural and many other groups – made the promotion of the idea of common goods particularly challenging. . The third conceptual factor was related to the fracture between the national and the international in the conception of a human influenza pandemic. The HPAI response in Indonesia was primary driven by an overarching scientific and biomedical narrative with international agencies driving the implementation of a set of programmes including epidemiological surveillance, mass poultry vaccination, and culling. Yet, such an international-led narrative, justified by science, was at odds with local narratives that concerned the livelihood of farmers, food security, and the welfare of poultry. .

Additionally, Shiffman proposes an explanation based on Social Constructionism, concerning the rise, persistence and fall of specific issues in global health. He argues that global health issues may have less to do with how "important" it is, in any objective sense, than with how supporters of the issue come to understand and portray its importance.[202] Specifically, those issues that attract attention may be the ones in which policy community members have discovered frames which resonate with global and national political elites, and then established institutions that can sustain these frames.[203] Although Shiffman did not specifically identify the core discourses that shaped the framing of global disease control priorities, drawing on several empirical communicable disease cases such as polio, tuberculosis, malaria, HIV/AIDS and infant mortality, he demonstrated that the framing of global health issues are backed by powerful institutions and understood in the organizational sense of the term. He proposes that the emergence of disease control campaigns requires a convergence of three conditions: a) a disease should be widely considered to be a major threat; b) a disease should be perceived to be amenable to containment through human intervention; and c) there should exist a coalition of powerful institutional actors that believe it to be worthwhile to fight the disease.[204] This proposition is highly relevant to

[202] Shiffman J (2009), "A social explanation for the rise and fall of global health issues", *Bulletin of World Health Organization*, 87: 608-613.
[203] Shiffman J (2010), "Issue attention in global health: the case of newborn survival", *The Lancet*, 375: 2045-49.
[204] Shiffman J, Beer T and Wu Y (2002), "The emergence of global disease control priorities", *Health Policy and Planning,* 17(3): 225-234; Shiffman J (2006), "HIV/AIDS and the rest of the global health agenda", *Bulletin of the World Health Organization*, 84(12): 923; Shiffman J (2010), "Issue attention in global health: the case of newborn survival", *The Lancet*, 375: 2045-2049.

the approach taken by this research in that it recognises the importance of ideational construction that may become a framework for understanding and shaping the material context within which international infectious disease policies are carried out.

Overall, a number of scholars have argued that the realm of ideas is important in shaping emerging forms of GHG. Referred to variably as normatively-based discourses, perspectives and frames, these sets of ideas are held and used to influence how global health issues are defined as problems, and the potential solutions available to address them. For the purposes of this research, we will refer to these sets of ideas as *discourses*. While scholars have identified a range of different discourses, and the ideas which define them, as described above, the following section provides a brief discussion of the core ideas of discourses that appear to have informed the GHG of infectious disease outbreaks.

2.3.1 Biomedical Discourse

The dominance of the biomedical model in public health is reflected in the rapid growth of scientific research, observation and technology which emphasises a biomechanical approach to disease and the human body.[205] This model takes a reductionist approach to the health of the human body because it views ill-health as resulting from physical causes such as infection or injury. Within this discourse, the way to pursue solutions to health problems is a linear, compartmentalised approach that seeks to answer specific problems without taking sufficient cognisance of the fact that these problems are embedded within complex systems in which positive and negative feedback occurs in response to changes in one or another area, and with consequent effects. Thus biomedical discourse is based upon the notion that biological processes can (and should) be separated from each other, and from wider social contexts.

Biology has traditionally been regarded as naturally given and thus unchangeable. The result of this notion is that there is a general tendency to shift attention away from the social, economic and environmental fundamentals of health. In respect to infectious diseases, it is widely believed that clinical intervention has played a major part in understanding the biology of why diseases occur and how they can be treated; new developments in diagnosis and treatment would therefore provide further improvement to health. It focuses on the clinical and epidemiological characteristics and modes of the transmission of disease. Favoured strategies stress prevention of individual risk behaviours and methods of prevention, treatment and care.[206]

[205] Lee K (2009), "Understanding of global health governance: the contested landscape", p. 30.
[206] Lee K and Zwi A (2002), "Global Political Economy Approach to AIDS: Ideology, Interests and Implications" in Lee et al. (eds.), *Health Policy in a Globalising World*, Cambridge: Cambridge University Press, p. 21-2.

Under the assumptions of the biomedical discourse, infectious diseases are primarily a problem requiring scientific knowledge and medical/technical solutions, with a focus on medical rather than social interventions and on addressing diseases for which technical solutions exist.[207] This assumption is largely driven by the improvements in clinical knowledge and practice, including mass vaccination campaigns or the use of antibiotics, based on the belief that scientific interventions hold the key to the improved health of individuals and populations.[208] The basic argument is that, with the right scientific tools, health interventions will lead to improvements in population health. What is therefore needed is the institutional, technocratic and financial bases for achieving international cooperation to develop and apply such tools. It has been observed, however, that biomedical solutions to infectious disease problems often result in large-scale investments promoting private profit over public goods. For example, developing and providing new drugs are more imperative in this discourse than the use of existing resources.[209] It therefore prioritises the biomedical sciences and technological innovation as the solutions to infectious disease problems, overlooking available knowledge, appropriate (sometimes low) technologies, or complementary social-based solutions.

The biomedical discourse is evident in the infectious disease control programme of the Rockefeller Foundation (RF) during the early 20th century. As part of medical philanthropy, the RF was set up to promote more active prevention, control and treatment of infectious diseases, particularly in poor countries. The RF promoted health activities in Latin America and Asia involving (a) basic health research, (b) training health personnel, and (c) setting up a demonstration of model health programmes.[210] Some historians noted that the RF was the most influential international agency in shaping the priorities and ideologies of international health cooperation based upon the primacy of biomedical solutions to public health problems.[211] The RF's biomedical episteme was clear in its support for selected infectious disease control initiatives, and its establishment of an international network of public health professionals to implement them.[212] Through its focus on training and institution building, the RF was fundamental in creating an international network of public health experts, drawing on the universalism of biomedical science and reinforcing the biomedical episteme. This is evidenced by the RF's funding for disease campaigns against yellow fever, hookworm and malaria, and for supporting the establishment of several dozen schools of public

[207] Foladori G (2005), "The challenge of infectious diseases to the biomedical paradigm", *Bulletin of Science, Technology and Society*, 25 (2): 145-158.
[208] Lee K (2009), "Understanding of global health governance: the contested landscape", p. 30.
[209] Benatar SR, Lister G and Thacker SC (2010), "Values in global health governance", *Global Public Health,* 5 (2): 143-153.
[210] Roemer M (1994), "Internationalism in Medicine and Public Health" in Porter D (ed.), *The History of Public Health and the Modern State*, London: Welcome Institute, p. 406.
[211] Weindling P (1997). "Philanthropy and World Health: The Rockefeller Foundation and the League of Nations Health Organisation".
[212] Roemer M (1994), "Internationalism in Medicine and Public Health" in Porter D (ed.), *The History of Public Health and the Modern State*, London: Welcome Institute.

health across the world.[213] Interestingly, the RF funded the appointment of Rene Sand as Professor of Social Medicine in 1945 at Brussels University, who played an active role in the international promotion of the social medicine discipline, especially in Latin America.[214] Social medicine locates health and ill-health within a broader social context, and seeks to address the impact of society on individuals, notably those who are disadvantaged. Yet, while the RF claimed to be an ardent supporter of social medicine, which explains the focus by the Foundation on health needs in poor countries, others question the rationale for the RF's health activities. Based on the programmes funded, it is arguable whether the RF supported a social medicine approach, namely locating health within a broader social-economic context. Rather, its activities and overall approach had a strong biomedical focus orientated towards social improvement via disease control and eradication.

On the surface, the League of Nations Health Organization (LNHO), established in 1920 to provide a collective response to Europe's concern for the prevention and control of disease, also supported social medicine principles. From the time of its establishment, the governing committee of the LNHO prioritized the development of social medicine.[215] For example, the International Labour Organization (ILO) 's representative on the committee persistently argued that issues of social medicine could not be separated from the question of access to services that fundamentally affected the health of people.[216] However, the primary concern of the LNHO's work programme quickly became the universalisation of scientific standards and nomenclature in terms of the collection of biomedical and morbidity/mortality statistics.[217] The organization also put strong emphasis on the biomedical sciences in terms of epidemiologic surveillance, health commissions, expert scientific research committees, and the exchange of health personnel. For example, in 1919, an epidemic of typhus spread through Russia and Poland. In addition, a major worldwide pandemic of influenza occurred, which was estimated to cause as many as 50 million deaths by 1920. Yet the LNHO's role in providing technical assistance to address infectious disease outbreaks of these kinds proved to be limited. Instead, its focus remained predominantly on surveillance, monitoring and reporting rather than on rapid response to prevent, control and treat such diseases. As Weindling argues, set against such scientific expert-based strategies were defects in the elite structures of the LNHO.[218] The LNHO's model of public health

[213] Birn A (2009), "The stage of international (global) health: histories of success or successes of history", *Global Public Health*. 4 (1): 50-68.
[214] Porter D (2006), "How did social medicine evolve, and where is it heading?" *Plos Medicine*, vol. 3 (10): 1667-1672.
[215] Porter D (2006), "How did social medicine evolve, and where is it heading?" p. 1668.
[216] Ibid., p. 1668.
[217] Weindling P (1997). "Philanthropy and World Health: The Rockefeller Foundation and the League of Nations Health Organisation".
[218] Weindling P (1997). "Philanthropy and World Health: The Rockefeller Foundation and the League of Nations Health Organisation", p. 276.

supported a technocratic vision of public health reform, failing to address health promotion at the level of primary health care.[219]

The established domain of the biomedical episteme continued with the creation of the WHO in 1948 and its disease-specific programmes in the form of mass campaigns in the 1950s and 1960s.[220] Major attention was focused on selected infectious diseases afflicting people in developing countries. This was because, while in theory health policy was decided on "consensual grounds", as the WHO rarely evokes its voting system, in practice its activities were largely defined by medical professionals.[221] There was also a high priority given to standardization of drugs and vaccines, and disease-focused research and policy such as the Malaria Eradication Programme.[222] Leading scientists, most notably Fred Lowe Soper, a former RF employee, believed that residual insecticides could progressively eradicate a disease. This strongly influenced what health needs were prioritised, as well as the specific types of activities the WHO supported. In turn, broad-based approaches that championed integrated economic development were given limited attention. The organisation began to favour relatively simple medical interventions, such as vaccines and prophylaxis, rather than more complex interventions that addressed economic and social circumstances.[223] This vertical approach to infectious diseases, what Mills calls "directed, supervised and executed, either wholly or to a great extent by a specialized service using dedicated health workers", became the norm during this period. It is also an approach that remains subject to debate to the present day. Critics argue that this vertical approach to disease control fails to address fundamental social and economic conditions, which directly effects the populations of developing countries.[224]

In response to this failure, longer-term and more holistic strategies - i.e. attention to individual wellbeing as well as societal factors shaping health determinants and outcomes - were recognised as needed to target ill-health generally rather than specific diseases individually. The Primary Health Care (PHC) movement emerged as a key part of the response to this failure (discussed under the human rights discourse). This "horizontal" approach claims that major diseases need to be addressed within a broader social context where health care delivery may need to take account of equity and social justice. In contrast, the vertical approach contends that, within the context of scarce

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[219] Weindling P (2006), The League of Nations health organisation and the rise of Latin American participation 1920-40. *Historia Cinecias Saude – Manguinhos*, 3: 1-14.
[220] Lee K (2009), *The World Health Organization*, Abingdon: Routledge, p. 12-24; Porter D (1999). *Health, Civilization and the State: A History of Public Health from Ancient to Modern Times*.
[221] Walt G and Gilson (1994), "Reforming the health sector in developing countries", *Health policy and Planning*, 9 (4): 353-370, p. 356.
[222] Siddiqi J (1995) World Health and World Politics: the World Health Organisations and the UN System; Porter D (1999). *Health, Civilization and the State: A History of Public Health from Ancient to Modern Times*.
[223] Jackson J (1998), "Cognition and the global malaria eradication programme", *Parassitologia*, 40: 193-216.
[224] Packard R (1998), ''No Other Logical Choice: global malaria eradication and the politics of international health in the postwar era", *Parassitologia*, 40 (12): 217-230.

resources, it is imperative to target the diseases of greatest prevalence in terms of morbidity and mortality, or diseases where effective interventions were available. [225] The vertical approach gained particularly strong support from action-oriented institutions such as UNICEF. In this context, for instance, then UNICEF Director James Grant, inspired by polio expert Jonas Salk, and Robert McNamara, then the president of the World Bank, supported the acceleration of the expanded programme on immunization and selective primary care in the early 1980s.[226]

The biomedical discourse was given an additional boost from the mid 1990s with the initiation of new global health initiatives to address a myriad of disease areas. Many public-private partnerships were formed to tackle specific diseases such as malaria (e.g. Rollback Malaria Campaign), tuberculosis (e.g. Stop TB) and HIV/AIDS (e.g. International AIDS Vaccine Initiative), as well as tropical diseases such as schistosomiasis (e.g. Mectizan Donation Programme), trachoma (e.g. Trachoma International Trachoma Initiative) and onchocerciasis (e.g. African Programme for Onchocerciasis Control).[227] These public-private partnerships mobilised billions of dollars for global health activities and transformed the GHG landscape.[228] Two very significant players in these partnerships are the Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria (GFATM) and the Bill and Melinda Gates Foundation.[229] GFATM was established in 2002 as an independent financing entity, and disburses approximately two-thirds of its funds to combat tuberculosis, one-half for malaria and one-quarter for HIV/AIDS. Essentially, GFATM focuses largely on treatment rather than prevention of diseases. Its grant-making process requires applicant countries to propose technical, measurable short-term approaches to fighting disease rather than measures to address the underlying social determinants of health needs. Bhatia and Rifkin point out that, consistent with a biomedical approach, GFATM has a strong preference for technological solutions directed towards re-enforcing and implementing the vertical disease programme approach.[230]

Another important player is the Gates Foundation (established in 2000) which has demonstrated a strong preference for targeted medical interventions and research over broad-based health sector development and strengthening.[231] Lee argues that the Gates

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[225] Walsh JA and Warren KS (1979), "Selective primary health care: an interim strategy for disease control in developing countries". *New England Journal of Medicine*, 301: 967-74.
[226] Ibid.; Warren KS (1993), "The start of a global health strategy", *Current Contents*, 21 (50), Dec 13, 1993.
[227] Brown et al. (2006) "The WHO and the Transition from International to Global Public Health" *American Journal of Public Health*, 96(1): 62-72.
[228] Cohen J (2006), "The new world of global health", *Science*, vol. 311: 162-167; Garrett L (2007), "The challenge of global health", *Foreign Affairs,* January/February.
[229] Litzow J and Bauchner (2006), "The Grand Challenges of the Gates Foundation: what impact on global child health?" *Journal of the Royal Society of Medicine*, 99: 171-174.
[230] Bhatia M and Rifkin S (2010), "A renewed focus on primary health care: revitalize or reframe?" *Globalization and Health*, 6(13): 1-5.
[231] Birn A (2005), "Gates's grandest challenge: transcending technology as public health ideology", *The Lancet,* 366: 514-519.

Foundation has been among the most ardent followers of the biomedical model. Its focus upon a single disease approach by developing vaccines and drugs through unparalleled levels of funding has reflected a strong faith in biomedical science.[232] Similarly, Birn argues that the shortcomings of the Gate's Grand Challenges has been a failure to take into consideration the social determinants of health.[233] As the Foundation has become the most influential institutional actor in global health, by virtue of its funding resources and increasingly agenda setting expertise, it has also had a profound impact on how infectious diseases have been addressed on a global scale.[234]

In summary, the core ideas of the biomedical discourse, as applied to infectious disease outbreaks, are:

- Infectious disease is a problem best understood and addressed through the biological sciences as applied to clinical medicine
- Clinical intervention should play a core role in diagnosis and treatment
- Biological processes should be separated from the social context
- Clinical and epidemiological characteristics and mode of transmission of the disease should be the key focus
- There should be a linear and compartmentalised solution to specific diseases
- Individual risk behaviours and methods of prevention, treatment and care should be prioritised
- Large-scale investments in clinical research should be promoted
- Development of new drugs should be emphasised

2.3.2. Health and the Human Rights Discourse

The human rights discourse is based upon the claim that there is a basic human right to health held by all individuals. This perspective gained international legitimacy following the adoption of the WHO Alma Ata Declaration of 1978. Human rights are best understood as high-priority minimal moral entitlements of all persons, and as implying both fairly determinate obligations on the part of states and more indeterminate obligations on individuals to work with others to promote the protection of rights, if they have the opportunity and resources to do so.[235] Under the concept of human rights, individuals possess a universal claim to certain rights regardless of their nationality, location, or health status. Human rights thus transcend formal state

[232] Lee K (2009), "Understanding of global health governance: the contested landscape".
[233] Birn AE (2005), "Gates' grandest challenge: transcending technology as public health ideology", *The Lancet*, published online 11 March.
[234] Sandberg KI, Andresen S and Bjune G (2010), "A new approach to global health institutions?: a case study of new vaccine introduction and the formation of GAVI alliance", *Social Science and Medicine*, 71 (6): 1329-1356.
[235] Buchanan A and Decamp M (2006), "Responsibility for Global Health", *Theoretical Medicine and Bioethics*, 27: 95-114, p. 10.

sovereignty and impose obligations on states to respect, protect, and fulfil the human rights of all persons.[236]

Within the human rights discourse, good health is cited as a human right that everyone – regardless of race, class, gender, nationality or age – should be entitled to. Indeed, literature on human rights contends that health is a social right that everyone must enjoy in order to make the most of their civil and political rights.[237] The human rights discourse argues that, in order for people to become and remain healthy, they need access to medical services as well as a decent standard of living, including good sanitation, proper food staples, clean drinking water, and shelter.[238] In this sense, health should be promoted, not only because of the positive externalities healthy people generate, as put forth by the economic discourse (discussed below), but because health is a 'good' in and of itself that contributes to one's own and society's overall well-being. As such, health policy needs to be wide-ranging and target underlying conditions that may not be directly seen as health-related, such as reproductive health, education, and development.

A shift in attention in GHG, to the achievement of human rights to health, has been largely driven by the perceived lack of effective governance at the national level to address unequal distributions of health. Proponents of this discourse therefore seek to push the national and global community to deliver the right to health in two ways. First, states should remove barriers to access to existing health care resources, eliminate discrimination in health services, and ensure that the health needs of all citizens are taken into account in developments that can have serious health effects. Second, there should be a standard for ensuring that all citizens enjoy a core set of positive health entitlements, including for example clean drinking water, basic sanitation and shelter as well as access to basic prenatal care and immunization for the most serious infectious diseases. Therefore, the discourse seeks to identify structural inequalities in health and impose upon states and the global community the obligation to protect and improve their populations' right to health.[239]

The human rights discourse prioritises equitable access to basic healthcare according to one's need, and is strongly associated with contemporary civil society engagement in

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[236] Gostin LO and Gable L (2004), "The Human Rights of Persons with Mental Disabilities: A Global Perspective on the Application of Human Rights Principles to Mental Health", *Maryland Laws Review*, 63(1): 20-121.

[237] Chapman A (2007), "The Status of Efforts to Monitor Economic, Social and Cultural Rights", In Hertel S and Minkler L (eds.) *Economic Rights: Conceptual, Measurement, and Policy Issues.* Cambridge University Press.

[238] Fukuda-Parr S (2007), International Obligations for Social and Economic Right: The Case of the Millennium Development Goal Eight. In Hertel S and Minkler L (eds.) *Economic Rights: Conceptual, Measurement, and Policy Issues.* Cambridge University Press.

[239] Bhatia M and Rifkin S (2010), "A renewed focus on primary health care: revitalize or reframe?" *Globalization and Health,* vol. 6(13): 1-5.

infectious diseases and other health issues such as access to medicines.[240] As human rights have helped inform the goals and strategies of non-state actors, these actors have likewise played an increasingly prominent role in influencing the development of human rights structures and norms that impact health. Many non-governmental organizations, civil society organisations, and policy programmes incorporate a human rights approach in their efforts to improve health, which include the establishment of the procedural and jurisdictional contours of monitoring, oversight and enforcement that uphold human rights which are relevant to health.[241] While supporting the basic assumptions of human rights, the civil society movement takes a more radical approach to the structural factors that systematically erode human rights. Overall, the human rights discourse provides a compelling approach to understanding and protecting health at both the national and global level.

The human rights discourse can be found at the heart of the Primary Health Care (PHC) movement of the 1970s. The concept of PHC emerged when the biomedical model faced a "crisis of faith" among public health practitioners. This resulted from the embarrassing failure of disease-specific programmes developed in the 1950s and 1960s, led by the Malaria Eradication Programme.[242] This was coupled with evidence of the successful mobilisation of community health care in developing countries – for example, the famous "barefoot doctors" in China as the first line of health care – and also challenged the prevailing biomedical/public health episteme. The PHC movement was epitomised by the Alma Ata Declaration where 134 member states of the WHO affirmed their commitment to equity – as embodied in the slogan "Health for All by the Year 2000". The declaration emphasized social justice, equity and an understanding of the socioeconomic underpinnings of health. This movement shifted the focus, from mere provision of disease-specific control and treatment programmes, to tackling broader socioeconomic development needs within which health is achieved. Health care, in turn, would be more integrated and accessible. A range of experts including epidemiologists, economists, and other social scientists began to place emphasis on the social and economic dimensions of health and disease. TB expert and Director-General of the WHO from 1973 to 1988, Halfdan Mahler, among others, markedly contributed to this concept by initiating a new social paradigm of health care with an emphasis on disease prevention and health promotion, in contrast to the earlier focus on technical expertise. His leadership and long-term commitment to social justice led to the proposed goal of the PHC movement at the WHA in 1976.[243]

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[240] London L and Schneider H (2011), "globalization and health inequalities: can a human rights paradigm create space for civil society action?" *Social Science and Medicine*, available online 3 April 2011; People's Health Movement (2008), *Global Health Watch 2*, London: Zed.

[241] Gable L (2007), "The proliferation of human rights in global health governance", *Journal of Law, Medicine and Ethics*, Symposium Winter 2007.

[242] Siddiqi J (1995), *World Health and World Politics: the World Health Organisations and the UN System*, London: Hurst & Company.

[243] Lee K (2009), The World Health Organization, Oxon: Routledge.

While the PHC movement offered a new normative framework, focused on the human right to health, the 1980s saw a policy shift in other international health institutions, such as UNICEF and the World Bank, away from the human rights discourse. Many, if not all, were unconvinced that addressing social justice and economic development were as vital to health improvements as direct biomedical interventions and targeted disease-focused efforts. As described in the previous subsection, the renewal of disease-specific programmes, reflected in the growth of extra-budgetary funds (voluntary contributions), was seen by many as a reassertion of power by major donor countries, after a decade of activism among low and middle-income countries in the UN. The donor-led policy of zero real growth in the WHO's budget, along with choices by these countries about what health issues to prioritise and the types of activities to support to address them, added up to undue influence by a small number of countries over priority setting within WHO and other international institutions towards selected disease-focused initiatives.[244] All of these developments modified and eventually derailed the comprehensive PHC approach. Instead, "selective PHC", which was initiated by James Grant at UNICEF and subsequently supported by the RF and the World Bank, became the dominant mantra.[245] UNICEF adopted the GOBI-FF strategy (growth monitoring, oral rehydration therapy, breastfeeding and immunization, family planning, female education and food supplementation). In terms of policy response, this meant a focus on targeted disease interventions, rather than an integrated approach to address the underlying socioeconomic context that shaped health determinants. The human rights discourse was therefore gradually diminished in favour of the economic (see below) and biomedical discourses. The close complementarity between the neoliberal emphasis on the role of the market economy, in improving efficiency and effectiveness, and specific disease-oriented health interventions, often embedded in the principle of an individually-focused understanding of health, has been explored in a number of highly critical publications.[246]

In the late 1980s, the human rights discourse was reinvigorated by Jonathan Mann, the first Director of the WHO's Global Programme on AIDS. He played a pivotal role in advocating the human rights approach despite resistance by WHO Director-General Hiroshi Nakajima, who favoured a biomedical approach to the disease. Criticism of such an approach by Mann, who left the organisation in 1990, and then major donor countries, UNDP, UNICEF and other organisations, led to the creation of the Joint United

[244] Lee K (2009), *The World Health Organization*, p. 38-44; Vaughan et al. (1996), "WHO and the effects of extra budgetary funds: is the Organisation donor driven?", *Health Policy and Planning*, 11 (2): 253-64.
[245] Walsh JA and Warren KS (1979), "Selective primary health care: an interim strategy for disease control in developing countries", *New England Journal of Medicine*, 301: 967-74; Cueto M (2004), "The Origins of Primary Health Care and Selective Primary Health Care", *American Journal of Public Policy*, 94(11): 1864-1873.
[246] Banerji D (1999). "A Fundamental Shift in the Approach to International Health by WHO, UNICEF, and the World Bank: Instances in the Practices of Intellectual Fascism and Totalitarianism in Some Asian Countries", *International Journal of Health Services* 29 (2): 227-259; Hong E (2000). *Globalisation and the Impact on Health: A Third World View*, Penang: Third World Network.

Nations Programme on HIV/AIDS (UNAIDS) in 1996.[247] Mann, Larry Gostin and colleagues famously framed the connection between health and human rights as an "inextricable linkage."[248] The model linking health and human rights, based on Mann's work of applying human rights to combat HIV/AIDS during his time at the WHO, recognised that promoting human rights is linked with protecting health.[249] Without good health, it was argued that people may have great difficulty advocating for and benefiting from other human rights. Conversely, without adequate human rights protections, harmful conditions and practices that undermine health may persist. The advancement of health and human rights can and should thus occur contemporaneously.[250] In short, the intersection of human rights and health goes beyond the right to health and implicates a number of other rights (life, liberty, judicial redress, privacy, education, etc.) that have an impact on the ability of a person to achieve good health.

The human rights discourse, in the context of infectious diseases, has often progressed concurrently within UN organisations. For example, UNDP and UNAIDS have recognised the impact of human rights on health and have explicitly adopted human rights norms into their health strategies and policy guidance.[251] Human Rights Watch has generally focused on health issues and used their human rights expertise to highlight health concerns such as HIV/AIDS.[252] Paul Hunt, former UN Special Rapporteur on the rights to health, similarly argues that Article 2(1) of the International Covenant on Economic, Social and Cultural Rights (ICESCR) obligates "developed states…to provide international assistance and cooperation to ensure the realization of economic, social and cultural rights in low-income countries a normative affirmation of which exists in the MDGs."[253]

The revised IHR provides another example of the incorporation of human rights principles into a GHG instrument. Countries adhering to the IHR must coordinate efforts to stop the spread of public health emergencies of international concern.[254] In implementing the IHR, countries are required to ensure "full respect for the dignity, human rights, and fundamental freedom of persons" and "shall treat travellers with respect for their dignity, human rights and fundamental freedom, and minimize any

[247] Lee K (2009), "Understanding of global health governance: the contested landscape" p. 37.
[248] Man J et al. (1994), "Health and Human Rights", *Journal of Health and Human Rights*, 1 (1): 6-23.
[249] Mann JM (1997), "Medicine, public health, ethics and human rights", Hastings Centre Report, vol. 27(1): 6-13, p. 9; Gruskin S (2004), "Is there a government in the cockpit: a passenger's perspective or global public health: the role of human rights", *Temple Law Review* vol. 77(2): 313-33, p. 314.
[250] Mann JM (1997), "Medicine, public health, ethics and human rights."
[251] UNAIDS (2006), International Guidelines on HIV/AIDS and Human rights, Geneva; UNDP (2004), *Supporting National HIV/AIDS Responses*, Geneva.
[252] Human Rights Watch (2006), *Rhetoric and Risk: Human Rights Abuses: Impending Ukraine's Fight against HIV/AIDS*, March 2006.
[253] United Nations Economic and Social Council Commission on Human Rights*: The right of everyone to the enjoyment of the highest attainable standard of physical and mental health*. Geneva: UN Economic and Social Council 2004, E/CN.4/2004/49.
[254] World Health Assembly (2007), *International Health Regulations*, Geneva, June 15 2007. *Article 6.*

discomfort or distress associated with such measures" taken to prevent the spread of disease.[255]

A further example can be drawn from Michael Marmot who chaired the WHO Commission on the Social Determinants of Health, intended to be a counterbalance to the Commission on Macroeconomics and Health.[256] He advocates understanding of the underlying factors contributing to population health, which is broader than the predominant biomedical perspective.[257] The final report of the Commission is infused with references to rights and places the attainment of health equity as a moral imperative. The Commission identifies the importance of rights-based approaches for reducing health inequities. The report states, "There are clear links between a rights approach to health and the social determinants of health approach to health equity. The Universal Declaration of Human Rights points to the interdependence of civil, cultural, economic, political and social rights – dimensions of social exclusion highlighted in the social determinants of health framework."[258] The case for health equity shares much in common with the drive to realise human rights. The Commission's vision to close the gap in a generation strongly affirms the right to health as it is articulated in the WHO Constitution.

In summary, the core ideas of the human rights discourse, as applied to infectious disease outbreaks are:

- Individuals possess a universal claim to certain rights regardless of their nationality, location or health status
- There should be a standard for ensuring that all citizens enjoy a core set of positive health entitlements
- Universal access to a basic level of healthcare should be prioritised
- The broad underlying conditions that may cause ill health should be targeted
- National and international community should deliver the right to health
- Civil society organizations should be closely engaged
- Prevention, multi-sectoral collaboration and poverty reduction are seen as key to health improvements

2.3.3. Economic Discourse

[255] World Health Assembly (2007), *International Health Regulations, articles 3, 3;* Gostin LO (2004), "International infectious disease law: revision of the world Health Organization's International Health Regulations", *JAMA* 291(21): 2623-27.
[256] Global Health Watch (2008). Global Health Watch 2: An Alternative World Health Report, London: Zed Book.
[257] Commission on the Social Determinants of Health (2008), *Closing the Gap in a Generation: Health Equity through Action on the Social Determinants of Health*, Geneva: World Health Organisation.
[258] Commission on the Social Determinants of Health (2008), *Closing the Gap in a Generation: Health Equity through Action on the Social Determinants of Health,* p. 173.

The economic discourse focuses on the utilitarian argument that healthy people contribute positively to economic growth/development, whereas ill health is a drain on individual households and national economies. It substitutes human rights' insistence on equity and social justice for a focus on relative poverty reduction.[259] Economics is about analyzing the production, distribution and consumption of goods and services. Drawing on economically-derived statistics, methodologies such as cost-benefit and cost-effectiveness analyses, and measures of productivity and efficiency, the economic discourse emphasizes the setting of health policy priorities to achieve quantifiable measures of gains in material wealth. This, in turn, encourages an understanding of health and well-being in terms of economic notions of value based on the commoditisation of health status and entitlements.

The discourse begins with the assumption that resources are limited. The challenge for health policy is how to best allocate those resources to achieve optimal population health gains. Within this neoliberal economic discourse, it is argued that competitive market forces are regarded as the most efficient allocative mechanism. Certain health system reforms adopted during this period have reflected this market-oriented approach. The introduction of user charges, privatisation, decentralisation of budgets and responsibilities, contracting out, fundholding, and the promotion of private sector and public-private partnerships in health care services and financing are examples found in countries of widely varying levels of socioeconomic development. In low-income countries, health reform measures introduced as part of Structural Adjustment Programmes have also been closely allied with this discourse.

In terms of infectious disease response, the economic discourse leads to the prioritisation of certain population groups, namely those most economically productive within society, at the expense of others (i.e. the young, old or disabled). The economic discourse has extensive significance for health strategies in requiring economic justifications for, and weighting of, different disease control interventions.[260] It also influences which infectious diseases in which settings are prioritised. For example, the basic package of health care interventions aim to concentrate scare resources on interventions which provide the best "value for money" prioritising particular disease groups – HIV/AIDS, mental health, and maternal, newborn and child health – in low-income countries.[261] Strategically, the discourse pursues the middle way, which avoids the selectivity of the vertical approach but seeks to ensure that general health resources are devoted to interventions prioritized on the basis of their contribution to wealth generation. This discourse, however, was seen as lacking evidence of success by vertical

[259] Lee K (2009), "Understanding of global health governance: the contested landscape".
[260] Murray C and Lopez A (1996), "Evidence-based health policy – lessons from the Global Burden of Disease Study", *Science,* 274 (5288): 740-743.
[261] World Health Organisation (2008), *Essential health packages: what are they for? What do they change?* (WHO service delivery seminar series), Geneva: World Health Organisation, available at http://www.who.int/healthsystems/topics/delivery/technical_brief_ehp.pdf

programme proponents, and as overly technocratic by advocates of the horizontal philosophy.[262]

The economic discourse enjoyed a strong surge from the late 1980s and early 1990s when the WHO began to wane in influence compared with the World Bank, which had become the main source of funding for health development at that time. On top of this institutional shift in material power, the 1980s saw an economic downturn and resultant ideological shift towards an increased market orientation within the public sector in the form of a greater emphasis on economic measures and efficiencies through such policies as privatization and decentralization. In conjunction with various bilateral agencies, the World Bank instilled this neoliberal ideology into health development policy. The modification of the changing relationships among key institutions, and the ascendance of neoliberal economics, was reflected in an increasing involvement of economists in health policy making. Neoliberal ideas were apparent in a range of key reports published by the Bank, notably *Financing Health Services in Developing Countries* (1987), and *World Development Report 1993: Investing in Health*, which recognised the importance of health to economic development. Drawing on such concepts as the "burden of disease and 'DALY' (disability-adjusted life years)", this new circle of economists advocated reforms to achieve greater efficiency through cutting government spending on health and other social sectors, decentralisation, privatisation, market competition and the delivery of basic packages of technical interventions.[263] In terms of infectious disease response, this approach led to the setting of priorities based on disease burden and the cost-effectiveness of health interventions.

It is also worth mentioning that during the early 2000s, Intellectual Property Rights derived from neoliberal discourse drew significant attention with the issue of AIDS medicines in developing countries. Until early 2001, enabling access to essential medicines received little attention in international efforts to address emerging infectious diseases with global implications. Measures such as compulsory licensing were included in the TRIPS Agreement to maintain a balance between commercial interests and public health needs. However, their use had been extremely limited in practice due to corporate litigations and governmental trade sanctions.[264] The growing number of people with HIV/AIDS in Sub-Saharan Africa and its corresponding scale of deaths shifted the issue of affordable ART (Anti-retroviral Treatment) medicines from merely a question of intellectual property protections under the TRIPS Agreement to a grave human rights concern.[265] The anthrax attacks in 2001 following September 11

[262] Mills A (2005), "Mass campaigns versus general health services: what have we learnt in 40 years about vertical versus horizontal approaches?" *Bulletin of the World Health Organization*, 83(4).
[263] Birn AE (2009), "The stages of international (global) health: histories of success or successes of history?", *Global Public Health*, 4(1): 50-68, p. 60.
[264] Abbott FM (2002), "The WTO medicines decision: world pharmaceutical trade and the protection of public health," *American Journal of International Law*, 99, 317-358.
[265] Sells S, Prakash A (2004), "Using ideas strategically: the contest between business and NGO networks in Intellectual Property Rights," *International Studies Quarterly*, 48, 143-175.

further underlined that no country is immune to a health crisis. The US government was initially in objection to compulsory licensing in South Africa and Brazil. Subsequently, however, the US government openly threatened Bayer with a compulsory license to stockpile ciproflaxin against potential anthrax attacks. This incident proved to be a critical moment that helped developing countries to strengthen their negotiating position at Doha, and pushed for a confirmation of the legality of TRIPS flexibilities.

The move towards neoliberal economism has been followed by the IMF and the *WHO Commission on Macroeconomics and Health*, and the highly influential work on the *Global Burden of Disease,* undertaken by a group of economists at Harvard University in 2001.[266] The Commission's report concluded that ill health (caused by infectious diseases) is a key impediment to economic development in low-income countries, and needs to be addressed as an enabler of the development process. Economic discourse once again heightened interest in specific diseases, namely those which were seen as posing the greatest economic burden on societies, as well as those for which there were interventions deemed most favourable based on cost-effective or cost-benefit analyses, and galvanised some dedicated funding for those diseases.[267] The Global Fund to Fight HIV/AIDS, Malaria and TB, as well as the Millennium Development Goals (MDGs), were strongly informed by this economic "evidence base". Former World Bank economist and chair of the Commission, Jeffrey Sachs, led the application of this approach in global health policy from the late 1990s as described in *The End of Poverty: Economic Possibilities for Our Time*.[268]

One variant of economic discourse is the rather widely held global public goods discourse, [269] and it is worth mentioning here since it is derived from economics and is particularly related to disease control efforts at the global level. As Smith and MacKellar argue,

> *The GPG [Global Public Good] perspective supports collective action in the area of infectious disease control when reduction in disease prevalence in Country A has a benefit for Country B as well. Areas in which this is particularly true are diseases for which eradication is feasible (polio) and diseases that are highly transmissible around the world, whether by human carriers (SARS), by trade in products (BSE),*

[266] Waitzkin H (2003), "Report of the WHO Commission on Macroeconomics and Health: a summary and critique", *Lancet,* 361: 523-526; Katz A (2005), "The Sachs report. Investing in health for economic development or increasing the size of the crumbs from the rich man's table?", *International Journal of Health Services*, 35: 1171-1188.
[267] Brown et al. (2006), "The WHO and the Transition from International to Global Public Health" *American Journal of Public Health*, 96(1): 62-72.
[268] Sachs J (2005), *The End of Poverty: Economic Possibilities for Our Time,* New York: Penguin Press.
[269] Feachem R and Sachs J (2002), *Global Public Goods for Health*, The Report of Working Group 2 of the Commission on Macroeconomic and Health, Geneva: World Health Organization.

or by animal vectors (West Nile Virus, avian influenza). The control of antibiotic resistance is a closely related GPG problem.[270]

The public good concept emerged from economics and is informed centrally by rationalist cost-benefit analysis. Conceptually, public good possess two defining properties. The first is "non-excludability", which means that it is infeasible to exclude someone from consuming the good even if the user has not paid for it. The second is "non-rivalry" in consumption. Nonrivalry indicates that an actor's consumption of the good does not detract from the good's availability to others whatsoever.[271] The non-excludable and non-rivalrous properties of public goods mean that they are non-zero sum; one person's use of the good does not lessen the amount of it available to other users, nor can anyone be excluded from consuming a piece of the proverbial pie. There is no consensus on the boundaries demarcating a global public good or its corollary, a global public bad; but by narrow economic definition, there are only a few pure global public goods: peace and security, protection against and prevention of the spread of epidemics, financial stability, fundamental human rights, a stable climate, free access to knowledge, opportunities to travel freely, and globally agreed rules on trade and investment all have characteristics of such goods.[272] A reasonable functional definition of global public goods for health was suggested by Woodward and Smith: a good which it is rational, from the perspective of a group of nations collectively, to produce for universal consumption, and for which it is irrational to exclude an individual nation from consuming, irrespective of whether that nation contributes to its financing.[273]

Collective defence against acute public health risks that can spread internationally and devastate human health are often cited as a global public good. Disease eradication at both the national and international level is one such example. For instance, the world has successfully eradicated smallpox. This means that the disease no longer exists in the natural environment. As a result, no one can contract smallpox and we no longer have to spend money on expensive vaccination campaigns and routine smallpox inoculation. No one can be excluded from consuming the benefits of living in a smallpox free world because the disease no longer exists anywhere. From a government point of view, global public goods for health in the form of eradication reduces long-term spending on

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[270] Smith RD and MacKellar L (2007), "Global public goods and the global health agenda: problems, priorities and potential", *Globalization and Health*, 3 (9): 1-7.
[271] Kaul I, Grunberg I and Stern MA (1999), "Global public goods: concepts, policies and strategies", In Kaul I et al. (eds.), *Global Public Goods: International Cooperation in the 21st Century*, Oxford: Oxford University Press; Zacher (1999), "Global epidemiological surveillance: international cooperation to monitor infectious diseases", *Global Public Goods: International Cooperation in the 21st Century*, Oxford: Oxford University Press, p. 266; Chen L, Evans TG and Cash RA (1999), "Health as a global public good", *Global Public Goods: International Cooperation in the 21st Century*, Oxford: Oxford University Press, p. 289
[272] Labonte R and Gagnon M (2010), "Framing health and foreign policy: lessons for global health diplomacy", *Globalization and Health*, 6(14): 1-19, p. 7.
[273] Woodward D and Smith RD (2003), "Global Public Goods for health: concepts and issues", in Smith RD, Beaglehole R, Woodward D, Drager N (eds.), *Global Public Goods for Health: a health economic and public health perspective*, Oxford: Oxford University Press, p. 9.

vaccination campaigns, healthcare and medical services, and decreases civilian morbidity and mortality.

The new revised IHR is also considered as global public goods for health in terms of its reporting requirements. Under the new IHR, there has been a change in the diseases for mandatory notification and a more generic requirement that countries report any extraordinary public health event which constitutes a public health risk to other states through the international spread of disease, and may require a coordinated international response.

In summary, the core ideas of the economic discourse, as applied to infectious disease outbreaks are:

- Health interventions should be supported based on utilitarian arguments that healthy people contribute positively to economic growth and development whereas unhealthy people are a drain on national economies.
- Limited resources should be allocated on the basis of efficiency measures.
- Wider, relatively unfettered market-based approach (i.e. neoliberal economism) should be adopted.
- What is good for business and the nation's economic interests is good for everyone.
- Certain population groups, namely those most economically productive, should be prioritized at the expense of others.
- Interventions should be prioritized on the basis of cost-effectiveness.
- Provision of health care should be based upon nonexcludability and nonrivalry.
- Collective action to produce for universal consumption should be promoted irrespective of whether an individual nation contributes to its financing (e.g. access to influenza vaccines regardless of national contribution)

2.3.4. Security Discourse

The concept of security has been interpreted in several different ways. Security concerns were first explored as human security. The original meaning of human security can be found in the 1994 *Human Development Report*, published by the United Nations Development Program (UNDP).[274] The concept of *human security* is focused on the security of the individual rather than the state, and is thus concerned with a wide range of issues including economic, food, health, environmental, personal, community and political securities. The approach therefore encompasses not only the role of national governments, but also other actors such as international organizations and international nongovernmental organizations.

[274] UNDP (1994), Human Development Report: new dimension of human security. http://hdr.undp.org/en/reports/global/hdr1994/chapters/

An alternative conceptualisation of security, which has been more dominant in recent global health policy debates, is defined as threats to *national security* and regional stability. This approach frames public health hazards such as infectious disease outbreaks or biological weapons as existential threats to national security. A series of global crises triggered by emerging and re-emerging infectious diseases further strengthened the link between the notion of national security and global public health, and changed the way policymakers and expert groups view public health issues. Security in this approach therefore conceives public health challenges as political ones, requiring national and international endeavours to overcome such threats. Pandemics, for instance, have recently been framed as a security issue, and have garnered expanded attention within not only international and national security policy circles, but also international health communities because such diseases are perceived to be a clear and present danger to national interest.[275]

The security discourse, defined in terms of national security, has become prominent since the end of the Cold War in response to perceived new threats to national interests, including disease outbreaks. In its most powerful expression, infectious disease has been presented by the security discourse as a clear and present danger to vital national interests. The uncontrolled spread of acute and severe infectious diseases are presented as national, regional and global threats that cannot be controlled by traditional public health means alone. In utilizing a security framework, these types of health concerns are often treated in terms of external contagion: how can we protect domestic populations from the health problems originating from outside the territorial boundaries of the state? Health policy, in this context, is framed in militaristic terms, focused on "at the border" measures to defend the territorial integrity of the state and, if necessary, to undertake action beyond the state to address the causal root of the problem.

Another dominant assumption of the national security discourse is that the disease burden within a state can be a factor significantly affecting the capacity or stability of a state or a cause for foreign policy conflict between states. Therefore, this discourse clearly captures the essence of state sovereignty and national interest. In this discourse, the individual is perceived by the state as a quantifiable element of the human capital of the state. It is also widely recognized that the state is the major actor in fighting a disease while infectious diseases are considered to be a transnational, as well as a political threat, which may impact on the state.[276] Particularly, outbreaks of infectious

[275] Curley M and Thomas N (2004), "Human security, the public health in Southeast Asia: the SARS outbreak", *Australian Journal of International Affairs,* 58:1, 17-32.; Caballero-Anthony M (2005), SARS in Asia: Crisis, vulnerability and regional response, *Asian Survey*, 45(3): 475-495.
[276] Ingram A (2005), "The New Geopolitics of Disease: Between Global Health and Global Security", *Geopolitics*, 10(3): 522-545; Kelle A (2007), "Securitisation of International Public Health: Implications for Global Health Governance and the Biological Weapons Prohibition Regimes", *Global Governance*, 13: 217-235; McInnes C and Lee K (2006), "Health, Security and Foreign Policy", *Review of International Studies*, 32: 5-23.

diseases such as Ebola, SARS, HIV/AIDS, and pandemic influenza are regarded as security issues because they have a potentially global reach, create a heightened perception of uncertainty and fear, and can contribute to huge socio-economic and political impacts on countries.[277] In recent decades, the security discourse has emanated mostly from national security policy groups, analysts and policymakers in developed countries, framed in terms of how such diseases may affect their own national interests.

The security discourse assumes that infectious disease outbreaks could directly threaten national security by reducing military strength and preparedness, harm economic resources and capacity, and undermine social stability by eroding governance capacities and undermining a population's confidence in the political leadership. Outbreaks could also indirectly harm national security by causing political and economic damage in other countries where a state may have security, foreign policy and trade interests.[278] For example, US President Bill Clinton stated in 2000, "These diseases will endanger US citizens at home and abroad, threaten US armed forces deployed overseas, and exacerbate social and political instability in key countries and regions in which the United States has significant interests."[279] Additionally, the US National Intelligence Council asserted, "New and reemerging infectious diseases will pose a rising global health threat and will complicate US and global security over the next 20 years."[280] Therefore, it is not surprising that policy documents containing countermeasures for the emergence and resurgence of infectious disease outbreaks employ security terms in an attempt to deal with the sense of national (and global) insecurity.

There are resonances of the security discourse in the history of infectious disease outbreak responses, particularly in relation to what Lee and Fidler call the "protection" of the population from a circulating virus.[281] One case is the path of the Black Death (bubonic plague) in 14th century Europe which followed international travel and trading routes, and subsequently afflicted Europe and North America.[282] Medical historians

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[277] McInnes C (2009), " National security and global health governance", In Kay A and Williams OW (2009) (eds.), *Global Health Governance: Crisis, Institutions and Political Economy*, London: Palgrave Macmillan; Huang Y (2009), "In-Flew-Enza: pandemic influenza and its security implications", In Cooper A and Kirton J (2009*), Innovation in Global Health Governance*, Burlington: Ashgate; Davies S (2008), "Securitizing infectious diseases," *International Affairs*, 84 (2): 295-313; Fidler D (2007), "A pathology of public health securitism: approaching pandemics as security threats", in Cooper A, Kirton J and Schrecker T (eds.), *Governing Global Health: Challenge, Response, Innovation,* Aldershot: Ashgate Publishing, chapter 4; Elbe S (2006). "Should HIV/AIDS Securitised?: The Ethical Dilemmas of Linking HIV/AIDS and Security" *International Studies Quarterly*, 50(1): 119-144.

[278] Fidler D and Gostin R (2008), *Biosecurity in the global age*, Stanford: Stanford University Press. p. 140-141.

[279] http://www.wsws.org/articles/2000/jun2000/aids-j21.shtml

[280] US National Intelligence Council (2000), National intelligence estimate: the global infectious.

[281] Lee K and Fidler D (2007), "Avian and pandemic influenza: progress and problems with global health governance", *Global Public Health*, 2(3): 215-234.

[282] Hays JN (1998), *The Burdens of Disease: Epidemics and Human Response in Western History*, New Jersey: Rutgers University Press; Porter D (1999). *Health, Civilization and the State: A History of Public*

observe that trading powers began to recognize the devastation wrought on populations by such diseases and that a purely local level response would not be effective. Quarantine measures were subsequently developed specifically to prevent pandemic diseases from crossing territorial borders. The rapid growth of populations, and intensified human interactions from the 16th century, followed by industrialization from the 18th century, offered many infectious diseases new opportunities to spread more widely geographically. Early forms of international health cooperation focused on a small number of epidemic diseases that could potentially interrupt trade interests. Notably, this form of cooperation was widely supported during the 19th century by economic and political elites in developed countries, as they believed that the spread of epidemic diseases would hamper the expansion of trade and the development of international commerce.[283] Therefore, this early form of international health diplomacy was based upon recognition that health issues required diplomatic negotiation as part of a country's foreign policy[284] and this emerged as a mechanism for responding to the perceived threat that epidemic diseases posed to European powers.

Another classic example of the security discourse, defined in terms of national interests and sovereignty, was the eleven International Sanitary Conferences that took place from the latter half of the 19th century. As Norman Howard-Jones observed, the international conferences were not primarily motivated by a wish for the general betterment of human health, but by the desire to protect powerful trading nations from the international spread of infection.[285] This is illustrated by the limiting of measures to those that would control such epidemics, with the intention of inflicting the least harm on trade interests. Additionally, the focus of the conferences was on selected epidemic diseases, rather than the broad scope of health cooperation and development. The conferences gradually led to the agreement of rules which were initially limited to controlling cholera, plague and yellow fever. Typhus, relapsing fever and smallpox were later added for varying periods between the 1920s and 1970s.[286] As a complement to the International Sanitary Conferences, Latin American countries established the Pan American Sanitary Bureau (PASB) in 1902. The establishment of PASB represented a direct response to epidemics among countries at the regional level. Another milestone embedded in security discourse was the establishment of a permanent public health office in Europe in 1907, the Office International d'Hygiene Publique (OIHP). In effect, the purpose of setting up such an institution was to protect national populations from

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Health from Ancient to Modern Times, London: Routledge; Watts S (1997). *Epidemics and History: Disease, Power and Imperialism*, New Haven: Yale University Press.

[283] Fidler D (1998), "The future of the World health Organisation: what role for international Law?" *Vanderbilt Journal of Transnational Law*, 31.

[284] For the concept of global health diplomacy, see Feldbaum H and Michaud J (2010), "Health diplomacy and the ensuring relevancy of foreign policy interests", *Plos Medicine*, 7(4) available at http://www.plosmedicine.org/article/info:doi/10.1371/journal.pmed.1000226

[285] Howard-Jones N (1975), *The Scientific Background to the International Sanitary Conferences 1851-1938*, Geneva: WHO.

[286] Loughlin K and Berridge V (2002) "Global Health Governance: Historical Dimensions of Global Governance", *Discussion Paper No. 2*, Centre on Global Change and Health and World Health Organization.

imported diseases based on a fear in high-income countries that infectious diseases would cross their borders from poorer countries.

As with classic examples, the security discourse demonstrated its presence when the UN Security Council declared in 2000 that HIV/AIDS was severely undermining the security of Africa and the world at large.[287] The expert panel argued that the HIV/AIDS pandemic should be investigated within the mandate of the UN, which is primarily responsible for maintaining international peace and security. Subsequently, in 2001, a report provided by the WHO Secretariat of the provisional agenda items for the World Health Assembly attempted to use *global health security*[288] as a framework for its response to globalizing disease outbreaks and biological weapons. In the report, as a means to battle against such threats, activities such as harnessing new information technologies and ensuring rapid global disease surveillance and response were strongly suggested through building a network of networks. The report asserted that,

> *Partnerships are the key to effective cooperation around the world in order to detect and contain outbreaks promptly. In April 2000, WHO took the lead in creating the global outbreak alert and response network, in order to formalise its partnerships with various institutions and networks. This new network, which complements and strengthens existing networks, aims to ensure that the best expertise is harnessed wherever and whenever it is needed, as cost-effectively as possible. To maintain global public health security it provides coordinated mechanisms for epidemic alert and response.* [289]

Essentially, strong technical collaboration between the WHO and partners in the area of epidemic response, encompassing "relevant public sectors, intergovernmental organizations, nongovernmental organizations and the private sector", was pushed as the best way to accomplish global health security.[290] Implicit in the above statement were principles on how global health security challenges should be dealt with, and what strategies and response should be prioritized. The security discourse also drew attention to the need to revise IHR by means of reinforcing the surveillance and disease reporting capacity in developing countries.[291]

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[287] United Nations Security Council (2000), *Resolution 1308*, p. 12. Also see McInnes C and Rushton S (2010), "HIV, AIDS and security: where are we now?" *International Affairs*, 86(1): 225-245; McInnes C and Rushton S (2012), "HIV/AIDS and securitization theory," *European Journal of International Relations*, 11(2): 171-201; Feldbaum H (2009), *US global health and national security policy*, Washington: Centre for strategic & International Studies.

[288] The concept of global health security encompasses a threat posed by the use of biological weapons and by naturally occurring infectious diseases.

[289] WHO (2001), Global Health Security: Epidemic Alert and Response, Background: WHA A54.9. http://apps.who.int/medicinedocs/index/assoc/s16357e/s16357e.pdf, p. 2.

[290] WHO (2001), Global Health Security: Epidemic Alert and Response, WHO Doc, WHA 54.14. http://apps.who.int/medicinedocs/index/assoc/s16356e/s16356e.pdf

[291] WHO (2002), Global defence against the infectious disease threat, Kindhauser MK, ed. Geneva: WHO.

The security discourse was pushed by more powerful political forces, most notably the US, for a set of responses that emphasised the protection of healthy, rich northern populations. This reflects the long traditional attempts to protect the population of the nation state from foreign disease threats before they become problems within their territory. For example, President Clinton identified the need to bolster biodefense capabilities, recognising that infectious diseases and deliberate release of pathogens could threaten US national interest.[292] In 2000, a report published by the US National Intelligence Council argued that infectious disease posed a potential threat not only to US citizens but also to international stability and to economic growth, presenting it as an issue of national security.[293] However, it was after the 11 September terrorist attacks in 2001 and the deliberate release of anthrax spores into the US postal system in the same year that anxiety about vulnerability to such an attack was critically heightened in US government policy circles. A series of identification of infections such as West Nile encephalitis, multidrug-resistant tuberculosis and malaria through goods and people arriving from outside the territory further intensified the need to implement stricter border control.[294] It was at this juncture that the US Homeland Security Department[295] was created to "secure [an] America that is better equipped to confront the range of threats."[296] The heightened concerns led to a range of activities to protect national security including new legislation to improve cooperation between public health and the security services, closer detection of goods at points of entry and better global surveillance mechanisms.[297] Critics view the PEPFAR (President's Emergency Plan for AIDS relief) programme as an outcome of US security concerns about the HIV/AIDS epidemic in Sub-Saharan Africa.

The WHO has embraced security concepts and terms for the analysis of disease threats, which were exemplified by the World Health Report 2007: *A Safer Future – Global Public Health Security in the 21st Century*, in an effort to enhance the status of the organisation as a global public health centre. The revised IHR 2005 demonstrates that for the greater global good, international action is required in terms of assuring global health security.

The establishment of the European Centre for Disease Prevention and Control based in Sweden in 2004 and the Health Protection Agency set up by the UK government in the same year invariably represented what Lee and Fidler called "garrison mentality" among high-income countries in a bid to prevent the threat posed by the spread of infectious diseases and regulate immigration.[298] Additionally, the creation of the

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[292] Enemark C (2006), Pandemic pending, *Australian Journal of International Affairs*, 60(1), 43-49.
[293] US National Intelligence Council (2000), The Global Infectious Disease Threat and Its Implications for the United States, available at http://www.fas.org/irp/threat/nie99-17d.htm
[294] Smolinski MS, Hamberg MA, Ledberg J (2003) (eds.) *Microbial Threats to Health: Emergence, Detection and Response*, Washington: National Academic Press.
[295] The Homeland Security Department was created 11 days after terrorist attacks.
[296] US Homeland Security, available at http://www.dhs.gov/creation-department-homeland-security
[297] McInnes C (2012), "National security and global health governance," In Kay A and Williams OD (2012), *Global Health Governance: Crisis, Institutions and Political Economy*, New York: Palgrave Macmillan.
[298] McInnes C and Lee K (2006), "Health security and foreign policy," *Review of International Studies*, 32(1), 5-23.

Centre on Global Health Security at Chatham House in London, the global health security programme at the Stockholm International Peace Research Institute, and a similar programme of work at the School of Advanced International Studies, Johns Hopkins University, appear to illustrate that there was a clear expansion of security discourse from the mid-2000s in understanding global health issues.

In summary, the core ideas of the national security discourse, as applied to infectious disease outbreaks are:

- Definitions of potential threats to national security should include certain health risks notably acute and potentially pandemic infectious diseases with high morbidity and mortality.
- Selected infectious disease risks should be considered relevant to national security because of their potential threat to military capacity, economic and political stability
- The policy response to infectious diseases which pose a security risk should include long-range surveillance and monitoring of external populations, especially in countries at high risk of outbreaks, stockpiling of vaccines and prophylaxis, at the border controls of population movements (e.g. screening)
- There should be a response to what is out there in the global context that may threaten the existence and welfare of nations.

2.3.5. Other discourses

While not being entirely regarded as distinct discourses, there are other accounts that may be relevant to the study of ideational frameworks in relation to the GHG of infectious disease outbreaks. As mentioned earlier, Tuong identified five different narratives in the response to Avian and Pandemic Influenza in Vietnam.[299] Here is a brief description of such narratives: First, the "power narrative", produced by central officials and media, advocates harsh policies regardless of costs which aims at generating compliance with central policies of mandatory culling and vaccination. The power narrative dominated the national discourse throughout, despite occasional setbacks. Second, the "nationalist narrative", the main proponents of which were central officials and the state media, argues that a victory over the AI epidemic is a matter of national pride and honour for Vietnam. Third, the "populist narrative", primarily constructed by the media, revolves around the sensational accounts of farmers' losses in the epidemic and the public criticism of officials blamed for corruption, incompetence and mismanagement. Fourth, the "technical narrative", produced by foreign donors, experts and central officials, focuses on issues such as risk evaluation, disease prevention, control strategies, vaccine tests, disaster planning and the restructuring of livestock production to meet biosecurity requirements. The epidemic is treated as a technical problem and the solutions are believed to be found in better planning,

[299] Vu T (2009). *The Political Economy of Asian Influenza Response and Control in Vietnam.*

effective technical strategies such as vaccination, better research of risk perceptions, and the industrialization of livestock production. Fifth, the "protectionist narrative", with the majority of its proponents in the feed and poultry business, views the AI issue from a strictly business perspective but wrapped in terms of public interests. Lastly, the "critical narrative", voiced by various players from central officials to foreign experts, focuses on issues such as endemic corruption, incompetent policymakers and their poor relationship with experts, and tension between officials and donors.

Table 2.1 summarises the discourses identified above and their core tenets.

Table 2.1. Contested and competing: infectious disease (outbreak) discourses

Discourse	Core tenets	Dominant response to infectious disease (outbreaks)
Biomedical discourse	• Infectious disease is a problem best understood and addressed through the biological sciences as applied to clinical medicine • Clinical intervention should play a core role in diagnosis and treatment • Biological processes should be separated from the social context • Clinical and epidemiological characteristics and mode of transmission of the disease should be the key focus • There should be a linear and compartmentalised solution to specific diseases • Individual risk behaviours and methods of prevention, treatment and care should be prioritised	• The activities of the Rockefeller Foundation in early 20th century in promoting specific disease control initiatives, universalism of science and a scientific research-oriented view of social improvement • LNHO's work in terms of disease surveillance and reporting (rather than prevention and response) based on scientific and elitist strategies • WHO's disease-specific programmes of the 1950s and 1960s highly prioritizing the standardization of vaccines and drugs/disease-focused research and policy (e.g. Malaria Eradication Programme) • Technical, measurable, and short-term approaches to specific diseases and new public-

	• Large-scale investments in clinical research should be promoted • Development of new drugs should be emphasised	private partnership initiatives in 1990s and 2000s (e.g. Rollback Malaria Campaign, Stop TB, GFATM, Bill and Melinda Gates Foundation)
Health and human rights discourse	• Individuals possess a universal claim to certain rights regardless of their nationality, location or health status • There should be a standard for ensuring that all citizens enjoy a core set of positive health entitlements • Universal access to a basic level of healthcare should be prioritised • The broad underlying conditions that may cause ill health should be targeted • National and international community should deliver the right to health • Civil society organizations should be closely engaged • Prevention, multi-sectoral collaboration and poverty reduction are seen as key to health improvements	• Primary Health Care movement followed by WHO's Alma Ata Declaration in 1978 • WHO's Global Programme on AIDS (e.g. Janathan Maan) in the 1990s • The establishment of UNAIDS • ICESCR articles 2(1) (e.g. Paul Hunt) • The revised IHR • Commission on Social Determinants of Health (e.g. Michael Marmot) • Activities of Global Health Watch
Economic discourse	• Health interventions should be supported based on utilitarian arguments that healthy people contribute positively to economic growth and development whereas unhealthy	• A series of World Bank reports in 1990s based on the concepts of Burden of Diseases and DALY (e.g. Financing Health Services in Developing Countries, World Development Report 1993: Investing

	people are a drain on national economies. • Limited resources should be allocated on the basis of efficiency measures. • Wider, relatively unfettered market-based approach (i.e. neoliberal economism) should be adopted. • What is good for business and the nation's economic interests is good for everyone. • Certain population groups, namely those most economically productive, should be prioritized at the expense of others. • Interventions should be prioritized on the basis of cost-effectiveness. • Provision of health care should be based upon nonexcludability and nonrivalry. • Collective action to produce for universal consumption should be promoted irrespective of whether an individual nation contributes to its financing (e.g. access to influenza vaccines regardless of national contribution)	in Health) • Delivery of a basic package of health care interventions • Introduction of user charges, decentralization, contracting out, promotion of private sector and public-private partnerships in financing • WHO Commission on Macroeconomics and Health and the Global Burden of Diseases (Jeffrey Sachs) • Heightens interests in specific disease problems through GFATM and the Millennium Development Goals the in 2000s • Smallpox eradication • The new revised IHR: mandatory reporting of any events which constitute a public health risks to other states through the international spread of disease
Security discourse	• Definitions of potential threats to national security should include certain health risks notably acute and potentially pandemic infectious diseases with high morbidity	• Prevention strategies as a response to the Black Death as early as the 14th century in Europe • Early forms of cooperation in the 19th century by economic and political elites in

	and mortality. • Selected infectious disease risks should be considered relevant to national security because of their potential threat to military capacity, economic and political stability • The policy response to infectious diseases which pose a security risk should include long-range surveillance and monitoring of external populations, especially in countries at high risk of outbreaks, stockpiling of vaccines and prophylaxis, at the border controls of population movements (e.g. screening) • There should be a response to what is out there in the global context that may threaten the existence and welfare of nations.	developed European countries • A series of International Sanitary Conferences occurred in the latter half of the 19th century with the aim of protecting powerful trading nations from the international spread of infection • The establishment of PASB and OIHP in 1902 and 1907 respectively • HIV/AIDS as a threat to international peace and security (UN Security Council) in 2000 • WHO's attempt to employ the term "global health security" as a framework for its response to globalizing diseases and biological weapons in 2001 • PEPFAR programme in Sub-Saharan Africa • World Health Report 2007 • The new revised IHR
Other discourses (and narratives)	• Power narrative which advocates harsh policies regardless of costs • Nationalist narrative which promotes that a victory over a disease is a matter of national pride • Populist narrative which revolves around the public criticism of officials' handling of disease • Technical narrative which focuses on risk evaluation and control strategies	• National response to Avian and Pandemic Influenza from developing countries' points of view

	• Protectionist narrative which views disease from a business perspective • Critical narrative which stresses the endemic corruption and incompetence of policymakers	

2.4. SUMMARY

This chapter discussed Social Constructivism, supported by the concept of epistemic communities, as a conceptual framework which offers a means to explore more fully questions about the influence of ideas in the GHG of infectious disease outbreaks. Through analysis of the networks of knowledge-based agents, this research seeks to develop a fuller understanding of the GHG of SARS. Drawing on a broad range of case studies, the existing literature on epistemic communities demonstrates that epistemic actors play a crucial role in setting the agenda, proposing policy alternatives, and promoting policy solutions, particularly in times of uncertainty. The SARS outbreak, given the uncertainty about the new disease, its epidemiology and clinical presentation, as well as reluctance by some governments to fully report on the disease's progress, thus offers important insights into the relative importance of these transnational actors. For this purpose, this chapter set out the core tenets of what have been identified in the existing literature so far as key discourses shaping GHG. It examined the key ideas of these discourses and how they have been manifest in national, regional and global responses to infectious disease outbreaks. Specifically, the chapter explored these discourses in order to illustrate how different discourses have vied for policy influence in global health, shaping ideas, interests and institutions. Discourses in global infectious disease policies have waxed and waned over time and, at times, more than one discourse might have prevailed. In the myriad of disease outbreak events in history, global health-regime building has in fact occurred as a result of the dominance of certain discourses that address what agreed goals should be achieved. By drawing the contours of the discourses that have dominated health policy to date, this chapter contextualised the contested landscape within which this study of the GHG of SARS is set.

CHAPTER THREE

METHODOLOGY

3. 1. INTRODUCTION: RESEARCH APPROACH

As stated in Chapter One, this thesis focuses on the importance of the ideational dimension of global health governance (GHG) [300] and, in particular, on ideational factors as a key explanatory element behind the emerging forms of GHG related to (acute) infectious disease outbreaks. To briefly summarise, the existing literature largely deals with the concept of GHG by focusing on institutional and technical features of GHG actors and policies. Analysis to date has focused on the growing importance of new actors in GHG, the corresponding effects on the decline of state sovereignty, and the impact this rise has on institutional forms, given the global reach of disease outbreaks. Particular attention has been paid to how this transformation is shifting its rules, practices and, more importantly, power in the global health arena.[301] Studies, for example, on the emergence of political and judicial regimes, especially in the area of emerging epidemics and human pandemics, are the focus of this literature.[302] Attention has also focused on material factors such as improved global disease surveillance, funding mechanisms, and preparedness plans, given the speed at which outbreaks can spread across vast distances.[303] The literature thus seeks to explore the technical competencies and increasing role of non-state actors in enhancing "real-time" knowledge within the context of GHG.

However, there remains a theoretical and methodological lacuna, in the sense that, little attention has been paid to the role of ideational factors in explaining GHG including policy making surrounding infectious disease outbreaks. These ideational factors, if explained, can do much to enhance our understanding of GHG. This research does not

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[300] Lee K (2003), *Globalization and Health: An Introduction.* Palgrave Macmillan: Hampshire.

[301] Lee K, Koivusalo M, Ollila E, Labonte R, Schuftan C and Woodward D (2009), "Global governance for health," In Labonte R, Schrecker T, Packer C and Runnels V (2009) (eds.), *Globalization and Health: Pathways, Evidence and Health*, New York: Routledge.

[302] Wilson K, Brownstein JS, Fidler DP (2011), "Strengthening the International Health Regulations: lessons from the HN1N pandemic," *Health Policy and Planning*. 25 (6): 505-9.; Price-Smith A and Huang Y (2009), Epidemic of fear: SARS and the political economy of contagion, In Cooper AF and Kirton JJ (2009), *Innovation in Global Health Governance*, Burlington: Ashgate Publishing Group; McInnes C (2009), "National security and global health governance," In Kay A and Williams OD (2009), *Global Health Governance: Crisis, Institutions and Political Economy*, London: Palgrave Macmillan.

[303] Barnett T, Sorenson C (2011), "Infectious disease surveillance in the United States and the United Kingdom: from public goods to the challenges of new technologies," *Journal of Health Politics, Policy, and Law*. 36 (1): 165-85.; McNabb SJ (2010), "Comprehensive, effective and efficient global health surveillance," *BMC Public Health*, 3 (10): S3; Brownstein JS, Freifeld C, Reis B and Mandl D (2008), "Surveillance sans frontiers: Internet-based emerging infectious disease intelligence and the health map project," *Plos Medicine*, 5 (7): 1019-1024.

privilege ideational variables, but claims that including ideational factors provide a fuller account of GHG. It is the starting point of this thesis that such factors influence global policy responses to infectious disease outbreaks by defining the problems or issues to be addressed, as well as forming the basis for policy actions. More importantly, an understanding of ideational factors can provide insights into why certain actions surrounding global disease outbreaks are pursued, or why certain institutional responses are forged instead of others.

In brief, the research approach that directs this thesis is the ideational understanding of GHG of infectious diseases through the conceptual lens of epistemic communities.[304] This thesis sets out the following assumptions derived from epistemic communities' concepts that underpin the research as well as the ways in which they can be verified:

1) Epistemic communities are experts in the sphere of infectious disease outbreaks encompassing research scientists, scholars, public health practitioners, policy elites and technical advisors;

2) One or more epistemic communities working within the context of the SARS outbreak engaged in coordinated action to promote their value-based agendas;

3) The ideas of epistemic communities played an important role in framing policy debates surrounding SARS, leading to a prioritising of certain policy practices over others, and perhaps even predisposing outcomes surrounding such issues;

4) The ideas held within (or across) epistemic communities can be contested, with the outcomes of such contestations resulting in the legitimisation of certain policy and political actions and interests.

Taken together, these assumptions examine whether the ideational factor is a factor used by epistemic communities to influence the outcome of the policymaking process and therefore adds a critical component to analysis of why certain policies become dominant while others do not. In empirically corroborating these assumptions, this thesis takes a qualitative methodological approach which is based on following several core tenets: a commitment to a naturalistic, situational and interpretational approach to understanding the world; an emphasis on the socially constructed nature of reality; and an understanding of the deep influence of contextual factors in research.[305] The

[304] Haas P (1992), "Introduction: Epistemic Communities and International Policy Coordination", *International Organization*, 46, N0.1: 1-35; Haas P (2001), "Policy Knowledge: Epistemic Communities", in Smelse N and Bates P (eds.). *International Encyclopaedia of the Social and Behavioural Sciences*, Amsterdam: Elsevier.
[305] Calhoun C, Gerteis J, Moody J, Pfaff S, and Virk I (2002) (eds.), *Contemporary Social Research*. Oxford: Blackwell.

subsequent sections describe the data sources and methods used to conduct the research.

3. 2. DATA SOURCES AND METHODS OF DATA COLLECTION

This thesis employed two methods for data collection. First, a systematic literature search of published and unpublished "grey" materials on the development of the global and national response to the SARS outbreak was undertaken. Here, "systematic" means that the researcher used an organised method of locating, assembling and reviewing a body of literature related to SARS that can be used to address research questions formulated in Chapter One. The search was based on a search strategy (scope, time period, databases and keywords) and if necessary, explicit inclusion/exclusion criteria were used to identify relevant literature as much as possible. Second, a series of open-ended and semi-structured interviews with key individuals involved in the national and global response to SARS were carried out. The data gathered enabled the researcher to identify and locate the epistemic communities involved and the key ideas held which shaped the policy responses surrounding SARS.

3.2.1. Documentary sources

Official publications

A series of searches using internet search engines, as well as a variety of international institutions' official websites – WHO, US CDC, Ministries of Health in countries affected by SARS, and NGOs such as the Red Cross, Médecins Sans Frontières, all of which were actively involved in addressing outbreak related issues during SARS – were conducted. "SARS" was initially used as a keyword search term and the researcher manually reviewed each document retrieved for relevance. Official publications included policy documents, mission statements, speeches, statistics, mandates, budgets, reports and legislations of relevant institutions dealing with the SARS outbreak. These were collected through visits to the WHO Headquarters in Geneva and the Western Pacific Regional Office (WPRO) in Manila, the Philippines, and solicited from key informants or institutional websites. These materials were collected to identify and understand what discourses were present among the key institutions involved during and after the SARS outbreak as they either contain "speech acts" or statements located within specific discourses, or reflect actions that are framed within such discourses (for the process of recognising a specific discourse, see section 3.3.1). International conference proceedings and papers (abstracts) were included to identify conference attendees. National policy reports in affected countries – particularly, Hong Kong, Singapore, China, Vietnam, Taiwan, and Canada – were collected and searched either online or on site.

Journals

A systematic search on the SARS outbreak was undertaken using public health databases and other science search engines including Bath Information and Data Services, JSTOR, EBSCO, Medline (PubMed) and IngentaConnect to identify peer-reviewed journal articles published between November 2002 and December 2007. This timeframe was determined as it corresponded to the years where the discussion of SARS issues was relatively active. The collection of journal articles served to identify evidence of discourses being present in the scholarly community. Initially, (SARS AND name of jurisdiction) OR (SARS AND World Health Organisation), OR (SARS AND global), OR (SARS AND policy) OR (SARS AND public health measure) were used as keyword search terms (American and British spellings both used). Subsequently searches were conducted using the names of known authors (e.g. David Heymann, Guenael Rodier, Albert Osterhaus, Malik Peiris, and Roy Anderson) or the titles of known studies. Searches were conducted primarily on abstract and title searches, and then expanded to full text searches when relevant articles were identified. The reference lists of all included publications were scanned for any additional papers. Articles were included if they meet the following inclusion criteria: 1) concerns the national response to SARS; 2) identifies the role intergovernmental, non-governmental and national agencies played during SARS outbreak; 3) concerns the policymaking process during SARS; 4) assesses the global response to the SARS outbreak; and 5) provides information on laboratory, epidemiological and biostatistical analysis of SARS with a discussion of SARS containment measures. Case reports, reviews, editorials, letters and commentaries were also included. Papers that solely concern clinical trials and laboratory tests without further discussion of containment strategies and policy actions were excluded. Citations in articles were used to identify the level of readership among the scholarly and policy communities. A total of 2,993 papers were identified by electronic database searches. The papers were reviewed, applying inclusion and exclusion criteria for eligibility. After both duplicates and ineligible articles were excluded, 219 publications were retained for analysis.

Books

Books published between 2003 and 2011 were searched using keywords (SARS AND name of jurisdiction) – China, Vietnam, Singapore, Hong Kong, Taiwan, and Canada - to gain understanding of the local response to SARS at different locations and its interface with global policymaking. Books were also used to further identify prevailing discourses in the national response to SARS. These books were identified through library catalogues and internet sources. A total of 12 books exclusively dedicated to the topic of SARS were identified.[306] Each book has a list of references and they were

[306] McLean A, May R, Pattison J and Weiss R (2005), *SARS: A Case Study in Emerging Infections*, Oxford: Oxford University Press.; Koh TM, Plant A and Lee EH (2003), *The New Global Threat: Severe Acute Respiratory Syndrome and Its Impacts*, London: World Scientific Publishing; Wong J and Yongnian Z (2004), *The SARS Epidemic: Challenges to China's Crisis Management*, Singapore: World Scientific

followed up to identify further information. Books and book chapters were often written by national policymakers, officials in international organisations, and scientists (as well as academics and journalists), and thus provided to be useful and rich sources of information about how issues surrounding SARS were portrayed and understood by these actors.

Media reports

Electronically searchable archives of the leading newspapers and magazines using the Lexis-Nexis Academic Database for the period between November 2002 and December 2008 were examined. This source was used to identify and assess the prevailing discourses surrounding the SARS outbreak and also to confirm the existence and composition of the epistemic community concerned with the SARS outbreak. Key search terms used were (SARS AND name of jurisdiction) OR (SARS AND World Health Organisation),OR (SARS AND global), OR (SARS AND policy) OR (SARS AND public health measure)- American and British spellings both used. Since this thesis was focused on the global level, a wide range of international newspapers and magazines were included in the search. Among them, the following were predominantly used in the main analysis:

- Newspapers: *BBC Monitoring International*, *The Globe and Mail*, *The Toronto Star*, *The New York Times*, *The Washington Post*, *The Times*, *The Guardian*, *South China Morning Post*, *The Straits Times*, *People's Daily*
- Magazines: *The Economist*, *Newsweek*, *Time*, *New Scientist*, *The Scientist*

A total of 532 selected articles were collected for analysis.

Grey materials

Grey materials include unpublished internal reports by the World Health Organization (WHO) and other unofficial information. Such literature includes correspondences, memos, CVs and list of participants of internal meetings on the SARS outbreak either convened by the WHO or other governing institutions (i.e. FAO, OIE). They were collected through meetings with key informants. Such materials were an important

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Publishing.; Leung PC and Ooi EE (2003), *SARS War: Combating the Disease*, Singapore: World Scientific Publishing.; Loh C and Civic Exchange (eds.) (2004), *At the Epicenter: Hong Kong and the SARS Outbreak*, Hong Kong: Hong Kong University Press.; Kleinman A and Watson J (eds.) (2006), *SARS in China: Prelude to Pandemic?,* Stanford: Stanford University Press.; Duffin J and Sweetman A (eds.) (2006*), SARS in Context: Memory, History, Policy*, Du Quebec: McGill-Queen's University Press.; Abraham T (2005), *Twenty-First Century Plague: The Story of SARS*, Baltimore: The Johns Hopkins University Press.; Fidler D (2004), *SARS, Governance and the Globalization of Disease*, New York: Palgrave Macmillan.; World Health Organization (2006*), SARS: How a Global Epidemic was Stopped*, Geneva: World Health Organization.; Hoong CM (2004), *A Defining Moment: How Singapore Beat SARS*, Singapore: Ministry of Information, Communications and the Arts.; Davis D and Siu H (2007), *SARS receptions and interpretations in three Chinese cities*, New York: Routledge.

source of data to identify the key actors and their ideas. The Index to Theses of Great Britain and Ireland was used to locate unpublished academic work on SARS and epistemic communities. Other grey literature includes conference abstracts, reports and statements.

3.2.2. Semi-structured interviews of key informants

While primary investigation was carried out using policy documents, official reports and journal articles, such sources did not fully answer the questions in-depth about how issues in relation to the SARS outbreak were understood by a group of key individuals and why some events were constructed the way they were. In order to gain a fuller understanding of the policy process, and to supplement and triangulate" the documentary sources, semi-structured interviews with key informants were carried out. In terms of selection criteria, a "target" list of key informants known to be involved or experienced in the global SARS response was initially drawn up through systematic searching of the above described documentary sources. Informants were selected on the basis of the following criteria:

1) Participation in key bodies, meetings and conferences concerning SARS which set guidelines or undertook actions;
2) Publications and contributions in prominent scholarly journals, policy reports and other documents of the WHO and relevant organizations in relation to the SARS outbreak;
3) Frequency of names (3 times or more) appearing in the in documentary materials collected; and
4) Frequency of names (3 times or more) appearing in articles on SARS in international newspapers and magazines.

Those who met two of the abovementioned criteria were listed as target key informants. Separately, a list of people who held senior positions in government or public health institute in the affected countries (i.e. decision maker) was drawn up. These key informants were contacted via email and/or letters informing them of the nature of the study and requested to contact the researcher via email if they consented to participate in the study. A second mailing was sent, if no reply was received, two weeks after the first email/letter was sent. Meetings were sought with informants who agreed to participate in the study. Snowball or chain sampling strategies (initially, selected respondents were invited to suggest others) were employed to identify further informants. Some national policymakers suggested one or more senior government officials or external consultants involved in the response to SARS. These individuals were followed up if they were deemed a rich source of information on the research questions posed. Indeed, the informant interviews as a purposive sampling technique offered some advantages. The informants furnished critical information and offered scientific and technical expertise for particular issues related to SARS. They also shared

unpublished documentation including internal reports and memos. Some informants were also willing to facilitate connections with colleagues, which fostered acquisition of new data.

A total of 35 interviews were conducted in four locations (Geneva, Manila, Hong Kong and Singapore). By profession, the sample consisted of policymakers, officials, scientific researchers, consultants and practitioners working in domestic health institutions, regional health bodies, international health organizations, non-governmental organisations, universities, and government-funded research institutes. The organisations with which key informants were affiliated were: World Health Organization headquarters, World Health Organization Western Pacific Regional Office, University of Hong Kong, Chinese University of Hong Kong, Civic Exchange Hong Kong, Hospital Authority Hong Kong, Singapore National University, Singapore Centre for Disease Control and Prevention, Singapore Ministry of Health, Singapore Ministry of Defence, Genome Institute Singapore, and Tan Tock Seng Hospital, Singapore. Interviews were held at the locations where the key informants were based.

The aim of the interviews was to elucidate and, to some extent, aid in understanding the key ideas and principles held by an individual or an institution identified by the above described documentary material. In fact, interview transcripts provided a more detailed view into the decision-making and policy processes involved in addressing issues on SARS that usually go unpublished. The interviews specifically sought to focus on the way the informants used language directed towards SARS issues, where much of their beliefs, values and ideas tend to be expressed. Such language usage can hardly be captured simply by analysing the documentary sources and thus interviews were useful in clarifying the ideas and values of the key informants who were identified during document analyses.

In order to understand how SARS was framed by the key informants, a semi-structured interview guide, comprising 15 open-ended core and supplementary questions (Interview Questions attached in Appendix II), was used. The format of the interviews was designed to allow the informants to tell the story of events, issues and debates as much as possible in their own words. In doing so, it encouraged them to express their own understanding and retrospective perception of the SARS outbreak. Given the global scope of the study, and due to the fact that many participants in the SARS outbreak had moved on to new institutions by the time of the research, it was not possible to interview all desired key informants face-to-face. Thus, face-to-face interviews were supplemented by telephone interviews (two interviews were conducted in this manner). Meetings with some informants were structured more rigidly, and both very specific and very general questions were used flexibly according to the informants' unique professional circumstances. Interviews lasted from between 35 minutes to 120 minutes in duration. The researcher ensured that the interview was digitally recorded

and transcribed in a verbatim manner, and these transcripts were analysed together with the documentary materials collected.

Throughout the interview, the key informant was given as much leeway as possible to present his/her version of events especially in relation to the discourses identified. In other words, if a particular informant gave an explanation as to whether the SARS outbreak was unprecedented in terms of the nature of outbreak, the conversation was guided to focus on why he/she thought so. In this respect, at the end of the interview, the transcript could well reflect the terminology intricately linked with each respective set of discourse. For instance, if an informant views SARS from a security perspective, terms such as "threat to national security" "surveillance" or "war against" are favoured by him/her; if an informant is more concerned with neoliberal economism, the transcript reflects the informants' interest in the market approach to vaccines as opposed to access to medicine and as such, phrases such as "reward from scientific findings" or "patenting" are distinct. If the informant is more persuaded by the biomedical approach to the SARS outbreak, then the interview may be peppered with words like "behavioural risk", "individual responsibility" or "self-discipline." Each interview had a combination of these words and elements which pertained to different discourses. Some interviews threw up terms, words and phrases which did not pertain to any of the discourses identified.

Each interview was built on those preceding it until the data being collected no longer yielded new information, which indicated that the sample size was sufficient.[307] All interviews were conducted in English. Relevant information and impressions were summarised and incorporated into side bars of the transcript, taking care to keep a distinction from the interviewees' responses. The final list of key informants is given in Appendix I.

Table 3.1 gives a summary of the research objectives, methods and data sources used.

Table 3.1. Summary of research objectives, methods and data sources

Objective	Methods	Data Sources
1. To review the existing literature on GHG	• Review of secondary documentary materials	• Public health literature on GHG with special reference to global infectious disease outbreaks • International Relations literature on global governance
2. To develop conceptual	• Review of secondary	• International Relations

[307] Glaser BG (1998). *Doing grounded theory: issues and discussions*. Mill Valley, CA: The Sociology Press.

framework	documentary materials	literature on constructivism, international political economy, epistemic communities
3. To map the transnational epistemic community	• Analysis of primary and secondary documentary materials • Key informant interviews	• Published: policy documents, mission statements, speeches, mandates, reports, newspapers, magazines, and journals • Grey: internal reports by the WHO, other intergovernmental organizations, and networks of professionals; correspondence, memos, CVs • Interviews: on the identification of key actors
4. To explore the discourses	• Discourse analysis based on key informant interviews and primary/secondary documentary materials	• Published: policy documents, mission statements, speeches, mandates, budgets, reports, legislations, newspapers, magazines, and journals • Grey: internal reports by the WHO, other intergovernmental organizations, and networks of professionals; correspondence, memos, CVs • Interviews: ideas, interests, norms and policy solutions surrounding SARS addressed by the key informants
5. To understand the impact of discourses on the practical policy response to SARS	• Discourse analysis based on key informant interviews and	• Published: policy documents, mission statements, speeches, mandates, budgets,

	primary/secondary documentary materials	reports, legislations, magazines, journals, and newspapers • Grey: internal reports by the WHO, other intergovernmental organizations, and networks of professionals; correspondence, memos, CVs • Interviews: on the virtual policy process and decision-making concerning the global response to the SARS outbreak
6. To draw conclusions and recommendations about the emerging nature of GHG on infectious disease outbreaks	• Synthesis of all findings	• Consolidation of all the data

3.3 METHOD OF DATA ANALYSIS

3.3.1. Discourse analysis

The first part of the data analysis involved the identification of key actors and the extent to which they held particular discourses surrounding the SARS outbreak; that is, the dominant ideas in which SARS was understood and interpreted.

By definition, discourse refers to discursive construction of language that draws on a particular belief and knowledge, and guides specific forms of action. There are various approaches to conducting discourse analysis in empirical studies, including social linguistic analysis, interpretive structuralism, critical discourse analysis and critical linguistic analysis. They fall under the main perspective of social constructivism. Discourse analysis has been used in International Relations with the central aim of establishing the context, and analysing the underlying rules and norms, which shape the complex interplay between discursively embedded agents and structure.[308] [309] It also proved useful for capturing the power relations among actors by deconstructing their

[308] Fierke KM (2002). "Links across the Abyss: language and Logic in International Relations", *International Studies Quarterly*, 46(3): 331-354.
[309] Fierke KM (2005). *Diplomatic Intervention, Conflict and Change in a Globalising World*, Houndmills, Basingstoke: Palgrave Macmillan, p. 5-9.

logic of constitution and maintenance.[310] The central point for discourse analysis is that language, and especially that of politics, is problematised and not seen as having objective qualities. Thus, discourse analysis involves a perspective on language which sees this not as *reflecting* reality in a simple way, but instead as *constructing* that social reality.

This is a very important point because this thesis is not concerned with gathering and reflecting the "reality" of SARS as such, which has received considerable analysis to date, but with exploring how this reality has been constituted as an issue through ideational factors. In other words, the primary concern with discourse in his research was to identify the way in which SARS was constructed within the context of specific discourses, how such discourses have led to certain policy ideas and actions, and why certain discourses have become salient as opposed to other discourses. Discourse in this sense does not so much refer to language itself, but how it is used within a given social context.[311] Therefore, while sharing the assumptions of discourse analysis on the constructive effects of language, this thesis is not focused on the dissection and deconstruction of texts as called for by socio-linguistic discourse analysis. Rather, this thesis focuses on the themes dealt with in the discourses related to SARS, as well as on the analysis of context, and of the discursive practices of the actors involved.[312]

Using the above described data source, analysis involved a process of identifying the ideas and norms held by key individuals. These ideas were critically examined in order to clarify the broad underlying assumptions behind them. In terms of analysing discourse, there are no universally agreed standard rules or methodology. According to Tonkiss,[313] discourse analysis is a fluid, interpretive process which relies on close analysis of specific texts, and which therefore does not lend itself to setting up hard-and-fast rules of analysis. This idea is shared by Potter and Wetherell,[314] who compare discourse analysis to the "skill involved in bike riding: a process that one picks up by doing it, perfects by practising it, and which is difficult to describe in a formal way."

Nonetheless, it is still important for the purpose of this thesis to specify a clear process for analysing the discourses of concern. This thesis employed pre-conceptualised key discourses suggested by the existing analyses on GHG discourses as departing themes that were put forward to address problems of infectious diseases through the use of language or texts. These discourses are described in Chapter Two (see Table 2.1).

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[310] Debrix F (2002). "Language as Criticism: Assessing the Merits of Speech Acts and Discursive Formations in International Relations", *New Political Science*, 24(2): 201-219.
[311] Bryman A (2004). "Qualitative Data Analysis," in *Social Research Methods*, Oxford: Oxford University Press.
[312] Hammersley M (2002), "Discourse Analysis: A Bibliographical Guide" at www.cf.ac.uk/socsi/capacity/Activities/Themes/In-depth/guide.pdf
[313] Tonkiss F (2004), "Analysing Text and Speech: Content and Discourse Analysis," in Seale C (ed.), *Research Society and Culture*, London: Sage Publications, p. 378.
[314] Potter and Wetherell (1994), "Analysing Discourse," in Bryman A and Burgess B (eds.), *Analyzing Qualitative Data*, London: Routledge, p. 55.

Particular attention was paid to what ideas were used to legitimise or justify policy action in response to SARS, including calls to mobilise resources or increase public attention. This enabled the researcher to identify rationales or reasoning behind actions. An assessment of the influence of different discourses was considered in an analysis through comparative measures of their frequency, source of articulation, and persistence over time. For example, WHO press briefings and media reports were arranged in a sequential order to check the dominance of certain phrases, words, and rhetoric that constituted tenets of a particular discourse for a particular period. This helped to identify the ascendancy of certain discourses over others at different points in time.

While focusing on the central themes selected, this thesis organises the data by comparing the different ways these themes emerged within the data. This led the researcher to understand the different and perhaps competing discourses surrounding SARS. In addition, it was used to identify what Billig[315] describes as "rhetorical" use of argument; that is, the way discourse aims to establish the authority of its account while dismissing others. Tonkiss[316] provides four core techniques for analysing the data based on the following questions: What ideas and representations cluster around the key themes? What associations are being established? Are particular meanings being mobilised? How are different subjects spoken about and positioned within the text?

These questions offered a broader guiding principle for examining and organising texts and documents throughout analysis process. For example, when certain phrases or words such as *threat to citizens*, *border control*, *spread and boundaries*, *dreadful risk*, *attack and defence* emerged consistently, they allowed the researcher to ask questions of the text: how was SARS presented as a *threat*? How was the SARS virus conceptualised in terms of *boundaries*? What references were made to contexts with regard to *attack and defence*? What sources or figures were referred to in *border control*? Then it became evident that these phrases were not read as merely verbal or textual utterances, but they accounted for the meanings attached to the text within particular social and structural contexts to establish the intended aim of the language use and thus to enhance assertion and persuasion. This analytic understanding helped to open up what Potter and Wetherell refer to the *interpretive repertoires*[317] – the ways of speaking and modes of understanding – at work in the texts. Through the interpretive process, the extracted phrases were then thematically organised to assign the overall meaning or macrostructure of a text as a whole. In such case, the researcher determined that these phrases fit under the security discourse as underlying ideas positioned in different ways with respect to the understanding of SARS. Again, the method of data extraction involved a continuous iterative engagement between close readings of the

[315] Billig M (1997), "Rhetorical and Discursive Analysis: How families talk about the Royal Family", in Hayes N (ed.), *Introduction to Qualitative Methods*, Sussex: Lawrence Erlbaum.
[316] Tonkiss F (2004), "Analysing Text and Speech: Content and Discourse Analysis".
[317] Potter and Wetherell (1994), "Analysing Discourse".

text and the development of themes. Throughout the analysis process, the same principles were applied to organising and extracting raw data for the development of other discourses in a systematic manner.

The analysis also involved, not only identifying specific discourses that were used to define the problems in the pursuit of shaping policy response surrounding SARS, but also the ways in which the discourses countered alternative accounts of understanding SARS. This method is attentive to the "silences" in texts as part of the interpretive process, and this is consistent with the general tenets of discourse analysis which approaches readings of silence as embedded in social and structural contexts. In this sense, silence in texts becomes a form of discourse as "we cannot force our data to say things that are not there, but we as critical researchers can point out those places where text is silent to think about what remains unsaid in the organisation of discourse."[318] Thus, analysis of silence in texts allows for consideration of the marginalisation and exclusion of certain discourses which are bound up in power relations inherent to the text and broader context. More specifically, this approach recognised the importance of the "process" by which certain discourses of SARS arose and persisted rather than the mere existence of a discourse per se. For instance, a policy option that calls for social rights of persons at risk (located within the human rights discourse) and one calling for an early identification of risk including measures potentially intrusive to civil liberties (embedded in security discourse) may be incompatible. Thus a set of associations of discourse may need to be mobilised around these policies to invalidate or support alternative policy options. Analysing the presence and absence of different and competing discourses within a larger rhetorical context helped to understand how a certain set of ideas becomes more dominant and certain actors more prominent than others.

In terms of the data coding, primary documents and key informant interview transcripts were coded largely under the themes identified, at the same time taking into account any unexpected themes which emerged during the data collection. Therefore, initial coding consisted of reading through materials and identifying where particular themes were illustrated by the data.[319] If some data proved hard to fit into existing themes, as more data were collected, a new theme was detected and coded. Under the same theme, a code was subdivided into topics and they were subcategorised. For example, some data contained a strong pledge to biomedical discourse or a strong rejection of that discourse; some documents contained discussion on the nature of SARS but others focused more on actions or the impact of the disease.

This coding was done in a systematic manner using NVivo 10 software. Throughout analysis, the NVivo software was useful in marking-up specific features of sentence and

[318] Tonkiss F (2004), "Analysing Text and Speech: Content and Discourse Analysis".
[319] Glaser BG (1992), *Emergence vs. forcing: basics of grounded theory analysis*. Mill Valley, CA: The Sociology Press.

phrase and repetitive tropes, and outlining a map of patterns and frequency. Upon completion of coding, a structured analysis of materials was undertaken with pieces of documents in sequence to establish chronological patterns and dominance of certain discourses over time. The raw data at first sight appeared rather fragmented and decontextualized. While the method of analysis in approaching the data relied on the coding and retrieval approach as a first step, further attempts were undertaken to tease out the various meanings of particular codes and consider an overall linkage of contextual ideas within data. This was carried out using the concept of the node and hierarchical logical system – which is a key to the analysis process in NVivo – on top of searching, coding, and indexing. In order to ensure that codes are analytically drawn out to represent textual relationship, the raw data were manually read a number of times. In this respect, the methodology of this analysis benefits from the grounded theory pioneered by Glaser and Strauss.[320] [321] Grounded theory is an approach

> *…in which the researchers attempt to derive a general, abstract theory of a process, action, or interaction grounded in the views of participants in a study. This process involves using multiple stages of data collection and the refinement and interrelationship of categories of information. Two primary characteristics of this design are the constant comparison of data with emerging categories and theoretical sampling of different groups to maximise the similarities and the differences of information.*[322]

In essence, the grounded theory approach stresses the development of theory from data. In this approach, the aim of analysis is not to test the truth value of theoretical propositions but rather to develop the theory as data collection and analysis proceeds. Following this approach, the researcher checked and rechecked the results constantly, as the analysis proceeded, so that the research findings could be reassessed and a conceptual framework could be formed. During such iterative processes, the researcher recorded any ideas that were generated as part of the coding process in a separate memo to arrive at a higher level of abstraction. In this sense, the process of analysing the discourse on SARS was both inductive and deductive.

3.3.2. Delineating the epistemic community

The second part of data analysis involved the identification of epistemic communities: a list of key actors involved in the shaping of terms of discourse on the SARS outbreak. In order to identify key clusters of expert, the thesis traces experts and expertise according to the criteria that the epistemic communities framework defined: (a) a set of shared

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[320] Glaser BG and Strauss AL (1967), *The Discovery of Grounded Theory: Strategies for Qualitative Research*, Chicago: Aldine.

[321] Charmaz K (2000), "Grounded theory: objectivist and constructivist methods," In Denzin NK and Lincoln YS (eds.), *Handbook of Qualitative Research*, Thousand Oaks CA: Sage Publications, 509-535.

[322] Glaser BG and Strauss AL (1967), *The Discovery of Grounded Theory: Strategies for Qualitative Research.*

normative beliefs; (b) mutual engagement based on a shared notion of validity; and (c) common policy enterprise.[323] First, in order to recognise the collective features of individuals mobilised around similar ideas, the thesis grouped a range of policy discourses presented during SARS into four discourses that appeared to be the most dominant. This allowed the myriad of actors to be narrowed down into a group(s) of individuals, and for them to be demarcated from other public health practitioners, officials and researchers more systematically. Each actor was allocated to specific discourse(s) identified so that a clear association was made between actor and discourse (note that the association between actor and discourse is discussed in greater detail in Chapter Six as a way in which to conceptualise the SARS epistemic community). Second, the mutual engagement among key actors was assessed by the review of official documents and conference proceedings relating to SARS. Background searches on academic training and career trajectory served as an avenue for identifying and confirming common notions of validity. Informant interviews complemented in identifying when, why and from whom the ideas behind the policies were realised, how the experts knew one another, how regularly they met on both formal and informal basis, and what access channels existed between the experts and national decision makers. The common policy enterprise was assessed through a comprehensive review of official documents, journals, and media reports. They were used to identify key actors' policy agendas and their involvement in advancing specific policies. Hass identified that influence mechanisms are facilitated by the members of the epistemic community's access to decision-makers. The interviews with policy-makers helped identify the extent to which the key experts influenced the introduction, selection and diffusion of policies derived from particular discourses.

3.4. ETHICAL ISSUES

In order to ensure compliance with recognised standards of research ethics, the project received prior approval from the London School of Hygiene and Tropical Medicine's Research Ethics Committee before commencing fieldwork. Each key informant was given a consent form explaining the aims of the study, the voluntary nature of their participation, and the steps taken to ensure confidentially (See Appendix III). Informants then completed a written informed consent form prior to the interview. In presenting the results of the research, key informants were permitted anonymity in their responses. Some requested confidentiality. Thus, any statements made in confidence are not reported verbatim or quoted directly, and the source is not identified.

3.5. CAVEATS

[323] Haas P (1992), "Introduction: Epistemic Communities and International Policy Coordination."

This study notes the following caveats. First, there were some difficulties in accessing key informants as interviewees. Those occupying very senior positions in relevant institutions were hesitant to be interviewed, perhaps given the sensitivities surrounding the SARS response, and often did not respond to communications, were travelling, or refused requests. Additionally, some potential informants involved in the SARS response moved on from posts so that the researcher could not interview them in person. As a result, some high-level informants who were identified as key decision-makers on SARS issues did not participate in this study. While it is not clear whether this would result in a selection bias, this factor could not be fully eliminated. To address this, the views held by other high-level informants were obtained by documentary sources and then incorporated as far as possible. The statements made by these informants in official documents and/or publications proved an important alternative and compensatory data source.

Second, informant interviews might have resulted in respondent bias. Research suggests that respondents approach an interview with their own objectives and motivations.[324] Some informants, particularly senior policymakers, were in a position where they had to defend their organisation and their role, and therefore might have presented biased interpretations of SARS events. Informants were sometimes unable to respond to questions given the passage of time or organisational confidentiality. These issues to a certain extent were mitigated through triangulation and with documentary analysis.

Third, since the focus of this research was an outbreak that involved institutions located across the world and a disease with global reach, the analysis of GHG proved vast in scope. As in the case of any research, important boundaries had to drawn to delineate what should ideally be done and what can feasibly be done given available resources. While fieldwork to conduct interviews provided an essential avenue into the empirical understanding of mechanics by which individuals were working on a global scale, there proved to be many logistical barriers in gathering relevant information. For instance, the researcher visited two sites – Hong Kong and Singapore – that were severely affected by the SARS outbreak in an effort to understand the policy-making processes at the national level and the interface with the international/global public health policy processes. However, given limited resources, the researcher could not carry out comparable fieldwork in other locations such as Canada, Taiwan, Vietnam or China that were equally affected by SARS. In order to overcome this obstacle, the researcher instead examined a wide range of documents on these locations.

Lastly, there was a time gap between data collection, analysis and write-up of thesis due to personal circumstances. Rolling data collection took place from October 2007 to

[324] Green J and Thorogood N (2004). *Qualitative methods for health research*. London: Sage Publication.

March 2010 although the majority of interviews were conducted over an 18-month period from October 2007 to June 2009. There is a chance that this delay over time might have influenced the methodology unduly. For example, what was clear at the time of data collection and analysis may become remarkably difficult to remember months or years later. To bridge the time gap, the researcher relied on a logbook which contained important information such as an outline of all the steps the research needs to finish, decisions about coding, ways to collect data, and difficulties and problems on a day-to-day basis in data collection and analysis. This record keeping greatly helped to provide needed information for writing up of this research.

3.6. SUMMARY

This chapter has described the methodology of the research in terms of its design and the approach taken. It has detailed the sources and methods of data collection, and how the resultant data was analysed to identify the dominant discourses that characterised the global response to the SARS outbreak, and the epistemic communities that furthered those discourses. The core innovation of this research, to apply discourse analysis to understand the GHG of the SARS outbreak, is recognised as a methodological challenge. The potential caveats that arise from this methodology have been described with recognition that all study designs must balance what is ideal and what is practical. Nevertheless, it is argued that conducting the research in this way provides fuller understanding as to why the SARS outbreak response unfolded as it did, and offers new insights into the GHG of infectious disease outbreaks. The next two chapters will present the empirical analysis of this research.

CHAPTER FOUR

THE ROLE OF EPISTEMIC COMMUNITIES IN THE SARS OUTBREAK

4.1. INTRODUCTION

This chapter, and the following chapter, present empirical analysis of the role of epistemic communities in the global response to the SARS outbreak. This chapter in particular addresses the question posed in Chapter One of what key actors contributed to the global response to the SARS outbreak. This chapter argues that Haas' concept of an "epistemic community", defined as "a relatively distinct knowledgeable group of actors"[325], is useful for exploring the process behind the generation of policy discourses during the SARS outbreak. It is held that the discourses, which will be identified in Chapter Five, shape global health action through "carriers" who function as "cognitive purveyors", translating the sets of ideas into policy measures. This chapter therefore suggests that the actions and influence of an epistemic community are an important factor to consider in understanding the process by which the structures of GHG of SARS have evolved the way they have. The purpose of this chapter is to examine the emergence, composition and influences process of the epistemic community related to the SARS outbreak. More specifically, this chapter seeks to identify members of epistemic communities in terms of their characteristics, as well as the factors that led these individuals to coalesce into epistemic communities.

In pursuing this task, one important methodological question is whether membership of epistemic communities is formalised in any way. According to the epistemic community framework described in Chapter Two, epistemic communities as social groups tend to be permeable and thus have no formal membership procedures. Pointing to the importance of episteme, Ruggie observed that "epistemic communities may be said to consist of interrelated roles which grow up around an episteme; they delimit, for their members, the proper construction of social reality."[326] Haas puts forth similar arguments with respect to membership, defining epistemic communities primarily in terms of their holding of the "same worldview".[327] Haas suggests, "It is the combination of having a shared set of causal and principled (analytic and normative) beliefs, a consensual knowledge base and a common policy enterprise (common interests) that

[325] Haas P (ed.) (1992), *Knowledge, Power and International Policy Coordination,* Columbia: World Peace Foundation.
[326] Ruggie JG (1975), "International responses to technology: concepts and trends," *International Organization,* 29(3): 557-583, p. 570.
[327] Haas P (1992), "Introduction: epistemic communities and international policy coordination," in Haas P (ed.), *Knowledge, Power and International Policy Coordination*, Columbia: World Peace Foundation, p. 3.

distinguishes epistemic communities from various other groups."[328] These concepts point to the fact that, it is the shared ideas and interests about the presentation and interpretation of social reality, that distinguishes epistemic communities from other groups or individuals.

However, this does not address the question of how epistemic communities form in the first place. To identify possible members of epistemic communities, this chapter begins by examining the terrain of global infectious disease outbreaks involving research and policymaking in the mid and late 1990s. This enables us to account for the background to how infectious disease outbreaks were problematised before the SARS outbreak, and what coherent set of norms was developed by which actors with the authority of epistemic consensus. The chapter then moves to the global response to the SARS outbreak, tracing what experts (and their institutions) and expertise came to hold a central position in the shaping of global knowledge on SARS, what factors facilitated this process, and how they interacted to generate causal beliefs and influence policy outcomes. In doing so, this chapter attempts to delineate a relatively discrete group of experts, namely the epistemic community surrounding SARS.

In this chapter, global meeting records including conference proceedings and transcripts from consultation meetings in the archived WHO administrative documents pertaining to infectious diseases are used, in addition to informant interviews. These meeting records were essential in investigating how experts met with one another on a transnational level and, to some extent, in determining who the key clusters of experts prior to and during the SARS outbreak.

4.2 EMERGING INFECTIONS AND THE DEVELOPMENT OF AN EPISTEMIC COMMUNITY

To understand how an epistemic community evolved prior to the SARS outbreak, this section analyses how a group of like-minded individuals, with particular knowledge claims, emerged during the 1990s on global infectious disease research and policymaking. This section argues that growing concerns over emerging and re-emerging infectious diseases (with acute potential) during this period led to support for new ways of global health cooperation, which in turn created opportunities for new

[328] Haas P (1992), "Introduction: epistemic communities and international policy coordination," in Haas P (ed.), *Knowledge, Power and International Policy Coordination*, Columbia: World Peace Foundation, p. 18. Hass stated that there are additional notions of epistemic communities which were not incorporated in the official definition of epistemic communities. They are: sharing intersubjective understandings; having shared ways of knowing; having shared patterns of reasoning; having a policy project drawing on shared values, shared causal beliefs, and the use of shared discursive practices; and having a shared commitment to the application and production of knowledge (p. 3).

actors to emerge and shape the nature and management of infectious disease outbreaks.

4.2.1. Global consultations on emerging infectious diseases in the mid and late 1990s

A review of archival evidence shows that infectious disease outbreaks received renewed attention in the mid 1990s at the international level. During the period from 1960 to mid 1990s, it was widely believed that chronic disease had displaced infectious disease as the primary cause of mortality in what was called the epidemiological transition. A combination of better nutrition, improved housing, vaccines, antibiotics and DDT had displaced communicable disease prevention and control as the core activity of public health systems. Concerns about infectious diseases were also outshined by more conventional security concerns related to the Cold War though periodic and often intense outbreaks of infectious diseases such as influenza pandemics of 1957 and 1968 continued to appear.[329] From the early 1980s however, the HIV/AIDS pandemic troubled the public health understanding of epidemiological transition. The broader social, economic, technological and cognitive changes that were occurring as a result of globalisation further contributed to growing awareness of human interconnectedness. With the nuclear threat retreating, and following an outbreak of H5N1 avian influenza, emerging and re-emerging infectious diseases gradually gained international attention. The realisation that pathogens do not respect national borders and the need for a global approach to emerging infections was brought to the fore of the WHO's formal consultation in 1994.

The consultation took place in Geneva, gathering together "international experts currently dealing with the concept of emerging diseases."[330] The WHO's international consultations took place in the broader context of an international debate about how to reform the WHO that was occurring among its member states.[331] Emerging and re-emerging infectious diseases were part of the more general debate about the WHO's authority and competence. A total of 22 experts participated in the consultation; among them, ten were from the USA. The experts attending included S Morse, J Lederberg and S Berkley from the Rockefeller Foundation; J Hughes and R Berkelman from the US CDC; PF Harrison from the Institute of Medicine; and JR La Montagne from the National Institute of Allergy and Infectious Diseases. WHO officials from the Division of Communicable Diseases including RH Henderson, Assistant Director-General, and J LeDuc and G Torrigiani, who were medical officers from the Division of Communicable Diseases, also participated in the consultation. The consultation recommended four goals: 1) strengthen global surveillance of infectious diseases; 2) strengthen the

[329] Kamradt-Scott A and McInnes C (2012), "The secrutisation of pandemic influenza: framing, security, and public policy," *Global Public Health*, 7(52): s95-s110.
[330] World Health Organisation (1994), *Report of WHO meeting on emerging infectious diseases*, Geneva: World Health Organisation (April 25-26, 1994), p. 2.
[331] Kickbusch I (2000), "The development of international health policies – accountability intact?" *Social Science and Medicine*, 51: 979-989.

international infrastructure necessary to recognise, report and respond to emerging infectious diseases; 3) create an applied research programme; and 4) strengthen international capacity for infectious disease prevention and control.[332] In particular, the meeting participants repeatedly pointed out the need for greater coordination within the WHO with regard to surveillance activities and sharing of information. In addition, many participants expressed the need for improved collaboration between clinicians, laboratory workers and epidemiologists.[333] Overall, the outcome of the consultation emphasised that a more "global perspective" was desirable in the response to emerging infectious diseases and that the WHO should be encouraged to take a leadership role in implementing and coordinating collective efforts.[334] The 1994 consultation was significant in the sense that the concept of emerging and re-emerging infectious diseases was, for the first time, framed as a global health agenda.

Nine months following the first consultation, the second WHO consultation on emerging diseases took place on 12 January 1995. Nine international experts participated in the meeting. Two US experts who attended the first global consultation – Berkelman from the US CDC and Morse from the Rockefeller Foundation – participated in the second meeting. Twenty-six members of the WHO secretariat including R Henderson, J LeDuc and G Torrigiani attended. Henderson directed the consultation to discuss the framework for a global consortium and international steering committee to deal with infectious diseases. The consultation concentrated on suggestions for modifying the WHO's organisational structure in order to accommodate the recommendations of the 1994 consultation.[335] The main outcome was to create a "coordinating group composed of representatives of internal WHO programmes with an interest in emerging infectious diseases."[336] The meeting outcome met with success with the formation of a new WHO division.

In 1995 October, the WHO established the Division of Emerging and other Communicable Diseases Surveillance and Control and abolished the Division of Communicable Diseases. The formation of the new Division occurred under the mandate of the World Health Assembly.[337] David Heymann was appointed as the Director of the new Division. Heymann, who obtained a medical degree in the US and had training in epidemiology at the London School of Hygiene and Tropical Medicine, was recruited into the smallpox eradication program in the 1970s. He then worked for the US CDC for fourteen years, mainly based in Africa, focusing primarily on epidemics including Ebola in Zaire, with Jonathan Mann; the last five years seconded to the WHO.

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[332] World Health Organisation (1994), *Report of WHO meeting on emerging infectious diseases*, Geneva: World Health Organisation (April 25-26, 1994).
[333] Ibid., pp. 6-7.
[334] Ibid., p.5.
[335] World Health Organisation (1995), *Report of the second WHO meeting on emerging infectious diseases*, Geneva: World Health Organisation (January 12-13, 1995).
[336] Ibid., p. 9.
[337] World Health Assembly (1995), *Communicable disease prevention and control: new emerging and re-emerging infectious diseases*, Geneva: World Health Organisation (WHA48.1313).

He then was recruited to the WHO when Jonathan Mann set up WHO's HIV/AIDS programme.[338] The purpose of the programme was to get a better understanding of the epidemiology of HIV/AIDS and make sure that research was being facilitated by the WHO.[339]

In 1996, Heymann convened a third WHO ad hoc consultation, as part of a review of a 5-year strategic plan for the Division, the overarching objective of which was to provide the WHO with assistance in order to "strengthen global communicable disease surveillance and control."[340] The strategic plan highlighted the importance of several initiatives in the WHO's communicable disease surveillance and control: global information exchange, mandate from WHO member states, WHO country representation, WHO collaborating centres, and a panel of international experts. To accomplish these initiatives, Heymann needed the creation of new technical apparatus. One of such initiatives was the establishment of formalised outbreak control activities at the WHO. Heymann recognised that significant changes in conditions of global communication, particularly the rise of electronic media, had not been sufficiently incorporated into established methods of international infectious disease detection and response.[341] As we will see in the next section, his belief was shared by a small number of WHO officials.

4.2.2. Early formation of an epistemic community at the turn of the 21st century

It is important to note that Heymann's causal and principled belief was spurred by a fundamental change in the structure of the WHO. When the new Director-General Gro Harlem Bruntland joined the WHO in 1998,[342] she brought together the different infectious disease programmes into one cluster, and then appointed Heymann as Executive Director. He was particularly keen to strengthen outbreak control mechanisms by implementing early outbreak alert, detection and response. His experience in the WHO's Office of Research on Epidemiology of HIV/AIDS, for which he spent a large part of his time in Africa, greatly impacted on the ideas around the creation of a new form of outbreak alert and response mechanism. He witnessed the pneumonic plague which struck Surat Gujarat, India in 1994 and the slow response to an Ebola outbreak in Kikwit, Democratic Republic of the Congo the following year, both of which caused panic among international community and a high number of unnecessary deaths. He stated that "we [WHO] had no capacity to respond to outbreaks on our own, or even to deal with the information coming in. All we had was a fax

[338] Ashraf H (2004), "David Heymann – WHO's Public Health Guru", *The Lancet Infectious Diseases*, 4, published online December 2004.
[339] Heyman D and Rodier G (2004), "Global Surveillance, National Surveillance and SARS", *Emerging Infectious Diseases*, 10 (2), p. 174.
[340] World Health Organisation (1996), Emerging and other communicable diseases: strategic plan 1996-2000 (WHO/EMC/96.1), Geneva: World Health Organisation.
[341] Heymann D and Rodier G (2001), "Hot Spots in a Wired World: WHO Surveillance of Emerging and Re-emerging Infectious Diseases", *The Lancet*, 1: 345-53.
[342] Ashraf H (2004), "David Heymann – WHO's Public Health Guru", p. 787.

machine. The switchboards at WHO were completely overwhelmed."[343] In a 2002 editorial in the *Bulletin of the World Health Organization*, he stated that "the resurgence of infectious diseases has been viewed as a factor that can undermine national and international security. AIDS in particular convinced the world that a previously unknown pathogen could destabilize whole regions."[344]

He sought to demonstrate the "severity of the problem"[345] related to infectious diseases by defining it as a "surveillance gap"; that is, he argued that the key problem was that there was a weakness in surveillance, monitoring and reporting systems notably in developing countries. He stated, "It is the developing countries, however, that new diseases and outbreak occur most often. It is there too that the laboratory and surveillance capacity to detect and contain these diseases is sometimes lacking."[346] Recognizing the disparity among countries in public health surveillance, he argued that "infectious disease intelligence, gleaned through sensitive surveillance, is the best defense."[347] Heymann's policy enterprise was clear: the WHO should formalize an outbreak "infrastructure" for responding to the heightened need for early awareness of outbreaks and improve preparedness to respond.[348] This "infrastructure" was designed in the name of Global Outbreak Alert and Response Network (GOARN) and constituted four phases: systematic detection, outbreak verification, real time alerts, and rapid outbreak response.[349]

While serving as the formal head of the Communicable Disease and Surveillance Cluster at the WHO, Heymann appeared to be the informal leader of a small group of officials who shared his normative belief. The development of GOARN began to offer opportunities for the key actors to align around a common enterprise. Gueneal Rodier, Max Hardiman, Michael Ryan, Klaus Stohr and Thomas Grein shared Heymann's vision. In terms of training and career, these officials followed similar paths, typically receiving a medical degree followed by specialist postgraduate training, pertaining to infectious diseases. They then built their reputations through extensive field experience in developing countries before moving to a policy role in WHO.

For example, Rodier had professional experience in developing new approaches for communicable disease surveillance and response at the national and global levels. He

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[343] Interview with Heymann in Burns W (2006), "Openness is key in fight against disease outbreaks," *Bulletin of the World Health Organization*, 84(10), p. 769.
[344] Heymann D (2002), "The Microbial Threat in Fragile Times: Balancing known and unknown risks", *Bulletin of the World Health Organization*, 80(2), p. 179.
[345] Shiffman J (2010), "Issue attention in global health: the case of newborn survival," *The Lancet*, 375: 2045-2049.
[346] Heymann D (2002), "The Microbial Threat in Fragile Times: Balancing known and unknown risks", p. 179.
[347] Heymann D and Rodier G (2001), "Hot Spots in a Wired World: WHO Surveillance of Emerging and Re-emerging Infectious Diseases", *The Lancet*, 1: 345-53.
[348] Ashraf H (2004), "David Heymann – WHO's Public Health Guru", *The Lancet Infectious Diseases*, 4, published online December 2004.
[349] Heymann D (2002), "The Microbial Threat in Fragile Times: Balancing known and unknown risks", p. 179.

started his career as a General Practitioner in Djibouti in 1983, specialising in infectious diseases and paediatrics.[350] He received a Doctorate in Medicine from René Descartes University, Cochin-Port-Royal Medical School in France. Like Heymann, he graduated from the London School of Hygiene and Tropical Medicine in 1989. He then moved to the US Navy, where he did work on infectious disease risk assessment. Following his experience with plague in India, plus stints working on Ebola in Zaire, Heymann invited him to join the epidemic response team at WHO.[351] Ryan, a surgeon by training, met Heymann and Rodier during the Ebola outbreak in 1995. Later, when the WHO created a new unit called "Emerging Diseases," Ryan joined Heymann and Rodier in 1996.[352] Following a series of outbreak fieldworks, he was intensely involved in the formulation of GOARN in terms of organizing global meetings and, more importantly, in the realization of the need for effective epidemic intelligence. Stohr received a PhD in infectious disease control from the University of Leipzig, worked at the National Institute for Epidemiology and Infectious Disease Control, before joining WHO in 1991 as a research scientist.[353] In summary, the educational backgrounds, along with international experiences in infectious disease control during their careers, provided shared understandings, common notions of validity (i.e. specialist technical knowledge) and causal beliefs (i.e. policy concerns and interests). According to Haas, these are key characteristics which define an epistemic community.

In the early 2000s, these key individuals published a series of articles which set out their ideas, positioning the WHO as an innovator in the field. They described WHO's efforts to revitalize global cooperation for detecting and responding to disease outbreaks through new ways of collective action.[354] Broadly framing infectious diseases in terms of "global health security," these actors strongly promoted the development of infectious disease outbreak intelligence activities and capacities, through the use of information technologies, as central to addressing a growing infectious disease threat. For instance, Rodier, by then Director of WHO's Communicable Disease Surveillance and Response Unit,[355] reminded the international community of the need for heightened

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[350] Brooks T (2005), *Behind the Mask: How the World Survived SARS,* Washington: American Public Health Association. p. 22.
[351] Rodier G (2007), New Rules on International Public Health Security, *Bulletin of World Health Organization*, June 85(6): 428-430.
[352] Brooks T (2005), *Behind the Mask: How the World Survived SARS*, New York: American Public Health Association, p. 23.
[353] Stohr K (2003), *SARS Epidemiology*, (presentation slides) www.niaid.nih.gov/SARS/meetings/05_30_03/PDF/stohr.pdf; Stohr K (2003), "Multicentre Collaborative Network to Investigative the Cause of Severe Acute Respiratory Syndrome", *The Lancet*. *361t*: 1730-1732.
[354] Heymann D and Rodier G (1998), "Global Surveillance of Communicable Diseases", *Emerging Infectious Diseases*, 4: 362-5; Heymann D and Rodier G (2001), "Hot Spots in a Wired World: WHO Surveillance of Emerging and Re-emerging Infectious Diseases", *The Lancet*, 1: 345-53; Grein MS, Kamara KB, Rodier G, Plant AJ, Bovier P, Ryan MJ (2000), "Rumours of disease in the global village: outbreak verification," Emerging Infectious Diseases, 6(2): 97-102; McNabb S, Chungong S, Ryan M, Wuhib T, Nsubuga P, Alemu W, Carande-Kulis V, Rodier G (2002), "Conceptual framework of public health surveillance and action and its application in health sector reform," *BMC Public Health*, 2: 2.
[355] Heymann D and Rodier G (1998), "Global Surveillance of Communicable Diseases", *Emerging*

surveillance capacity. He argued that "infectious diseases in one country would have a devastating effect on the rest of the world if it was not contained in an appropriate and timely manner."[356] For Rodier, the solution to address a threat to health security was, again, global epidemic intelligence. He argued, "*Global Epidemic Intelligence involves active collection of information on ongoing epidemics worldwide*."[357] The best response to the threat posed by infectious diseases, in his view, would be the implementation of epidemic intelligence.

Heymann's policy enterprise, on the need for a "rapid response force", was put into practice when he organized a major international meeting on Global Outbreak Alert and Response in 2000. In his opening speech, Heymann stated that the meeting was aimed "to review current outbreak threats and international efforts in *alert and response*."[358] He highlighted that, "as globalization creates common concern for health worldwide, strengthened national and global surveillance for prevention and control is needed."[359] The meeting participants, one of whom was M. McAtee from the National Security and International Affairs Division of the US General Accounting Office, "expressed the need for the establishment of Global Outbreak Alert and Response…which will focus on maintaining *global public health security* by ensuring coordinated mechanisms for outbreak alert and response."[360]

Thus, what is now termed as global health security was introduced to a broader WHO programme of communicable disease outbreak control as early as 2000 by the collective influence of several WHO-based individuals led by Heymann.[361] Their shared normative beliefs and policy entrepreneurship contributed tremendously to inspiring, conceiving and directing the architecture of global health surveillance. The notion of "disease as a threat," embedded in the global health security discourse, was well envisaged in the GOARN document: "*GOARN offers an operational framework to link expertise and skill to keep the international community constantly alert to the threat* of outbreaks *and ready to respond*."[362] At the turn of the 21st century, Heymann and key WHO officials in the Department of Communicable Disease Surveillance and Response were in the process of inventing a new technical apparatus that would be capable of realising global health security with respect to goals of containing disease outbreaks. They drew on a vision of

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Infectious Diseases, 4: 362-5; Heymann D and Rodier G (2001), "Hot Spots in a Wired World: WHO Surveillance of Emerging and Re-emerging Infectious Diseases", *The Lancet*, 1: 345-53.

[356] Rodier G (2001), "Confronting a World of Infectious Diseases", *Public Health Reports*, 116: 2-4; also see Heymann D and Rodier G (1998).

[357] Rodier G (2001), "Confronting a World of Infectious Diseases", *Public Health Reports*, p. 3.

[358] WHO (2000), Global Outbreak Alert and Response: Report of a WHO meeting, Geneva, Switzerland, 26-28 April 2000, p. 3.

[359] Ibid., p. 3.

[360] Ibid., p. 17.

[361] Admittedly, the secrutisation of HIV/AIDS as early as 2000s through UN Security Council on HIV/AIDS was an important precursor that influenced Heymann and encouraged him to frame infectious disease outbreaks in security terms.

[362] WHO, Global Outbreak Alert and Response Network, at www.who.int/csr/outbreaknetwork/en

global health security in which real time information about outbreaks and other events was available to them.

Beyond the diffusion of the security discourse, from HIV/AIDS to global attention to emerging diseases, these key actors and their normative frameworks helped underpin a fundamental shift in perspective, from *international* to *global* health. This shift, in turn, facilitated WHO to bring key partners and expertise together to achieve a better system of outbreak intelligence. Since 1948, the management of disease outbreaks by the WHO[363] involved the collection of data on selected diseases and the provision of epidemiological advice through the convening of expert groups.[364] This derived from historical practices dating from the International Sanitary Conventions of the nineteenth century. In contrast, in 1998, Heymann created the Global Outbreak Alert and Response Operations Team under the responsibility of the WHO's Epidemic and Pandemic Alert and Response Programme to coordinate the various technical expertise. Subsequently, GOARN was formally launched in 2000 to deal with growing global public health concerns about the limitations in national infectious disease surveillance and response capacity. GOARN is a voluntary network of over 140 institutions that pool human and technical resources to identify, confirm and respond to outbreaks of international importance.[365] The organizational complex of GOARN took the form of a network that spanned technical advisors, virologists, medical scientists and epidemiologists. Its experts can be despatched to the field where they work together with WHO officials from Headquarters to stem any outbreaks.

The efforts of Heymann and a small group of colleagues within WHO to connect with external experts were attributable to both capacity and strategic reasons. The technical expertise and resources within the organization were assumed to have been insufficient to drive the agenda and address the infectious disease outbreaks alone. To give some idea of the scale of operations for outbreak alert and response at the WHO, 5% of the organization's biennial budget of Epidemic and Pandemic Alert and Response came from the WHO's regular budget, the remainder of which was raised directly from donors.[366] While the US-based Nuclear Fund Initiative provided GOARN with a revolving fund of US$ 500,000 for immediate mobilisation of resource teams, the field responses must be funded by staff through fundraising outside WHO each time a

[363] WHO (2000), Global Outbreak Alert and Response: Report of a WHO meeting available at http://www.who.int/csr/resources/publications/surveillance/whocdscsr2003.pdf
[364] Zacher M (2007), "The Transformation in Global Health Collaboration since the 1990s", in Cooper et al. (ed.), *Governing Global Health: Challenge, Response, Innovation*. Burlington: Ashgate Publishing: pp. 15-27; World Health Organization (2000), *A framework for global outbreak alert and response*, WHO department of communicable disease surveillance and response. February 2000, p. 13.
[365] Global Oubtreak Alert and Response, available at http://www.who.int/csr/outbreaknetwork/en/
[366] Weir L and Mykhalovskiy E (2010), Global Public Health Vigilance: Creating a World on Alert, London: Routledge, p. 95; Hitchcock P, Chamberlain A, Van Wagoner M, Inglesby T and O'Toole T (2007), Challenges to global surveillance and response to infectious disease outbreaks of international importance, *Biosecurity and Bioterrorism: Biodefense Strategy, Practice and Science*, 5(3): 206-227.

response occurs.[367] Heymann sought to outsource WHO's outbreak containment activities to independent experts and academic institutions. Heymann once stated that GOARN was able to "draw on the resources and expertise" of a broad range of technical partners which "made it unnecessary to maintain a permanent staff of dedicated experts with all the associated expenses."[368] An essential element within the GOARN is the Global Public Health Intelligence Network (GPHIN). This is a sophisticated internet-based multilingual early warning tool for continuously collecting epidemiological information of all kinds about infectious diseases. Heymann sought to set up a new emerging infectious disease programmes that would collect raw news feeds from international news agencies in a bid to detect outbreaks. The development work on GPHIN software commenced in 1997 with the support of US$500,000 from the Canadian government.[369] Grein, who was at the centre of establishing GPHIN, referred to the epidemic intelligence as "a new approach to global disease surveillance."[370] As we will see in the next section, with the setup of GOARN, Heymann and a small group of medical officers within WHO were able to link like-minded experts together to forge a common corpus of professional knowledge and formulate global policies on SARS.

In summary, prior to the SARS outbreak, an epistemic community already existed around the area of infectious disease outbreaks. This community, consisting of technical experts with shared educational and career paths, centred around key individuals at WHO who, through their efforts to strengthen global surveillance, monitoring and reporting systems, formed networks with similar technical experts worldwide. By 2000, this global network of infectious disease outbreak experts formed a close professional network, sharing biomedical expertise, interacting during major international outbreaks, and interconnected by new information technologies.

4.3. DURING SARS: CONSOLIDATION OF EPISTEMIC COMMUNITIES

In this section, it is argued that the SARS outbreak led to the above epistemic community to expand and consolidate further its membership, technical expertise and, consequently, influence over the nature of global responses to infectious disease outbreaks. It is argued that the aforementioned group of medical experts, largely working within or linked to the WHO Communicable Disease and Surveillance Cluster, played an important role in linking certain types of experts as an epistemic community. This group, in turn, advanced particular knowledge claims that, during a period of uncertainty and perceived emergency, reinforced the authority of these experts. To understand the formation of the epistemic community surrounding SARS, the following

[367] Ibid.
[368] Heymann D et al (2006), "Coordinating the global response," In WHO (ed.), *SARS: how a global epidemic was stopped*, Geneva: World Health Organisation, p. 52.
[369] Zacher M and Keefe T (2008), *The Politics of Global Health Governance: United by Contagion*, New York: Palgrave Macmillan.
[370] Grein TW, Kamara KB, Rodier G, Plant AJ, Bovier P, Ryan MJ, et al. (2000), "Rumours of disease in the global village: outbreak verification. Emerging Infectious Diseases, 6(2): 97-102.

sections analyse the identities, expertise and activities of these key individuals who collectively, as an epistemic community, shaped the framing of the issue. The sections below identify who these actors were, how they mobilised as a community of experts, and how they then deployed specialised knowledge in the global response to SARS. The key discourses that framed the global response, shaped by this epistemic community, is analysed in Chapter Five.

4.3.1. The emergence of a core pool of knowledge

In February 2003, when the SARS outbreak in China alerted GOARN, Heymann and a small group of medical officers within the WHO, what this thesis calls the *Heymann centre*, commenced planning immediately to address the risk posed by SARS. One task was to arrange for mobile teams of epidemiologists to travel to sites most affected so far, and organise teams of virologists trying to better understand the emerging disease.

As discussed below, typically, these experts were affiliated with one of the institutions of the GOARN that already had long-standing relationships with WHO's Communicable Disease and Surveillance Cluster. For instance, Stohr worked with a close network of laboratory people such as Julie Gerberding (US CDC), Albert Osterhaus (Erasmus University), and Malik Peiris (University of Hong Kong) through the WHO's Global Influenza Surveillance Network (GISN). Hardiman maintained close links with an informal group of travel medicine experts who gave advice when requested.[371] Ryan had close professional connections with clinicians. Grein worked with a tight circle of epidemiologists such as Aileen Plant (who headed Vietnam's response to SARS), John Mackenzie (who was involved in the epidemiological investigations in China and Hong Kong), and Roy Anderson (who pioneered in mathematical modelling research on SARS). They were frequently appointed as advisors to GOARN's missions. Grein described the process of mobilising experts:

> *I was in Congo as there was an Ebola outbreak which was coming to the end. When I first heard about the [SARS] outbreak, the request [for returning to HQ] came almost immediately. I came back to Geneva and helped to organise a SARS network but my team was responsible for a more operation aspect like identifying experts, sending them out and doing the epidemiology of SARS, basically summarising the cases, providing updates and publications, daily counts, etc. We mobilised experts mainly from GOARN where we had technical resources and quite a number of people we know. We selected and negotiated with the member states regarding who is the right person you can post [sic].*[372]

This research found there were two types of expertise that came to prevail in the global response to the SARS outbreak. The first source of expertise was the medical sciences, with a particular focus on virology and microbiology. During SARS, laboratories

[371] Interview with Hardiman, WHO
[372] Interview with Grein, WHO

equipped with state-of-art technologies became crucial sites for outbreak knowledge production. The experts in this group investigated the molecular or genomic characteristics of the virus, virus infection mechanisms, pathogenicity of the virus, host susceptibility determinants, diagnosis and treatments, and vaccines and drug development. A few experts were particularly salient during SARS, such as Osterhaus and Peiris. For example Osterhaus, who leads an internationally renowned virus lab at the Erasmus Medical Centre, was asked by Stohr to join the SARS outbreak investigation. Prior to the SARS outbreak, Osterhaus stood at the global nexus of every major disease outbreak. Trained as a virologist, he was credited with being the first to detect the cross-species infection mechanism of H5N1 in 1997. He has chaired the European Scientific Working Group on Influenza since 2001 and was actively involved in WHO activities as a chairman of four WHO reference centres.[373] Osterhaus wrote papers together with like-minded scientists alerting to the potential of human pandemic influenza and the need for more research including vaccination.[374] At the height of the outbreak in April 2003, his virology lab was among the first to identify the coronavirus that caused SARS.[375] He participated in WHO press briefings to explain how his lab conducted trials in monkeys with coronavirus to fulfil Koch's postulates.[376]

Peiris has a similar academic training and career path. He underwent postgraduate training in pathology, followed by an undergraduate medical degree. He worked in the WHO Reference Centre for Rapid Virus Diagnosis for seven years and subsequently founded a virology laboratory at the University of Hong Kong in 1995. His lab was invited to join the WHO's GISN in 2001.[377] During SARS, Stohr invited Peiris to join the WHO's collaborative laboratory project on SARS. His lab was one of the few virology groups which identified that SARS outbreak is caused by coronavirus. He published a paper, together with Osterhaus and Stohr, highlighting the need to develop vaccines and therapies.[378] In the mass media, these experts were often portrayed as heroic virus hunters who incessantly looked for the deadly viruses to protect mankind. The advice of these experts was frequently cited by the media and government authorities.[379]

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[373] The four national centres are the Dutch Influenza Centre, the Dutch Health Council and the European Scientific Working group on Influenza (ESWI). See Osterhaus A et al. (2003), "The Aetiology of SARS: Koch's postulates fulfilled", *Nature*, 423 (6937): 240.
[374] de Jong JC, Claas EC, Osterhaus AD, Webster RG, Lim WL (1997), "A pandemic warning?" *Nature,* 389: 554; Osterhaus A, Rimmerlzwaan GF, Marina BE, Bestebroer TM et al. (2000), "Influenza B virus in seals," *Science*, 288: 1051-1053.
[375] WHO media centre, Coronavirus never before seen in humans is the cause of SARS, Available at http://www.who.int/mediacentre/news/releases/2003/pr31/en/
[376] WHO press briefing, Severe Acute Respiratory Syndrome, 16 April 2003. Available at http://www.who.int/csr/sars/2003_04_16/en/
[377] Mandavilli A (2004), Malik Peiris: Profile, *Nature Medicine*, 10 (886).
[378] Peiris M, Yuen KY, Osterhaus A, Stohr K (2003), "The Severe Acute Respiratory Syndrome," *New England Journal of Medicine*, 349: 231-2441; Peiris M, Guan Y, Yuen KY (2003), "Severe acute respiratory syndrome," *Nature*, 10 (12 supple): s88-97.
[379] Silent carriers, an unknown factor in flight against SARS, *Agence France Presse*, 2 April 2003; SARS from cat to humans? *The Guardian*, 5 June 2003.

A second important body of expertise was epidemiology. The experts in this group focused on identifying how the virus emerged and was transmitted, what factors contributed to its case fatality, and how to prevent its occurrence. Because epidemiologists' major task is to understand the incidence, prevalence, and determinants of disease outbreaks, they conducted critical investigations of human activities and interactions, and compare findings to the susceptibility of the population. Experts in this group either conduct field investigation or work with disease surveillance data collected through other means. For example, some experts attempted to predict the course of the development and effectiveness of control measures through statistical modelling. During SARS, modelling studies were conducted mainly by epidemiologists based at Imperial College London and Harvard University who sought to predict the SARS transmission rate on a global scale.[380] Roy Anderson, one of the UK's most prominent experts on infectious diseases, led the important Imperial College London group. He was trained as a parasitologist and served as Director of the Wellcome Centre of Parasite Infections based at Imperial College. Prior to SARS, Anderson sat on various UK government and WHO committees advising on infectious disease control and undertaking disease modelling, spanning HIV/AIDS and foot and mouth, to BSE and vCJD.[381]

The equally influential Harvard University group was led by Marc Lipsitch. Trained as an epidemiologist, he was involved in estimating incidence and targeting interventions for infections. Prior to SARS, much of his work focused on the bacterial pathogen *Streptococcus pneumoniae* which causes a significant number of child deaths annually worldwide.[382] His Harvard-based group made one of the earliest estimates of the reproductive number of the SARS virus in April 2003. In their publications, both the Imperial and Harvard groups made similar observations with regard to the containment of the SARS virus– the essential importance of timely biomedical interventions such as increased deploying of influenza vaccines, better diagnostics, and active tracing and monitoring of contacts.[383] To these experts, the disease transmission rate informs the prevention and treatment of SARS.[384] According to the WHO official,

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[380] Riley S, Fraser C, Donnelly CA et al. (2003), "Transmission dynamics of the etiological agent of SARS in Hong Kong: Impact of public health interventions," *Science*, 300: 1961-1966; Donnelly CA, Ghani AC, Leung GM et al. (2003), "Epidemiological determinants of spread of causal agent of severe acute respiratory syndrome in Hong Kong," *The Lancet*, 361: 1761-176.

[381] May RM and Anderson RM (1987), "Transmission dynamics of HIV/AIDS infection," *Nature,* 326 (6109): 137–42; Anderson RM, Donnelly CA, Ferguson NM, Woolhouse ME, Watt CJ et al. (1996), "Transmission dynamics and epidemiology of BSE in British cattle," *Nature* 382(6594): 779-789; Ghani AC, Donnelly CA, Ferguson NM et al. (2000), "Assessment of the prevalence of vCJD through testing tonsils and appendices for abnormal prion protein," *Proceedings of the Royal Society B: Biological Sciences*, 267: 23-29.

[382] McCormick AW, Whitney CG, Farley MM, Lynfield R, Harrison LH, Bennett NM, Schaffner W, Reingold A, Hadler J, Cieslak P, Samore MH, Lipsitch M (2003), "Geographic Diversity and Temporal Trends of Antimicrobial Resistance in *Streptococcus pneumoniae* in the United States," *Nature,* 9(4): 424-430.

[383] Lipsitch M (2003), Prepare now for the return of SARS, available at http://www.project-syndicate.org/commentary/prepare-now-for-the-return-of-sars

[384] Lipsitch M, Cohen T, Cooper B, Robins JM, Ma S, James L, Gopalakrishna G, Chew SK, Tan CC, Samore MH, Fisman D, Murray M (2004), Transmission dynamics and control of severe acute respiratory

the WHO convened informal mini conferences daily for a week to bring together these two groups to reach consensus about the desired course of action.[385]

As an epistemic community forming around SARS, the above suggests that, in the initial stages of the SARS outbreak, the types of expertise mobilised was firmly located in virology and epidemiology. Understandably, these areas of expertise, in the initial stages of an outbreak by an unknown disease, may well be the most appropriate types of knowledge needed on the ground. It is also often assumed that they are the only types of expertise available and thus regarded as valuable. What should be noted is that other types of expertise such as to understand the social context within which an outbreak occurs were readily available, but nonetheless, they were not brought into global response to SARS. Governance of disease outbreaks does not simply produce scientific fact; it also bridges between the normative and factual. As we will see in Chapter Five, the formulation of global policymaking on SARS was reliant on the normative underpinning of differing responses. Global governance of disease outbreak is constituted by diverse understandings of the disease under investigation. Similar to this point, here what is seen as important knowledge in order to respond to SARS is not merely emanated from a rational approach to problems. Rather, the researcher argues that the relative weight of different inquiries and evidence is socially constituted rather than given. Haas maintains that epistemic communities occupy roles of legitimacy and power alongside their special expertise. In line with this argument, this study finds that the loosely coupled group of experts in the specialised areas of virology and epidemiology did not gain the privileged position simply based on their knowledge claims or by virtue of their established reputations, but they were also granted legitimacy during SARS through institutional mechanisms facilitated by the *Heymann centre*.

For example, experts at reference laboratories and collaborating centres have a privileged access to SARS viral samples. The WHO called upon selected laboratories that met the biosafety level (BSL 3) to join a collaborative multi-centre research project on SARS diagnosis. According to the WHO, the organisation "initiated the establishment of this network because of the extraordinary willingness for collaboration of its members."[386] This yielded 11 laboratories in 9 countries. Subsequently, network members shared on the secure WHO web site electron microscopic pictures of viruses, sequences of genetic material for virus identification, and characterisation and virus samples. This indicates that the WHO, more specifically Stohr and his team who coordinated the laboratory network, determined who had access to viral samples, who had the authority to confirm the cause of the outbreak, and

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syndrome. *Science,* 300: 1966-1970; Mills CE, Robins JM, Lipsitch M (2004), "Transmissibility of 1918 pandemic influenza," *Nature* 432: 904-6.

[385] Interview with Marianos, WHO

[386] WHO collaborative multi-centre research project on Severe Acute Respiratory Syndrome diagnosis. Available at http://www.who.int/csr/sars/project/en/

who could develop vaccines from the material. Experts affiliated with the WHO came to advance their research authority and to some extent drive the direction and scope of the global research on SARS. It is important to note that obtaining viruses for investigation is challenging for virologists due to professional competition. The viral strains and genomic sequences of viruses offer valuable information not only for studying viral evolution but also developing vaccines. Pressure for publication and for vaccine innovation therefore discouraged scientists from sharing materials and genomic information of viruses with others. Given the research competition and interest in vaccine patents, participation in WHO coordinated international projects granted experts in these laboratories easier access to research material and the latest information. This process inevitably excluded experts from countries most affected such as Vietnam and Taiwan from participating in the exchange of crucial information, determining evidence, (and thus developing pharmaceuticals) due to political and capacity reasons. [387]

Additionally, as will be explained in detail in the next section, WHO officials developed a series of guidelines, standards, and manuals in consultation with experts of various working groups and ad hoc committees. These meetings were mostly exclusive and by invitation only. This means that international guidelines and recommendations were discussed by selected experts before the drafts were disseminated as recommended guidelines to national authorities. Meetings were also held to identify research priorities in particular areas including diagnostic and serological tests, virus strain variation and case detection. Therefore certain individuals who frequented international gatherings appeared to have determined what areas of research should be prioritised and how evidence relevant to SARS should be produced, interpreted and disseminated. Where medical expertise in the fields of laboratory and epidemiology prevailed, understanding the disease through other expertise pertaining to an infectious disease outbreak such as veterinary medicine (given that SARS was a zoonotic disease), risk communication, and social sciences was largely limited. Experts in these fields thus did neither compete for the significance of their knowledge claims nor advance policy ideas in the global response to SARS. Consequently, issues such as complex dynamics between humans, animals and the environment, social, cultural, and economic causes of SARS, and the consequences of control measures were, albeit considered, marginalised.

4.3.2. International meetings crucial for sharing a collective identity

The findings suggest that the central role of members of an epistemic community, not only in producing knowledge about a disease outbreak, but shaping actions in

[387] During SARS, Taiwan was not recognized as an individual political entity. This complicated the situation because Taiwan was unable to access WHO assistance. This was seen as a causal factor in the large number of cases that occurred.

response, became more apparent at WHO-convened consultation meetings, international forums and workshops during the SARS outbreak. These meetings provided experts with opportunities to share common notions of validity (i.e. specialities) from their clinical training and, in particular, their work relevant to infectious disease epidemiology, virology and biomedical science. It is argued that these meetings were one of the mechanisms by which experts strengthened their transnational ties, and through which the knowledge produced among them was mutually accepted and legitimised. In interviews with key informants, this research found some individuals appeared to have an established relationships with one another prior to SARS through international collaborative research projects, committees and other scientific programmes that the WHO organized (more specifically within the Communicable Disease Surveillance and Response Cluster at the WHO). These network-building linkages were described as regular, yet generally semi-formal or informal affairs. As one expert indicates, "Experts in this area, almost all of us know because we are colleagues or friends or collaborators in some of the WHO work. Or we know that they're experts because we read each other's publications."[388] While the interviewed officials from the WHO often referred to their role in various meetings as being a secretariat, a catalyst, and a platform for coordinating other principal actors' activities, from the results of key informant interviews suggest that WHO officials asserted important influence by deciding who to invite based on which institution and type of expertise. Thus, previous affiliation with the WHO as an external advisor or personal and professional relationships with WHO officials proved crucial. One WHO official described,

> *There were a number of pre-existing committees that WHO has put up with particular member states to provide them with rapid technical advice. These experts actually look at the [infectious disease] events throughout the course of outbreak. They were very much our [WHO's] partners that had long been involved very intensively in the global outbreak and alert response network.*[389]

Similarly, Hardiman noted a typical practice of WHO's outbreak response operation in which a small and tight knit group of individuals would be appointed to play a lead role:

> *We [WHO] have a list of experts from the collaborating centres in this field. When we have specific questions, they were able to provide with some advice and analysis for use to take into account. It was on informal basis so relatively small number of such experts.*[390]

To some extent, the mechanisms by which SARS experts were invited seem to reflect the dominant medical model attached to the WHO. As critics have long recognised, despite the multi-sectoral rhetoric, the organisation failed to renounce medical bias and

[388] Interview with Riley, UK
[389] Interview with Marianos, WHO
[390] Interview with Hardiman, WHO

thus continued to employ doctors to most of its professional posts.[391] Not surprisingly, when external expertise is in need, the WHO medical officials find it difficult to identify experts outside their technical expertise or to explore new frontiers of knowledge. Many medical officials admitted that achieving balanced representation in terms of geography and profession had not been easy and thus formal and informal relationships were likely to take priority over finding the best person for the task concerned.

The following quote also indicates that one's informal and professional tie with WHO officials prior to SARS determined participation in the consultation opportunities:

> *I had a very close communication with WHO because we [i.e. his lab] had a very good relationship with Klaus Stohr, who was the head. We took part in the WHO's Global Influenza Programme. In the initial stage of the SARS outbreak, I was mainly speaking to Stohr about the events. We were having a regular call. After mid-February [2003], then I think the network [WHO laboratory network] was officially set up. We, of course, were offered to take part in the SARS laboratory network even before then. I was also invited to a few workshops and meetings organised by the WHO.*[392]

This pattern of frequent interactions over time continued throughout the course of the SARS outbreak. As shown below, there were a small number of experts who were the core participants in most of the WHO's meetings, conferences and other informal consultations on SARS. From early March to October 2003, three international meetings were held at different locations including the WHO headquarters.[393] Table 5.1 summarises consultation meetings relevant to SARS.

In May 2003, the first global meeting on the epidemiology of SARS took place in Geneva. A total of 19 international experts participated in the meeting. Four experts were from Canada (Health Canada), three from the UK (two from the Health Protection Agency and one from Imperial College London) and three from the US (two from Harvard University and one from the US CDC). Among them were Marc Lupsitch and Roy Anderson. Malik Peiris also attended the meeting. The members of the *Heymann centre* including David Heymann, Guenael Rodier, Michael Ryan, Max Hardiman, and Klaus Stohr participated in the consultation. Angus Nicoll from the UK Health Protection Agency chaired the meeting. Heymann welcomed the participants and Rodier highlighted the importance of the need to reach a consensus on the epidemiology of SARS. The meeting focused on seven main topics: incubation period; infectious period; case-fatality ratios; routes of transmission, exposure dose and risk factors for

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[391] Godlee F (1994), "WHO in retreat: is it losing its influence?" *BMJ*, 309: 1491-5. Also see Godlee F (1993), "WHO at crossroads: will it embrace the necessary reforms?", *BMJ*, 306: 1143-4; Yamey G (2002)m "WHO's management: struggling to transform a fossilised bureaucracy," *BMJ*, 325: 1170-73.
[392] Interview with Peiris, Hong Kong
[393] See World Health Organization. Severe Acute Respiratory Syndrome, http://www.who.int/csr/sars/press/en/index.html

transmission; reproduction number in different transmission settings and under different control strategies; animal and environment reservoirs. The main findings and recommendations concentrated on rapid case detection, case isolation, contact tracing and infection control including hand washing, cleaning and disinfection. In addition, the meeting participants emphasised that the WHO should facilitate the development of an applied research plan including modelling studies to evaluate the public health policies for SARS containment and control.[394] Interestingly, the meeting comprised of an informal workshop among selected people to synthesise the main findings, followed by the main meeting. Participants of this informal session were not disclosed.

About 20 days following the first consultation meeting, the second meeting entitled *SARS virus detection and survival in food and water: setting a research agenda* took place on 8-9 May 2003 in Madrid. This meeting was held in collaboration with the Food and Agriculture Organisation of the United Nations (FAO) to better understand how the SARS coronavirus survives in the environment with particular reference to food, water and sewage. The main purpose of this meeting was to set future research agendas related to detection and survival of the SARS virus. The meeting participants underscored the "prima facie scientific evidence" that leads to further scientific research by stating that "the justification for engaging in research is the need to prepare scientific basis for the evaluation of whether a significant risk is likely. A conclusion of no significant risk is most credible when based on a firm body of scientific research."[395] From the meeting minutes, it was evident that the key aim of the meeting was to place scientific evidence at the centre of the global SARS response. Many would see this as reasonable and appropriate given the nature of the issues involved. Nonetheless, as the next Chapter will discuss, scientific knowledge that did not take into account other considerations (e.g. human rights) had unintended consequences on SARS policies. The names of the meeting participants were not publicly available and hence the researcher was unable to trace the role that certain individuals played in the meeting.

Recognising the importance of a concerted approach to SARS research and the need to determine a priority list of the most important issues that should be addressed, the WHO established the *SARS Research Advisory Committee* and held the first of its meetings in Geneva on 20-21 October 2003.[396] Anarfi Asamoa-Baah, Assistant Director General, noted that the WHO had received increased visibility through its work in the area, crediting much of the success to experts, many of whom were on the committee.

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[394] WHO (2003), Consensus document on the epidemiology of severe acute respiratory syndrome, Department of Communicable Disease Surveillance and Response, available at http://www.who.int/csr/sars/en/WHOconsensus.pdf pp. 3-6.
[395] WHO (2003), SARS virus detection and survival in food and water: setting a research agenda, A WHO workshop in collaboration with the FAO. Available at http://www.who.int/foodsafety/publications/micro/en/sars_madrid.pdf pp. 18-19.
[396] WHO SARS scientific research advisory committee concludes its first meeting, available at http://www.who.int/csr/sars/archive/research/en/; also see WHO (2004), WHO scientific advisory committee on Severe Acute Respiratory Syndrome: Report of the first meeting, available at http://www.who.int/csr/resources/publications/SRAC-CDSCSRGAR2004_16.pdf

John Mackenzie (who led the WHO's investigation in Hong Kong and China) chaired the committee and Angus Nicoll outlined the tasks for the two-day meeting. A total of 28 international participants attended the meeting. In terms of profession, a significant proportion of participants were national representatives (government officials) from SARS-affected countries such as China, Hong Kong, Singapore, Canada and Vietnam, but participants also included a handful of international experts affiliated with the WHO such as Anderson, Peiris, and Osterhaus. The *Heymann centre* members such as Heymann, Rodier, Ryan, Hardiman, and Stohr attended. In terms of expertise, the committee members, for the first time, included not only identified experts in communicable disease epidemiology, mathematical modelling, infection control, and clinical and animal virology, but also individuals with experiences and knowledge in risk communication, psychology, and economics. As a result, the meeting discussion ranged widely and a large number of research areas and issues that needed to be addressed were generated. The final list of research areas and their priority agreed by participants was: 1) epidemiology of reducing vulnerability and interrupting transmission; 2) interventions including infection control in hospitals and education of the public; 3) laboratory research on new technologies for diagnostic tests; 4) animal reservoirs research; 5) social impacts of effective containment and control measures; 6) clinical research including effective treatment of SARS.

An analysis of the archived materials on international meetings on SARS, notably the publicly accessible participant lists, provides a few notable features in patterns of participation. First, according to the WHO official who was in charge of organising these meetings, inclusion of advisors was on an "ad hoc" basis but determined by the specialized expertise each individual had.[397] However, from Table 5.1, one can note that a largely common group of people attended nearly all major global meetings on SARS. For example, Anderson, Peiris, and Osterhaus frequented the WHO's technical committees, working groups and consultation meetings. Heymann, Rodier, Hardiman, Ryan, and Stohr were either part of the influential audience or active participants. Therefore, international meetings and gatherings can be seen as binding these individuals together over time through a common body of knowledge, language and experience. Conversely, experts without prior relationships with WHO officials tended to sporadically participate in the international meetings and consultations and thus have little interaction with other key individuals or WHO officials. Indeed, defining precise boundaries for this community is complicated by the fact that there were numerous scientists who conducted work on SARS and participated in the international meetings. However, they were neither regular attendees, nor identified by core members as being significant to knowledge production. When asked how participants were identified as SARS advisors for consultation, one informant states that global consultation has often been implemented selectively and exclusively: "It is all about networks. In practice, you know someone and you think he is good fit then you contact

[397] Interview with Marianos, WHO

the person and ask if he is interested in working on this."[398] Heymann mentioned, "We have a standard of selecting people. We selected experts in the field to invite meetings and conferences and also to work on SARS."[399] While he did not elucidate how experts were selected, his remarks indicate that experts consulted by the WHO wore multiple hats – as scientists, consultants in WHO meetings, and at the same time collaborators with the WHO on its missions. Thus the international meetings served as a focal point for bringing like-minded experts together and sharing their causal beliefs with the WHO's medical officials, framed from within particular disciplinary lenses. In so doing, a shared identity of experts could generally be emerged and consolidated.

Second, similar to the findings of the previous section, the notions of validity (specialties) were predominantly derived from the biomedical sciences, notably microbiology and virology, along with knowledge of epidemiology. Even in the WHO's meeting document, four areas of the prioritised research were concentrated in epidemiological enquiries.[400] Another multidisciplinary WHO meeting document showed that issues discussed were largely focused on the surveillance, infection control and strengthening of laboratory expertise.[401] [402] Since the *Heymann centre* had long been interested in developing knowledge that improves surveillance and timely responses, this explains why experts in the areas of biomedical science formed closer ties with the WHO. In fact, a few academic researchers and social scientists who were invited to the *SARS Research Advisory Committee* meeting stated that they only gave presentations at the meeting, thus they doubted that they were part of the WHO's expert pool. One committee-meeting participant with psychology expertise states, "The meeting discussed a diverse range of public health interventions on SARS and their implications. We agreed that yes, the socioeconomic and psychological aspects of SARS would certainly be important to address. But the main objective of the meeting seemed to be geared towards more clinical and scientific aspects of SARS. So my role in the meeting was, I would say, minimal."[403]

Table 4.1. Summary of international meetings held during SARS outbreak
(February-October 2003)

[398] Interview with Kande-Bure, WHO
[399] Interview with Heymann, WHO
[400] Four areas of research needs included the role of sewage, proof of faecal-oral transmission, evidence of waterborne transmission, and evidence of foodborne transmission.
[401] WHO scientific advisory committee on Severe Acute Respiratory Syndrome: Report of the first meeting, available at http://www.who.int/csr/resources/publications/SRAC-CDSCSRGAR2004_16.pdf
[402] Given the nature of SARS as an infectious disease, this is neither surprising nor unanticipated. Yet, the relative authority of different types of knowledge and expertise within the official system may have significant policy ramifications. For example, during the SARS outbreak, although GOARN was claimed to be crucial for international containment of the disease, it was totally unprepared for broader social issues arising from the outbreak such as the potential infringements on human rights and the privacy of people who were isolated and quarantined, law enforcement, non-compliance to notification, economic and psychological responses to the virus, sustainability of health infrastructure, or capacity building. This can be partly explained by the skewed inclusion of certain knowledge over expertise deemed to be "less" of a priority.
[403] Informal email conversation with a psychologist based in Hong Kong. She felt that she was not considered a WHO consultant.

Date	Meeting/Place	Host organisation	Objective	Key individuals (organization) participated	Participants' specialties
16-17 May 2003	Global Meeting on the Epidemiology of SARS, Geneva	WHO	To produce a WHO consensus document on the current understanding of the epidemiology of SARS and to identify gaps in knowledge for the planning of additional epidemiological studies	Peiris Osterhaus Anderson Lipstich Heymann Hardiman Ryan Rodier Stohr	Epidemiology Microbiology Public health and medicine
8-9 May 2003	Workshop on SARS virus detection and survival in food and water, Madrid	WHO, FAO	To gain a better understanding of how the SARS virus survives in the environment	Participants undisclosed	Epidemiology Microbiology Virology
20-21 October 2003	WHO Scientific Research Advisory Committee on SARS, Geneva	WHO	To review the current knowledge of clinical, epidemiological and virological aspects of SARS with respect to public health imperatives	Osterhaus Peiris Anderson Heymann Hardiman Stohr Ryan Rodier	Epidemiology Microbiology Veterinary science Psychology Economics Risk communication

4.3.3. The role of key actors in policy-making process

Membership in the SARS epistemic community, broadly conceived, was further crystallised by its influence in policymaking. According to the epistemic community framework examined in Chapter Two, one of the key features characterizing an epistemic community is a common enterprise and vision that can be germane to the power and influence of that community.[404] An epistemic community is not a finite group of experts who simply hold common causal beliefs and worldviews. It is also a

[404] Haas P (1992), p. 3-4, 27.

group actively involved in translating the beliefs into concrete measures. Hass points out that the translation of normative beliefs into policies is not limited to traditional methods of empirical research and publication of findings. This process can also originate from knowledge development and diffusion techniques suited to professions that an epistemic community's members pursue.[405] Some activities of an epistemic community, constituting policy influence, can be concrete and readily recorded. Others are difficult to observe. As indicated in Chapter Three, and in line with the existing studies on epistemic communities,[406] in this research, policy influence of an epistemic community is viewed as the extent to which an epistemic community accesses decision makers. It is argued that the policy influence capabilities of an epistemic community increase when they interact closely and frequently with key decision makers. Government officials and individuals in decision-making positions, interviewed by the researcher, recognised the role played by a few prominent individuals, in particular the WHO medical officials, in taking and leading collective actions. As one government official states,

> *Without the ready availability of the information about the SARS virus, incubation period, and reproduction numbers and so on, we may not have had the content with which to fill the public health response to this real and dangerous problem. Without these scientists – Peiris, Osterhaus, Gerberding and others – we would certainly never have determined the implementation of a series of actions. And of course, without a platform of relationship among the principal actors, these two may never have connected at all.*[407]

As the remarks above indicate, decision makers acknowledged that members of an epistemic community were "influential" in the making of national SARS policies because of their "credibility", knowledge and expertise. But at times, decision makers had no formal means for exchanging technical and normative beliefs with these key experts. This bridging work was successfully conducted by the *Heymann centre* under strong leadership of Heymann. Heymann was a key person, not only for his technical responsibilities, but as a source of intellectual authority in shaping policy direction. His role within the epistemic community as the key "connector" or "convenor" was instrumental as he provided access for technical experts to government officials. He introduced key experts at WHO press conferences and dispatched them to national field missions, thereby granting them access to government officials and fusing knowledge with policy.[408] Key informants remarked on the importance of Heymann in facilitating

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[405] Ibid., p. 20-27.
[406] Haas P (2004), "Addressing the global governance deficit", *Global Environmental Politics*, 4 (4): 1-15; Haas P (2000), "Prospects for effective marine governance in the NW Pacific region", *Marine Policy,* 24: 341-348; Brine J (2000), "TSER and the Epistemic Community of European Social Researchers", *Journal of European Social Policy*, 10(3): 267-282; Dunlop C (2010), "Epistemic communities and two goals of delegation: hormone growth promoters in the European Union", *Science and Public Policy*, 37(3): 205-217.
[407] Interview with Leo, Singapore
[408] Heymann D, Kindhauser M, Rodier G (2006), "Coordinating the global response," In World Health Organisation (ed.), *SARS: How a Global Epidemic was Stopped*, Geneva: World Health Organisation.

the coordination of key experts in the context of an emerging shared sense of urgency. As a key expert and external advisor to WHO describes,

> *Heymann, Rodier and his teams brought these technical experts together at the right time to work on the issues pertaining to SARS, stimulating common thoughts and common action. He and his teams had supported exchanges and discussion between scholars and government officials. I had participated in many meetings and have frequently met with him and his teams through these meetings.*[409]

National policy makers and government officials interviewed in this research unequivocally named Heymann as the single most influential figure in the overall global battle against the SARS outbreak. As one policy maker described,

> *Internationally, I would say David Heymann clearly played the most important role in the global response to SARS and his [WHO] team played an important role too although it [the team] was very small.*[410]

Another high-level policy maker supported this view.

> *If I can single out one person, I think he is the person who represented the WHO very well. He is Dr. David Heymann. He was, I think, behind the entire series of WHO's response to SARS. He particularly pushed out key messages and guidelines to direct the ground in the practices.*[411]

Heymann was key to what Hass describes as "a particular value orientation, perspective or conscious policy enterprise."[412] He is about as close as an approximation to Haas's ideal-type of a member of epistemic communities as one could get. The policy entrepreneur role that key senior WHO officials played during SARS is reminiscent of the rise of the "professionalization of bureaucracies."[413] According to Haas, these individuals serve, not only as intermediaries between those who produced knowledge and those who made policies, but they are the main source of policy advice to decision makers. Interviews conducted for this research with WHO officials confirmed that senior WHO officials viewed themselves as "policy entrepreneurs", who regarded themselves not merely as technical experts but as policymakers and advocates. One senior WHO official who was central in the WHO's SARS operation said,

> *I am not really a technical person. If you define a policy-maker as a person who is responsible for a final decision, perhaps I belong to the technical group. But I do some steps before that stage of the policy process. The role of WHO officials like*

[409] Interview with Peiris, Hong Kong
[410] Interview with Tan, Singapore
[411] Interview with Leo, Singapore
[412] Haas P (1992), "Power, knowledge and international policy coordination," Special Edition of *International Organization*, vol. 461: 1-35.
[413] Haas P (1992), "Introduction: epistemic communities and international policy coordination," in Haas P (ed.), *Knowledge, Power and International Policy Coordination*, Columbia: World Peace Foundation, p. 11.

myself is to make some options for the decision-makers. In addition to [the] technical role, I give policymakers some options to choose: "these two, for example, are the most practical and the most feasible." If we have more evidence and less uncertainty, we provide policymakers with less option to choose. Conversely, we have more uncertainty, we provide more options. But we narrow down the options using our own judgments for decision-makers to decide. In that sense, I belong to the policymaker group.[414]

Policy decisions involve the weighing up of complex, and often highly technical issues, and it is argued here that this is where the key WHO officials such as Heymann, Rodier and other WHO medical officials functioned as the channels of advice. Thus the ability to straddle different worlds of the technical and normative provided these individuals with ideational power which conferred upon them more authority in how the problem should be defined and what solutions ought to be prioritised. This supports the epistemic community concept which suggests that the application of shared normative principles to policymaking depends on the ability of the epistemic community to transmit their ideas in order to gain and exercise bureaucratic power.[415]

Based on the above analysis, it can be argued in this research that the capacity of Heymann and key WHO officials to influence national and international policy making was especially strong given the uncertainty surrounding the SARS virus. This uncertainty provided a window of opportunity for the epistemic community to effectively exercise policy enterprising behaviour. As discussed in Chapter Two, Haas hypothesizes that the ability of new ideas to become institutionalized rests principally on the legitimacy of their source in times of crisis or shock. In Haas's framework, a crisis situation can enhance the policy influence of an epistemic community because, during situations of perceived urgency or where significant interests are at stake, technical experts have the opportunity to define what would be preferable in terms of national/international interests, determine and frame the issues seen as available for collective debate, and delimit the policy alternatives deemed possible.[416] Broad consultation can, by virtue of time constraints, be curtailed in favour of reliance on "recognised experts". Thus, in times of crisis, the knowledge of recognised epistemic communities can prevail over other perspectives.

In line with Haas's assertion, this research finds that the SARS outbreak demonstrates the privileged policy role given to experts with specialist knowledge in the wake of the crisis. During the outbreak, policymakers did not have substantial understanding of the clinical or epidemiological aspects of SARS, yet they had to make decisions accordingly in response to the outbreak. As a Director of Medical Services in Singapore describes,

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[414] Interview with Kasai, WPRO

[415] Haas P (1992), "Introduction: epistemic communities and international policy coordination," in Haas P (ed.), *Knowledge, Power and International Policy Coordination*, Columbia: World Peace Foundation, p. 30.

[416] Haas P (ed.) (1992), *Knowledge, Power and International Policy Coordination*. Columbia: World Peace Foundation.

SARS was unknown and, in the context of an era of rapid globalisation, perceived as unprecedented territory for decision makers:

> *SARS was the first nosocomial outbreak and novel infection in this century. It was such a worldwide scale. It demonstrated the frightening attention for diseases spread so quickly. If you think about it, four people got infected in Hong Kong and Guangzhou and then the outbreak began. The speed with the travel is also unprecedented. The really frightening impact was not just the impact on health or the number of deaths. It also paralyzed trade and tourism. Economic impact was severe. In so many ways, it was unprecedented. It just underlines the potential impact of infectious diseases. It is really a striking demonstration of how intensely interconnected the world is.*[417]

A key informant in Hong Kong similarly expressed that the uncertain and unpredictable nature of SARS created unwarranted public anxiety: "*For SARS, there was no treatment. We used to treat the viral with Rivabirin but it did not work. It caused public panic. It spread from people to people, and had an enormous impact on life in general."*[418] While small in terms of overall human mortality, SARS created a situation where prior policies were made irrelevant. Given early unknowns about the causal agent, mode of transmission, transmissibility, virulence and lethal nature, public health practitioners still had to reassure the public. Such circumstances heightened the perceived need for authoritative knowledge claims amongst government authorities to adopt mitigation strategies. In this vacuum, they turned to tried and tested expertise. The demand for particular expertise such as epidemiology and virology, which emphasised scientific understanding of the disease, proved therefore timely in the response to SARS. The quote below illustrates that uncertainties offered a favourable ground for reception of policy ideas articulated by key actors – in this case, the WHO officials.

> *We've had some of the infectious disease outbreaks like TB or HIV or Dengue or other infections a long time ago. However, we didn't have much experience or capacity to deal with SARS at the beginning. What do you do if somebody is sick on the plane? How far do you sit apart? How you disinfect the plane after that? Nobody knew, but through these experts at WHO, we were able to set guidelines, formulate the standards, and implement policies. So that was very important, and in a sense having these individuals such as Heymann and Rodier working through WHO, you will be able to have a more coordinated type of response*.[419]

Interestingly, as will be explored in Chapter Five, a lot of technical advice followed was in fact ineffective (for instance screening and contact tracing) while other practices, which might have been more effective such as public health risk communication, were deemed less important. This suggests that technical advice that has achieved most

[417] Interview with Tan, Singapore
[418] Interview with Hedley, Hong Kong
[419] Interview with Tan, Singapore

prominence and political support are not always those that could feasibly inform an effective global response to infectious diseases. Nonetheless, this supports the above point that epistemic communities are valued when existing policies are unclear and a crisis has caused new levels of uncertainty among decision-makers.

4.4. CONCLUSIONS

This chapter began with the research objective of locating the transnational epistemic communities concerned with SARS by identifying key actors and their linkages to each other. In order to fulfil this objective, this chapter examined the context within which a group of knowledge-based individuals gradually came to the fore in the global response to emerging infectious diseases. Specifically, the chapter interrogated how the SARS epistemic community emerged, who were its members, how they interacted as a social group or a community (not merely as a discipline or profession), what factors facilitated this process, what type of a knowledge foundation was developed, and how they exerted influence on the policy process. In so doing, the chapter sought to demonstrate the existence of a group of key agents behind the formation of global health policy-making on SARS and their central attributes. Indentifying key agents comprising the epistemic community enables us to further investigate how these actors collectively applied policy discourses that they hold together to the global response to the SARS outbreak (to be explored in Chapter Five).

The analysis in this chapter suggests that a small number of experts behind the global response to SARS comprised the SARS epistemic community, not only because of their authoritative claim to policy-relevant knowledge in a particular domain (biomedical science), but also because they shared a sets of principled and causal beliefs, notions of validity and a common policy enterprise. Below are the specific findings derived from the analysis.

First, the SARS epistemic community evolved along with, or was shaped by, the policy environment where emerging and re-emerging infectious disease outbreaks became a growing concern for the international community in the mid and late 1990s. A small number of medically trained WHO officials who spent their early careers in infectious disease control in the developing world came to share a core set of normative beliefs in how the problem of disease outbreak should be addressed, to what ends and for whose benefit at the turn of 21st century. The SARS outbreak created an impetus for these individuals to bridge other experts with similar mindsets and notions of validity (specialties) and to exercise their policy enterprise on a new way of working to tackle infectious disease outbreaks in an increasingly globalised world.

Second, members of the SARS epistemic community were gradually expanded when there was an imperative to mobilise specialised expertise to develop global SARS outbreak knowledge and to forge a focal point for normative consensus. The relative weight of the knowledge on SARS was influenced by the core members of WHO officials

who determined the development of particular expertise. Thus, experts in the specialised fields of virology and epidemiology dominated the global inquisitions on SARS. These experts accumulated further authority and credibility by participating in global consultations, workshops, conferences, and committee meetings. With the similar notions of validity derived from specialist training and personal or professional relationship with the core members of WHO officials prior to SARS, these individuals began to promote a common principled and normative belief, and form a loosely aligned community of episteme.

Lastly, the policy enterprise of the SARS epistemic community was led by a few individual leaders, forming what this study refers to as the *Heymann centre*, which constituted key senior WHO officials. These individuals together with other actors, who shared a set of technical and normative views, formulated policy strategies and created an environment of collective actions. Policy makers recognised the role of the *Heymann centre* in shaping the national and international policy response. Evidently, the uncertainty and complexity surrounding SARS gave them a privileged position to advance their policy enterprise. Furthermore, their positions in the international agency enabled them to straddle the different worlds of the technical and normative, conferring on them more authority and policy influence. The enduring involvement of a small number of individuals who shared a common policy enterprise and diffused a certain type of response across jurisdictional boundaries was a strong indication of the existence of a SARS epistemic community.

Building on the analysis in the present chapter, the next chapter will explore a range of policy discourses, advanced by the members of the epistemic community, in the global response to the SARS outbreak. In so doing, the chapter will demonstrate that ideas do not simply arise as governing norms, but ideational success occurs as a result of collective advancement by actors who are coalesced around particular policy ideas.

CHAPTER FIVE

THE CONSTRUCTION OF DISCOURSES AND GLOBAL POLICY MAKING ON SARS

5.1 INTRODUCTION

Building on the analysis in Chapter Four, this chapter addresses the question, posed in Chapter One, of what particular ideas shaped the global response to SARS. Specific sub-questions examined are: how was the problem of SARS framed? How did each discourse influence policy decisions and actions on SARS over time? In which issue-areas was it dominant? To achieve this, this chapter chronologically recounts the key events of the global SARS response. However, the purpose here is to go beyond a detailed descriptive account of the SARS outbreak which can be found elsewhere.[420] Instead, the chapter focuses on the evolution of policy discourses that reflected particular worldviews, examining how each discourse framed the problems surrounding SARS, and informed policy choices at various points in time. The objective is therefore to demonstrate the presence of competing policy discourses and how, very often, a particular discourse triumphs over others without completely extinguishing the latter's influence.

As described in the conceptual framework presented in Chapter Two, there are four ways that epistemic communities exert influence in international policy making: a) issue framing at the policy innovation stage; b) policy selection; c) policy diffusion through transnational links; and d) regime persistence. Haas and Adler pay particular attention to *framing,* stating that, "by framing the context in which new data and ideas are interpreted, epistemic communities bound the range of collective discourse on policy as well as guide decision makers in the choice of appropriate norms and appropriate institutions within which to resolve or manage problems."[421] This argument offers a sound entry point into a fuller understanding of the role of epistemic communities, and the framing of ideas in the formulation of policymaking. It is the latter which this chapter focuses on, i.e. the framing of ideas to show that they are important determinants of policy choices on the SARS response over time.

The SARS story can be divided into three key phases in terms of the emergence of the outbreak and the global response. While the SARS virus emerged sometime prior to, or

[420] Abraham T (2005), *Twenty-First Century Plague: The Story of SARS*, Baltimore: The Johns Hopkins University Press; World Health Organization (2006*), SARS: How a Global Epidemic was Stopped*, Geneva: World Health Organization

[421] Adler E and Haas P (1992), Conclusion: epistemic communities, world order, and the creation of a reflective research program, In *Knowledge, power and international policy coordination*. Columbia: University of South Carolina University Press, p. 375.

during November 2002, this chapter does not include the initial stage of the SARS outbreak (November 2002 to January 2003) for two reasons. First, SARS had not grown from a national to a cross-border outbreak during this period and, thus, there was no concerted international response to the disease until late February 2003. The exception was sporadic and largely factual outbreak surveillance and reporting by the Global Outbreak Alert and Response Network. Second, owing to the aforementioned reason, no distinct policy discourses surrounding SARS can be observed until the outbreak spread outside of China. Thus this analysis focuses on events from February 2003 onwards.

5.2. PHASE 1: THE EARLY RESPONSE TO SARS (FEBRUARY TO MARCH 2003)

5.2.1. International research collaboration: global solidarity

From February to early March 2003, there were some early signs of competing ideas on SARS. The initial international response (given that it was purely intergovernmental response via WHO at an initial stage, it would be more appropriate to use the term *international* here as opposed to global) to the reported outbreak primarily focused on scientific discovery due to its unknown nature and potential global reach. The lack of knowledge about causal factors, together with the lack of knowledge about prevention and treatment, created important immediate challenges for national and international level policy makers. Additionally, the apparently cross-border nature of SARS demonstrated the international relevance of the outbreak, and a realisation that there were shared vulnerabilities across the world. Accordingly, these two factors – the unknown nature and potential novelty of the virus, and the potentially global scope of the SARS epidemic – drove the WHO to organize researchers and scientific institutions to confront the outbreak with scientific and public health tools.[422] On 15 March 2003, the WHO mobilised a network of scientists based in 11 laboratories around the world, "to *expedite* identification of the causative agent of SARS and *rapidly* develop a robust and reliable diagnostic test [emphasis added]."[423]

Interestingly, this research collaboration was largely characterised by the global public goods discourse which underpinned calls for collective action in the form of scientific collaboration among laboratories. The core idea of global public goods discourse is that provision of health care should be based upon nonexcludability and nonrivalry. Therefore, collective defense against acute public health risks should be promoted. The key person behind the global public goods discourse was Klaus Stohr, a WHO medical officer. Stohr had been the coordinator and project leader of the WHO's Global Influenza Surveillance Network (GISN) since 2001, putting him in charge of appointing

[422] Heymann D. (2004), The international response to the outbreak of SARS in 2003, Philosophical Transactions: Biological Sciences, 359 (1447).
[423] Stohr K (2003), A multicentre collaborative network to investigative the cause of Severe Acute Respiratory Syndrome, 1731.

the SARS laboratory global network.[424] According to a scientist involved in the SARS laboratory network, Stohr led calls for laboratories to collaborate with others around the world on identifying SARS.

> *Stohr was the mastermind behind the network. He invited the world's top research laboratories to do something unprecedented – to collaborate in a virtual global laboratory….Stohr carefully selected which laboratories to tap, taking into account the expertise of each research team…The priority for the virus hunters was speed. With the virus spreading quickly, Stohr needed answers fast. If he had been forced to wait for each research team to come up with its own results, it would have taken considerably longer than if the teams worked together [emphasis added].*[425]

The rationale behind the global public good discourse was "urgency" for the sake of shared collective interests.

> *In developing **emergency** plans to contain the outbreak and prevent further international spread, WHO worked on the principle that the unidentified causal agent could lead to an **exceptionally dangerous** outbreak. **Rapid development** of scientific knowledge would be needed to reduce opportunities for SARS to establish endemicity. Identification of the causal agent and the development of a diagnostic test were given paramount importance in the overall containment strategy [emphasis added].*[426]

Stohr stated, "We needed people to share data and set aside Nobel Prize interests or their desire to publish articles".[427] This statement suggests SARS research was framed as a global public good, rather than as self-interest or professional egos battling for scientific supremacy. Constructing SARS as an immediate yet unknown threat, Stohr called on scientists to overcome normal incentives within the scientific community towards secrecy of research ideas and findings, and serving their own careers first, to serve a collective need.

In order to facilitate research progress, a password protected secure website for the detection of the SARS agent and the development of a diagnostic test was created.[428] The secure network and website approach that was implemented was unprecedented. Clinical specimens were transferred and shared among several reference laboratories in the network. For example, the US CDC had people on the ground in Vietnam as part of the WHO team, so they took samples themselves and sent them back to Atlanta. The

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[424] Stohr K (2003), *SARS Epidemiology* (presentation slides). Available at www.niaid.nih.gov/SARS/meetings/05_30_03/PDF/stohr.pdf; Stohr K (2003), A multicentre collaborative network to investigative the cause of Severe Acute Respiratory Syndrome.
[425] Chan-Yeung M and Loh C (2004), "The new coronavirus: In search of the culprit." In Loh C (Ed.), *At the epicentre: Hong Kong and the SARS outbreak,* Hong Kong: Hong Kong University Press, P. 46
[426] Stohr K (2003), "A multicentre collaborative network to investigative the cause of Severe Acute Respiratory Syndrome" p. 1730
[427] Ibid., p. 46
[428] *Science* 11 April 2003, p. 224

WHO team also sent samples to the National Institute for Infectious Diseases in Japan. The Institute of Pasteur Paris had representative in Vietnam, who transported samples back to France with them.

The global public goods discourse was shared by other WHO officials at the time. For instance, Hank Bekedam, the WHO China representative during the SARS epidemic, stated that international scientific collaboration embraced the notion of global public good.

> *We had this global network – laboratory, epidemiology, clinicians. These networks enormously helped in speeding up our understanding about the disease. Also, it was very encouraging that, although universities involved were normally using their elbows to be the first one to publish, that was put aside. That was great.* ***This is a global public good****. We need to put all our brains and all our energy together. We need to focus to gather information [emphasis added].*

Referring to the research collaboration on SARS coordinated through GOARN, David Heymann, then the Executive Director of WHO's Division of Communicable Diseases, also framed scientific collaboration in terms of global solidarity. He stated that,

> *This partnership of experts from over 120 public health institutions throughout the world constantly validates information about health-related events, and ensures a coordinated international response should one be necessary. The* ***global solidarity*** *in the detection and validation of, and response to, the SARS outbreak has blurred the concept that states are sovereign and reign supreme over their territories and peoples [emphasis added].*[429]

5.2.2. Breaking the human chain: controlling individual risk

Given the high numbers of epidemiologists and biomedical scientists involved in the SARS research network, it is not surprising that the early policy agenda was framed in terms of the *biomedical discourse*. One of the notable biomedical constructions of SARS in the early phase of the SARS outbreak revolved around individual risk factors. The tendency to attribute global health problems to individual risk factors is not new. This perspective generally removes an individual from the society within which the individual resides and makes health-related choices. As Beaglehole and Bonita describe:

[429] Heymann D (2006), SARS and emerging infectious diseases: a challenge to place global solidarity above national sovereignty, *Annals Academy of Medicine*, 35 (5): 350-353, p. 352.

> *The most challenging criticisms of epidemiology stem from its **individualist philosophical underpinnings** and its reluctance to place individuals in their social context. In particular, the **risk factor approach** to epidemiology and prevention does not give adequate weight to the role of social factors…The individualist approach also runs the risk of blaming the victim and encouraging health educating strategies at the expense of social, economic, and environmental changes. The result is the **medicalisation of prevention** rather than its socialization [emphasis added].*[430]

What Beaglehole and Bonita term the "individualist approach" in biomedicalism was evident in the intervention strategies advocated during the early phase of the SARS outbreak. For instance, if one closely looks into the classification of infections posted by the WHO and affected countries, it becomes apparent that an aggregate of individuals was defined as "risk groups", and that members of these groups were immediately classified as "carriers" of SARS. The emphasis, in turn, was placed upon the management of individual risk in terms of how individuals behaved, to minimise their risk of infection, and how infected individuals were managed to minimise onward transmission. In part, this was a reflection of the prevailing biomedical model of epidemics, but it was also a consequence of uncertainties about SARS in the initial stage of the SARS outbreak.

For example, the PCR (Polymerase Chain Reaction) test aimed at identifying the stages of SARS infection tended to generate false-negatives, making it unreliable as a diagnostic tool.[431] Further adding to this circumstance was a rather novel term, "super-spreader", referring to the index case in more technical language. WHO described super-spreaders as "certain individuals with atypical pneumonia, now recognised as cases of SARS, who have been implicated in spreading the disease to numerous other individuals"[432] The scientific puzzle surrounding super-spreading events means that the transmission mode of SARS was not accurately understood at an early phase of the outbreak. Julie Gerberding, then head of the US CDC, describes the difficulties in understanding the super-spreader events in mid-April 2003.

> *This is a term that we have used because it creates a plausible explanation for the pattern of epidemiology that we're seeing, but it still is really speculation. We don't know whether the virus is associated with a lot of spread in an individual cluster because of something having to do with the infected person or if it has to do with*

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[430] Beaglehole R and Bonita R (1997), *Public Health at the Crossroads*. New York: Cambridge University Press, p. 119.
[431] Update 30 – Status of diagnostic test, significance of "super spreaders", Situation in China. Available at http://www.who.int/csr/sars/archive/2003_04_15/en/; Ashraf H (2003), Investigations continue as SARS claims more lives, *Lancet*, 361: 1276.
[432] Update 30 – Status of diagnostic test, significance of "super spreaders", Situation in China. Available at http://www.who.int/csr/sars/archive/2003_04_15/en/

> *the type of containment or failure of the containment procedures that are present there.*[433]

As a result of unresolved scientific enquiry, the prevailing idea in relation to SARS containment revolved around rapid interventions aimed at identifying a figure that infected multiple people. The need to "*break the human chain*" of transmission (i.e. an essential step in pursuit of eradication) was of prime importance to containing the SARS outbreak, and this could be achieved through "the prompt detection and isolation of *new sources of infection* – a key step on the way to breaking the chain of transmission".[434] [435] The super-spreader events therefore turned into identifying persons that carried the virus and modifying individual risk behaviours for prevention.

The basic assumption of the biomedical discourse is that an individual can prevent infection by altering his/her behaviour, and thus he/she has a strong degree of personal responsibility for his/her disease.[436] In the early stage of SARS, this sort of assumption was pervasive. Individuals are categorized into two distinct groups: the "potentially at risk" group and the "already infected" group. For those "carriers" of SARS, individual responsibility was being laden not to contaminate other people and not to become the source of a new chain of the epidemic's spread. Those falling under the potentially at risk group were not completely without responsibilities. They were seen as requiring to voluntarily reduce unnecessary movement away from home and to maintain an enhanced level of personal hygiene. For both, behavioural changes in the routine of daily life were required which included increased frequency of hand washing and temperature checks. Most were encouraged to wear masks and to increase the cleanliness of their environment to the extent of sterilizing public areas with chemicals regularly. It required one to contribute to the eventual containment of the epidemic by *acting responsibly* for the public good through the adoption of self-isolation. In terms of disease prevention, individual risk behaviours and responsibilities were extremely prioritized at this stage, thereby conceptualizing those infected as irresponsible. The logic of "prevention = individual responsibility" was apparent in Heymann's statement at a press briefing in March 2003.

> *The best prevention for any disease is information and understanding by people [about] what that disease looks like and what they should do if they become sick. With that information, people can decide whether or not they want to expose themselves to what they consider as risk….Public health can't do a lot for a disease which is a contact diseases,* ***it has to be individuals*** *who understand what the*

[433] *Science*. 300 (5627): 1961-6. June 20 2003. Available at http://www.abc.net.au/science/articles/2003/04/22/837594.htm
[434] WHO (2003), Update 83, one hundred days into the outbreak, June 18 2003. Available at http://www.who.int/csr/don/2003_06_18/en/
[435] WHO "Breaking the chain of transmission", *Weekly epidemiological record*, 78: 170. Available at http://www.who.int/wer/2003/en/wer7826.pdf
[436] Dulik GA (2011), "Our diagnoses, Our Selves: the rise of the technoscientific illness identity," *Sociology,* 5(6): 463-477.

> *disease is…what you people [media] do is very important because that* ***educates the general population*** *as to what this disease is and* ***how individually they can prevent themselves*** *from becoming sick. So it's an educational effort* [emphasis added].[437]

He further emphasized:

> *I say that education is important and people who have a cough and fever have just as much* ***responsibility*** *to go to a health worker as do people who are standing near them to protect themselves. So, it's* ***education, education, education****, information, information, information.* ***If everyone understands that this is a disease****, and everyone works together, it can be stopped no matter how close people have to be [emphasis added].*[438]

Implicit in this statement was that an effective global response to the SARS outbreak would be chiefly, but not entirely, dependent on people changing their individual behaviour. Avoiding contagion voluntarily was assumed to be one of the most effective measures in the control of the outbreak. Even though there are top-down prescriptions such as health etiquettes, voluntary quarantine, social distancing and so on, the primary onus was seen to be on the individual. As Heymann argued, "*If somebody's coughing, somebody looks like they are sick, the best would be for the person to be avoided by others; so that if you're standing next to someone on an escalator who's coughing, you ought to move back two or three steps*."[439]

The framing of SARS as a risk arising from individual behaviour facilitated the idea of mass quarantine; that if the "carrier" does not take on voluntary responsibility, then the public health authority has the right to impose such responsibility coercively on those already infected in the interest of the "public good" in the face of a deadly virus. Mass and, if necessary enforced, quarantine therefore was widely justified on the basis of defining SARS as a consequence of individual risk-taking behaviour. On 12 March, the WHO announced that "*patients suspected with SARS be isolated with barrier nursing techniques and* ***treated as clinically indicated*** *[emphasis added]*".[440] This statement indicates that with SARS on the loose, infected individuals posed a health risk to the general population. Following this official statement, mass quarantine was widely used as a control measure for SARS in affected countries and was seen as a necessary means to benefit the wider population.

It was controversial, however, that governments were prepared to mass quarantine large numbers of individuals who may or may not be infected. Framing the SARS outbreak in terms of individual risk factors immediately raised tension between

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[437] WHO press briefing, 27 March 2003, available at http://www.who.int/csr/sars/2003_03_27/en/
[438] WHO press briefing, 27 March 2003, available at http://www.who.int/csr/sars/2003_03_27/en/
[439] Ibid.
[440] WHO press briefing, 12 March 2003. WHO issues global alert about cases of atypical pneumonia. Available at http://www.who.int/mediacentre/news/releases/2003/pr22/en/

biomedical discourse and human rights discourse. The question of proper balance between the protection of the population and respect for individual rights received different answers in different countries, at least during this phase of the outbreak. For instance, some countries such as Singapore used compulsory and tightly monitored isolation and quarantine from the beginning.[441] Singapore health Minister Lim Hng Kiang said the quarantine signalled that a "*stronger government intervention is now created to break the chain of infection.*"[442] WHO official, Osman Mansoor, commented in response, "*What Singapore is showing is that it is really taking the problem very seriously*." He further pointed out, "*With no known cure yet, the only way to stop the spread of the disease is by isolating people who may have the virus*."[443] In other countries, such as Canada, there was reliance on voluntary isolation and quarantine strategies rather than on the use of compulsion at this stage. In places such as Hong Kong, the government initially pursued a middle ground, stressing that the curtailing of liberties should be practiced with the greatest caution. Beyond the concern of infringing upon civil liberties, government officials were worried that attempts to quarantine individuals would simply encourage those infected, or suspected of infection, to seek to avoid detection.[444] This, in turn, would create conditions where the virus could spread more readily. Measures such as compulsory mass quarantine were deliberately avoided at the outset. There were also concerns about issues of human rights (i.e. civil liberty and public acceptability), whether or not such control measures would be effective (or might aggravate the risk of the spread of disease), and the feasibility of enforcement. Yet, when fifteen residents of Amoy Gardens, an apartment community, were suspected of contracting SARS and were admitted to United Christian Hospital on March 26, the Hong Kong government decided to order a ten-day quarantine of Block E of Amoy Gardens.

This was welcomed by the WHO, especially Guenael Rodier, then Director of Communicable Disease Surveillance and Response. In relation to Hong Kong's institution of mass quarantine measures, he stated, "*This is an effort of Hong Kong to stop the spread of the disease internationally and we believe it will be effective*." [445] Rodier's belief was clear: SARS could be contained through a rapid isolation of not only those who were already stricken by the virus but also more importantly, those who might already be infected but who have yet to develop the observable symptoms of

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[441] Chan K (2003), *SARS and Implications for Human Rights*, Carr Centre Human Rights Case Study, Kennedy School of Government. Available at http://www.hks.harvard.edu/cchrp/pdf/SARS.CaseStudy.(Final).pdf; Jacobs L (2003), Rights and Quarantine during the SARS Global Crisis: Differentiated Legal Consciousness in Hong Kong, Shanghai and Toronto, Asia Pacific Program on Dispute Resolution Research. Available at http://www.apdr.iar.ubc.ca/publications/ejournal/APDR_1.1/APDR_1.1_LJ.pdf

[442] Singapore takes urgent measures as experts claim breakthrough in SARS, *Agence France Presse*, 24 March 2003.

[443] Ibid.

[444] "SARS in Hong Kong: from Experience to Action," SARS Expert Committee Summary Report, October 30, 2003. Available at http://www.sarsexpertcom.gov.hk/english/reports/summary/files/e_sumprt_fulltext.pdf

[445] WHO press briefing, 11 April 2003. Available at http://www.who.int/csr/sars/Press_2003_04_11/en/

infection. It was believed that the latter group had to be identified quickly and placed under quarantine. The "traced-exposed" were thus the main target in the initial response to SARS.

Vietnam was reportedly one of the countries that conscientiously implemented policies targeting the "exposed."[446] About two months after its first case was recorded, Vietnam became the first country with a SARS outbreak to be removed from the WHO list of areas with recent transmissions of SARS. Vietnam's apparent success in being lifted off the WHO list was portrayed as "*a triumph both for WHO and for Vietnam" in the WHO publication, with its success attributed to* ***rapid case detection, immediate isolation, infection control and vigorous contact tracing*** [emphasis added]" that was put in place.[447] The Health Minister Tran Thi Trung Chien, at the Opening Ceremony of the Vietnam Symposium on SARS, echoed Heymann's framing of the outbreak, attributing Vietnam's success to both education and responsible behaviour.

> *[Members of] the public need to understand* ***how to protect themselves*** *and their help is needed to detect suspected cases in the community so that they can be quickly isolated.* ***Public education also reduces the chance of social disorder*** *[emphasis added].*[448]

It was assumed, in other words, that because individuals have autonomy over their lives, sufficient public education would change behaviour and thus break the human chain of transmission. The eminence of individual risk in the narrative of the national and global response to SARS illustrates how the biomedical discourse, reflecting what some have seen as the reductionist tendency, defined the initial phase of international response to SARS. By framing individuals as being in need of behavioural reform, the biomedical discourse presented individuals as agents responsible for their (disordered) behaviours, and positioned them as central to the prevention/intervention approach to be adopted. Conversely, this means that if individuals fail to modify their behaviours, they could be blamed for their indolence in seizing opportunities presented to them.

Where individual choice and proximate causation came to dominate the response to the SARS outbreak, other explanations incorporating the recognition of socioeconomic determinants were given less attention. As can be witnessed in the next phase of the outbreak, SARS was often constructed as the consequence of unhygienic, filthy and unregulated behaviours, which, by implication, led to position those affected by SARS as risking people. This discourse targeted individuals who were perceived to be carriers of

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[446] WHO weekly epidemiological records 78: 148; WHO update 41. Available at http://www.who.int/csr/don/2003_04_28/en/index.html

[447] Brudon P and Cheng M (2003), "Viet Nam: tough decisions pay off" In World Health Organization, *SARS: How a global epidemic was stopped*. WHO: Geneva.

[448] "Speech by Prof. Tran Thi Trung Chien, Minister of Health of Vietnam at the Opening Ceremony of the Vietnam Symposium on SARS: Lessons Learned and Challenges," October 20, 2003. Available at http://www.asean-disease-surveillance.net/Lessons/lesson_vietnam.pdf

the virus, which reflected the fear of risky "others" coming into contact with innocent people.

5.2.3. The framing of SARS as a national and global security issue

In the early phase of the SARS outbreak described above, there were signs that the security discourse was emergent, albeit in a nascent form. The conceptualisation of public health issues of international importance, particularly infectious disease outbreaks as security issues, is not a recent phenomenon. As described in Chapter Two, the threat of cross-border spread of disease outbreaks to the state has been framed as a security concern since the first International Sanitary Conference in 1851.[449] During this period, Western governments focused on diseases emanating from Asia and other colonial territories, as external sources of contagion, and responses focused on attempting to protect domestic populations and economic interests. In recent decades, with the acceleration of economic globalization, the security discourse has become a dominant frame, with the disease "threat" to national governments, regional stability and the international system.[450] Awareness that countries, in particular Western states, were not immune to this threat was raised by a series of outbreaks including SARS, and accordingly containment at the source has been increasingly seen as the best response.[451]

How SARS was framed as a security threat in the early phase can be understood by examining the narratives during this period. One of the most common ways by which SARS was portrayed was through the use of security-related language, with the disease defined as an imminent "threat" or "clear and present danger" to national and global security and interests. Framing SARS as a direct threat then logically requires emergency action. For instance, Julie Gerberding, then Director of the US Centre for Disease Control and Prevention (CDC) and an infectious disease expert, stated on 19 March in relation to the country's SARS preparedness,

> *We have never been more prepared, and I think the fact that we have activated our* ***emergency*** *operation centre puts us in very good shape to being* immediately *ready to respond to* ***any new threat*** *that should emerge. Not only [are] we activated, we've put our* ***emergency response*** *teams on readiness call…We have [a] close network now with the Georgia* ***emergency*** *management group, with the Georgia* ***homeland security*** *group. We are linked into the intelligence network. And all systems are up and running, and we are – we are as prepared, I think, as an*

[449] Fidler D (2003), Antimicrobial resistance: a challenge for global health governance, In Lee K (ed.) *Health impacts of globalisation: towards global governance*, Basingstoke: Palgrave Macmillan.
[450] Lee K and Zwi A (**2003**), A global political economy approach to AIDS: ideology, interests and implications, In Lee K (ed.). *Health Impacts of Globalization,* Palgrave Macmillan, Basingstoke: 13–32
[451] Davis S (2010), Global Politics of Health, Cambridge: Polity press.

> *agency could possibly be at this point in time to respond to what may be in store [emphasis added].*[452]

There were a few like-minded WHO officials who shared the "threat" and "emergency" conceptions. One of such figures was Gro Harlem Brundtland, then WHO Director-General. On 15 March 2003, Brundtland said "due to the spread of SARS to several countries in a short period of time, the World Health Organization today has issued **emergency guidance** for travellers and airlines. This syndrome, SARS, is now a **worldwide health threat**. The world needs to work together to find its cause, cure the sick, and stop its spread [emphasis added]."[453]

Similarly, Heymann advocated security discourse. He stated "*many behind-the-scenes efforts needed to safeguard public health often go unnoticed and are inadequately funded – until something dramatic goes wrong. High profile events that arouse deep popular concern can suddenly bring into focus the need to strengthen the otherwise invisible infrastructures that protect public health on a daily basis*."[454] He further contended "*After the terrorist attacks on New York City and Washington, DC, questions about the deliberate use of biological or chemical weapons, and the preparedness of the world to respond, have been raised with great urgency*."[455] He believed that investment in "defences" (surveillance) could safeguard nations and international communities against externally induced "threats" (emerging disease outbreaks).

> *All countries are vulnerable to outbreaks either because they emerge within national borders or present **external threats** through international spread. With the international release of anthrax to cause harm and incite terror in the United States, and the concerns this incident raised internationally, microbial agents are now more than ever perceived as a **clear and present danger to public health security** nationally and globally. At the same time, **greater investment in public health defences** against naturally occurring emerging infections contributes powerfully to the detection of, and public health response to, outbreaks [emphasis added].*[456]

Clearly, this view was echoed in the statements of WHO official Rodier who said that "protection against the ***threat*** of emerging and epidemic-prone diseases requires strong

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[452] US CDC telebriefing transcript, SARS: travellers' health alert notice, 19 March 2003.
[453] http://www.who.int/csr/sars/archive/2003_03_15/en/index.html
[454] Heymann D and Rodier R (2001), Hot spots in a wired world: WHO surveillance of emerging and re-emerging infectious diseases, *Lancet Infectious Diseases*, 1: 345-353, p. 352.
[455] Ibid., p. 352.
[456] Heymann D (2004), Forward by Dr. David Heymann, In Fidler D (2004), *SARS, Governance and the Globalization of Disease*, London: Palgrave, p. xii.

defense systems at the national as well as international levels [emphasis added]".[457] In relation to SARS, Heymann and Rodier unequivocally argued that,

> *The SARS experience, however, made one lesson clear early in its course:* ***inadequate surveillance and response capacity*** *in a single country can* ***endanger national populations and the public health security*** *of the entire world [emphasis added].*[458]

Heymann and Rodier further contended "*many states were not quick enough in diagnosing outbreaks of the disease and containing it in time to prevent its international spread*".[459] Recognizing that the response to disease outbreaks largely relied on the affected country's response capacity, and that there was disparity among countries in terms of public health infrastructure, they stressed the importance of *pre-emptive informational practices*; namely to identify and manage diseases, especially before they became "threats" to other countries, presumably high-income countries.

This belief was deeply instilled within international policy making on SARS. SARS was described as posing a national security threat. A specific solution to such a threat was to strengthen the existing information gathering activities pertaining to borders and population mobility through an enhanced variety of sources. In particular, the GOARN was regarded as a classic illustration of the paradigm of *public health security* in practice. Launched formally in 2000, GOARN is a voluntary network that interlinks electronically and in real time over 140 existing laboratory and disease reporting networks to rapidly identify, confirm and respond to infectious disease outbreaks.[460] It was established to deal with increasing global health concerns about limitations in national infectious disease surveillance and response capacity, and the consequences of delays in reporting and acting on outbreaks. At the time of SARS, GOARN was located under WHO's Epidemic and Pandemic Alert and Response Programme. As founding members of GOARN, Heymann and Rodier believed that GOARN was vital for effective global surveillance and containment of the SARS outbreak.[461]

Heymann was keen to fully utilize the GOARN during SARS. He argued "*the real-time information made it possible for the WHO to provide specific guidance and a series of recommendations to international travellers*".[462] Claiming that GOARN'S function during SARS was commendable, Heymann stated that with the use of GOARN, "*countries are willing to forgo the exclusive privilege of reporting and responding to infectious diseases*

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[457] Heymann D and Rodier G (2004), Global Surveillance, national surveillance and SARS, *Emerging Infectious Diseases*, 2(2): 173-175. Available at http://www.cdc.gov/ncidod/EID/vol10no2/pdfs/03-1038.pdf, p. 173.
[458] Heymann D and Rodier G (2004), p. 173
[459] Heymann D and Rodier G (2004), p. 174
[460] Global Outbreak Alert and Response, available at http://www.who.int/csr/outbreaknetwork/en/
[461] Heymann D and Rodier G (2004), Global Surveillance, national surveillance and SARS.
[462] Heymann D (2004), The international response to the outbreak of SARS in 2003, *Philosophical Transactions of the Royal Society*, vol. 359: 1127-29, p. 1128.

occurring in their own territories in a manner over which they have supreme control."[463] Heymann argued that the vision embraced by new norms and standards for reporting and responding to SARS is "*of a world on the alert and ready to respond collectively to the* ***threat*** *of emerging and re-emerging infections that represent an* ***acute threat*** *to public* ***health security*** *[emphasis added]*". [464] [465]

The attempt to securitize SARS on the basis of pre-emptive surveillance instruments was not the whole story. There was a general belief that all significant responses to SARS should be carried out equally by the command-control model of states. This was reflected in a range of border security measures recommended by the WHO which were in essence state-based. On 27 March 2003, the WHO recommended

> *New measures, related to international travel, aimed at reducing the risk of further international spread of severe acute respiratory syndrome (SARS). The recommended measures include screening of air passengers departing from a small number of affected areas on flights to another country. The affected areas, where the SARS infectious agent is known to be spreading in a human-to-human chain, are kept under constant review and posted each day on the WHO website.*[466]

What this statement suggested was that all affected governments were held responsible for the rapid identification of carriers of diseases through the blockade of access across and within national borders. Such measures, which essentially limited the movement of certain types of people and pathogens across borders, were framed as essential steps to protect national interests, namely domestic populations from an infectious disease threat. Heymann, for instance, stressed during a press conference that "*infectious diseases know no borders and they respect no borders*".[467] As we will see in the next section, this disease threat perception and the explicit security terms became more pervasive when the SARS crisis deepened.

5.3 PHASE 2: GLOBAL CRISIS AND LOCAL EMERGENCY (APRIL TO MAY 2003)

5.3.1. The rise of economic discourse

5.3.1.1. The framing of SARS as cost-benefit calculations

The period between early April and late May 2003 saw the strong emergence of the economic discourse as SARS came to be perceived as an imminent risk to national,

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[463] Heymann D (2006), SARS and emerging infectious diseases: a challenge to place global solidarity above national sovereignty, *Annals Academy of Medicine*, 35 (5): 350-353, p. 352.
[464] WHO (2006), Openness is key in fight against disease outbreaks, bulletin of World Health Organization, 84 (10): 769-770, p. 770.
[465] Heymann D (2004), The international response to the outbreak of SARS in 2003, p. 1129.
[466] WHO, Update 11 "WHO recommends new measure to prevent travel-related spread of SARS, 27 March 2003. Available at http://www.who.int/csr/sarsarchive/2003_03_27/en/
[467] WHO press briefing, 27 March 2003, available at http://www.who.int/csr/sars/2003_03_27h/en/

regional and global economic interests. The neoliberal economic perspective, in particular, was one of the influential motivations behind the convergence of national policymaking and international coordination.[468] While SARS infected more than 8,000 people and caused 1,707 deaths worldwide, its mortality rate was not as high as that of other diseases that afflicted a significantly higher percentage of the global population but received significantly less attention. Some tropical diseases endemic to poorer areas of Asia, such as Ascariasis, Lymphatic filariasis, and Trachoma, cause an estimated 500,000 to 1 million deaths annually, yet receive scant donor funding and attention.[469] Similarly, the annual mortality caused by malaria, tuberculosis, and AIDS are in the millions.[470] This begs the question as to why SARS garnered so much political attention and received unprecedented human and material resources to combat its spread. Disease outbreaks have historically led to disruption of international trade and commerce. A 1994 outbreak of plague in Surat, India clearly demonstrates the extent to which a disease outbreak, by generating panic and anxiety within and across countries, can result in tremendous economic losses. While official estimates counted 52 suspected plague-related deaths in Surat, the international perception of risk appears to have become much greater, coupled with the lack of accurate information about actual overall infection, fuelled by vivid and frightening rumours and media reporting.[471] The consequent economic repercussions of these fears were immediate and severe. Business in Surat was tremendously affected by the panic.[472] Many countries in Asia and the eastern Mediterranean region stopped flights to and from India. Countries also embargoed imports of foodstuffs, textiles and other goods from India, measures that later proved unnecessary from a public health perspective. The loss of exports was estimated to be at least US$420 million at 1994 prices. Such effects were at times exacerbated by erroneous risk communications and, as later found, by excessive trade and travel restrictions imposed by governments in other countries.

In practice, the cost of a major outbreak is not simply resulted from direct economic ramifications such as the cost of medical treatment or loss of productive capacity due to illness and death. Indeed, major economic impacts of outbreaks arise from a sense of vulnerability, reinforcing a tendency for the market to overreact.[473] This is primarily due to the cost of preventive actions by other states that are anxious to stamp the possible spread of contagion into their territories. From the perspective of government

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[468] Lee GOM and Warner M (2008), *The Political Economy of the SARS Epidemic: The Impact on Human Resources in East Asia*, London: Routledge.
[469] http://globalnetwork.org/files/press_releases/KFF_NTD_Policy_Fact_Sheet.pdf.
[470] The Lancet Editorial (2003), Will SARS hurt the world's poor? *Lancet,* 361 (9368): 1485.
[471] Cash R and Narasimhan V (2000) Impediments to global surveillance of infection diseases: consequences of open reporting in a global economy, *Bulletin of the World Health organization*, 78(11): 1358-67.
[472] Ramalingswami V (2001), Psychological effects of the 1994 plague outbreak in Surat, India, *Military Medicine*, Dec 2001, 166, 12: 29.
[473] Smith R (2006), Responding to global infectious disease outbreaks: lessons from SARS on the role of risk perception, communication and management, *Social Science and Medicine*, 63: 3113-3223; Lau JT et al. (2005) SARS transmission, risk factors and prevention in Hong Kong, *Emerging Infectious Diseases*, 10: 587-592.

officials in the affected countries, reporting a disease event to the WHO can be financially disastrous as a result. As one senior national public health official noted, "*Today, if you are a good guy and you declare the problem, you are essentially punished for it. So there is high hurdle for the national policy makers to do just that.*"[474]

WHO officials have long recognized the disincentives to notify a disease event immediately and fully. In particular, the risk of prompting an overreaction to the actual disease risk and its immediate economic ramifications make it seem that non-compliance on the part of national governments is a rational response. As Heymann and Rodier described,

> *Traditionally, one of the main factors undermining the effectiveness of infectious disease surveillance has been the* ***reluctance of countries to report outbreaks*** *due to fear of the negative impact this news would have on travel, trade and tourism.* ***Outbreaks are always costly****, and most especially so when* ***reactions*** *are inflamed by sensational media coverage….countries with fragile economies are understandably reluctant to admit the occurrence of outbreaks that are almost certain to result in* ***severe economic losses*** *[emphasis added].*[475]

Heymann further noted that as a result of the unwillingness to give a notification of the outbreaks on the part of countries, "the majority of the world's information about infectious disease outbreaks no longer comes from voluntary reporting by countries."[476] In recognition of this, Heymann and Rodier claimed that the "*WHO could minimize unnecessary reactions that cause undue panic or interference with travel and trade by issuing* ***authoritative public statements*** *[emphasis added]*" about the status of an outbreak and the need for any restrictions on travel and trade.[477] Heymann and Rodier referred to the case of the Ebola virus outbreaks as evidence of success in the WHO's use of *authoritative statements*: "*During the Ebola outbreak in Uganda, in October 2000, WHO issued 42 updated reports on the epidemic via its website. The country's borders were never closed*."[478]

With respect to SARS, Heymann saw the economic impacts of SARS as among its notable features. He argued that "*with fewer than 9,000 cases, the outbreak was responsible for sizable economic losses and insecurity in financial markets across Asia and worldwide*."[479] SARS "has shown how in a closely interconnected and interdependent world, a new and poorly understood disease, with no vaccine and no effective cure can adversely affect

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[474] Interview with Tan, Singapore
[475] Heymann D and Rodier R (2001), Hot spots in a wired world: WHO surveillance of emerging and re-emerging infectious diseases, *Lancet Infectious Diseases*, 1: 345-353.
[476] Heymann D (2006), SARS and emerging infectious diseases: a challenge to place global solidarity above national sovereignty, *Annals Academy of Medicine*, 35 (5): 350-353, p. 352.
[477] Heymann D and Rodier R (2001), Hot spots in a wired world: WHO surveillance of emerging and re-emerging infectious diseases, p. 350
[478] Ibid., p. 352
[479] Heymann, D (2014), "Emerging and re-emerging infectious diseases," available at http://www.ph.ucla.edu/epi/faculty/detels/ph150/chap9-17_otph5.pdf

economic growth, trade, tourism, business and industrial performance, political careers and social stability".[480] At the ASEAN Summit on SARS held on 28 April 2003, Heymann articulated that protective national reaction to SARS by other countries amplified social and economic costs. He added, "*The perceived risk of SARS was many times greater than the actual risk, a factor that compounded its negative social and economic impact*".[481]

In comparison with other outbreaks that have occurred in the 1990s and early 2000s, one medical scientist involved in global SARS research concisely characterised the particular features of the SARS outbreak in terms of its economic impact:

> *In fact, there were other outbreaks such as Nipha or Ebola and the whole bunch of outbreaks have been mysterious. Then why is SARS more mysterious? I think because it affected wealthy Asians, i.e. Singapore, Hong Kong, Beijing and it subsequently affected Canada. Only then, SARS makes itself different from other disease outbreaks. The other aspect was* ***how it killed the economy****. The Nipha outbreak was very serious too but they [the governments of affected countries] contained it very early and it looks as though it would stay in the farming community. For Ebola, it unfortunately affected Africa mainly, and frankly, the West couldn't care less. This was usual in that respect.* ***The global impact of SARS on economy was unprecedented and SARS affected wealthy engines of Asia****. It was unprecedented because SARS instantly illustrated the danger of epidemic that could lead to* ***unnecessary economic distress across the world*** *[emphasis added].*[482]

In light of the reluctance of some countries to report the disease event and the major international economic repercussions due to the disproportionate countermeasures by many states, key individuals believed that the WHO should take concrete and daily actions on the spread of SARS. One such action was a daily release of public statements about SARS-infected zones and travel notifications. Heymann stood at the centre of this policy enterprise. As Executive Director of the Communicable Diseases Division, he was able to align the organization's normative role (i.e. as a technical and coordinating body offering medical advice and technical assistance) with the belief that the WHO should assume a more assertive role for the purpose of mitigating economic impacts. Therefore, the WHO's decision to post regular SARS situation updates on the organization's website, and publishing *Weekly Epidemiological Records* online over the course of the outbreak, can be understood in the context of the views held by several individuals that the economic impact of the SARS outbreak needed to be carefully managed.

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[480] Heymann D (2003), "SARS: a global response to an international threat," *The Brown Journal of International Affairs*, Vol. X (2): 185-197, p. 186

[481] SARS easing some places, spreading in others, KOMO news, 28 April 2003, available at http://www.komonews.com/news/archive/4091356.html?tab=audio

[482] Interview with Liu, Singapore

One WHO official noted that underreporting (as well as overreporting) can cause disproportionate reactions from states. She explained why the WHO exercised what Heymann and Rodier called authoritative statements:

> *I think the WHO learned a lot by publishing advisories during SARS. Actually WHO's real role is to carry out the risk assessment for the respective nations in order for various nationals to make their own decisions. But during SARS, countries were reluctant to notify WHO of a disease event…Because of this underreporting, many countries banned imports from affected countries like China and this had knock-on effects as more countries reacted. We saw unnecessary negative impact on international travel and trade which could have severe economic ramifications for both member states and other business sectors. So we had to still express our concerns.*[483]

It should be noted that at the time of the SARS outbreak, member states were not obliged to notify WHO of the outbreak events occurring in their own territories because the old IHR (1969) had no jurisdiction over SARS. This means that technically, the WHO could not insist that the affected countries should notify them of an outbreak under IHR. Notwithstanding, given the potentially large economic impact of SARS, it was generally believed that countries were expected to report disease events of SARS with global implications.

Max Hardiman, then head of the International Health Regulations branch within the CSR, and the key person behind the WHO's decision to issue travel advisories, shared this idea. He commented that the cost and benefit of economic concerns was one of the primary motivating factors impelling the WHO to act more rapidly.

> *Sometimes it seems that **commerce and travel is bad for public health** and it is competition (sic) [i.e. trade off] between commerce and public health. But economic advancement is actually going to be good for the nation's health by and large so **health measures that disrupt or prevent that [economic advancement] will not be good for health** [of the population] in the long run. So the WHO's role, clearly stated in the purpose of International Health Regulations, is trying to make sure countries know what measures are justified and will cause **minimum disruption** with the greatest public health **benefit**. That was very much **the balance that was in our minds** when we were giving advice during [the] SARS crisis [emphasis added].*[484]

As the quote above implies, this WHO senior official sought to integrate the economic discourse into public health policies. The decision for the WHO officials to proactively engage in the issuance of travel advisories, which was seen as a supra sovereign power of the WHO in some literature,[485] was thus primarily emanated from the idea that the

[483] Interview with Roth, WHO
[484] Interview with Hardiman, WHO
[485] Fidler D (2004), SARS, Governance, the Globalisation of Disease, Basingstoke: Palgrave Macmillan.

WHO's "authoritative statements" could benefit to a great extent the adverse economic effects of the SARS outbreak. Hardiman further elaborated the economic benefits of prompt actions (i.e. rapid notification of disease events) in the outbreak by countries in an era of global economy.[486]

> *First of all, it won't be successful in hiding [an outbreak]. Also, if you are hiding something, the consequences generally will be worse than [if] you transparently report it and deal with the problem. There are consequences internally and externally. Internally, the fact is that such an event won't get controlled if you hide it, and externally, in terms of both trade and travel, people won't trust you and they won't believe that you are doing the right thing. That can be harmful for many countries. Now there are a few countries which could be an exception to that. But for the vast majority of countries now* ***because of globalization, their standing with their neighbours and the rest of the world, particularly [their] trading partners is very important.*** *There is a very strong argument that being seen to be doing the right thing in terms of disease control in public health protection is going to improve your standing with your trading partners and the opposite will lead to distrust [emphasis added].*[487]

A similar rationale was given by Rodier. When asked what would happen if a member state failed to notify the disease events out of economic concerns, he mentioned that "*the price for non-compliance will be* ***damaged image*** and ***potential economic losses***, *which could have been avoided. A country that knows something and does not report it may make a* ***short-term economic gain*** *but will* ***incur long-term losses*** *when it gains a reputation as being unreliable as a country and as a business partner* [emphasis added]."[488]

Beyond the international reputation associated with trade, there was a general belief that travel advisories would prompt the countries being labelled as "contagious" to respond "more efficiently" to the outbreak in a bid to minimize economic damages. Officials at the WHO noted that from a cost-effective perspective, the travel advisories were of great utility in terms of conjuring up the motivation and determination for the governments of affected countries to act rapidly because "*no country would wish to be stigmatized as unsafe or contaminated*."[489]

Beginning in April 2003, findings suggest the framing of the issue by political leaders was shifting, from a mainly biomedical problem for public health officials to solve, to an economic problem that other parts of government needed to be engaged with. The cancellations of major airlines, reduced demand for services, delays in foreign

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[486] Interview with Hardiman, WHO
[487] Interview with Hardiman, WHO. Also see http://www.sciencemag.org/cgi/reprint/300/5620/717a.pdf
[488] Rodier G (2007), "New rules on international public health security," Bulletin of the World Health Organization, 85 (6): 428-430, p. 428-429.
[489] Interview with Kasai, WPRO.

investment, loss of export orders, falls in the stock market and slumping consumer confidence all contributed to compel many governments of the affected countries to act rapidly, early and rigorously in order to uphold their standing in the world economy. Aggressive media coverage also provided an encouraging environment for such developments. For example, media narratives such as "Hong Kong turns into ghost town, the economy is another casualty of SARS,"[490] or "Economies sickened by the virus, and panic," [491] presented not only the economic impacts of the outbreak but they also constructed what is expected of the government of the affected nations to stop the potential economic disaster.

The financial sector also contributed to public debate about SARS using a strong economics framing of the issue. It was argued that, unless the situation was brought quickly under control, government spending could be diverted from investing in, thereby economic development. A Citigroup commentator warned, "*Fiscal deficits are likely to widen as a result of higher health care spending and weaker revenues. If the situation gets out of hand, frankly we don't know where the economic bottom is*."[492] Service sectors such as travel, tourism, restaurants and bars, and retailing were struggling to cope with the impacts of SARS: "*SARS may be scary, but what is more scary is if everyone lost confidence and stopped spending*."[493] Airlines lamented, "*This is the worst crisis the aviation industry has seen*."[494]

The increasing alarm expressed in "economic crisis" narratives by the business sector in the region led to the emergence of a "financial contagion" frame[495] which warned that the economic crisis emerging in Asia would, in turn, have repercussions for the rest of the global economy. A JP Morgan economist at the international conference in Taiwan on 21 April 2003 argued, "*East Asia is the most dynamic region in the global economy, so SARS may add a further blow to the net performance of the global economy at large*."[496] Another economist said that if the outbreak and related fears proved enduring, one casualty could be the growing integration of the global economy: *"[J]ust as business got*

[490] Bradsher K (2003), Hong Kong turns into ghost town, the economy is another casualty of SARS, *International Herald Tribune*, 3 April 2003.
[491] Bradsher K (2003), Economies sickened by the virus, and panic, *The New York Times*, 21 April 2003.
[492] SARS virus hits economies but shock may be short, *The Economic Times*, 9 April 2003.
[493] Cheng AT (2003), China juggles health concerns with need to maintain growth; SARS may be hurting the economy now, but the impact could be even worse if the virus spins out of control, *South China Morning Post*, 30 April 2003.
[494] Townsend G, Townsend M, Helmore ED, Aglionby J (2003), "The SARS outbreak: how the world caught a cold: it began in a province of China, spread through Hong Kong to reach continents and now threatens to plunge the world economy into freefall," *The Observer*, 27 April 2003.
[495] The term financial contagion predates SARS and comes from the economics field. It does not have anything to do with disease outbreaks. What is interesting from SARS is the bringing together of economics and public health presumably for the first time. On the concept of financial contagion, see Kaminsky GL and Reinhart M (2000), On crises, contagion and confusion, *Journal of International Economics*, 51: 145-168.
[496] Taiwan: SARS impact on economy, *World New Connection*, 21 April 2003.

used to the idea of the globe being a village, along comes a virus that affects something as fundamental to business as travel itself."[497]

Importantly, the "economic crisis" narrative refocused the international community's attentions so much that the economic ramifications of SARS began to dominate as evidenced in statements by political leaders on SARS. The core idea expressed was that international trade and financial flow were central to national interests and, therefore, that major business interests should be prioritised in terms of the policies adopted. This frame also held that what is good for business and the nation's economic interests is good for everyone. In Singapore, the prime minister Go Chok Tong maintained, "*If we fail to contain SARS, it may well become the worst crisis our country has faced. SARS will knock you backward, it may even kill you, but I can tell you SARS can kill the economy and all of us will be killed by the collapsing economy.*"[498] In Hong Kong, Chief Executive Tung Chee Hwa appointed Financial Secretary Anthony Leung to lead the high-profile task force in a bid to "*restore Hong Kong's tarnished international image and revitalise the economy*."[499] He added, "*We need to get the economy going again*."[500] In China, after the Politburo meeting on 29 April 2003, President Hu Jintao and senior leaders emphasised, "*every district and every government agency must use a high degree of efforts to deal with SARS and pay particular attention to its impact on the economy. On the one hand, we must grasp SARS. On the other hand, we must continue our economic construction*."[501]

Statements following the issuance of travel advisories by WHO also demonstrated the primary concern by country to their standing in the world economy. One informant in Hong Kong stated that the government's initial reaction was to call for the public to calm down and to trust authorities to handle, what they described as "isolated cases." As noted in the previous section, other than issuing alerts to hospitals, the Hong Kong government refused to implement stringent health measures in the early phase of the SARS outbreak, precisely because officials did not wish for the outbreak to impact the city's economic prosperity. The informant stated,

> *There was a big political agenda here. Government officials in Hong Kong were frightened of the media and they were frightened about the economic impact in Hong Kong. There was [a] tendency to try and smooth out all these issues in a way that created the impression that everything was under control and the epidemic will be short-lived, the treatment was working and outcomes were not too bad.*[502]

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[497] Bradsher K (2003), Economies sickened by the virus, and panic, *New York Times*, 21 April 2003.
[498] Revil J, Aglionby J (2003), SARS takes biggest death toll in one day as the virus spreads relentlessly to a 25th country, scientists are racing to defeat an epidemic now threatening Asia's economy, *The Guardian*, 20 April 2003.
[499] Bradsher K (2003), Economies sickened by the virus, and panic, *New York Times*, 21 April 2003.
[500] Ibid.
[501] Kwang M (2003), Hong Kong fights back: under pressure from within territory and from Beijing, Chief Executive Tung takes measures to boost SARS-hit economy," *South China Morning Post*, 6 May 2003.
[502] Interview with Hedley, Hong Kong

In an effort to prevent economic impacts, the Secretary of Health, Welfare and Food, Dr. Yeoh Eng-Kiong, insisting that "*Hong Kong is very safe. It is no different from going to any big city in the world*".[503] Similarly, Health Canada was quick to declare that the country was safe to visit, advising that "*travel to any destination in Canada is safe and may be undertaken in the same manner as one usually would with respect to transport, accommodation, meals, entertainment, business and family engagements whether arriving from overseas or travelling domestically*".[504] Despite these assurances, the travel advisory was followed by cancellations of conventions and losses to the local tourism industry, which employed some 95,000 people. Economists estimated that SARS cost the country Cdn$30 million per day and shaved 1% off economic growth.

The Hong Kong and Canadian governments then worked hard to have the WHO travel advisories lifted. The Hong Kong government lobbied hard at the World Health Assembly, pointing out that WHO's recommended measures such as temperature checks at border points had been instituted.[505] Senior Canadian health officials travelled to Geneva on 28 April to try to persuade the WHO's senior management group – the DG, the executive director of communicable diseases, the heads of science, epidemiological and clinical groups and their support staff, along with regional directors from around the world linked by phone – to retract the advisory that visitors should put off unnecessary travel to Toronto. As a concession, Federal Health Minister Anne McLellan stated that the government was willing to introduce infrared machines in Toronto's international airport to screen passengers.[506]

Findings suggest that economic framing also characterised public health measures adopted in Taiwan. A WHO official on a mission to Taiwan noted that travel advisories had prompted the government to take prompt action:

> *Their economy was dramatically affected by the outbreak. The shops were empty and there were shop keepers really suffering. I think they [Taiwanese officials] recognized that if they did not control this [the outbreak] very quickly, not only would there been real stress on the health system but there would have been unbearable consequences as the economy was suffering. So they recognized that they had to work very hard and act promptly. There was very strong encouragement for collaboration.*[507]

Until 21 April 2003, little action had been taken regarding the sporadic cases. When WHO changed Taiwan's designation, from an affected area to an area with limited local

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[503] Moy P and Joanitho M (2003), Pneumonia prompts WHO health alert, *Sunday Morning Post*, 16 March 2003.
[504] Spurgeon D (2003), Canada insists that it is a safe place to visit, *British Medical Journal*, 326, 3 May 2003.
[505] Parry J (2003), WHO is worried that China is under-reporting SARS, *British Medical Journal*, 326: 1110, 24 May 2003.
[506] Krauss C (2003), The SARS Epidemic in Canada: Toronto Officials Seek End to Travel Advisory, *New York Times*, 28 April 2003.
[507] Interview with Roth, WHO

transmission, Taiwan hosted an international conference on SARS on 20-21 April to showcase its achievements. However, cases escalated sharply after 22 April.[508] WHO issued a travel warning on Taiwan on 2 May 2003 after reviewing information about the magnitude of the outbreak. Another official dispatched to Taiwan from the WHO headquarters explained that the principal concern of the government of Taiwan was the potential economic impact of the advisory. Taiwanese authorities were thus strongly motivated to conform to WHO policy recommendations in order to have the advisories removed:

> *They [the Taiwanese government] just wanted to get the travel advisories removed. They were telling me the Taiwanese economy was losing billions of billions of dollars because they couldn't trade. Their goods even couldn't move around the world because nobody wanted to accept the containers from Taiwan. They had huge political problems. Once, the head of SARS Task Force and the Minister of Health wanted to invite me for dinner. I told them that I could not join because I got a teleconference 8-9 pm [with the senior WHO HQ medical officials] in the evening. Then they said that they would wait for me. The Minister and the Deputy Minister, the Head of SARS Task Force Team, and the whole cabinet all waited for me just to find out what the situation was. They were very worried about what the WHO [officials] was going to say about the travel advisories.*[509]

This statement suggests that affected countries were not primarily driven by a sense of collective vulnerability, or a desire to protect the population from the spread of SARS, but from economic concerns. For national policy makers and political leaders, it was seen as important to reassure WHO officials that the outbreak was contained. A senior government official in Singapore stated that forceful public health measures (e.g. screening and public identification of index case, etc) and early action could be justified. He stated that certain interventions would avoid "negative feedback" (i.e. travel advisories from the WHO or unilateral travel warnings from other countries) and thus adverse economic consequences. In his belief, such actions were justified as cost-effective. Since the SARS outbreak was perceived by national policy makers as an emergency, both in terms of economic and security consequences, other issues such as human rights of the people did not receive sufficient attention during this time.

> *The main point is that outbreak is not just a medical problem or a public health problem. In Singapore's case, [the] SARS outbreak was a national crisis because it had huge effects on* ***tourism, trade, and economy as well as health****. We quarantined everybody. Let's say we didn't quarantine people. Once we start seeing it [outbreak] after one or two weeks here and there with cases popping up, what policy options would you have then? Clearly you have zero [options] unless you do*

[508] Hsueh PR et al. (2004), Patient data, early SARS epidemic in Taiwan, *Emerging Infectious Diseases*, 10 (3): 489-493; Chen YC (2004), Infection control and SARS transmission among healthcare workers in Taiwan, *Emerging Infectious Diseases*, 10 (3): 895-898.
[509] Interview with Kande-Bure, WHO

> *like what the Chinese did, i.e. everybody stays at home for two weeks. So* ***the cost of quarantining 2,000 people now is lower than not doing anything and having to come to the final step like everyone stays at home****. On balance, I think it is better to move before. And also in [the] international community****, it is very important to give the information that you are containing it****. If you do nothing and if you hold the information, the situation becomes worse like Beijing. That's why we went ahead and quarantined everybody [emphasis added].*[510]

A WHO official, on mission to Singapore during the SARS outbreak, believed that countries heavily dependent on the services sector such as Singapore were more forceful in measures adopted due to the potentially high economic impact. She stated,

> *You can see, in Canada, perhaps the US and Singapore, the mentality to obey strict measures. The Singapore government was convinced by the economic risks as they heavily relied on trade and travel. So if they don't implement strong measures, the economic consequences will be huge.*[511]

5.3.1.2. Defensive patenting: a market-driven mechanism for developing vaccine

During April and May 2003, the neoliberal economic discourse lay behind the development of a SARS vaccine. As described in Chapter Three, the neoliberal economic discourse captures strong elements of economic incentives and motivation. The discourse was strongly present in arguments that sought to legitimize the market-based approach to SARS vaccine research and development. Similarly it was used as a rationale for the advent of certain measures in the combating of SARS, namely "defensive patenting" and "patent pooling". It was principally driven by the ideas that public health challenges, such as SARS, should be tackled within existing measures and flexibilities available under the Agreement on Trade Related Intellectual Property Rights (TRIPS).

The basic idea advocated by this discourse was that drug research and development, protected under IP rights, generates the necessary economic incentives for companies to invest in, refine, produce and market necessary medicines. Efforts to develop a SARS vaccine can be traced back to when the WHO announced that "*a new pathogen, a member of the coronavirus family never before seen in humans, is the cause of severe acute respiratory syndrome (SARS)*."[512] After the coronavirus was identified, there was an ongoing interest in, and high hopes for, the development of diagnostic tools and a vaccine. In relation to the development of new SARS vaccine, Stohr stated,

[510] Interview with Tan, Singapore
[511] Interview with Shindo, WHO
[512] WHO press briefing, 17 April 2003. Available at http://www.who.int/mediacentre/news/releases/2003/pr31/en/

> *The foundation for developing a vaccine is to have the virus. Therefore, we are really proud and very pleased that we have [mapped out] the virus…we know now that we can start developing a vaccine and there is discussion ongoing in the US, for instance, about the development of the vaccine…we are giving characterized virus to vaccine companies and there is serious discussion about this".*[513]

Similarly, Gerberding noted in the *New England Journal of Medicine* that "*there is a reason to be optimistic about future control measures. Vaccines [have been] successful in preventing coronavirus infection in animals, and the development of an effective vaccine against this new coronavirus is a realistic possibility.*"[514]

While it is argued that international collaboration on the identification of the SARS virus was framed as a global public good, some scientists reframed subsequent research in terms of commercial rights. This is evidenced by the battle to patent the coronavirus by three key laboratories: the US CDC, the British Columbia Cancer Agency (BCCA in Canada) and Versitech Limited, the commercial arm of the University of Hong Kong. Although enthusiasm for developing and patenting a vaccine later waned, owing to the one-off nature of the SARS epidemic and thus economic returns for such a product, the competition sparked concerns about equitable access to medicines. Initially, the three institutions justified their patent application to ensure access to the virus for research and other purposes.[515] Director of the US CDC Gerberding said during a telebriefing,

> *The concern that the [US} federal government is looking at right now is that we could be locked out of this opportunity to work with this virus if it's patented by someone else, and so by initiating steps to secure patent rights, we assure that we will be able to continue to* ***make the virus and the products from the virus available in the public domain****, and that we can continue to promote the rapid technological transfer of this biomedical information into tools and products that are useful to patients. So from our standpoint, it's a* ***protective measure*** *to make sure that the access to the virus remains open for everyone [emphasis added].*[516]

While Gerberding did not mention motivations of profit, her statement reflected fears that others might deny the CDC from accessing the vaccine technology. This concern was also evident in the words of the Director of the BCCA, Samuel Abraham, who argued that defensive patenting was the best means of protecting public benefits from research on the SARS virus.[517] In collaboration with a number of institutions – National Microbiology Laboratory, British Columbia Centre for Disease Control, University of

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[513] WHO press briefing, 1 April 2003. Available at http://www.who.int/csr/sars/press2003_04_01/en/
[514] Gerberding JL (2003), "Faster but fast enough? Responding to the epidemic of severe acute respiratory syndrome," *New England Journal of Medicine*, 2030-1.
[515] Yu P (2004), SARS and the patent race: an introduction to the patent law, social policy and public interest symposium.
[516] US CDC Update on Severe Acute Respiratory Syndrome (SARS), US CDC telebriefing Transcript. Available at http://www.cdc.gov/media/transcripts/t030506.htm
[517] Meissner D (2003), SARS gene patent application will help cure research, says BC Cancer Agency, *Health Canada.com network*. 05 May 2003. Available at http://cmbi.bjmu.edu.cn/news/0305/71.htm

British Columbia Centre for Disease Control, and the University of Victoria's Department of Biochemistry and Microbiology – the BCCA completed the first publicly available draft sequence for a coronavirus implicated in SARS. The research was published in *Science* with the conclusion that it "will assist in the development of antiviral treatments, including neutralizing antibodies and development of a vaccine to treat this emerging and deadly disease".[518] The BCCA claimed to create an open playing field for all researchers while professing not to lock down future profits from tests or treatments for SARS. Abraham also remarked,

> *Most research institutions and most scientists have a knee-jerk reaction when they hear a patent has been filed. They read it as someone trying to corner the market.* ***We're making sure the market is not cornered*** *[emphasis added].*[519]

Scientists at the University of Hong Kong, the first institution to identify the coronavirus as a possible cause of SARS, were also engaged in SARS virus research led by Professor Malik Peiris.[520] Peiris claimed not to be interested in patenting the gene sequence but, when others sought patents, the HKU team via Versitech did so too.[521] In a *Lancet* commentary, Richard Gold of McGill University asserted that both the CDC's and BCCA's patent option served the "public good" and "provide[d] them with more leverage in dealing with the University of Hong Kong's [*presumably profit-making*] Veritech Ltd.,"[522] Vice-Chancellor of the University of Hong Kong Lap-Chee Tsui rebutted,

> *I wish to make clear that HKU is a research-led institution, committed to the public cause of higher education and benefiting society. Versitech is a technology transfer company, established in accordance with good practices of international universities to handle HKU's intellectual properties. Neither HKU nor Versitech are profit-seeking organisations, and they both hold the same view as CDC and BCCA – namely,* ***to serve the public****. HKU is committed to* ***sharing its research results with society; locally, regionally, and internationally.*** *We will continue to build up our research strength, but we cannot hope to share the benefits of our newly found knowledge if we do not properly manage our intellectual property rights [emphasis added].*[523]

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[518] Marra M et al. (2003), The Genome Sequence of the SARS-associated Coronavirus, *Science,* 1399. p. 1403.
[519] Brickley P (2003), Preemptive SARS patents: US and Canadian Agencies say patents will preserve access, *The Scientist*, 9 May 2003. Available at http://www.the-scientist.com/article/display/21313/
[520] Peiris JSM et al. (2003), Coronavirus as a possible cause of Severe Acute Respiratory Syndrome, *Lancet*, 361, 1319-1325.
[521] Elias P (2003), Race to Patent SARS virus renews debate, Associated Press. 5 May 2003. Available at http://cmbi.bjmu.edu.cn/news/0305/63.htm
[522] Gold ER (2003), SARS genome patent: symptom or disease, *Lancet*, 361, 14 June 2003.
[523] Tsui LC (2003), SARS Genome Patent: to manage and to share, *Lancet,* 362, 02 August 2003.

On the surface, the University of Hong Kong's application does not seem profit-driven, but intended to ensure "further research and development".[524] The contest to patent the SARS virus renewed the debate about the notion of a global public good based on human rights for health and economic incentives surrounding the virus under the broad label of neoliberal intellectual property rights.

While these institutions argued that their applications were intended to keep SARS research in the public domain, it was also understood that patents would inevitably allow researchers to protect their work and possibly lead to pharmaceutical drug royalties. This was evidenced by one of the applicants who conceded that the discovery of the coronavirus sequence could end up being a financial bonus. "*The royalties were there to be reaped at a later date, and these royalties would come back to basically foster further research here. That would be a goal of any office of our type*".[525] His acknowledgement was further supported by the president of the Canadian Institutes of Health Research, Alan Berstein, who commented that "*it would not be unreasonable if the discoverers sought to make a profit*".[526] The commercialisation of SARS research was supported by pharmaceutical manufacturers and biotechnology companies filing provisional patents with reference to the diagnostics, vaccines and pharmaceutical drugs relating to the SARS virus. For instance, Roche announced in July 2003 a product designed to detect the SARS virus using the LightCycler instrument based on Roche's patented PCR (polymerase chain reaction) technologies.[527] Viragen, a pharmaceutical company collaborating with the Genome Institute of Singapore (a government research organization), filed a patent application in the hope of increasing the commercialization of the SARS virus. The company's director of technology and projects coordinator stated,

> *We are positioning our patent not only for the treatment of SARS, but also to include prophylactic properties which may prevent infection from occurring. We plan to use this data as a platform to achieve a broad proprietary position for SARS in many international jurisdictions and therefore to continue to enhance Viragen's growing intellectual property portfolio".*[528]

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[524] Brickley P. (2003), "Preemptive SARS patents: US and Canadian Agencies say patents will preserve access".
[525] Meissner D (2003), "SARS gene patent application will help cure research, says BC Cancer Agency", Dr. Samuel Abraham.
[526] Meissner D (2003), "SARS gene patent application will help cure research, says BC Cancer Agency".
[527] "Roche SARS test now," Roche media release, 15 July 2003. Available at http://www.roche.com/med-cor-2003-07-15a
[528] Viragen press release, 04 September 2003, Viragen Drug Proves Effective against SARS in Research Study: Data from Study Strengthens Patent Application available at http://www2.prnewswire.com/cgi-bin/stories.pl?ACCT=104&STORY=/www/story/09-04-2003/0002011148&EDATE=

This suggests moves to commercialise medical technologies and drugs related to SARS. Commercial imperatives were also evidenced by the rising stock prices of biotechnology companies seeking a SARS vaccine[529]

As a result, there were growing concerns raised about public research institutions seeking to commercialize patents. In an editorial in *Nature,* for example, such concerns were expressed as follows:

> *When pre-emptive patenting is necessary to ensure that rapid solutions are found to an important health problem, something seems to be out of balance. Policy-makers should investigate what checks and balances are necessary to ensure that the patent system continues to do its job of stimulating innovation for the public good. [530]*

Importantly, these developments illustrate how vested interests, within an economics frame, have shaped SARS vaccine research. While key scientists defined the patenting issue as securing public access to scientific information based on the GPG approach, they also believed that scientific research should be given incentives and encouragement through an appropriate rewarding system such as the patenting of research. As the competitive pursuit to pre-emptively patent the SARS virus progressed, it precipitated a commercialized approach towards SARS vaccine research. This is still the case even as concerns were raised in relation to equitable access to medicines, especially if the disease continued to thrive and to cause a huge number of deaths in the least developed countries. An editorial in the *New Scientist* further observed, "*We could even develop in record time…but if past history is anything to go by the vaccine will then be sold for a high price so the rich get it and the poor don't.*"[531]

With reference to these debates, WHO issued a position statement on 29 May 2003 asserting that defensive patenting was essential in order to recognize "*the researchers' efforts and to reward their discoveries (and further discoveries derived therefrom by other researchers premised on earlier works). Therefore it is in the best collaborative traditions of biomedical science*."[532] This statement suggests that WHO officials accepted the existence of competition to patent a SARS vaccine, and the offering of financial rewards as a legitimate motivation. WHO did not engage in deeper philosophical debates about the appropriateness of defensive patenting and the role of market forces in vaccine development.

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[529] Brickley P (2003), The SARS cash cow: how four letters bettered some biotechnology companies' stock values, *The Scientist*, vol. 17 (15): 48.
[530] Editorial (2003), "Gene Patents and the public good: a race to claim patents on the SARS virus raises questions about the patent system's ability to cope with genomics,". *Nature, 207,* 15 May 2003. Available at http://www.nature.com/nature/journal/v423/n6937/full/423207b.html
[531] Editorial (2003), A vaccine against SARS will not be enough, *New Scientist*, 178: 5.
[532] WHO (2003), Patent applications for SARS virus and genes. 29 May 2003. Available at http://www.who.int/ethics/topics/sars_patents/en/

Brundtland recognised the public health concerns with respect to potentially inequitable access to the SARS vaccines under the TRIPS regime. Yet she was not keen enough to push the access issue forward to address the potential problem. Instead, she chose to highlight to the community at large that competition over patenting should not undermine research innovation and international research into SARS vaccines. In her speech to the 2003 World Health Assembly, Brundtland asserted,

> *In our fight against ill-health, we do not have all the tools we need. Innovation and the protection of intellectual property are closely linked. Ensuring that patent regimes stimulate research and do not hinder international scientific cooperation is a critical challenge – whether the target is SARS or any other threat to human health.*[533]

Likewise, Marie-Paule Kienv, Director of the WHO Initiative for Vaccine Research, commented that "*If we are to develop a SARS vaccine more quickly than usual, we have to continue to work together on many fronts at once – on scientific research, intellectual property and patents issues and accessibility*".[534] By publicly accepting that the TRIPS regime was an essential aspect of SARS vaccine development, senior officials at the WHO evaded wider questions about equity, access and affordability. It was clear that WHO officials remained unwilling to take a role in challenging this status quo, at that point, and thus helping to address the issue of affordable access to SARS vaccines.

In contrast, at the 56th World Health Assembly held in May 2003 in respect to Intellectual Property Rights, Innovation and Public Health, member states maintained,

> *Taking into account that in order to tackle new public health problems with international impact, such as the emergence of severe acute respiratory syndrome (SARS), access to new medicines with potential therapeutic effect, and health innovations and discoveries should be* ***universally available without discrimination*** *[emphasis added].*[535]

In recognition of the serious threat SARS posed to global health security, member states also requested the WHO to "*mobilize global scientific research to improve understanding of the disease and to develop control tools such as diagnostic tests, drugs and vaccines that are accessible to and affordable by Member States, especially developing countries and countries with economies in transition*".[536]

In order to break through this impasse, a WHO SARS consultation group was set up. The main concern of WHO officials was that the numerous patents granted would

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[533] WHO (2003), Gro Harlem Brundtland, Address to the 56th Word Health Assembly, 18 May 2003. Available at http://www.who.int/dg/brundtland/speeches/2003/wha56speech/en/index.html
[534] WHO (2003), Global search for SARS vaccine gains momentum. Available at http://www.who.int/mediacentre/news/releases/2003/pr83/en/.
[535] WHO 56th World Health Assembly, Fourth report of Committee A, Draft A 56/66, 28 May 2003. Available at http://apps.who.int/gb/archive/e/e_wha56.html, pp. 3-4
[536] WHO 56th World Health Assembly, Fourth report of Committee A, Draft A 56/66, 28 May 2003, p. 11

adversely affect the research and development of a vaccine for the SARS virus. The SARS Consultation Group and key SARS intellectual property owners including BCCA, US CDC, Veritech Ltd. and CoroNovative BV – a company spun out of the Erasmus Group that joined the patent race later on – created the "SARS IP Working Group". The group, comprised of key stakeholders, filed for defensive patenting, suggesting that a patent pool should be established to promote the development of a treatment or vaccine. It proposed, "*A strategy be developed, in consultation with stakeholders, to address potential SARS coronavirus related intellectual property issues and, thus, enhance development of intervention approaches*".[537] The potential for the creation of the patent pool was initially discussed in 2005 and the relevant parties have been identified. One of the stakeholders, the Erasmus Lab (led by Professor Albert Osterhaus) strongly promoted the idea of a patent pool through a paper published in the *Bulletin of the World Health Organization.* They stated that a patent pool would ensure the development of SARS vaccines by driving competition away from access to IP rights. Ironically however, they noted that compulsory licensing – which allows a country to issue a license for the manufacture of drugs without the consent of the patent owner – undermines investment into research and development. They claimed,

> *Should governments interfere with this system [IP rights] in any but the most severe of emergencies, they risk undermining trust in the patent system with resultant detrimental effects on investment in innovative ideas. It would be* ***better to set up market-driven mechanisms*** *to resolve issues where possible.*[538]

What the above statement suggests is that people involved in the working group were in favour of a market-driven framing of SARS vaccine development under the broad label of a patent pool. They believed that joint ownership of a patent among those discoverers would lead to an increase in monetary investment on SARS vaccine development and technologies. Within this frame, lower priority was assigned to concerns such as the affordability of drugs in developing countries. The patent pool was a strategic framework to highlight the importance of the advancement of innovative products in the context of the TRIPS regime. Yet counter-measures and flexibilities available to countries were largely defined as a barrier to innovation, framing it as jeopardizing trust.

The concept of a patent pool received support from WHO.[539] The WHO's official policy was that any discussion of vaccine development was to be guided by "***how patents and***

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[537] WHO (2003), WHO consultation on needs and opportunities for SARS vaccine research and development. Available at http://www.who.int/vaccine_research/diseases/sars/events/2003/11/en/index.html

[538] James HM Simon et al. (2005), "Managing severe acute respiratory syndrome (SARS) intellectual property rights: the possible role of patent pooling," *Bulletin of World Health Organization*, vol. 83(9): 707-709, p. 709

[539] WHO (2003), Global search for SARS vaccine gains momentum, news release, 5 November 2003. Available at http://www.who.int/mediacentre/news/releases/2003/pr83/en/index.html

intellectual property issues and their safeguards can help rather than hinder *the rapid development of SARS vaccines [emphasis added]*".[540] Subsequently, two major law firms expressed their interest in providing pro bono services to evaluate the suitability of each patent application for incorporation into a patent pool.[541] [542] This episode sheds light on how a neo-liberal economic discourse triumphed over alternative approaches to SARS vaccine development such as human rights and global public goods discourses. This issue reveals the tensions between the two different discourses of human rights and economism in how vaccine research should be approached.

5.3.2. The Securitisation of SARS

Alongside the ascendance of the economic discourse during the first two stages of the outbreak, this research finds that these arguments then merged with the security discourse. As SARS came to be increasingly addressed in economic terms, with impact most frequently quantified by monetary measures, SARS also began to be framed as a clear and present security threat to countries around the world requiring immediate and pre-emptive actions. At a press briefing on 11 April 2003, Mike Ryan stated,

> *The global SARS alert was a direct response to a specific* ***threat*** *identified by the global alert and response system. This allowed the* ***early identification*** *of cases in other countries and has, to a great extent, allowed those countries who have imported cases to* ***immediately contain the threat*** *of local transmission in their own populations… WHO is also* ***using other information sources,*** *such as the media, UN organizations and partners in the Global Outbreak Alert and Response Network (GOARN) to identify areas in which new cases may occur, and* ***immediately and actively follows up*** *with those countries to establish whether cases are occurring and what measures countries are implementing to ensure containment [emphasis added].*[543]

By means of sourcing information on the outbreak from various sources, WHO posted travel guidelines entitled "areas with recent local transmission of SARS" on its website in an attempt to contain certain kinds of travellers from areas that were associated with the SARS virus. Here, the asymptomatic carriers of diseases have been classified as "suspects" who could possibly threaten the populations concerned. As Heymann noted,

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[540] WHO (2003), Global search for SARS vaccine gains momentum, news release, 5 November 2003. Available at http://www.who.int/mediacentre/news/releases/2003/pr83/en/index.html
[541] James HM Simon et al. (2005), "Managing Severe Acute Respiratory Syndrome (SARS) intellectual property rights: the possible role of patent pooling."
[542] Roper R and Rehm K (2009), "SARS vaccine: where are we?" *Medscape Today*, 8(7): 887-898
[543] World Health Organisation (2003), SARS press briefing, 11 April 2003, available at http://www.who.int/csr/sars/Press_2003_04_11/en/

> *Cases [infected with SARS] have been on airplanes. People sitting near those patients, or airline crew [who] might have been infected by those people are now [viewed as]* ***"suspects"*** *and they are being observed [emphasis added].*[544]

The framing of disease control measures as a security matter was also highlighted by the declared need for more "detectives" in regards to contact tracing in a search for "suspects" and imposition of other ways of intervention. For example, with reference to the Amoy Garden outbreak in Hong Kong during a press conference held on 1 April, Heymann argued,

> *I understand from you and from others, that all these apartments are one on top of the other – the known patient lives in one apartment and the others all live in that same group. So this is where* ***epidemiological detective*** *work begins [emphasis added].*[545]

In this case, the SARS outbreak was commonly constructed through military rhetoric[546] in which public health experts were cast as playing a key role. The role of surveillance and scientists[547] were described by Rodier as follows:

> *Again the containment of these exported cases is properly done and now the focus is certainly on more case finding and contact tracing in these two large foci, mainly Hong Kong and Guangdong province. And* ***that requires a lot of ground troops, epidemiologists in the field.*** *Interviewing patients and possible contacts and following these contacts is a large task requiring discipline, but that, I think, is going well and at the moment the key point is to keep surveillance going globally* [emphasis added].[548]

Likewise, one WHO official who was an advisor to WPRO's Division of Communicable Diseases Surveillance employed military language to describe the role of experts.

> *They [the external experts invited] were working in a university, one working at UNICEF, others freelance. All those staff while [it's] business as usual but* ***when it comes to the war****, we have the legitimacy to call all those people to develop the guideline* [emphasis added].[549]

In order to detect the "suspects" early, proactive detection and surveillance were particularly stressed. Heymann further stated,

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[544] WHO press briefing 1 April 2003. Available at http://www.who.int/csr/sars/press2003_04_01/en/
[545] WHO press briefing 1 April 2003. Available at http://www.who.int/csr/sars/press2003_04_01/en/
[546] Washer P (2004), Representation of SARS in the British Newspaper, *Social Science and Medicine*, 159: 2561-2571.
[547] Wallis P and Nerlich B (2005), Disease metaphors in new epidemics: the UK media framing of the 2003 SARS epidemic, *Social Science and Medicine*, 60: 2629-2639.
[548] Rodier G, WHO press briefing, 11 April 20003. Available at http://www.who.int/csr/sars/Press_2003_04_11/en/
[549] Interview with Kasai, WPRO

> *A high proportion of new and emerging infectious diseases come from developing countries, often those least equipped to detect and respond to them early, and to contain them before they spread internationally. But all countries are vulnerable to outbreaks either because they emerge within national borders or present* ***external threats*** *through international spread…Across-the-board strengthening of national [surveillance] mechanisms for outbreak alert and response is the only rational way to* ***defend*** *public health* ***security****, not just against SARS but against all future infectious disease* ***threats*** *[emphasis added].*[550]

One official in the WHO shared this idea, stating,

> *Member states repeatedly failed to report the existence of emerging and re-emerging infectious disease threats such as SARS. We need to strengthen programmes of* ***active surveillance for disease threats*** *to ensure that efforts are directed to* ***early detection and prompt identification*** *of virus. It is a concern for* ***national and global health security****. You don't want the disease to come in and harm your people [emphasis added].*[551]

It was the concept of epidemic intelligence paralleled with an idea of enhanced intelligence apparatus by the US government that attempted to identify possible and more importantly perceived threats during this time period. As discussed below, a parallel narrative of a "war against SARS" mirrored the "war on terror" prevalent during this period. The global response to SARS, in this sense, was an extension of national security concerns. In this regard, the inclusion of biosecurity in the revision of IHR 2005 was demonstrative of the widespread recognition of, and rationale for, improved surveillance for pathogens posing perceived security concerns. With reference to the revised IHR, another WHO official concurred with Heymann's idea on enhanced surveillance:

> *We need to heighten the detection standard. We [WHO] were conscious of the limitations of and problems inherent in surveillance system during SARS. It was clear that the IHR (1969) was not effective for protecting people from the threats posed by SARS. The IHR 2005 is clearly intended to achieve global health security by providing countries with criteria for events that may constitute a public health emergency of international concern. This means that countries are required to report all local cases that occur within their territories regardless of* ***whether they are infectious diseases or bioweapon use****.*[552]

This view was further extended to the linkage of bioterrorism with health security. In a press release on the WHO website, it was noted,

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[550] Fidler D (2004), "Forward by David Heymann," in *SARS, Governance and the Globalization of Disease*, New York: Palgrave, p. xii.
[551] Interview with Shindo, WHO
[552] Interview with Marianos, WHO

> *SARS presents a number of very clear imperatives for business as well as for governments. Developing stronger public health infrastructure will not only address the **immediate threat of SARS**, but will also form the basis of a future safety-net, protecting the world from future epidemics and even [potential] **bioterrorist threats** [emphasis added].*[553]

This framing was followed by the WHO Director-General Brundtland's speech at the WHA on 19 May where she asserted,

> *Globalization of disease and **threats** to health means the globalization of the fight against them. SARS has been a wakeup call. But the lessons we have learnt have implications that go way beyond the **fight** against this public **health threat**. Effective surveillance and rapid response is an essential pillar of both **national and international security** [emphasis added].*[554]

Importantly, the global framing SARS as a security issue was not merely rhetoric, but shaped the policy measures pursued at the national level. As shown below, there appeared to be a convergence between the prevailing rhetoric, generated by key actors engaged in security framing, and the national SARS response. Many national authorities declared a "*war against the viral enemy*"[555]. One measure adopted involved isolation of suspected infected people, quarantine of close contacts, and closure of public spaces. This was extended in some instances, such as in Singapore or Hong Kong, to the use of the military or police to enforce containment measures. Thus a public health issue became a public order issue.

In Singapore, employing largely military language, national authorities adopted various surveillance instruments such as video surveillance camera systems and electronic bracelets to enforce quarantine, supervised by a security agency. These measures were framed as the state's responsibility to protect the security of citizens from viral assaults. Government officials used military language to rationalize pre-emptive measures aimed at maintaining the safety of the public. For example, on 24 April, Deputy Prime Minister Lee Hsien Loong declared the country officially "*at war, with battles being waged on three fronts – public health, the economy and society*".[556] Referring to the fight against SARS in society, he further added, "*This is the most critical **battlefront**. If we lose this front, we will lose all the other fronts, and lose the **war***." Similarly, Minister of State Ng argued,

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[553] WHO Press release, 22 May 2003. Available at http://www.who.int/mediacentre/news/releases/2003/prwha3/en/
[554] Address by Brundtland Gro Harlem to the Fifty-Sixth World Health Assembly. Geneva. 19 May 2003. http://apps.who.int/gb/archive/pdf_files/WHA56/ea563.pdf accessed 22 December 2009.
[555] Chua MH (2004), *A Defining moment: how Singaporean beat SARS*, Singapore: Institute of Policy Studies, p. 137
[556] Strait Times, May 11 2003.

> ***Infected people are carriers of bombs*** *attached on them by the SARS* ***enemy*** *and these explosives can go off if they do not seek help…The SARS* ***combat unit*** *is prepared to* ***fight the enemy****, but Singaporeans, please don't shoot and kill your own* ***troops*** *[emphasis added].*[557]

The military rhetoric continued into May 2003 when Prime Minister Goh stated, at the end of his visit to the US,

> *Every single Singaporean is a* ***soldier*** *in the* ***fight*** *against SARS. We have* ***armed*** *every household with a thermometer. That's a* ***weapon****. We involved them in this* ***fight*** *against a common* ***enemy*** *[emphasis added]***.**[558]

Measures taken to contain the disease were even carried out by the military itself. For example, the "Infectious Disease Act" was amended to give the military the power to use any means necessary to stop the spread, to monitor and control the population, and to make temperature checks. The militarization of contact tracing, by trained military forces, was enforced to ensure the subsequent quarantine of the exposed to prevent further spread of outbreak in the community.[559] Violations of individual privacy and rights were justified in terms of public good in the face of a national crisis and the government's responsibility to protect the security of citizens against the virus. Prime Minister Goh called for community cooperation:

> *For the wider good, we now have to take a tougher approach in enforcing Home Quarantine Orders. We simply cannot afford to have those on home quarantine breach it, and run the risk of going undetected for SARS, or worse, infecting others. For once SARS spreads through the community, we risk losing control of it, and will not be able to isolate and contain it. Therefore, from now on, when a person on home quarantine does not answer the telephone calls from our officials, CISCO [a statutory board under the Ministry of Home Affairs in Singapore assigned to carry out quarantine orders] officers will immediately proceed to electronically-tag them, whether or not they have broken the quarantine.*[560]

Violators of quarantine were brought before the criminal court, fined and imprisoned according to the provisions of the Infectious Disease Act.[561]

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[557] Strait Times, This is a strong military metaphor that indicates that people must not infect their fellow citizens for the protection of national security.
[558] Strait Times, May 12 2003.
[559] WHO (2003), "Update 70 – Singapore removed from list of areas with local SARS transmission," 3 May 2003. Available at http://www.who.int/csr/don/2003_05_30a/en/index.html
[560] Fighting SARS together: A letter from Prime Minister Goh Chok Tong. Singapore, Ministry of Information, Communications and the Arts, 22 April 2003. Available at http://www.spi.com.sg/study/articles/sars2/fight_sars.htm
[561] Rothstein M et al. (2003), Quarantine and Isolation: Lessons Learned from SARS, A Report to the Centers for Disease Control and Prevention, November 2003. Available at www.iaclea.org/members/pdfs/SARS%20REPORT.Rothstein.pdf

As implementation progressed, concerns began to be raised about the potential cost to civil liberties and human rights. Minister of Home Affairs Wong dismissed suggestions that the measures infringed civil liberties:

> *What is more important? Public health, the safety of all Singaporeans or just some of these concerns about lack of freedom, liberty, etc., when you quarantine a person? You better quarantine him. Otherwise, he will get more freedom after that but he may be dead. Or he is infecting other people and causing them great disasters.*[562]

In the city-state itself, many felt that the state was overstepping its boundaries as the policing body increasingly impinged on people's privacy the installation of web cameras and tagging surveillance. One family, under a mandatory government quarantine order, asked that "the relevant authorities enlighten [them on] why CISCO personnel had to call at my home at the ungodly hours of 2.00 am on the first day and 2.30 am on the second."[563] Despite these concerns, Heymann described Singapore's handling of the crisis as "exemplary". Upon Singapore's removal from the list of areas with local transmission of SARS in May 2003, he commented that "*this is an inspiring victory that should make all of us optimistic that SARS can be contained everywhere*."[564]

In Hong Kong, the bureaucracy staffed by medical professionals was reluctant to impose quarantine and home confinement measures due to their belief that frightened patients and their relatives would refuse or hide, thus posing a larger problem.[565] However, with the outbreak in the Amoy Gardens apartment block, and WHO subsequently issuing a travel advisory, the government quickly imposed measures comparable to Singapore to get the travel advisory removed. The Hong Kong government announced,

> *Hong Kong is currently facing its most serious contagious disease **threat** in the past fifty years. The Government will join forces with the community at large to make every effort to win the **battle against the disease**…and the government is confident [it will] win this **battle** [emphasis added].*[566]

The police department's electronic tracking system was thus used to enforce quarantines and contact tracing. The police department website stated,

> *It has to be remembered that the **war against SARS** was not a police-led operation. Ultimate authority, with legislated regulatory powers, was vested in the Director of*

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[562] Chua MH (2004), A Defining moment: how Singaporean beat SARS, Singapore: Institute of Policy Studies, p. 137.
[563] Forum, The Strait Times, 6 May 2003
[564] WHO (2003), Singapore removed from list of areas with local transmission of SARS, 30 May 2003. Available at http://www.who.int/csr/don/2003_05_30a/en/index.html
[565] Ma, Ngok (2004), SARS and the limits of the Hong Kong SAR Administrative State, *Asian Perspective*, 28(1): 99-120, p. 107.
[566] Hong Kong Government (2003), Press release, *CE announces measures to combat atypical pneumonia*, 27 March 2003.

> *Health (DH). The Police could support the DH only insofar as an individual refused to cooperate with or obey the instructions of DH staff [emphasis added].*[567]

While contact tracing was time-intensive, socially disruptive and far from cost-effective, the measures were perceived to be essential to maintaining security.[568]

In China, Qi Xiaoqiu, Director General of the Ministry of Health's Department of Disease Control, stated in May that "Despite the arduousness of the current tasks against SARS, we have no doubt we will be able to ***win this battle***…we have taken various and vigorous measures to prevent SARS spreading into the countryside *[emphasis added]*".[569] The Chinese government quarantined more than 10,000 individuals, with the threat of execution for violators.

> *International spreading of pathogens in sudden epidemics, **endangering public security**, causing serious injuries or public properties will attract a sentence of imprisonment for a minimum of 10 years, or life imprisonment or death sentence [emphasis added].*[570]

In support of this statement, Bekedam (WHO China representative) contended that people must act responsibly. "I think it sounds very tough but I do believe that people have a certain responsibility and it's very important that people understand what that responsibility is."[571] This statement, demonstrating WHO's support of potentially coercive measures, reflected a perceived priority to protect the security of all even at the expense of civil liberties.

The framing of SARS by the security discourse was also evident in the issuance of travel restrictions by individual governments to warn their nationals not to travel to SARS-affected areas. For national health authorities, the main concern was the potential importation of SARS from returning nationals.[572] While the WHO's travel advisories, which commenced in 27 March 2003, were precautionary, related only to a small number of countries, and addressed to international travellers to those countries, individual governments went much further. For instance, the US government advised all nonessential employees and their families to leave the province of Guangdong.[573]

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[567] The newspaper of Hong Kong police force, "War against SARS" http://www.police.gov.hk/offbeat/751/eng/n02.htm
[568] Klinkenberg D, Fraser C, Heesterbeek H (2006), The effectiveness of contact tracing in emerging epidemics, *PLOS One*, DOI: 10.1371/journal.pone.0000012
[569] Reuters, source from Xinhuan news agency, available at http://www.inreview.com/archive/topic/3328.html
[570] Reuters, source from Xinhuan news agency, available at http://www.inreview.com/archive/topic/3328.html
[571] Reuters, source from Xinhuan news agency, available at http://www.inreview.com/archive/topic/3328.html
[572] Interview with Leo, Singapore
[573] United States General Accounting Office (2004), *Emerging Infectious Diseases: Asian SARS outbreak Challenged International and National Response*, Report to the Chairman, Subcommittee on Asia and the Pacific, Committee on International Relations, House of Representative, April 2004.

Japan issued travel advisories warning their citizens not to travel to Canada.[574] Two days later, Malaysia stopped almost all holders of Hong Kong and Chinese passports from entering the country, and China banned organized tours to Malaysia, Singapore and Thailand. On May 15, 2003, Australia and New Zealand issued travel alerts for several countries in Southeast Asia, advising travellers to be especially careful in countries such as Singapore, Malaysia and Thailand.[575] The New Zealand Ministry of Health announced that "*as the **threat of terrorism** is growing, the Ministry of Health is reviewing advice for travellers to Hong Kong and Guangdong province in China because of **the threat of SARS*** [emphasis added]".[576] The Vietnamese government forbade Vietnamese nationals from travelling to Taiwan for work.[577]

Moreover, the travel restrictions issued by national governments included preventing certain populations from *entering* their sovereign jurisdictions. New Zealand turned a Chinese delegation of 43 people away from a conference, while Italy barred people from China, Hong Kong and Taiwan from a Far East Film Festival. Meanwhile, traders from China, Hong Kong, Singapore and Vietnam were barred from one of the world's biggest jewellery and watch fairs in Switzerland. Various countries in Asia also tightened rules on people entering their borders.[578] The Malaysian Health Minister stated "All SARS suspects, as well as probable cases, will not be allowed to travel, especially beyond their borders. This is something we probably have not seen since the HIV/AIDS epidemic."[579] [580] The Vietnamese government indicated that it was considering closing its land border to control 5,000 daily travellers from China. In the US, President Bush issued an executive order mandating "the prompt isolation and quarantine of all ***suspect carriers*** of SARS who arrived in the US aboard international flights *[emphasis added]*". Subsequently, the Department of Homeland Security announced that immigration and customs agents were authorized to detain travellers who appeared to be ill with SARS-associated symptoms.[581]

The above described securitization of SARS was a key factor behind the adoption at the ASEAN +3 meeting in April 2003 of a multilateral initiative to set up a *surveillance mechanism* to identify "foreign nationals suspected of carrying SARS." [582] At the Asian

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[574] CBC News, In depth: SARS Timeline, CBC News Online. Available at http://www.cbc.ca/news/background/sars/timeline.html
[575] http://www.health.gov.au/sars
[576] The New Zealand Herald, "SARS, terror put third of world off – limits for NZ tourist". Available at http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=3503976
[577] Twenty-to countries have travel restrictions against Taiwan, *The China Post*, 8 May 2003.
[578] Brookes, T (2005), *Behind the Mask: How the World Survived SARS*, Washington: American Public Health Association, p. 154
[579] More SARS deaths as health authorities brace for surge in China cases, *Agence France Presse*, 18 April 2003.
[580] British expert finds SARS virus kills up to one in seven victims, *Global New Wire,* 17 April 2003.
[581] The White House. Newsroom 2003. Available at http://www.whitehouse.org/news/2003/040903.asp.
[582] Joint Statements of ASEAN +3 Ministers of Health Special Meeting on SARS, April 26 2003. Available at www.aseansec.org/14824.html; Kondro W (2003), "ASEAN leaders agree regional SARS plan," The Lancet, vol.361: 1525, 3 May 2003

Ministerial Summit held on 26 April 2003, framing SARS as an "unprecedented threat," Shigeru Omi, Regional Director of the WHO Western Pacific Regional Office, used military language to stress the importance of detecting suspected SARS carriers:

> *We are at [a] crossroads. What we decide today and at the Heads of States meeting will determine the future course of this outbreak. We must be absolutely relentless in our search for every possible SARS case. We must use* ***every weapon at our disposal****. The world is watching us [emphasis added].*[583]

The rhetoric on border defences, with language reminiscent of intelligence operations, spurred national governments to subject foreign "suspects" potentially carry the virus to rigorous screening. For instance, when it was discovered that the index case originated from Hong Kong, Singaporean airport/seaport screening measures were strengthened[584] along with compulsory thermal screening of air passengers. Deputy Prime Minister Lee gave the rationale as follows:

> *We must expect new index cases to enter Singapore from time to time. This was in fact how the SARS outbreak in Singapore started. We cannot shut our borders and stop the movement of people and business completely. But we must institute effective border controls to identify people…We have built thermal scanners that enable us to scan the temperatures of large numbers of people efficiently…We have already started screening all inbound air passengers from SARS-affected areas.*[585]

In regard to thermal scanners, Singaporean Minister of State for Health Balaji Sadasivan stated, "*We do what we have to. I don't think we've seen anything like this before and it is a global problem. For now, this is* ***a battle*** *that is being* ***fought*** *with the thermometer and quarantine [emphasis added]".*[586] The policy was subsequently adopted by other affected countries in Asia and Canada. In response to a WHO comment, that concern over the export of SARS from Canada played a role in its decision to issue a travel advisory, Health Canada acquired 10 to 12 machines from Singapore for airports in Vancouver and Toronto. Blaming the federal government for not introducing the thermal scanners sooner, one Canadian politician said,

> *We should at least be more careful about* ***the kind of immigration that comes in****; I think we should look at it closely, yes, absolutely, because of SARS and because of anything else we might run the risk of incurring. The first person to*

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583 Omi (2003), Opening remarks by S Omi at ASEAN +3 Health Ministers Special Meeting on Severe Acute Respiratory Syndrome, 26 April 2003, Kuala Lumpur Malaysia. Available at http://www.cdcmoh.gov.kh/sars/ASEAN+3_Health_Minister_meeting.pdf

584 Tan BH, Leo YS, Chew SK (2006), Editorial: lessons from the SARS crisis – more relevant than ever, *Annals of the Academy of Medicine*, vol. 35(5): 299-300.

585 The Strait Times, 25 April 2003

586 The New York Times, 27 April 2003

come down with SARS in Ontario had been visiting Hong Kong [emphasis added].[587]

The above described measures point to the securitisation of SARS as a global "battle" against "suspects" who pose "threats" across national borders. This framing is perhaps most evident in the introduction of the border screening measures. For example, in Hong Kong, 90 million people were screened at border crossings. In China, thermal scanners were used to scan 13 million people travelling to and from Beijing. In other countries, a further 31 million air travellers were screened for SARS.[588]

While border controls may have assuaged concerns framed by the security discourse, it is interesting to note that the practice proved to be ineffective at controlling disease transmission. Of the 120 million air travellers scanned, 26 probable or suspected cases of SARS were identified.[589] This was partly due to the nature of the virus in that early presentation of the disease made its symptoms (i.e. fever) impossible to differentiate from a range of other illnesses. One retrospective study concluded that the majority of measures implemented, particularly thermal scanners, were ineffective. Funds used could have been spent more productively on other health care needs such as hospital resources.[590]

The findings suggest that the security discourse not only shaped the response to SARS, but moved public health concerns into the realm of broader national security policy. For instance, the Malaysian health minister said during a press briefing on 5 April 2003,

> ***The killer*** *Severe Acute Respiratory Syndrome disease has now become a* ***national security matter****. It was recommended by the National Committee on SARS that matters related to the killer disease be treated as national security to ensure information is properly transmitted and all rumour-mongering about SARS is stopped [emphasis added].*[591]

In China, Chinese Communist Party Central Committee Secretariat member Zhou Yongkang stated on 28 May 2003,

> ***Public security organs*** *at all levels must insist on using both hands to grasp without relaxing work on the prevention and control of atypical pneumonia on the one side and without slackening work on the protection of social stability on the*

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[587] Legislative assembly of Ontario, official records for 8 May 2003. Available at http://www.ontla.on.ca/web/house-proceedings/house_detail.do?locale=en&Parl=37&Sess=4&Date=2003-05-08
[588] St. John R, King A, Jong DD, Bodie-Collins M, Squires S, and Tam T (2005), "Border Screening for SARS," *Emerging Infectious Diseases.* Available at http://www.cdc.gov/ncidod/EID/vol11no01/04-0835.htm
[589] Ibid.
[590] Wilder-Smith A (2006), "The Severe Acute Respiratory Syndrome: Impact on travel and tourism," *Travel Medicine and Infectious Diseases*, 4 (2): 53-60.
[591] BBC Monitoring International Reports, April 5 2003

*other in order to make new contributions towards work to prevent and control disease and the **protection of social stability** [emphasis added].*[592]

Similarly, the Taiwanese President called a "***national security"*** meeting on 1 May to tackle the deteriorating SARS situation, and to discuss the possible impacts of SARS on Taiwan's national interests. President Chen Shui-bian said that "all citizens should stand united and work hand-in-hand to **combat** the potentially ***deadly*** disease [emphasis added]".[593] As one informant involved in the WHO-led SARS research collaboration recalled,

*[The] SARS crisis was a watershed moment for Singapore science. Prior to 2003, the entire scientific effort was for economic development. For example, when and from where are we going to get [more] money through scientific endeavours? But after 2003, the biomedical mission was for **national security**. There were no longer questions of whether scientific inquiry was useful. This is part and parcel of the **[national mission]** in order to **defend our borders** [emphasis added].*[594]

5.3.3. A focus on responsible behaviour and public hygiene

During April and May 2003, when the origin and early transmission of SARS were becoming known, additional public health measures and recommendations were introduced. Framing SARS as an individual risk behaviour, based upon the biomedical discourse, continued albeit in a more elaborated form. Beyond focusing on individual risk factors, biomedical framing extended to ideas of personal hygiene requiring changes in the way people behave. These ideas appear to have been triggered by the Amoy Garden outbreak in Hong Kong. Prior to this outbreak, SARS was believed to be transmitted by respiratory droplets through close person-to-person contact. Amoy Garden puzzled epidemiologists. The dominant epidemiological hypothesis was sewage contamination advanced by the WHO study.[595] The report suggested that the index patient may have passed a large quantity of virus in his excreta during his visit to Amoy Gardens on 19 March which contaminated the sewage system in Block E. It was speculated that virus-laden droplets were transported to other apartments via U-traps connected to floor drains. There were also signs of cockroach infestation around drain openings, and rodents around refuse collection chambers, food premises, and car parks. On 1 April, in response to the question of whether the Amoy Garden outbreak was related to the sewage system, Heymann suggested,

So what appears is that there is now some environmental factor – it's not the air, but some other factor, possibly the water but it could be sewage and it could also be

[592] BBC Monitoring International Reports, May 28 2003
[593] BBC Monitoring International Reports, May 1 2003
[594] Interview with Liu, Singapore
[595] Other hypotheses which emerged at that time include passive distribution of virus by pets, person-to-person transmission, oral-faecal transmission, and the rat vector theory. These explanations were discounted when the WHO research group claimed the sewage contamination theory.

> *many different things – which is taking this disease from one human to another. It could even be such a thing as a door handle, where someone with SARS has coughed and left some droplets which contain the virus, and then the next person that opens the door gets these virus in them on their fingers, touches their eyes or their mouth, and becomes infected…**if you're not washing your hands, you're probably not protected** because coronavirus is transmitted very easily from person to person through a handshake, and then a touching of a mucus membrane [emphasis added].*[596]

In view of possible environmental contamination as a primary mode of transmission, WHO official Mark Salter recommended changes in personal hygiene habits and public sanitation. He stated,

> *We would anticipate that **if people were to wash their hands**, wipe their toilet seats down with the normal disinfectants and disinfect the things that they normally disinfect at home in exactly the same way, **this virus would be rendered unviable** [emphasis added].*[597]

The concept of individual risk behaviour, alongside the notion of public hygiene, was emphasized by WHO officials and other attendees at the WHO's Global Meeting on the Epidemiology of SARS, held in May 2003. The meeting document noted that "*Where SARS is present or there is a reasonable suspicion that an individual is infected, the **effective cleaning** of residential buildings **is good enough to prevent** the transmission of SARS-CoV* [emphasis added]".[598]

The findings suggest that, by this period, SARS was increasingly depicted as evidence of lax attitudes towards personal and public hygiene. In Hong Kong, when SARS cases had risen to 998 on 11 April, the Chief Executive of Hong Kong SAR Tung Chee-Hwa stated that "the most effective way to avoid the disease is to maintain good personal and public hygiene", and suggested "Cleaning Hong Kong Action Day".[599] On 17 April, the Department of Food and Environmental Hygiene issued a guideline entitled "Atypical Pneumonia: Guidelines on Inspection and Disinfection of Common Parts of Building". Similarly, on 22 April, the Department of Health issued another guideline which carried the title "Prevention Atypical Pneumonia: For Health to be Bright, Get the Hygiene Right".[600] As the community mobilised, one of the governments' most remarkable responses was the introduction of public hygiene campaigns. In Hong Kong, a public hygiene taskforce team known as "Team Clean" was launched on May 5 under the Home Affairs Department and supervised by senior civil servant Donald Tsang, later appointed as Chief Executive of the Hong Kong SAR in the aftermath of the SARS

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[596] WHO press briefing, 1 April 2003. Available at http://www.who.int/csr/sars/press2003_04_01/en/
[597] WHO press briefing, 11 April 20003. Available at. http://www.who.int/csr/sars/Press_2003_04_11/en/
[598] WHO Available at www.who.int/csr/don/2003_05_07a/en/ p. 4
[599] Available at http://www.dh.gov.hk/ap.htm
[600] Available at http://www.dh.gov.hk/ap.htm

outbreak. The Team Clean's mission was "to establish and promote a sustainable, cross-sectional approach to improve environmental hygiene in Hong Kong".[601] The Interim Report on Measures to Improve Environmental Hygiene in Hong Kong, argued,

> *We need brave and novel approaches to tackle long-standing problems such as spitting and littering, filthy rear lanes, poorly maintained old tenement buildings, unhygienic food handling practices, smelly restaurant toilets, etc. The administration is prepared to break new grounds, abandon traditional demarcation of responsibilities in Government, and try new approaches to solve old problems.*[602]

The Hong Kong government's report further highlighted the importance of individual responsibility for risky behaviours:

> *A clean and healthy city is built on a community of citizens who observe high standards of hygiene and are keen to keep it that way.* ***Everything starts with the individual****. The outbreak of SARS has heightened public awareness of the important role played by the individual, both in* ***maintaining a clean and healthy environment*** *and in preventing the spread of diseases in the community [emphasis added].*[603]

The framing of SARS in this way led to the adoption of policy measures designed to achieve individual behavioural change. In Singapore, a "socially responsible citizen" was described as one willing to comply with government measures taken to combat SARS. A SARS Task Force was set up in every community and neighbourhood to spread the message of public hygiene, under the management of Wong Kan Seng, the Minister for Home Affairs. The Singapore National Environment Agency's director-general Wang Nan Chee said,

> *We have always emphasized the need for* ***good public hygiene****, so we decided to use this opportunity to remind Singaporeans of* ***the importance of public hygiene*** *[emphasis added].*[604]

On 22 April, Prime Minister Goh justified the closure of Pasir Panjang Market in the South-western part of the city-state, and placement of 1000 people under quarantine, as follows:

> *Once SARS spreads through the community, we risk losing control of it, and we will not be able to isolate and contain it…These measures may be harsh, but they are necessary. Taking a lenient attitude will not help us break the cycle of infection.*

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[601] Team Clean (2003), *Interim report on measures to improve environmental hygiene in Hong Kong*. Hong Kong: Home Affairs Office. May.
[602] Team Clean (2003), *Interim report on measures to improve environmental hygiene in Hong Kong,* p. 5
[603] Ibid., p. 9
[604] Chua MH (2004), *A Defining Moment: How Singapore Beat SARS*, Ministry of Information, Communications and the Arts, p. 108.

> *Instead, it may undermine the stringent infection controls we have painstakingly put in place to protect Singaporeans from SARS.*[605]

On 3 May, during the press conference led by Prime Minister Goh, National Development Minister Mah Bow Tan and Environment Minister Lim Swee Say stated that their ministries were increasing the frequency of cleaning in public areas in view of the fact that the SARS virus was spread in Hong Kong's Amoy Gardens due to "unsanitary conditions."[606] Prime Minister Goh stated that,

> *In the early days, we did not understand how SARS was transmitted, so individuals went out, and spread the disease without knowing that they were doing so. But from now on, there is no excuse for anyone in Singapore* ***not to know the part he has to play****…so the message is a simple one. All of us as ordinary citizens, you and I, have a part to fight SARS and keep Singapore cool…Beyond* ***acting responsibly****, people must take steps to stop any* ***irresponsible person*** *from spreading SARS [emphasis added].*[607]

Deputy Prime Minister Lee Hsien Loong stated, "*Singapore is clean because of extensive cleaning rather than [the] results of…[citizens]' own efforts*."[608] He further added, "*Life will not be the same as it was before SARS. We must* ***adjust our habits and behaviour patterns*** *so as to tackle this new disease and adapt to the changed environment*".[609] On 6 May, the headline of a local Singaporean newspaper stated that "Not washing your hands? It could cost you your life if you have not been washing your hands religiously; new findings on the SARS virus are a stark reminder that ***good personal hygiene could save your life*** [emphasis added]".[610]

Similarly, when the first wave of the SARS outbreak was over in Canada, authorities commented that "*SARS was contained, at least temporarily – not by the genomic revolution, not by advanced pharmaceuticals, but by old-fashioned public health measures like hand-washing, infection-control procedures, isolation of cases, and tracing and quarantine of contacts*".[611] The emphasis on individual hygiene practices is evidenced by the sharp increase in demand for hand sanitizer products.[612] Despite criticisms of underlying structural factors or systemic failures during the outbreak such as the limited surge capacity, lack of transparency, inconsistent policy measures, and violation of civil liberties, the focus remained on individual behaviour change, information, and

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[605] Goh CT (2003), Fighting SARS together, 22 April 2003. Available at http://www.moh.gov.sg/mohcorp/speeches.aspx?id=1698
[606] Lessismore (2003), "Do your part, stop selfish behaviour" *The Strait Times*, 3 May 2003.
[607] Ibid.
[608] Ibid
[609] "Battling a national crisis," *The Straits Times*, 25 April 2003.
[610] "Not washing your hands? It could cost you your life if you have not been washing your hands religiously," *The Straits Times*, 6 May 2003.
[611] *Canadian* National Advisory Committee (2004), *Learning from SARS: Renewal of Public Health in Canada*. Ottawa: Health *Canada, p. 42*
[612] Frankkln D (2003), "Hand sanitizers, good or bad?" *New York Times*, 21 March 2006.

hygiene practices. Personal success in confronting SARS was attributed to one's level of education about the potential source of danger and the unfolding epidemic, and the ways of using these barriers to good effect. In this way, it is argued that responsibility was shifted from governments to individuals. Overall, however, the effectiveness of the self-motivated preventive actions remained unclear.

5.4. PHASE 3: SARS SUBSIDING (JUNE 2003 AND BEYOND)

5.4.1. Preponderance of biomedical evidence

By June 2003, the number of reported SARS cases was steadily declining. As new infections dwindled, it is argued that the prevailing discourse shifted to the biomedical discourse with its emphasis on clinical evidence and interventions. As Brundtland asserted that,

> *SARS will continue to menace the global public health system. It is possible that new SARS cases will appear. SARS could be a seasonal disease and return later in the year – a possibility based on what we know about other members of the coronavirus family. Further, the original source of this SARS outbreak may still be in the environment and could ignite a new outbreak in the coming months. For example, it is possible the virus still circulates in an animal reservoir and may cross into humans again when conditions are right. To answer these and other questions, research into SARS must continue.* ***Scientific evidence will be crucial for our ability to best handle*** *another SARS outbreak should there be one [emphasis added].*[613]

Shigeru Omi, then regional director of WPRO, asserted, "A*lthough this [SARS] was a public health problem that affected large groups of people, we have to reach each and every contact if we were to stop the outbreak from spreading*."[614] What was required for this mission was to create a scientific definition for SARS cases so that the uniform criteria could be applied across the countries in a bid to eradicate the disease as early as possible. On the WHO website, the global case definition for SARS was updated based on the following criteria:

- Suspect Case: A person presenting after 1 November 2002 with a history of high fever (>38 °C) AND one or more respiratory symptoms including cough, shortness of breath, difficulty breathing OR close contact with a person who had been diagnosed with SARS OR history of travel to an area with local transmission of SARS.
- Probable Case**:** A suspect case with radiographic evidence of infiltrates consistent with pneumonia or respiratory distress syndrome on chest X-ray OR a

[613] http://www.who.int/mediacentre/news/releases/2003/pr56/en/
[614] http://www.cdcmoh.gov.kh/sars/ASEAN+3_Health_Minister_meeting.pdf

> suspect case with an unexplained respiratory illness resulting in death, with an autopsy examination demonstrating the pathology of respiratory distress syndrome without an identifiable cause.[615]

WHO stated that the surveillance case definition was based on "*available **clinical and epidemiological data supplemented by laboratory tests***." Similarly, the US CDC laid out the clinical criteria for SARS infection. The epidemiological criteria include travel (including transit in an airport) within 10 days of onset of symptoms to an area with current or recently documented or suspected community transmission of SARS and/or close contact within 10 days of onset of symptoms with a person known or suspected to have SARS infection.[616]

As observed, the SARS case definition offered by the two leading organisations was based upon clinical evaluation and epidemiological criteria rather than laboratory tests. This is because the laboratory diagnosis methods for SARS during that period were not sensitive enough and sometimes not readily accessible. For example, laboratory diagnosis methods for SARS such as Reverse Transcription-Polymerase Chain Reaction can be used only 10 days after the detection of clinical symptoms. For this reason, the case definitions provided by the two organisations were consequently non-specific, meaning that all patients with febrile respiratory illnesses, regardless of aetiology, should be classified as SARS cases if they have any history of exposure.[617] The rationale for using such a broad case definition, albeit scientifically proven, was given by WHO medical officer Mike Ryan:

> *The WHO case definition takes a "wide net" approach, and is intended to assist in the identification and prompt isolation of any person who might have been exposed to the SARS virus. WHO continues to recommend that suspect cases be immediately isolated and remain so until either a probable diagnosis is made or another agent is determined to be the cause. Pending the development of a reliable point-of-care diagnostic test, case definitions, based on an evaluation of symptoms and history of possible contact with a SARS patient, [this] remained **the only way to find possibly infected persons** and reduce opportunities for further spread [emphasis added].[618]*

Heymann gave support for the WHO's criteria by arguing, "*The next influenza season will result in a large number of patients with symptoms easily confused with SARS. SARS*

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[615] WHO (2003), Case definition for surveillance of SARS. Available at http://www.who.int/csr/sars/casedefinition/en/
[616] US CDC, Severe Acute Respiratory Syndrome – update, 18 June 2003
[617] Muller MP et al. (2004), "Clinical trials and novel pathogens: lessons learned from SARS," *Emerging Infectious Diseases*. Available at http://www.cdc.gov/Ncidod/eid/vol10no3/03-0702.htm
[618] http://www.who.int/csr/sars/Press_2003_04_11/en/

surveillance will need to continue for at least a year."[619] Here, the case definition was presented in a way to demonstrate the scientific basis of policy making, but more importantly to increase normative consensus of what must be done to prevent SARS from spreading. Hence, narratives such as "no guarantee," "redouble," "the only way to find" were used to underscore the significance of a massive mobilisation of the WHO's criteria for identifying and monitoring people with SARS.

The basic idea was that, with what are considered "effective" scientific tools (in this case, epidemiologically and clinically proven case definition), interventions will lead to the eradication of SARS, and what was needed were the institutional and technocratic bases for achieving collective actions on an international level. This idea underpinned a range of rapid contact tracing and isolation policies across countries during the late phase of the outbreak. In Shanghai, China, Mayor Han Zheng indicated that as a responsible government, Shanghai was dedicating itself to effectively engaging in the identification of SARS cases according to WHO criteria. He stated, "*All kinds of medical means and resources within Shanghai have been fully utilized in the prevention and treatment work. Shanghai's disease monitoring and reporting system is strong and high-powered, and its follow-up and investigation on people who have had close contact with the disease has been carried out in an orderly manner*."[620] In Hong Kong, Secretary for Health EK Yeo commented that the government was acting according to the "*scientific and clinical evidence*." He said Hong Kong introduced the enhanced computer surveillance system specially developed to enable "*swift contact tracing of confirmed and suspected SARS cases*."[621] In response, Salter praised the Hong Kong government's installation of facilities at the international airport to screening for the passengers, commenting how *"this should be really disseminated to other countries in the world [that] can then also put in such systems to reduce the risk of having problems of SARS in [the] future*."[622] The scientific achievement was further extended in Singapore to the development of fever scanners.

Once again, thermal image scanners, namely the Infrared Fever Screening System, jointly developed by the Defence Science and Technology Agency (DSTA) and Singapore Technologies Electronics Ltd., were deployed at key border points of entry in a large number of countries to screen suspected carriers of SARS.[623] Marketed at a cost of US$90,000, more than 160 scanners were sold to organizations in various countries.[624]

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[619] http://www.who.int/csr/don/2003_06_20/en/
[620] Shanghai mayor meets WHO experts outlined efforts against SARS, *BBC Monitoring International Reports*, 20 June 2003.
[621] China: WHO officials praise Hong Kong government's exemplary anti-SATS policy, *BBC Monitoring International Reports*, 14 June 2003.
[622] Ibid.
[623] Defense Science and Technology Agency (2003), Singapore's IFSS on *Time Magazine*'s coolest invention list, DSTA news. Available at http://www.dsta.gov.sg/index.php?option=com_content&task=view&id=3091&Itemid=167
[624] Menon, K (2006), "SARS revisited: managing outbreaks with communications," *Annals Academy of Medicine*, 35(5): 361-367.

Such key measures resulted in very large numbers of individuals being quarantined or placed under surveillance, yet most of those quarantined eventually turned out not to have SARS. For instance, in Singapore, 4,044 travellers were detected to have fever through screening at the airport and sea terminals. Of these, 327 were referred to designated hospitals for assessment and 39 were admitted for further evaluation and isolation. However, no case of SARS was ever detected.[625] In Taiwan, more than 130,000 individuals were placed in quarantine for 10 or more days with fines and jail time for violators.[626] In Toronto, nearly 30,000 people had been quarantined but only 27 legal orders had been required to ensure compliance.

5.4.2. Strong vigilance as a health security measure

The period from early June 2003 onwards saw the continued domination of the security discourse. Brundtland remained an ardent proponent of the security discourse.[627] On 17 June, she described the disease using military and intelligence language at the first global conference on SARS held in Kuala Lumpur:

> *We are dealing with a new disease, striking a globalized society. We have seen its rapid international spread…But we have also seen unprecedented international solidarity against a shared* ***microbial threat*** *of unknown dimensions. SARS has changed the perception of the* ***infectious disease threat****. It has also raised public health to a new level of importance…health care workers – the* ***frontline troops*** *at risk – were themselves frequent victims of the disease [emphasis added].*[628]

She went on to argue that effective outbreak containment immensely hinged on a strong outbreak information gathering system.

> *Monitoring the evolution of SARS has been hindered by the weak capacity of many national surveillance systems to provide detailed information daily. When surveillance in individual countries is strengthened, it generates the knowledge needed to support sound control measures, and thus enhances prospects for global containment…It is in the enlightened self-interest of us all to strengthen our* ***defenses*** *against the infectious* ***disease threat*** *in all its dimensions [emphasis added].*[629]

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[625] Tan CC (2006), "SARS in Singapore – key lessons from an epidemic," *Annals Academy of Medicine*, 35(5): 345-49.
[626] Centre for Disease Control (2003), Use of quarantine to prevent transmission of Severe Acute Respiratory Syndrome – Taiwan, *Morbidity and Mortality Weekly Report*, 52: 680-683.
[627] Brown TM, Cueto M and Fee E (2005), "The World Health Organization and the transition from international to global public health," *American Journal of Public Health*, 96(1): 62-72.
[628] Speech of Dr. Gro Harlem Brundtland, Director General, WHO. Available at http://www.who.int/csr/sars/conference/june_2003/materials/presentations/brundtland/en/index.html
[629] Ibid.

On 7 July, Brudntland said,

> *SARS is a warning. SARS pushed even the most advanced public health systems to the breaking point. Those protections held, but only barely…we have an opportunity now. We [now] see the need clearly to rebuild our public health protections. They will be needed for the next global outbreak, if it is SARS or another new infection.*[630]

The WHO press briefing further clarified that "preparing for the next outbreak" would require "restoring and strengthening the public health infrastructure. More epidemiologists and other public health specialists are needed. Better surveillance and response systems must be established which include strong national, regional and global linkages in reporting."[631] Thus strong surveillance to rapidly detect and respond to the outbreak was once again highlighted.

Brundtland's propensity to securitise public health issues was not limited to SARS. During her term in office (1998-2003), she had consistently used the concept of "global health security" in order to call for wealthy countries to spend more on a range of issues. In so doing, she favoured highlighting the security aspect of public health and skewed away from the traditional public health notion of humanitarianism. She warned that the "*most sophisticated societies are vulnerable to bioterrorism, but armed conflicts and other crises in Africa and elsewhere present just as great a threat.*"[632] Framing infectious diseases in terms of global health security, Brundtland sought to achieve a broader objective, which was to regain prominence for the WHO in the global public health arena.[633] Thus, in a paper published in the *European Journal of Public Health*, SARS was associated with the notion of terrorism, both of which were conceptualized as external threats.

> *We also face **threats** from the environment and what humans can do to manipulate it. We have already had one anthrax scare. Each of us in this room [has] probably considered the **threat** of bioterrorism. SARS jumped from nature to humans – a rare occurrence requiring perfect conditions. And while far from a simple undertaking, bioterrorism is controlled by people, not nature. How to **counter this threat**? The tools are in fact the same. **Boosting capacity for disease surveillance is key to detecting all disease** – whether created by nature, or humans. Currently, the system is not strong enough. Our experience with SARS*

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[630] http://www.who.int/mediacentre/news/releases/2003/pr56/en/index.html
[631] WHO (2003), SARS outbreak contained worldwide, WHO press briefing, 5 July 2003. Available at http://www.who.int/mediacentre/news/releases/2003/pr56/en/
[632] United Nations Foundation (2002), "Brundtland Urges More Health Spending To Boost Security." Available at http://www.unwire.org/unwire/20020926/29228_story.asp
[633] Brown TM, Cueto M and Fee E (2005), "The World Health Organization and the transition from international to global public health," *American Journal of Public Health*, 96(1): 62-72.

> *exposed the weaknesses. Globally, including in developing countries, we must strengthen disease surveillance and control [emphasis added].*[634]

Controlling disease outbreaks, in her point of view, could be achieved by developing a strong surveillance system. She argued that a key to containing the threat is "*a system where infectious diseases are found, reported, and stopped.*"[635] This idea was enshrined in an interview with the media in June 2003.

> *I think generally it is a very important thing that all countries have an efficient and sufficient reporting system and that our international health regulations as they now are improved and negotiated in a new century that they will be much more up-to-date; that openness and transparency will prevail, and that member states of the World Health Organization will agree in 2005 on updated and improved health regulations. Meanwhile, with the help of the press, with the help of NGOs, with the help of anyone who can inform or report, as was happening around the world, we get a lot of information to our global alert and response network which has helped us even when countries are not obliged in a legal sense. People report and the press reports and then we can inquire and get additional information. So this is a more general comment on how the world should be working and how it needs to be improved based on our experiences.*[636]

Military-themed language was also used by other conference participants. Urging continued surveillance on SARS, Heymann asserted, "*We'd had **killer** outbreaks of new disease before like Ebola, but they have never spread internationally…In SARS, there is no place for complacency. We cannot be wooed into **false security** over the successful containment efforts that have interrupted human transmission, as false security could become our worst **enemy** [emphasis added].*"[637] Paul Gully, Senior Director General of Health Canada, similarly argued in his presentation, "*Human **security** can be threatened by the infectious **disease threats**,*" and suggested that "*Strong public health infrastructure is essential within the health care systems, in the community and **at borders** [emphasis added].*"[638] Jim Hughes, Director of the US National Centre for Infectious Diseases, had expressed similar views, *"[In order to] address SARS and other global **microbial threats,** we should enhance global response capacity and strengthen **surveillance systems** [emphasis added].*"[639] Gao Qiang, Executive Vice Minister of China's Ministry of Health, described SARS in his speech as a "common disaster for mankind", adding that "*The international community, through unity and cooperation, has*

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[634] Brundtland, G (2005), Public health challenges in a globalizing world, *European Journal of Public Health,* vol. 15(1)*:* 3-5, p. 5 Available at http://eurpub.oxfordjournals.org/cgi/reprint/15/1/3
[635] Ibid., p. 5
[636] Press Release, Transcript of Dr. Gro Harlem Brundtland, Available at http://www.info.gov.hk/gia/general/200306/19/0619199.htm
[637] WHO (2003), SARS: global alert, global response, 17 June 2003. Available at http://www.who.int/csr/sars/conference/june_2003/materials/presentations/sarsglobal170603.pdf
[638] National response to SARS: Canada (presented by Paul R Gully, Health Canada),17 June 2003, available at http://www.who.int/csr/sars/conference/june_2003/materials/presentations/sarscanada170603.pdf
[639] Ibid.

*waged an unprecedented **war against** SARS and made significant progress [emphasis added]*."[640] Emphasising the importance of national vigilance, Julie Gerberding of the US CDC stated that "*It is so difficult to keep people vigilant once the **immediate threat** has subsided [emphasis added].*"

Shigeru Omi, one of strongest proponents of securitizing SARS, used a wartime analogy to describe the global response to SARS. He commented,

> *At a turning-point in the Second World War, someone asked Winston Churchill whether the battle marked the beginning of the end. He replied, "No, but it might be the end of the beginning". The same could be said of the **war against** SARS. The first half of this year, 2003, will have a unique place in the annals of international public health…SARS mercilessly exposed weaknesses, even in countries that we thought had good surveillance and outbreak response systems. Seriously inadequate hospital infection control practices were laid bare. Among the most important lessons that we learned **are the need for stronger surveillance systems** and transparent information sharing [emphasis added].*[641]

There appeared to be convergence between the vigilance narratives mainly derived from security discourse and the affected countries' operational practices on SARS. In the US, President Bush instructed the Federal departments to review their efforts and find new ways to secure America form bioterrorist attacks. The initiative integrated various communities including national security, medical and public health, intelligence, diplomatic and law enforcement into a focused national effort against bioweapon threats. The White House commented, "*The across-the-board improvements to the nation's biodefense capabilities have vastly increased day-to-day security for all Americans not only against threats posed by terrorists but for medical response in the wake of natural catastrophes and in response to naturally occurring biological hazards such as SARS*."[642] In Macau Special Administrative Region, the government carried out a cross-sectoral rehearsal of "emergency actions" in a quick response to potential future SARS outbreaks. The rehearsal was jointly conducted by the Health Services and Public Security force.[643] In China, the central government emphasised "c*ontinuity in foreign affairs to formulate rapid response policies through [the] two working groups of **external affairs and national security*** [emphasis added]." It was also identified that SARS presented the first non-traditional security challenges to the working groups. [644] In Singapore, the Defense Minister Teo Chee Hean maintained that a psychological response will ensure that governments and security agencies can help their respective

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[640] Speech of Gao Qiang, Executive Vice Minister, Ministry of Health, People's Republic of China, 17 June 2003. Available at http://www.who.int/csr/sars/conference/june_2003/materials/presentations/qiang/en/index.html
[641] Speech of Shigeru Omi, Regional Director, WPRO, 17 June 2003. Available at http://www.who.int/csr/sars/conference/june_2003/materials/presentations/omi/en/index.html
[642] "President Bush signs biodefense for the 21st century, Fact Sheet: The White House.
[643] "Don't let down SARS guard," *China Post*, 7 July 2003.
[644] Wiest NC (2003), "China must heed SARS warning," *South China Morning Post*, 17 June 2003.

societies develop the mindsets needed to face up to challenges like an epidemic outbreak or a terrorist threat. He noted that information management was a critical component of the overall SARS battle plan adding, "W*hile battling the SARS outbreak, Singapore was cognisant of the fact that* ***the battle was a full-scale of rehearsal for a bioterrorist attack*** *[emphasis added]*."[645] In Canada, following the SARS outbreak in December 2003, the Department of Public Safety and Emergency Preparedness was created, similar to US Homeland Security, to deal with terrorism and other emergencies including the risk of disease.[646] The report produced by the Department highlighted strong vigilance,

> *The past several years have seen an increase in emergencies caused by terrorism, the environment or humans. Events, such as [the]…2003 SARS outbreak in Toronto, and the continuing global spread of Avian influenza, all remind us that there are* ***persistent and credible threats*** *to the safety and health of Canadians. These threats reinforce the importance of working with all jurisdictions to enhance national response capabilities….Interoperability ensures that government organizations can and do share critical information with the right people at the right time, strengthening the ability of these organizations to address* ***threats to the safety and security of Canadians****. The absence of interoperability was clearly evident in the wake of events such as the Toronto SARS outbreak [emphasis added].* [647]

James Young, then Chief Coroner and Commissioner of Public Security in Ontario, Canada concurred by saying that SARS represented a potential form of bio-terrorism. He went on to maintain, "*It definitely was not bio-terrorism. However, if you think of bio-terrorism as the wilful introduction of a bug into a society, then SARS, like anthrax, could be made to play that role in a particularly insidious way…The problem with SARS is the problem with bio-terrorism in general: you are obliged to chase it after the fact, trying to figure out – not where it is now – but rather, where it has been. And you must do this without the benefit of obvious destruction*."[648]

Regionally, Asia Pacific health ministers gathered on 2 June in Bangkok to hold discussions about effective health screening along national borders. The importance of the meeting was "*as high as it was when the epidemic was at its peak. The* ***vigilance*** *that brought SARS under control must continue [emphasis added]*." Among several objectives, the first was to become prepared for the next emerging disease.[649] At the ASEAN regional forum held in 2003, member states agreed that transnational issues such as

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[645] "SARS crisis helped Singapore prepare for bioterrorism," *The Strait Times,* 16 July 2003.
[646] http://www.publicsafety.gc.ca/index-eng.aspx
[647] Public safety and emergency preparedness Canada, available at http://www.tbs-sct.gc.ca/rpp/2006-2007/psepc-sppcc/psepc-sppcc-eng.pdf
[648] Young J (2006), "My experience with SARS," In Duffin J and Sweetman A (2006) (eds.) *SARS in context: memory, history, policy*, McGill-Queen's University Press.
[649] "APEC health ministers must persevere in SARS battle, experts warn," *Agence France Presse*, 25 June 2003.

SARS required serious attention, recognising that "*It is a commentary of the globalised nature of our world that the Sept 11 attacks on the twin towers, as well as the outbreak of SARS, saw a common denominator – the use of aircraft or spread of virus by air trave*l."[650] The forum also promoted transparency through exchanges of information, all of which have contributed to the maintenance of "*peace, security and cooperation in the region.*"[651]

5.5. CONCLUSIONS

This chapter has analysed the presence of various discourses as framing responses to the SARS outbreak at the national and global levels. To more fully understand the role of ideas in policy-making surrounding SARS, this chapter has organised the SARS outbreak into three phases, and identified the policy measures taken to address perceived challenges at each stage. From this analysis, it is argued that different discourses competed, each of which held assertions about what should be the appropriate response to SARS. This chapter described how each discourse manifested and competed for influence, and illustrated that, even though different discourses might have exerted a dominant influence at different phases, these discourses could not completely marginalise other discourses which emerged both in scope and application. The analysis in this chapter draws out findings about the construction of discourses and global health policy making on SARS.

First, over the course of the outbreak, different discourses operated simultaneously to provide ideational basis for understanding the SARS outbreak. In the early phase of the outbreak, the global response to SARS was informed by individually focused prevention strategies founded on biomedical discourse. Predictably, biomedical research into the cause, mode of transmission, and prevention became at the centre of the response. The human right discourse advocating global solidarity then entered in support of the international scientific collaboration. The early response to the SARS outbreak also had a security dimension and linked to concerns of a potential threat posed by the coronavirus to states. During the second phase of the outbreak, a further set of discourses entered the equation as the scale of the outbreak grew rapidly. The global response to SARS was strongly driven by the economism during this phase when the perceived economic losses arising from decreased capital flows and restrictions on trade and travel became politically salient. At the same time, this phase witnessed the rise of neoliberal economic discourse advocating TRIPS based intellectual property of the SARS vaccine development. The security discourse also played a significant role by drawing attention to the potential effects of SARS on the stability of states and regions. The biomedical discourse on the other hand continued its prominence advocating rigorous public hygiene practices. In the third phase of the outbreak, the security and

[650] "Go beyond regional matters to global issues: terrorism threats, the SARS contagion and maritime security underline the need for a more transnational perspective," *The Strait Times*, 19 June 2003.
[651] Ibid.

biomedical discourses persisted to alert the world of increased vigilance. In brief, the global response to the SARS outbreak embodies a range of elements drawn from various discourses.

Second, some discourses were amenable to being combined. While the biomedical discourse was preeminent over the course of the outbreak, it was sometimes aligned with security discourse. Focusing on health risk behaviours and personal responsibility, the biomedical discourse supported policy measures on identifying people potentially at risk and isolating them. Likewise, the security discourse emphasised the detection of possible threats to national stability and regional security. Where the biomedical discourse and security discourse came together was through their identification of possible risks posed by 'the other' and emphasis on dealing with them before they became a common health problem. Another instance was the alignment of security discourse with economic discourse. The economic discourse attempted to circumvent the cost-benefit analysis, which previously undermined voluntary reporting of a disease event on the part of national governments. The economic discourse emphasised negative effects of non-reporting (of a disease outbreak) on a country's international standing in terms of trade and commerce. The security discourse on the other hand encouraged states to protect national security interests from external disease threats. Where both security and economic discourses were combined, they were able to galvanise attention to security and economic interests on national, regional and international agendas, calling for and supporting efforts towards decisive government actions and international health cooperation.

Third, certain discourse was not impactful across different phases of the outbreak. The health and human rights discourse briefly featured when mandatory screening, quarantine and isolation measures were adopted on national security grounds to contain the transmission of the disease. The discourse was presented as an argument for the right to privacy, violation of the principle of freedom of movement, and even discrimination on the basis of ethnicity (i.e. Chinese). Yet, the right of individuals to free movement and association was not sufficiently persuasive when the collective right to health of societies was deemed most worthy of support. This indicates that where a particular discourse privileges certain lines of inquiry, the discourse is also bound to marginalise other discourses and interests. Given the short timeframe of the SARS outbreak, which lasted approximately ten months, one cannot observe the longer-term evolution of each discourse. It is thus difficult to identify the far-reaching impact of each discourse. Nevertheless, the analytical focus on ideas examined in this chapter sheds light on the pivotal role that discourses played in the construction of social realities pertaining to the SARS outbreak.

In conclusion, the global response to the SARS outbreak over three phases was shaped by contestation among various discourses, which framed the perceived priority issues and policy responses pursued. The chapter presented evidence of how different discourses supported certain assertions or sets of ideas, which defined the ways the

SARS outbreak was understood and addressed. Importantly, policy ideas did not emerge in a vacuum but stemmed from actors who embodied them. The idea-agency nexus and the role of discourses in the global health policy making on infectious diseases will be more fully discussed in Chapter Six.

CHAPTER SIX

DISCUSSION: THE SOCIAL CONSTRUCTION OF THE GLOBAL HEALTH GOVERNANCE OF SARS

6.1. INTRODUCTION

As Chapter One describes, beginning with the argument that infectious disease outbreak responses are socially constructed, the key question underlying this study is why the Global Heath Governance (GHG) surrounding infectious disease outbreaks, and specifically SARS, was conducted in the way it was. In seeking to answer this question, this research has put forward two key arguments. First, the GHG of infectious diseases is more fully understood if one analyses GHG as arising from different sets of ideas that frame collective action. This requires analysis which brings ideational factors more prominently into view. The analytic inquiry of ideas or worldviews within GHG has led this study to uncover the process through which normative frameworks underpin policy decisions and action.[652] Using the SARS outbreak as a case study, this research has investigated the formation of a community of technical actors whose control over the generation of recognised knowledge gives them a privileged location to define the rationale for certain policy actions (Chapter Four). This research has further explored the ways this community of key actors constructed sets of ideas or frames which have a significant impact upon prioritisation of policy outcomes in GHG of SARS (Chapter Five). Rather than focusing on analysis of the institutional mechanisms by which cooperation was achieved for GHG, this study sought to understand the way in which GHG of SARS is derived from shifting sets of ideas which frame the forms of governance that gain legitimacy.

Following the empirical analysis presented in Chapters Four and Five, this chapter draws together these findings to understand the nature of the global response to the SARS outbreak as socially constructed, and draws broader implications for GHG of infectious diseases more generally. The chapter is organised into four sections. The first section identifies, drawing on empirical chapters and using the concept of idea-agency nexus, the association of key actors with discourses constructed through them. In so doing, it clarifies the nature of the SARS epistemic community. The second section explains why certain discourses came to the fore or receded at different points in time and places during the SARS outbreak. The section also identifies factors that influence the cooperation and contestation of different discourses. In so doing, it underscores the

[652] Shiffman J (2009), "A social explanation for the rise and fall of global health issues," *Bulletin of World Health Organisation*, 87: 608-613; Lee K (2009), "Understanding global health governance: the contested landscape," in Kay A and Williams O (eds.), *Global Health Governance: Crisis, Institutions and Political Economy*, London: Palgrave Macmillan; McInnes C, Kamradt-Scott A, Lee K, Romer-Mahler A, Rushton S, Williams OD (2014), *The Transformation of Global Health Governance*, New York: Palgrave McMillan.

importance of discourses in the formation and legitimation of interests in the GHG of SARS. The third section examines the extent to which the SARS epistemic community confirms or challenges the conventional epistemic communities framework and offers constructive suggestions to increase its utility and explanatory power. At the same time, this section discusses why other actors do not assert comparable discursive power. This suggests that the response to the SARS outbreak cannot simply be understood as solely a response to material realities or derived from value-neutral public health facts, but from how the facts were understood and interpreted by a community of key technical experts. Given the above, the fourth section discusses how the GHG of SARS reflects on GHG, more broadly, and what insights can be drawn from the findings. Explanations of the achievements and shortcomings of GHG to date have largely focused on the characteristics of individuals, institutional arrangements, resources or technical knowledge. This research argues that the architecture of global SARS governance was the result of interplay, sometimes competitive and sometimes cooperative, among diverse ideas, interests and actors.

6.2. MULTIPLE WORLDVIEWS WITHIN A SARS EPISTEMIC COMMUNITY

One of the important components that Haas identifies as holding an epistemic community together is shared worldviews underpinned by a set of normative beliefs. This is because, according to the epistemic communities concept, facts are subject to multiple interpretations and the theories that might fit these facts are numerous. The consensual beliefs held could serve to hold key actors together cognitively, in order to create and maintain a common interpretation of the facts, and to build a shared discourse which incorporates these normative beliefs with policy enterprises. This section explores the normative beliefs and worldviews of the actors identified in Chapter Four as comprising the SARS epistemic community. To fulfil this task, this section draws on Chapter Two which examined the various discourses that have characterised the GHG of infectious diseases and their core assertions. This section also draws on Chapter Five which analysed the evolving policy discourses that reflected particular worldviews, examining how each discourse framed the problems surrounding SARS, and informed policy choices at various points in time.

Drawing on Chapters Two and Five, this thesis applied the analysis of discourses to the community of key actors identified in Chapter Four, by grouping these key actors according to the similarity of their policy discourses for understanding SARS. Table 6.1 summarises four overarching discourses (biomedical, economic, security, and human rights) to which identifiable individuals can be linked, along with how they framed the nature of the SARS outbreak which, in turn, informed policy decisions. Importantly, as discussed in Chapter Two (within a Social Constructivist approach), the set of ideas comprising each discourse were not simply a reflection of factual or technical knowledge, i.e. deriving from their professional expertise on how SARS should be dealt with, but a reflection of the wider social context within which these key individuals

operated. In short, identifying discourses, and the individuals that hold them, invariably concern normative values and causal beliefs produced and shared by individuals within given social contexts.

From Table 6.1, two notable features can be identified from this research. First, each discourse was not associated with a particular individual or a set of individuals. Instead of a discrete individual contributing to the construction and dissemination of a particular worldview or discourse, individuals or groups of individuals hold multiple discourses at the same time. This means that, while a range of discourses/worldviews were generated to gain consensus on the way the issues surrounding SARS were interpreted and responded to, the ideas that framed these different discourses primarily stemmed from a relatively small circle of individuals. In particular, if one looks closely at the profiles of these individuals, it can be noted that the majority of discourses turned out to have been associated with several senior WHO medical officials, what is termed in this research as the *Heymann centre (*Heymann, Rodier, Ryan, Hardimann, and Stohr). This finding indicates that those technical experts, who were well-positioned to exercise agenda setting power, had a greater capacity to affect the generation of multiple discourses/worldviews. They were the boundary spanners moving across different professional circles, bridging the practice, academic and policy worlds. At the same time, they shifted around their roles from technical experts to the sources of policy ideas. This gave them unprecedented authority as a result.

Second, the fact that four different worldviews were advocated by these core actors does not necessarily suggest that there existed four separate epistemic communities during SARS. Haas argues that one epistemic community is made up of discrete individuals that share the same worldview. This leads to an interesting assumption that if multiple epistemic communities exist in a certain issue area, each epistemic community should comprise different members that come to share different normative beliefs and interpret the problem in fundamentally divergent manners. This research finds that this appears not to have been the case. To be sure, there was no one unifying worldview upheld by all members in comparison to the core knowledge consensus (i.e. shared causal belief system) reached. However, this may be attributed to the members' involvement in different issue areas or a single member's association with multiple policy agendas, which essentially require differing worldviews to call for decision makers' attention and priority support. Moreover, there was little indication that the emergence of one discourse constructed by a fraction of an epistemic community was met with overt dissent and contention by the remaining members of this epistemic community. This suggests that the generation of multiple worldviews did not undermine the cohesion of one epistemic community. In this sense, the findings of this research indicate a more complex relationship between epistemic communities and discourses than Haas describes in his framework. The inability of the conventional framework to accommodate the multiplicity of worldviews held within a single epistemic community that influences the norms of decision makers at various junctures will be discussed more fully in section 6.3.

Table 6.1. SARS epistemic community and discourses

Discourse	Individual	Extract
Biomedical discourse	Heymann, Rodier	*"It has to be individuals who understand what the disease is and how individually they can prevent themselves from becoming sick. So it's an educational effort."*
	Ryan	*"Until another agent is determined to be the cause, case definitions based on history of possible contact with SARS remained the only way to find a possibly infected person."*
Economic discourse	Peiris	*"We cannot hope to share the benefits of our newly found knowledge if we do not properly manage our intellectual property rights."*
	Osterhaus	*"Should governments interfere with this system [IP rights] in any but the most severe of emergencies, they risk undermining trust in the patent system with resultant detrimental effects on investment in innovative ideas."*
	Gerberding	*"From our standpoint, it's [patenting] a protective measure to make sure that the access to the virus remains open for everyone."*
	Heymann, Rodier	*"Outbreaks are always costly, and most especially so when reactions are inflamed by sensational media coverage."*
	Hardiman	*"Sometimes it seems that commerce and travel is bad for public health and it is*

		competition (sic) [i.e. trade off] between commerce and public health."
Security discourse	Heymann	*"Microbial agents are now more than ever perceived as a clear and present danger to public health security nationally and globally."*
	Rodier	*"The SARS experience, however, made one lesson clear early in its course: inadequate surveillance and response capacity in a single country can endanger national populations and the public health security of the entire world."*
	Ryan	*"The global SARS alert issued was a direct response to a specific threat identified by the global alert and response system."*
	Brundtland	*"Effective surveillance and rapid response is an essential pillar of both national and international security."*
Human rights discourse	Stohr	*"We needed people to share data and set aside Nobel Prize interests or their desire to publish articles."*
	Heymann	*"The global solidarity in the detection and validation of, and response to, the SARS outbreak has blurred the concept that states are sovereign and reign supreme over their territories and people."*

In summary, the SARS epistemic community consisted of technical expert-cum-norm purveyors who had the ability to generate multiple worldviews in a bid to develop

consensus and strategically turn their normative beliefs into concrete measures in different policy areas. They came to hold and even support more than one discourse simultaneously (which can be competing) that shaped the understanding of the problems pertaining to SARS and advanced what was seen as the appropriate response. In the next section, a discussion of what discourses operated to inform policies, why certain discourses came to the fore or receded at different points in time and place, and what factors enable discourses to cooperate or conflict, is provided.

6.3. THE ROLE OF FRAMES IN GLOBAL SARS POLICY MAKING

6.3.1. Discourses and the framing of SARS

As shown in the previous section, issues surrounding SARS were framed broadly in four particular ways - biomedical, human rights, security and economic discourses - in an attempt to generate or legitimise specific responses to the issues. While each discourse has its own window onto the worldviews which motivate action in GHG of SARS, there are some notable common insights into the use of frame in global health policy making arising from this research. These findings are discussed below.

First, findings from this study demonstrate that multiple discourses were at play from the beginning to the end of the SARS outbreak simultaneously and over time. This is in line with previous studies that revealed that other health issues often involve the operation of multiple discourses.[653] In the early phase of SARS outbreak, during the period between February and March 2003, global policies were largely driven by biomedical discourses and individual-based prevention strategies. Understandably, biomedical research into the nature, causes and treatment of the SARS virus were given a high priority. Human rights discourse entered as an argument for achieving global solidarity in scientific research collaborations. Alongside these were education measures aimed at promoting responsible behaviours of not infecting others given the absence of the information about the mode of transmission and effective intervention. Yet, these were certainly not the only discourses in play during this phase. An early form of security discourse also played a significant role, largely due to the concerns that SARS might potentially threaten the state via massive social and economic disruption. During the period between April and May in 2003, the governance of SARS gave way to a second phase in which the international dimensions of the looming crisis came to the fore. A further set of discourses entered the fray as the issue became more globalised. As the scale of the outbreak grew, SARS began to be viewed as an economic issue. Of

[653] Reubi D (2012), "Making a human right to tobacco control: expert and advocacy networks, framing and the right to health," *Global Public Health,* 7(S2): S176-S190; Williams OD (2012), "Access to medicines, market failure and market intervention: a tale of two regimes," *Global Public Health,* 7(S2): S127-S143; Woodling M, Williams OD and Rushton S (2012), "New life in old frames: HIV, development and the 'AIDS plus MDGs' approach," *Global Public Health,* 7(S2): S144-S158.

key importance of this phase was the emergence of macroeconomic discourse in support of international collaboration and government actions by highlighting quantifiable measurements such as job losses, percentages in tourism decline and economic losses statistics, which made the disease a lot more quantifiable and apparent.[654] Interestingly, another economic discourse meshing with the neoliberal intellectual property under TRIPS was deployed in support of the need to maintain incentives for developing SARS vaccines. The phase also witnessed the strengthening of biomedical and security discourses framing SARS largely as infringing the rights of the healthy and intruding territorial space. In the third phase of the SARS outbreak, approximately June 2003 onwards, the biomedical and security discourses continued to prevail in support of increased vigilance. In brief, it is possible to read the global response to SARS through the lens of the various discourses which characterise the global governance of this issue area. Discourse manifested at various phases of the outbreak and they changed in emphasis or continued to influence. The significance is that multiple discourses can lead to confusion, with no single underlying logic, and to a range of sometimes competing policy recommendations and priorities. The variety of discourses to be operational reflects not only the absence of a coherent norm guiding members in collective action for the purpose of achieving agreed goals, but it also creates a range of competing policies, principles, and regulations.

Second, the empirical analysis supports the argument presented in Chapter Two that discourses favoured or privileged certain policy actions. Discourses are deployed to suggest a potential policy route, what McInnes and colleagues term the "pathways of response."[655] This is owing to the fact that each discourse is characterised by particular forms of underlying logic that motivates certain interests and policy goals. Since the idea underpinning the biomedical discourse was the intent on moulding or reforming individuals who were unregulated, this discourse informed policy measures such as the introduction of public education about constant hand washing, avoiding crowds, cleaning up of the environment, and sneezing etiquettes in a bid to cultivate self-motivation of individuals. The SARS case definition – *the potentially at risk group and already infected group* – also emphasised that individuals were attributed a singular responsibility not to contaminate or infect other people.[656] From an economic viewpoint, SARS was consistently seen costly and in this sense, policy measures in favour of cost-effective calculations seemed appropriate. In the cost-benefit

[654] Lee G and Warner M (2008), *The Political economy of the SARS epidemic: the impact on human resources in East Asia*, London: Routledge.
[655] McInnes C and Lee K (2012), "Framing and global health governance: key findings," *Global Public Health*, 7(52): s191-s198; Shiffman J and Smith S (2007), "Generation of political priority for global health initiatives: a framework and case study of maternal mortality", *Lancet*, 370, 1370-9; Shiffman J (2008), "Has donor prioritization of HIV/AIDS displaced aid for other health issues?", *Health Policy and Planning*, 23(2), 95-100; Shiffman J (2010), "Issue attention in global health: the case of newborn survival," *The Lancet*, 375: 2045-2049.
[656] Tambyah P et al. (2003), "Accuracy of WHO criteria in a non-SARS teaching hospital," *British Medical Journal*, 327: 620.

understanding of SARS, the practice of notifying the WHO of a disease event was viewed as being associated with the resultant economic benefits of doing so. Hence, the price of non-compliance was contrasted with the potential economic loss in international trade and economy incurred. The security discourse presented SARS as a potentially serious threat to national and even global security and, thus, just like national military preparedness, public health resources should be stockpiled and in a constant state of readiness to fight against the disease. Dominant policy actions arising from the security discourse included strict border control, monitoring of population movements by means of military and security forces, and compulsory screening of air passengers. A pre-emptive exercise of outbreak surveillance, as intelligence, to mobilise faster outbreak information through unofficial sources came to prevail as a new institutional form of international cooperation. The health and human rights discourse was presented as an argument against the use of stringent public health measures such as compulsory quarantine, mandatory medical examinations, isolation of persons with infectious conditions, contact tracing of persons, and travel restrictions. The human rights discourse, however, was not visibly explicit during the outbreak. In short, the operation of discourses informing health policies on SARS indicates that discourses are, not simply sets of ideas, but a window onto how worldviews can shape particular actions. This demonstrates that, in explaining health policy outcomes, what matters is not only who holds material power, but how different worldviews also further particular interests and outcomes (Table 6.2).

Third, discourses can be more fully understood through the closer analysis of *speech acts* in health policy.[657] Speech acts are, by definition, verbal enunciations of specific and uncommon or extraordinary words in an effort to elevate an issue into sphere of high politics and to call for emergency measures to deal with it. Speech acts include reports, articles and other written documents as well as speeches and other oral statements.[658] Analysing SARS and the process of framing, this research found that some speech acts were given legitimacy over others in the global health policy making. During the outbreak, public addresses by WHO officials such as press briefings, weekly epidemiological records and updates or publications examining reproductive numbers, potential mutation of the coronavirus, and clinical attack rates in high-ranking journals seemed to have acquired a significantly greater communicative power because making reference to professional opinions enhanced the credibility of speech acts, persuading decision makers more convincingly. Some of these speech acts were widely broadcasted through mass media, shaping public opinion and subsequently creating an impetus for decision makers to act in accordance with the ways in which the health issues surrounding SARS were understood by the speech acts. This suggests that speech acts are a kind of currency of ideational power which, equals to or more than

[657] Campbell D (2008), The visual economy of HIV/AIDS as a security issue. AIDS, Security and Conflict Initiative Research Report No. 18. Available at http://www.david-campbell.org/wp-content/documents/Visual_Economy_of_HIV_AIDS.pdf

[658] Williams OD (2003), "Word, images, enemies: securitisation and international politics. *International Studies Quarterly*, 47: 511-531.

material resources, can influence real world outcomes in GHG. What is noteworthy is that speech acts did not only assert information per se but they disseminated a broader set of ideas, values and norms about the world or "socially constructed reality" across geographical boundaries. In short, the findings of this research suggest that in framing issues surrounding SARS, speech acts were the principal means used, and speech acts proved to open up the dimension to raise an issue on national and international agendas during the SARS outbreak.

Lastly, the findings confirm that in an era of globalisation, ideas are not tied by national boundaries; each discourse was global in reach although there was variation in which discourse was dominant across different geographies. To begin with, there was a universal inclusion of the economic discourse in the realm of government policy that economic imperatives paralleled with or even preceded public health concerns. However, countries that experienced significant negative effects on the demand side (export of services related to tourism and air travel) such as Singapore tended to deploy the economic discourse more intensely in an attempt to prevent the outbreak from damaging their economies further. The biomedical discourse was commonly observed in SARS policies across regions yet its translation into policies appeared to have been divergent. Countries in the Asian region, where there appeared to be relatively closed decision-making and high levels of political centralisation, emphasis was placed on the regulation of individual behaviours not to infect others even at the expense of human rights. In contrast, in other regions such as North America, a middle ground that attempted to reconcile individual rights with the protection of public health was pursued (e.g. voluntary compliance to quarantine order). While the security discourse was commonly found in policies dealing with SARS, the mobilisation of this discourse was more evident in the developed countries given that portraying health, notably infectious diseases, as a national security concern was primarily emanated from the developed countries. Securitisation of SARS required unprecedented and urgent policy measures and therefore it would be logical to see that powerful states such as the US, Australia and Switzerland implemented stringent border control measures (entry restrictions of certain nationals) at the early phase of the outbreak. Subsequently, countries in the Asian region followed a similar policy path emphasising the importance of pre-emptive policy actions. In short, discourses were powerful in encouraging policy convergence across countries, but the impact of each discourse seemed to have been mediated by political, economic and cultural factors in different regions and countries concerned. It is also noted that formulating government policies required squaring national interests with global health agendas, or balancing competing priorities. Thus, it might be important to take into account the differences in the interests of states when measuring the impact of discourses.

Table 6.2. Four discourses and global health response to SARS

Discourse	Policy outcomes during SARS
Biomedical discourse	• Wide-net case definition on the basis of presence of fever (potentially at risk group VS already infected group) • Public education including hand washing, avoiding crowds, cleaning up of the environment, sneezing etiquette, and use of masks • Isolation of persons with infectious conditions • Contact tracing of persons based on reproductive numbers and clinical attack rates
Economic discourse	• The price of non-compliance VS potential economic loss in international trade and economy • Elicit government actions and international collaboration by highlighting quantifiable economic measures (i.e. costs to national and regional economy) • Intellectual property rights in the development of SARS vaccine
Security discourse	• Strict border control (e.g. entry restrictions of certain nationals) • Monitoring of population movements by means of military and security forces • Compulsory air passenger screening • Pre-emptive exercise of surveillance • Compulsory quarantine • Mandatory medical examinations • Use of police force in the isolation of persons with infectious conditions • Contact tracing of persons • Travel restrictions • Use of thermal screening device
Health and human right discourse	• Scientific research collaboration • Civil liberty and rights of individuals who were unlawfully quarantined

6.3.2. Factors determining the success of discourses

Having discussed how the SARS response was socially constructed over the course of the outbreak, which particular discourses informed policy actions, how speech

acts operated, and to what extent discourses affect policymaking across specific geographies, what remains to be understood is why and under what conditions certain discourses come to the fore or recede at particular points in time and place. This section discusses the factors affecting the ascendance of discourses at particular points in time and place.

The first of these factors concerns the changing nature of the risk posed by SARS. In the initial phase of the outbreak, SARS was an unknown disease caused by a novel coronavirus. It took advantage of opportunities for rapid international spread made possible by the unprecedented volume and speed of air travel. The emergence of biomedical discourse was spurred by this perceived urgency amid the absence of effective diagnosis and treatment in the prevention and control of the disease. The need to break the chain of transmission was the focus as a result, which was believed to be achieved mainly through the control of people's movement and the regulation of individual behaviours. To be sure, there were immediate cost of treatment and prevention, but cost appeared to be less of a concern to decision makers in view of the perceived uncertainty and the extent of outbreak spread. However, when the outbreak showed no sign of slowing down and appeared to be a spiralling epidemic, the economic discourse came to the fore as policymakers came to realise that there were other costs potentially at stake. Increasingly, the costs to the national and regional economy were factored in which motivated governments to react more decisively. The travel advisories were interesting in this respect. The governments of affected countries such as Hong Kong and Canada sought to get the advisories lifted largely for economic ramifications rather than biomedical imperatives. This demonstrates that perceived risks concerned with the disease and their political, social and economic ramifications have altered the environment in which particular discourse came to the fore and receded.

A second factor is the prevailing political context which arguably influences which discourse can frame the contextual circumstance most persuasively. SARS emerged in the context of post Cold War geopolitics, which shaped concerns about new security threats, and a neoliberal world economy which prioritised concerns about open markets and the private sector. The end of Cold War generated a permissive environment allowing for a wider range of new risks to replace the military threat of the Soviet Union. Towards the end of a decade, the spread of infectious diseases began to be considered as a direct threat to health and well-being of the people of a state. In particular, the high-income countries increasingly viewed themselves vulnerable to new health risks including resurgence of disease outbreaks that had largely retreated over the past few decades. The 11 September terrorist attacks in 2001 and the deliberate release of anthrax spores in the same year allowed the security concerns to rise further

bringing it to the top of the decision-makers' agendas.[659] Additionally, the realisation that a large-scale epidemic may contribute to economic decline encouraged many countries at the centre of globalisation to focus their policy attention on common fears that erode economic globalisation and trade liberalisation. Crucially, the SARS outbreak emerged at a time when governments of high-income countries became aware of novel security risks and neoliberal trade relations. In brief, the political context changed with the end of the Cold War, and as economic context changed as well, so perceived interests of states changed, allowing security and neoliberal discourses to prevail when SARS outbreak occurred.

A third factor is the nature of the specific disease event over the course of the outbreak that renders a favourable condition for a particular discourse to become readily acceptable. It should be noted here that the specific disease event by itself did not prompt the discourse to acquire policy attention but through a process of social construction during which those events were interpreted as constituting a particular dimension of problems. For example, the super-spreader event in the initial phase of the outbreak opened up a condition for the biomedical discourse to elevate the importance of individual risk behaviour. The fact that the super-spreader could infect more than dozens of people within a short period of time and that the mode of transmission is unknown seemed to have played a crucial role for the biomedical discourse to ascend precipitating states to adopt a policy of health education and behavioural changes. Similarly, the Amoy Gardens outbreak in Hong Kong in the second phase of the outbreak opened up the space for subsequent progress in policies underpinning biomedical discourse. Prior to the Amoy Gardens outbreak, infections had been largely confined to close contacts mostly in hospital. When a particularly large number of cases occurred in a single housing estate, environmental sources were increasingly viewed as the main cause of the explosive outbreak. Under such circumstance, the biomedical discourse that framed SARS as a symptom of personal and collective unhygienic issues gained a considerable policy attention. Subsequently, broad clean up of the way people live was strongly advocated in Asian countries. From the findings of the present research, it is not instantly clear whether these events were deliberately used to prompt government actions by the proponents of biomedical discourse. However, the above cases illustrate that framing a health issue that resonates with a particular event played a crucial role in maintaining or reinforcing policies.

Finally, the existing distribution of structural power shapes the capacity of certain interests, over others, to articulate and advocate how policy issues are framed. Structural power confers to the power to decide how things shall be done, the

[659] Enemark C (2006), Pandemic pending, *Australian Journal of International Affairs*, 60(1), 43-49.

power to shape frameworks within which states relate to each other, relate to people, or relate to corporate enterprises.[660] The existence of structural conditions does not mean that structural power simply determines the manner in which things are done. Rather, it is argued that the structural power limits the range of ideational and policy spaces that are conceivable in dealing with the issues concerned with outbreaks. During SARS, it became apparent that both neoliberal and security discourses prevailed. These two discourses were powerful not merely because they were ubiquitous in informing policies related to SARS, but they embodied dominant interests in global political economy and thus set agendas and parameters within which states formed their identities and interests. In other words, the manner in which problems are understood in global structures of economy (or security) can set the policy templates which are readily applied to other problems concerning how problems should continue to be understood. For instance, meshing neatly with intellectual property regimes under TRIPS in other areas of health (e.g. HIV/AIDS), the neoliberal economic discourse emphasised the need to maintain incentives for pharmaceutical manufacturers to continue its R&D effort in SARS vaccine development. In short, the neoliberal discourse helped maintain the existing global production structure for drugs. Likewise, the securitisation of SARS mirrors concerted attempts by some powerful states in harnessing particular health issues (e.g. HIV/AIDS, biological weapon use and pandemics) to foreign and security policy. The framing of SARS as a threat to national security and regional stability continue to serve some powerful states' interest. These two discourses did not entirely exclude debates over appropriate policies and approaches (discussed in the next two sub-sections). Yet, they in some sense structurally limited the range of options open to the development of alternative structures. Indeed, a discourse founded on deeper structural explanation for disparity in health (e.g. capacity for manufacturing vaccines or for strengthening disease surveillance) did not effectively ascend, as it did not sufficiently appeal to the most powerful interests in structural terms. This suggests that the influence of discourses can be attenuated or conversely strengthened by the structural power as implied by accepted discourses.

6.3.3. Contestation between and within discourses

The findings from Chapter Five suggest, not only that discourses evoked particular policy responses to the SARS outbreak, but that there was contestation among and within specific discourses. First, the framing of SARS issues was not merely about cognition, interpretation and presentation; it was also about selection, emphasis and exclusion. Thus, what has happened (i.e. the topics and issues being merely presented) is not as important as *how* it has happened (i.e. particular ways in which issues are presented and which aspects of issues are highlighted over others). This suggests that

[660] Strange S (1998), *States and markets*, 2nd ed, London: Continuum.

discourses competed *between* them to shape policymakers' perceived interests, resulting in the inclusion (or exclusion) of particular policies over others. Second, each discourse was not homogeneous and ideationally monolithic in the process of formulating policies on SARS. Rather, it often exhibited internal divisions and alteration. This means that contestation *within* discourses can occur to justify different types of policies at a particular time and in a particular issue. This sub-section discusses some of contestation *between* and *within* discourses that played out in the global response to SARS.

To begin with, the deployment of the biomedical discourse contested other discourses in two ways. First, constructing individuals as at risk and in need of behavioural reform functioned to effectively depoliticise the phenomenon of infectious diseases, downplaying the importance of the socioeconomic and political contexts founded on human rights discourse. Specifically, the privileging of the epidemiological connection between SARS and individual risk behaviour appears to have opened the possibility for discrimination against those who did not live up to hygiene expectations for reasons of collective risk mentality or information disparity. In particular, highlighting individual responsibility inadvertently brought about the blaming of "others" and stigmatising certain ethnic groups – namely, Chinese people. As explained in the previous section, the perceived uncertainty about the course of the disease progression enabled the biomedical discourse to ascend shaping policymakers' interest to contain the unknowns. Under this circumstance, human rights discourse such as rights of individuals who were unduly treated or unlawfully quarantined had little room to advance. Second, the biomedical discourse was in conflict with the cost-benefit economic discourse when it comes to a preoccupation that the biomedical solutions would bring about 'effective' containment of SARS. The policy of standardised SARS case definition solely on the basis of the presence of fever stemmed from the technological assumption that rapid detection and immediate isolation would result in the control of SARS. At the national level, such a wide-net case definition prompted national authorities to identify every suspect disease carriers according to the definition provided. In doing so, the authorities hastily isolated them regardless of the economic and social cost that may incur. The discourse also influenced the global demand for a novel thermal screening device especially developed to assist in the detection of SARS. The implications were that such a policy resulted in a very large number of individuals being quarantined or placed under surveillance, and this subsequently proved to be a huge waste of resources.

The economic discourse has its own internal division which supported different interests. For example, the market-based economic discourse was the key motivation for the entire process of the SARS patent pool. By framing intellectual property rights as need to create incentives for the development of new SARS medicines, the discourse promoted the interests of pharmaceutical manufacturers. This neoliberal discourse was contested with public goods discourse that saw global intellectual property rights as an

obstacle to health and development. Although the essential underlying logic behind these two discourses is based on the efficient deployment of scarce resources, deep divisions are apparent on how to most efficiently allocate the limited resources. Another variant of the economic discourse became apparent when the SARS outbreak was disrupting the flow of trade and travel tremendously, and wrought severe damage on the economies of affected nations. The discourse that aimed to promote national and regional economic interest contested with human rights discourse (or human security discourse since both share the idea that people matter) that advocated the improvement of health of populations. The neoliberal discourse featured prominently in the government efforts' to remove the travel advisories in a bid to minimise the travel and trade, at the expense of violating rights to people and rights to health.

Like the economic discourse, the security discourse was similarly internally contested. The security discourse during SARS captured strong elements of sovereignty and national interests and thus it contested with longer-term issues and common vulnerabilities founded on human security discourse. The use of the term "security" was in the context of identifying a foreign threat to the state's peace and stability and in reference to bioterrorism as opposed to alleviating risks (e.g. freedom from concerns, fears or other forms of oppression) to individuals and communities. Framing SARS as a clear and present danger to the state circumscribed ranges of policies – monitoring and surveillance of SARS, collecting and sharing information and at-the-border measures to prevent the spread. In particular, the national security discourse justified the seemingly forceful measures as being instrumental to the "security of citizens" within countries. When the nature of the disease was portrayed as an imminent threat to the collective, it naturally gives little attention to the rights of individual. During SARS, not only were healthy individuals often mistaken to be carriers of the SARS virus, they were put at risk of serious infection on occasions because they were put in the company of infected people. This created fears of detention among the public and consequently delayed diagnosis and treatment. The paucity of the human security perspective resulted in the neglect of broader social causes of insecurity such as economic deprivation and well-being of individuals and community in the face of a disease risk and of the need for strengthening the provision of appropriate health care (e.g. vaccines) according to need. There was also a concern that policy agendas being dominated by national security discourse might distort the public health priorities in resource poor countries.[661] It was only aftermath of the SARS that support for the development of surveillance capacity in developing countries became a key political question.[662] Overall, the human security discourse failed to shake the dominance of national security discourse since national security interest was prioritised by powerful states.

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[661] Davis S (2008), "Securitizing infectious disease," *International Affairs*, 84(2): 295-313; Fidler D (2004), *SARS, Governance and the Globalization of Disease*, New York: Palgrave Macmillan.
[662] Médecins Sans Frontières (2003), Press Release, G-8 Offers World an 'Inaction' Plan on Health, 2 June 2003, available at http://www.doctorswithoutborders.org/press/release.cfm?id=416&cat=press-release

The health and human rights discourse were contested in terms of ethical and legal basis of understanding SARS. The human rights discourse manifested primarily as an argument against the use of stringent public health measures implemented during SARS. Thus, the discourse was promoted mainly by those who perceived that the public health policies violated the rights for individuals. This conception of human rights was based on narrowly focused liberal view of individual rights as legally or institutionally guaranteed. As a result, the debate has been confined to whether policies enacted during SARS such as quarantine measures and restriction on immigration were acceptable under international human right law.[663] A more fundamental conception of human rights such as the structural factors that systematically erode the rights of human health has not emerged as a key argument to challenge the political and economic priorities and powerful interests often derived from security and neo-liberal discourses. Overall, the human rights discourse gained little political purchase during the outbreak. The limited influence of human rights discourse is attributed to the lack of powerful vested interest behind the discourse (unlike neoliberal and security discourses). In addition, such rights-based concerns were seen as irrelevant at the level of policymaking since these concerns were effectively countered by other discourses that highlighted impending economic and political perils posed by SARS.

To summarise, this sub-section demonstrated how the processes of contestation *between* and *within* discourses played out in the global health policy making on SARS. What we can observe is the fundamental divisions and internal contestations in perspective on how SARS should be understood and responded to. Together, the processes of contestation among and within discourses illustrate that there are key differences in each discourse resulting in tensions in GHG of SARS.

6.3.4. Cooperation across different discourses

As discussed above, how problems are socially constructed shapes the choice of policy actions and outcomes. This can be the result of contestation among and within discourses. At the same time, this research finds that effective policy action requires a degree of cooperation across different discourses amid diverse interests to achieve sufficient political leverage for policy action. Under what circumstances do discourses cooperate rather than compete? There were two conditions in which at least two different discourses were aligned with one another.

First of all, discourses cooperate when there is a compatibility of underlying logics in the operation of policy. The biomedical discourse was the necessary starting point for

[663] Fidler D (2003), "SARS and international law," *American Society of International Law*, ASIL Insights, April 2003, available at http://www.asil.org/insigh101.cfm

global health action on SARS. Arguably, without biomedical discourse and the public health science and interventions, action cannot be possibly initiated. During SARS, the biomedical discourse focused on risk behaviours and thus the discourse supported policy measures aiming to identify and isolate people with risks, which entailed active surveillance, compulsory screening, monitoring and quarantine. It became apparent that the stress on risk-prevention found in biomedical discourse resonated with the equally dichotomised threat-defence logic in security discourse. Where the biomedical discourse sought to recognise the potential risks, did the security discourse aim to identify the possible threats before they become a local and global problem. In terms of policy operation, the biomedical discourse suggested to classify individuals by potentially infected versus uninfected. Likewise, the security discourse aimed to categorise individuals in terms of foreign suspects versus citizens. The biomedical discourse used a range of evidence to legitimise such policy operation as proven to be effective.[664] Although the biomedical discourse shaped the overall policy ideas, the discourse alone was not enough to elicit actions. The security discourse then entered the equation bringing with it the unprecedentedly novel apparatus to offer visible policy actions. The security apparatus such as police and military forces enabled governments to execute policy actions and to further reinforce the evidence supported by the biomedical discourse. Thus, the common underlying logic in policy operation shared by these two discourses led them to align with one another in new powerful ways in support of early detection and pre-emptive surveillance.

Second, it appears discourses cooperate when there is an ultimate policy goal to achieve together even though discourses differ over the operation of policy measures. While both the economic and security discourses have differences in the ways in which health issues are interpreted and responded to, they were in cooperation during SARS as they shared an overarching policy goal. The economic discourse recognised the major shortcomings of the IHR at the time of SARS that the balance of cost and benefit in terms of compliance was weighted towards non-compliance. It framed SARS as a cost-benefit calculation not in terms of encouraging concealment of outbreaks, which had commonly occurred in outbreaks prior to SARS, but stressing the benefits of cooperation to the national economy (e.g. nation's standing for trade and commerce in international economy). Thus the economic discourse urged diligent government actions in prompt identification of the disease events and notification to the WHO and the international community. The security discourse on the other hand saw the need to protect citizens from foreign disease threats. The discourse was deployed to highlight that it was the responsibility of the national governments to ensure that health security of nationals were protected from the imminent threat posed by SARS. Again, the security discourse required decisive government actions as it emphasised foreign policy interests in

[664] Riley S et al. (2003), "Transmission dynamics of the etiological agent of SARS in Hong Kong: impact of public health interventions," *Science*, 300: 1961-1966; Lipstich M et al. (2003), "Transmission Dynamics and Control of Severe Acute Respiratory Syndrome," Science, 20: 1966-1970; Dye C and Gay N (2003), "Modeling the SARS epidemic," Science, 20: 1884-1885.

international relations. The interplay of economic and security discourses were mutually beneficial and mutually reinforcing because both discourses promoted policies grounded in improving countries' international image, supporting traditional foreign policy objectives, and ultimately projecting the primacy of power and influence in global political economy.

In summary, drawing on the evidence of the empirical chapters, this section has illustrated several interesting features of discourses. First, it is possible to read the global response to SARS through the lens of four discourses, which also characterise the global governance of (acute) infectious diseases. As has been discussed above, discourses rise and fall over time with some discourses dominating in certain periods. The causes of this variation can be many and varied. In some instances, they can be due to the changing nature of the SARS outbreak itself. In other cases, prevailing political contexts or a particular disease event maintains or alters the terms of debates. In still other cases, material power and its long lasting influence constrain the range of policy discourses being advanced. All these point to the ability of discourses shaping policy agendas related to issues surrounding SARS. This study demonstrates that debates over appropriate governance arrangements are not simply about material power or a lack of coordination but rather are the product of far more fundamental ideational commitments that interplay with power and material interests. This finding is in contrast with much of the existing GHG literature.[665] Treating GHG as a distinct sphere of activity leads us to miss the importance of a wider range of interests.

Second, as a result of multiple discourses being at play at particular points in time and places, discourses inevitably conflict with one another that lead to tension. Additionally, discourses are not only in contestation between them but there are internal divisions and conflicts within them. Therefore it is important to understand the sub-frames and how these sub-frames mutate and are subject to power and influence. In the case of SARS, the contestation was contingent on a range of factors, some of which were specific to the issue at hand. In others, the governance response is determined less by the innate characteristics of the issue or the particular compelling logic of an appropriate response and more by compelling interests and the operation of power.

Third, it is clear that discourses are not only in contestation but they can and did cooperate with one another and inform policy choices. Thus while some discourses are themselves a powerful representation of interests (as with the neoliberal discourse representing a marketised and liberalised economy and the security discourse embodying security concerns of wealthy nations), they have not acted solely according to their logic and were in cooperation with other discourses and interests. Cooperation occurred when there is compatibility in underlying logic at the level of policy operation

[665] Zacher M and Keefe T (2008), *The Politics of Global Health governance: United By Contagion,* New York: Palgrave MacMillan; Kay and Williams O (eds.), *Global Health Governance: Crises, Institutions and Political Economy*, London: Palgrave; Ruston S & William OD (eds.) (2011), *Partnership and Foundation in Global Health Governance*, London: Palgrave MacMillan.

(biomedical and security discourses) or two disparate discourses were in need of reinforcement under the same policy goals (economic and security discourses).

Given the above, the social construction of SARS means that the global response to the outbreak is beyond a simple technical exercise in the efficient delivery of biomedical solutions. While the biomedical discourse did shape policy choices in a range of issues on SARS, and were clearly important, it has been greatly strengthened in its policy influence when aligned with other discourses. Conversely, other discourses appeared to be successfully taken up if they were aligned with the biomedical discourse since the 'scientific' evidence supported by the biomedical discourse renders them more compelling and persuasive.

6.4. THE ROLE OF THE EPISTEMIC COMMUNITY IN POLICY EVOLUTION

One of the main contributions of this study is to reveal the utility of the *epistemic communities framework* for enhancing understanding of GHG. Although many existing studies explore the role of certain types of actors such as CSOs, intergovernmental organisations, and private-for-profit actors in advancing particular frames,[666] few studies were undertaken on the role of epistemic communities for GHG. This study sought to demonstrate the role epistemic communities played in the process of global health policy making on SARS. The analytical framework draws particular attention to how epistemic communities emerged, what elements cohered with each other, and how they facilitated the creation and subsequent implementation of certain policies on SARS. This section discusses the key analytic elements that characterised the SARS epistemic community.

6.4.1. Characterising the SARS epistemic community

The findings in Chapter Four suggest the central role and influence of a community of technical experts in the process of global policy making on SARS. The SARS epistemic community was not demarcated by formal institutional or organizational links. Rather, three criteria characterise the SARS epistemic community. They include shared normative belief(s) (ideational), mutual engagement (relational) and common policy enterprises (policy process).

At the ideational level, a set of shared normative beliefs holds key actors together. It is noted here that Haas does not explicitly theorise 'how' members of an epistemic community are delineated by their common ideas about causal relations, notions of validity and policy goals to pursue. In this research, the methodological complexity of

[666] Reubi D (2012), "Making a human right to tobacco control: expert and advocacy networks, framing and the right to health," *Global Public Health,* 7(S2): S176-S190; Woodling M, Williams OD and Rushton S (2012), "New life in old frames: HIV, development and the 'AIDS plus MDGs' approach," *Global Public Health,* 7(S2): S144-S158; Williams OD (2012), "Access to medicines, market failure and market intervention: a tale of two regimes," *Global Public Health,* 7(S2): S127-S143.

operationalising Haas's framework was significantly resolved by employing the work of social constructivism. That is, in order to locate core members of the SARS epistemic community who played a central role in the creation of a set of ideational grounds (worldviews), the researcher identified the four distinct discourses that prevailed during SARS. Core individuals that coalesced around a particular discourse are then identified. As shown in section 6.2, there is an apparent linkage between the ideas and the actors who promoted them.

Notably, the finding is in stark contrast to the epistemic community framework[667]. Hass noted that traditional epistemic communities undergo a protracted contestation process whereby the discourses compete for dominance or where one single dominant consensus emerges from a clearly distinct group of technical actors. In contrast, results from this study demonstrate that there existed four sets of consensual and normative beliefs (i.e. discourses) often associated with the same individuals. In other words, a few individuals were involved in multiple discourse construction. The researcher argue that this was not viewed as the existence of four multiple epistemic communities. Rather, this study sees multiple discourse construction attributable to the ability of a set of individuals in a single epistemic community. Their ability to exert influence in a number of global priorities related to SARS and their impact on governance outcomes needs fuller explanations. Since this sub-section focuses on elements characterising the SARS epistemic community, this point will be elaborated further in section 6.4.2.

At the relational level, collective identity of the SARS epistemic community is formed through formal and semi-formal club-like interactions among key individuals. The evidence illustrates sources of interaction that produced cohesion among individuals.

The first of these sources is the professional training and expertise. The members of epistemic community commonly received a degree in biomedical science followed by postgraduate training in infectious diseases. They started their careers as researchers at academic institutions or international health organisations before moving on to the WHO as medical officers or external advisors. The highly technical and specialist language possessed and the shared experience in the area of infectious diseases enabled these individuals to develop a sense of cohesion. Second, institutionalised exchanges increase the sense of collective identity. The setting up of the GOARN enabled a small group of WHO officials to build ties with other technical experts whose expertise lay in the biomedical, epidemiological and laboratory science, allowing these technical experts to work towards a similar policy goal. Formal meetings and forums, often organised by the WHO, also allow members of epistemic community to generate expert knowledge, establish authority, cultivate common culture, and solidify normative worldviews. Finally, social and professional relationships with elements of exclusivity and informality increase the consensus building when some members act as connectors. In the case of SARS, a few individuals within the WHO played a pivotal role in the shaping

[667] Haas P (1992), "Introduction: epistemic communities and international policy coordination," in Haas P (ed.), *Knowledge, Power and International Policy Coordination*, Columbia: World Peace Foundation.

of the membership through their role as a coordinator. In short, the results of this study demonstrate that like-minded norms among key individuals were developed and reinforced by virtue of specialised training and professional acculturation, expert meetings, and personal and professional relationships.

The "social" process is therefore at the heart of internal cohesion of epistemic communities and an indispensible element in defining epistemic communities. That is, the worldviews held by members of the SARS epistemic community might become dispersed without mutual engagements among key members. In a similar vein, mutual engagements among members might not bring about consensual beliefs in the absence of normative worldviews held by key individuals.

At the policy level, the SARS epistemic community exercised policy enterprises in formulating and diffusing particular policies and actions underpinning different discourses. Findings suggest particular circumstances under which the members of the epistemic community are more likely to be persuasive and therefore influence policy outcomes.

First, the theoretical framework of the epistemic community posits that when decision makers are faced with uncertainty, they often seek particular scientific and technical advice. [668] The findings of this research support and further clarify this proposition that not only the uncertainty surrounding SARS but also the political salience arising from the uncertainty provided a favourable ground for the reception and propagation of the epistemic community's policy ideas. Although a small group of technical experts within the WHO acted as a source of policy advice on issues around emerging infectious diseases in early 2000s, their policy enterprise was not sufficiently discernible prior to the SARS outbreak. However, the perceived socioeconomic and political ramifications caused by the SARS outbreak precipitated national authorities and decision makers to rely on "scientific rationality", giving major opportunities for these actors to proliferate their policy ideas. Their ability to articulate the cause-and-effect relationships of complex problems related to SARS, through professional expertise, privileged their role, drove common beliefs and legitimised specific policies. Thus the results of this research extend the epistemic community framework's proposition that if uncertainty arising from crisis-like events is reinforced by political salience, epistemic communities are more likely to serve as a source of policy ideas, a channel through which policies diffused, and a catalyst in policy implementation and global collective actions.

The second circumstance that offered a receptive environment for the community's success in policy influence was the administrative and policy-related positions that key

[668] Peterson MJ (1992) "Whalers, Cetologists, Environmentalists, and the International Management of Whaling", *International Organization*, 46: 147-186; Haas P (2000), "International institutions and social learning in the management of global environmental risks", *Policy studies Journal*, 28(3): 558-575; Haas P and Haas E (2002), "Pragmatic constructivism and the study of international institutions", *Millennium*, vol. 31(3): 573-602; Balch A (2009), "Labour and Epistemic Communities: The Case of 'Managed Migration' in the UK". British Journal of Politics & International Relations, 11(4): 613-633.

members held at the WHO. In particular, what the study has termed the *Heymann centre,* comprised of a few core WHO officials, played a very important role. Their power and influence were not merely derived from the technical expertise they possessed, but also stemmed from the institutional positions held. This supports Haas's epistemic community approach that the more an epistemic community consolidates bureaucratic power, the more it is able to institutionalise its influence and insinuate its views into broader international politics.[669] Referring to the bargaining power of the epistemic communities, Haas maintains that policy influence of the community increases if members can access to key decision-makers. The results of this study lend support to and further extend this proposition. The SARS epistemic community was not only a norm purveyor connecting experts with decision makers but they became active norm creators and diffusers wielding influence upon decision makers according to the rules and principles they had themselves conceived and developed.[670] Heymann, in particular, was recognized as the single most influential *policy entrepreneur*. His capacity in influencing a community of technical experts to come together in pursuit of common goals, mobilising political will and support for a number of policy outcomes, and reinforcing or challenging ideas of what the global agendas should look like indicates that certain members of the epistemic community are able to exert more influence than others – those that are institutionalised in international organisations.

6.4.2. The ability to engage in multiple policy issues

As indicated in the section above, the idea–agency nexus requires a fuller explanation, since the findings from this study are different from the traditional epistemic communities framework. One of the premises that this research begins with is the rather straightforward and uncomplicated delineation of epistemic communities, as discourses promoted by members of these communities would presumably be radically different. Implicit in this premise is the assumption that distinct epistemic communities compete with one another for influence through the articulation of discrete norms, ideas and interests. Yet, this research has shown that individuals adhered to different discourses over time but also sometimes held more than one discourse at the same time, indicating their association with multiple discourse generation. Additionally, there is little, if not any, indication that a set of actors involved in the ascendance of discourse "A" attempted to subvert or challenge discourse "B", legitimised by another set of actors who often tended to also appear in the generation of discourse "A". All these points suggest the potential for the pliability of the epistemic community, allowing members to engage in different aspects or interpretations of problems.

[669] Haas P (1992), "Introduction: epistemic communities and international policy coordination," in Haas P (ed.), *Knowledge, Power and International Policy Coordination*, Columbia: World Peace Foundation.
[670] Kamradt-Scott A (2011), "The WHO Secretariat, norm entrepreneurship and global disease outbreak control," *Journal of International Organization Studies*, 1(1): 72-89.

This could also indicates the ability of prominent actors involved in multiple issue areas which might require different worldviews to gain support from policymakers. This would partially explain why the *Heymann centre* was considerably influential in the policy making process. They identified and promoted particular ideas at certain stages, yet they also continuously refined their assumptions and methods of defining issues in order to persuade audiences of the centrality of the problems at hand. For example, when faced with a constant risk of transmission with no known treatment, the biomedical discourse subsumed in the policies of behavioural change and public education might be persuasive. When dealing with interstate interests and reticence in cooperation, the idea of the potential economic cost of inaction (or noncompliance) in the international economy would naturally concern even the most inattentive and/or unconcerned. When speaking to decision makers about the urgent need for pre-emptive surveillance and early alert, dressing up the issue as a security problem might be "appropriate" to motivate them.

In short, the ascendance of a particular policy does not only come about as a result of how strongly the policy is advocated, but it is also contingent on the extent to which the rationale behind the policy convincingly and collectively appeals to important audiences (decision makers) that need winning over to achieve policy action. In this regard, it may not be surprising that multiple policies underpinning different discourses were strategically put forth by the same set of individuals to call attention to an issue, influence decision makers' perceptions and convince them of the legitimacy and appropriateness of their preferred policy choices. This concurs well with the findings in section 6.2 which suggest that discourses change over time and that there is a potential, and indeed need for, the complementarity of different discourses, to achieve an agreed policy goal. Thus contrary to the initial expectation at the beginning of the study, the SARS epistemic community promoted diverse (and often competing) discourses and effectively combined them to inform policy choices.

This finding challenges Hass's framework of epistemic communities. This study argues that shared normative belief by members of the epistemic community is not always contingent on a single issue. At least for complex health issues like the SARS outbreak, shared normative belief emerges on a series of issues over time following a stream of changes in the nature of the outbreak. In light of the findings from this research, a conceptual refinement is required to improve the viability of the epistemic communities framework. In particular, the notion of consensual belief in the epistemic communities framework needs a conceptual expansion to embrace the notion of multiple consensual belief(s) held by a single epistemic community so that analysis can explain the presence of multiple issues on which consensus may arise in a given policy realm. This conceptual reconstruction would be useful for more nuanced understanding of activities and impact of epistemic communities when studying global health policy issues such as disease outbreaks which typically entail constantly evolving and dynamic nature.

6.4.3. The power of the epistemic community and ideational hegemony

Through the idea–agency nexus, this study shows that the epistemic community, comprised of a small number of technical experts, played a pivotal role in the introduction, acceptance and diffusion of policy discourses. They acted not only as experts who constructed the understanding of reality, but as actors who combined technical expertise with the capacity to promote their policy preferences. When looking at the composition, the SARS epistemic community was, to a certain extent, a reflection of the existing and well-known form of leadership and dominance in the area of global infectious diseases. Indeed, it is not new that technical and medical experts acquire and maintain considerable political authority in addressing concerns arising from infectious diseases.

Yet, it raises questions about health governance, in particular, how the process by which policy debates being carried out contributes to policy outcomes. In the key policy debates on SARS, there is a notable absence of other actors, such as CSOs or technical experts in areas other than biomedical science. The preponderance of biomedical science in the epistemic community is not obviated by observing the language used by the community is based on *scientific*, ostensibly universal epistemologies. Scholars problematise the authority accorded to scientific inquiry as a rationalist epistemology that delegitimizes worldviews based on other epistemologies.[671] A similar assertion may adhere to the SARS epistemic community.

The absence of the input of other actors is likely to circumscribe what is sayable and make GHG less about equally diffused authority but more about concentration of ideational power. A concentration of ideational power in GHG promotes similar policy ends in how infectious diseases should be responded to as it discounts alternative voices for action. In this regard, GHG of SARS is much more complex and political than technocratic enterprise. While not wanting to be presumptuous, it might be reasonable to postulate that in the GHG of SARS, the epistemic community gained *ideational hegemony*, diminishing other possible avenues for defining the problems surrounding SARS and advancing policy solutions.

In summary, this section discusses key features of the SARS epistemic community and explores their implications for global health policy making. First, it has provided key elements characterising the SARS epistemic community and reviewed the epistemic communities framework in light of findings from SARS. While the findings of this study largely confirm and lend support to the epistemic communities framework, Haas's original conception of defining epistemic communities has proved insufficient to explaining the SARS epistemic community. Notably, this study has challenged the notion of the shared normative belief in the epistemic communities framework by

[671] Kutting G and Lipschultz R (eds.) (2009), *Environmental governance: power and knowledge in a local-global world*, New York: Routledge.

illustrating the co-existence of multiple consensual beliefs held by a single epistemic community over different issue areas at different points in time.

Second, given the defining features of the SARS epistemic community and the manner in which global health policymaking on SARS was carried out, this research has contended that the privilege accorded to particular expertise or actors is likely to lead to prioritisation of particular policies over others. The general absence of CSOs, which often alter the terms of debate in the terrain of other global health policy, and the potential of ideational hegemony acquired by the SARS epistemic community warrant more reflections on how agreed goals are achieved in the GHG of infectious diseases outbreaks.

6.5. THE NATURE OF GLOBAL HEALTH GOVERNANCE OF SARS

As described in Chapter One, GHG can be understood as part of a larger architecture of global governance that constitutes a number of different domains with substantially overlapping (often competing or conflicting) agendas and interests. At the same time, GHG is the governance of a broad array of issues comprising global health. Under each global health issue, GHG is a contested policy space characterised by complex interplay of diverse range of ideas, interests and institutions. This study sets out to explore why the GHG of SARS emerged the way it did. It is argued that it is the very combination of ideas, interests and institutions that shapes what and why policy actions surrounding SARS emerged the way it did. The findings of this study show that in many ways, the GHG of SARS mirrors, albeit subtle differences, the GHG of other global health issues in terms of framing of issues and the actors in the formation of and justification for interests in global health. This section draws out observations about how the GHG of SARS illuminates the nature of GHG more broadly, and what insights can be drawn from the findings of this research.

The first observation is that the presence of four discourses in the GHG of SARS is reflected in other areas of global health issues. Each of these discourses, based on a set of norms, helps to construct problems in global health by promoting particular understandings. Importantly, they serve a purpose in privileging certain interests and certain ways of interpreting the problems over others. For example, the neoliberal discourse that was used to prioritise the TRIPS-based SARS vaccine development is readily found in access to medicine in which pharmaceutical companies based primarily in Northern states justify the global IPR protection as necessary for the development of new drugs.[672] Correspondingly, just like SARS was framed as a national security concern, one would note that the pandemic influenza and HIV/AIDS are framed as an existential threat to state and society (of certain powerful states), spurring enormous

[672] Williams OD (2012), "Access to medicines, market failure and market intervention: a tale of two regimes," *Global Public Health,* 7(S2): S127-S143.

political attention and massive increase in funding. [673] The framing of SARS as a product of an individual's risk behaviour can be seen in other areas of global health such as tobacco control in which a similar underlying logic was used by the tobacco industry to protect and retain the market-based private interest.[674] The human rights discourse that drew attention to civil liberty of individuals during SARS features in travel restrictions for people living with HIV.[675] What the observation above tells us is that the GHG of SARS largely resonates with the trend and developments in the GHG of other health issues in that a similar set of normative frameworks defines governance arrangements in different global health issues. This indicates that at the normative level, GHG is comprised of diverse domains including infectious disease outbreaks, and the boundaries between each are porous and their terrains overlapping. At the same time, it is worth noting the ability of discourses to construct social realities based on intersubjective understandings across all areas of GHG. The fact that particular interests - national security, financial imperative, or social determinants of health - are at stake, when it comes to certain forms of GHG, challenges much of the academic GHG literature that GHG is simply a product of rational response to exogenous developments. The present study on SARS underlines the need to have fuller understanding on how the interplay of competing ideas, interests, and institutions shapes GHG.

A second observation to be drawn from this study is that multiple visions of GHG result in not only contestation but also consensus. As such, there is a potential for the development of coalition of different parties whose interests overlap but at times pull in different directions. As seen in the present study, different interests – biomedical, economic and national interests - have been at times aligned in certain circumstances as opposed to being politically contested. This indicates that different interests are prepared to reconcile with one another to gain support from decision makers, and that even some of the most powerful interests required alignment with other interests in pursuit of achieving their policy goals. This resonates with other global disease issue areas such as HIV/AIDS and pandemic influenza. When the biomedical facts were not enough to elicit concerted action on HIV/AIDS, the economic and security interests have come into play to reinforce and support the efficient delivery of biomedical solution through market-based global supply of patented antiretroviral treatment.[676] This is also evident in the pandemic influenza where the biomedicalism has been complemented by the security interest. Instead of challenging the primacy of biomedicine, the security

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[673] Kamradt-Scott A (2012), "Changing perceptions of pandemic influenza and public health response," *American Journal of Public Health*, 102(1): 90-98; Kamradt-Scott A and McInnes C (2012), "The securitisation of pandemic influenza: framing, security and public policy," *Global Public Health*, 7(S2): S95-S119; Labonte R and Gagnon M (2010), "Framing health and foreign policy: lessons for global health diplomacy," *Globalisation and Health*, 6: 14.

[674] Reubi D (2012), "Making a human right to tobacco control: expert and advocacy networks, framing and the right to health," *Global Public Health,* 7(S2): S176-S190.

[675] Rushton S (2012), "The global debate over HIV-related travel restrictions: framing and policy change. *Global Public Health*, 7(S2): S159-175.

[676] McInnes C, Kamradt-Scott A, Lee K, Romer-Mahler A, Rushton S, Williams OD (2014), "HIV/AIDS," Chapter 2, In *The Transformation of Global Health Governance*. Basingstoke: Palgrave Macmillan.

has supported and reinforced it and served to highlight the importance of pharmaceutical-based policy interventions via government controlled stockpiling and distribution.[677] The resonance of this study with the existing GHG literature leads to a broad conclusion that different interests can be complemented to generate a new normative basis on which to legitimise cooperation. On a positive note, the potential of co-opting multiple interests via framing and reframing suggests a possibility that what is seen as marginalised interests in GHG may advance their interests through a process of intersubjective negotiations with other interests that have different and competing normative understandings. While this may inevitably involve trading some of one's interests off against the other's interests, such interpretive approach may help generate a more convergent, deliverable and balanced global health agenda.

A third observation concerns the policy influence of epistemic communities in GHG. The social construction of SARS has underscored the ideational power of actors in global health policy. They exerted normative influences in terms of its ability to assert, legitimise and win over particular approaches and solutions. Its appeal to expertise, scientific rationalism and impartiality all bestowed upon it the power to convince audiences (decision makers). This finding has resonance with the GHG of other domains in which (a network of) technical experts wield policy influence across a range of health issues from non-infectious disease issues such as health care financing reform[678] and tobacco marketing.[679] to policies pertaining to infectious diseases such as HIV/AIDS [680] and TB.[681] While not all studies applied the epistemic communities framework, they invariably demonstrate that a group of technical experts with recognised authority has contributed to the development of preferences and worldviews of states and international regimes. Similar to the findings of this study, the degree of their success in policy outcomes and persuasiveness rest largely on their shared understanding of problems at hand and the degree of internal cohesion. Thus overt disagreement about how problems are understood and interpreted appears to result in the formation of multiple or even competing epistemic communities in a given global health domain.[682] Yet despite varying degrees of consensus and contestation

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[677] McInnes C, Kamradt-Scott A, Lee K, Romer-Mahler A, Rushton S, Williams OD (2014), "Pandemic influenza," Chapter 3, In *The Transformation of Global Health Governance*. Basingstoke: Palgrave Macmillan.

[678] Lee K and Goodman H (2002), "Global Policy Network: the Propagation of health care financing reform since the 1980s", in Lee et al. (eds.), *Health Policy in a Globalising World*, Cambridge: Cambridge University Press.

[679] Muekherjee A and Ekanayake EM (2009), "Epistemic communities and the global alliance against tobacco marketing", *Thunderbird International Business Review*, 51 (3): 207-218.

[680] Youde J (2005), "The development of a counter-epistemic community: AIDS, South Africa and international regimes", *International Relations*, 19(4): 421-43.

[681] Ogden J, Walt G, Lush L (2003), "The politics of branding in policy transfer: the case of DOTS for tuberculosis control," *Social Science and Medicine*, 57(1): 179-188.

[682] For example, Youde identifies the emergence of both an epistemic community and a counter-epistemic community offering fundamentally different understandings of HIV/AIDS and radically different policy prescriptions. A similar phenomenon is observed in TB where branding of a new TB policy DOTS (Directly Observed Therapy, Short-course) was hotly contested in the TB epistemic communities.

between epistemic communities across cases, epistemic communities are central to explaining why particular collective action in GHG has achieved the way it does – desired or otherwise. There is an important and growing linkage between globalisation and epistemic communities. As global health issues become increasingly complex, ushering in conditions of ongoing uncertainty such as infectious outbreaks, the need for knowledge and expertise will be ever more increasing.

In summary, this section has discussed how the GHG of SARS enhances our understanding of the nature of GHG in general. GHG of SARS is not a coherent set of rules and norms but is comprised of a range of interests and ideas which are at times complementary or conflicting. It is argued that any account of GHG has to be drawn from a full examination of intersubjective understandings of underlying norms on which collective actions are based. Such an exercise will contribute to more reflective and critical debates about the strengthening of GHG.

6.6. CONCLUSIONS

This chapter has discussed the characteristics of global response to SARS to draw broader implications for GHG of infectious diseases more generally. The central argument of this chapter was that the dominance of government arrangements surrounding SARS was not merely the result of material realities, real world events or "rational" decision making, but socially constructed around particular discourses which privileged certain actions and outcomes, interests, ideas and institutions over others. It is argued that an epistemic community was the means by which certain discourses shaped policy responses. Specifically, the findings of this study underline the following points.

First, the SARS epistemic community is comprised of technical expert-cum-norm purveyors who had ability to generate multiple worldviews in a bid to develop consensus and strategically turn their normative beliefs into concrete measures in different policy areas. They came to hold and even support more than one discourse simultaneously that shaped the understanding of problems pertaining to SARS and advanced what was seen as the appropriate response.

Second, discourses underpinning particular policies rose and fell during the outbreak over time with some discourses dominating at particular points in time and places. Importantly, the ascendance (and decline) of discourses occurred under certain circumstances. The changing nature of the outbreak itself renders a significant scope condition for the influence of certain discourses. The prevailing political context allows a particular discourse to frame issues more persuasively. Another condition is a major disease event over the course of the outbreak that offers receptive environment for

certain discourse to succeed. Finally, if the discourse is in line with the existing structural power, it is more likely to maintain its influence.

Third, as a result of multiple discourses being at play at particular points in time, discourses inevitably conflict with each other and lead to tension. Additionally, discourses are not only in contestation *between* them but there are internal divisions and conflicts *within* them. The contestation of discourses is contingent on a range of factors, some of which are specific to the issue at hand. In others, the governance response is determined less by the inherent features of the issue or the particular convincing logic of an 'appropriate' response but more by compelling interests and the operation of power.

Fourth, while some discourses are themselves a powerful representation of interests (as with the neoliberal discourse representing a marketised and liberalised economy and the security discourse embodying security concerns of powerful nations), they have not acted solely according to their logic but have been in cooperation with other discourses and interests. The evidence suggests that cooperation of discourses occurred under certain circumstances such as when there is compatibility in underlying logic at the level of policy operation or when there is a need to achieve an ultimate policy goal together.

Fifth, this research has largely confirmed and lent support to the epistemic communities framework. Yet, the empirical findings have suggested an elasticity of concepts or conceptual sophistication in the epistemic communities framework. Notably, this research has challenged the notion of shared normative belief in the framework by demonstrating the possible existence of multiple consensual beliefs affecting the policy paradigm of the community across different issue areas over time. Such refinement would ensure meaningful examination of the multiple "realities" at large in one policy realm and why certain "reality" prevails under particular conditions. This finding fits well with the existence of multiple discourses as well as the complementarity of different discourses identified above.

Sixth, the findings of this study demonstrate that in many ways, the GHG of SARS mirrors, the GHG of other global health issues in terms of framing of issues and the actors in the formation of and justification for interests in global health. The manner in which the four discourses operated in other areas of global health, the reconciliation of different interests behind the agreed goals, and the role and authority given to knowledge-based actors in highly technical areas of global health all attest that GHG of SARS is reminiscent of GHG in general.

To conclude, through interrogation of the nature of the global policymaking process on SARS, one sees where normative preferences lie in the GHG of infectious diseases related to SARS. Conversely, one begins to understand why particular policies become prioritised or marginalised. This research does not make a judgment as to whether which discourse(s) are good or which ones are bad. Rather, the rise of certain

worldviews may be understood as constituting health governance, as it acts to symbolically and pervasively shape, privilege or bolster particular interests and arrangements against the others. Scrutinising the process behind the ascendance and decline of an underlying normative framework and identifying actors responsible for such evolution allows for a fuller understanding of why GHG of infectious diseases has evolved the way it has to date.

CHAPTER SEVEN

CONCLUSIONS

7.1. INTRODUCTION

The starting point of this research is to more fully explain the emerging nature of GHG, through detailed analysis of SARS, and how insights might be drawn to strengthen collective action on shared health needs. A review of the existing literature on GHG, as set out in Chapter One, shows that analysis to date has largely focused on problems defined in terms of poorly designed or implemented institutional arrangements, inadequate resources, lack of technical knowhow, or political shortcomings. These problems are assumed to be addressable by better institutional arrangements, increased resources, and the development of technical solutions or measures to strengthen "good governance". It is argued that these approaches largely emphasise material reality as definitive of global health policy action and outcomes.

While there is a degree of evidence that there is some merit in all of these approaches, this research seeks to contribute to emerging understandings of GHG as socially constructed. This research argues that dominance of particular policies and global collective action does not occur, merely because of material conditions, but are also shaped by ideational factors. Collective action in global health, in brief, is the product of a multiplicity of ideas, interests and institutions which shape what should be the universe of possible, the most *acceptable* and the most *feasible* course of policy action. Through the concepts of framing and epistemic communities, the research explains the global response to the SARS outbreak as interplay between particular normative frameworks or discourses, advanced by an epistemic community, which facilitates or constrains certain policy actions. In this way, this research seeks to understand GHG in a way which brings together the material and the ideational more fully into account for the nature of GHG.

This concluding chapter is structured in five sections. The first section summarises the empirical findings. The second section considers the scholarly and policy contributions of the research. The third section then evaluates the limitations of this research followed by the fourth section which proposes suggestions for further research directions. Lastly, a brief reflection on the approach taken in this research is provided.

7.2. SUMMARY OF THE MAIN FINDINGS

This research posed two central research objectives along with several questions. The central research objectives are to: (a) locate the transnational epistemic community concerned with SARS by identifying key actors and their linkages to each other; and (b)

analyse the discourses constructed by this epistemic community in order to understand how, and to what extent, the discourses impacted on the practical policy response to SARS.

The primary empirical findings of this research are provided below. The first three points are relevant to the first central research objective. The remaining four points deal with the second central research objective.

First, the research finds that the SARS epistemic community evolved along with and was shaped by the policy environment where emerging and re-emerging infectious disease outbreaks became a growing concern for the international community in the mid and late 1990s. A small number of medically trained WHO officials who spent their early careers in infectious disease control in the developing world came to share a core set of normative beliefs in how the problem of disease outbreaks should be addressed, to what ends and for whose benefit at the turn of 21st century.

Second, the research shows that members of the SARS epistemic community were gradually expanded when there was an imperative to mobilise specialised expertise to develop global SARS outbreak knowledge and to forge a focal point for normative consensus. The relative weight of the knowledge on SARS was influenced by the abovementioned core WHO officials. Thus, experts in the specialised fields of virology and epidemiology dominated the global inquisitions on SARS. These experts accumulated their authority and credibility further by participating in formal and informal global meetings. The similar notions of validity derived from specialist training and personal or professional relationships with the core members of WHO officials gave further impetus for these individuals to form a collective identity and shared normative beliefs.

Third, the research identifies that the policy enterprise of the SARS epistemic community was, led by a few individuals who constituted the key senior WHO officials, forming what this study refers to as the *Heymann centre*. These individuals, together with other actors, formulated policy strategies, created and shaped an environment of collective actions. Policy makers came to recognise and identify with the role of the *Heymann centre* in shaping the national and international policy response. Evidently, the uncertainty and complexity surrounding SARS provided the opportunity for this group to earn a privileged position to advance their policy enterprise. Furthermore, their positions in the international agency enabled them to straddle the different worlds of the technical and normative, conferring them with authority and policy influence.

Fourth, the operation of four discourses – biomedical, economic, security and human rights – was identified as primary discourses that have arisen in the global response to SARS. It is clear from empirical observation that these discourses rose and fell over time, but some of them remained more influential. The causes of this variation are varied. In some instances, they can be due to the changing nature of the SARS outbreak

itself. In other cases, prevailing political contexts or a particular disease event maintains or alters the terms of debates. In still other cases, material power and its long lasting influence constrain the range of policy discourses being advanced. All these point to the ability of discourses shaping policy agendas related to issues surrounding SARS.

Fifth, as a result of multiple discourses being at play at particular points in time and places, discourses inevitably conflict with one another that lead to tension. Additionally, discourses are not only in contestation between them but there are internal divisions and conflicts within them. Therefore it is important to understand the sub-frames and how these sub-frames mutate and are subject to power and influence. In the case of SARS, the contestation was contingent on a range of factors, some of which were specific to the issue at hand. In others, the governance response is determined less by the innate characteristics of the issue or the particular compelling logic of an appropriate response and more by compelling interests and the operation of power.

Sixth, discourses are not only in contestation but they can and did cooperate with one another and inform policy choices. While some discourses were themselves a powerful representation of interests (as with the neoliberal discourse representing a marketised and liberalised economy and the security discourse embodying security concerns of powerful nations), they did not act solely according to their logic but were in cooperation with other discourses and interests. The evidence suggests that cooperation of discourses occurred under certain circumstances such as when there was compatibility in underlying logic at the level of policy operation or when there was a need to achieve an ultimate policy goal together.

Lastly, this research finds evidence that the SARS epistemic community consisted of technical expert-cum-norm purveyors who had ability to generate multiple worldviews in a bid to develop consensus and strategically turn their normative beliefs into concrete measures in different policy areas. They came to hold and even support more than one discourse simultaneously (which can be competing) that shaped the understanding of problems pertaining to SARS and advanced what was seen as the appropriate response.

7.3. CONTRIBUTIONS OF THIS RESEARCH

This research aimed to contribute to the emerging body of GHG literature through in-depth empirical engagement in tandem with theoretical reflection and deliberation. The findings of this research make several distinct contributions in the theoretical, empirical and policy realms.

This research has challenged much of the current literature that largely cast problems facing global health in terms of lack of political will, lack of inter-agency coordination and insufficiency of resources. Undoubtedly, the existing literature has provided a

wealth of insights into the operation and power in GHG, but it failed to grasp more fundamental reasons as to why there is an apparent disjuncture between global health needs and governance response. In contrast, this research, located largely within Social Constructivism, argues the contemporary architecture of GHG as far wider and more far-reaching than much of the existing literature suggested. This research began with the recognition that plurality of interests, ideas and institutions shapes governance arrangements in terms of priority setting in GHG. It has illustrated the origins and significance of the multiplicity of ideas shaping collective action on SARS by means of four overarching discourses. The operation of four discourses throughout the course of the outbreak illustrates that GHG of SARS is not merely the "rational" response to exogenous developments to the real world but is the product of a complicated process of contestation over how reality is constructed. In this sense, this research complements and adds value to the emerging body of literature that problematises current approaches to the study of GHG. It also enhances our understanding of how discourses play out in actual institutional settings and health policies.

This research has elaborated and advanced our understanding of the dynamic of discourse operation in GHG of infectious diseases. The research illustrates why particular discourses come to the fore and recede in the context of infectious disease outbreaks. It also explains that under certain circumstances, discourses are not only contested but they are also in cooperation. Importantly, the findings of this research highlight that even some of the most powerful discourses required additional support from a different set of discourses at certain points to garner enough support for resources and policies to gather. The cooperation of various discourses in terms of policy outcomes opens up the space for coalition of interests, consensus, and coordination of separate institutions, which previously championed certain discourses (and thus interests), in GHG. This finding may inform future policy debates in search for commonly agreed goals for global health needs. Policymakers may gain insights into ways to reconcile different worldviews underpinning health policies and provide channels for different types of agents shaping GHG to coordinate. This research also contributes to further discussions on how discourses can be used to yield a consensual logic in policy response.

One of the original theoretical contributions this research makes is the approach that this research adopts for analysing normative basis of GHG. Drawing on Social Constructivism and the epistemic communities framework, this research develops an analytical framework that allows for a fuller understanding of the relationship between the discourse defining global health problems and solutions, and the actors who produce them. At the same time, the research brings the insight from the emerging GHG literature that a diverse range of ideas, interests, and institutions is at play in the resolution (or lack thereof) of health problems on a global scale. Linking the epistemic community with GHG thus requires not just paying attention to the normative frameworks advanced by the community but also understanding the mediation of

competing interests shaping GHG in the prioritisation of policy goals. This research illustrates that worldviews of the epistemic community are more likely to be influential if they are in line with decision makers' interests, and that how problems are framed often seems a conscious choice of the epistemic community. Thus while a shared worldview is a core element that characterises the epistemic community, the congruence of the epistemic community's worldviews and political preferences of a given time period proves central to predicting *when* epistemic communities exercise policy influence. The analytical framework developed in this study contributes to a more nuanced understanding of the complex and political context within which epistemic communities operate in GHG.

The contribution of this research can also be seen in the theoretical elaboration of the epistemic communities framework. The findings of this research challenge and complement Haas's theory of epistemic communities, which defines the community though a shared consensual belief, mutual engagement through common notions of validity, and common policy enterprise. Hass contends that shared consensual belief (worldview) holds the community together. This research has shed light on an interesting question within epistemic communities research, in particular the existence of multiple consensual beliefs shared by a single epistemic community. This research shows that multiple "realities" can be constructed by the epistemic community over time in the policy process, illustrating that the epistemic community's core belief system could embrace a range of worldviews which then broadens the policy paradigm of the community. Through empirical understanding of the SARS epistemic community, this research offers conceptual refinements for improving the explanatory power of the epistemic communities framework.

Lastly, this research has elucidated the actual process through which policy discourses are translated into health policies through epistemic communities. It is well known that the biomedical community has significant influence over international health policy making, not least in the manner in which the WHO is driven and governed by medical professionals.[683] Little is known, however, about how exactly global health policy making of infectious disease outbreaks takes place in practice, and what role technical experts and their expertise play in that process. This research fills this gap by exploring what core knowledge surrounding SARS was generated, how the relative weight of knowledge was determined, and what mechanisms facilitated a community of medical and technical experts to come at the forefront of policymaking on SARS. The research illustrates that the influence of the SARS epistemic community was profound both in terms of shaping normative basis of policies and global spread of responses. This finding serves to illuminate the detailed workings of global health policy making concerned with an infectious disease outbreak.

[683] Lee K (2009), *The World Health Organisation*, London: Routledge.

7.4. LIMITATIONS OF THIS RESEARCH

The present research has a few methodological and theoretical constraints.

First, this research intended to identify key discourses that have defined the problems of SARS and shaped policy decisions using both inductive and deductive approaches. That is, key discourses are identified not only on the basis of pre-conceptualised discourses suggested by the existing analyses on GHG as departing themes but also through an iterative process of exploring emergent themes using a grounded theory approach. The research has identified four key discourses – biomedical, economic, security, and human rights discourses – that are dominant in the GHG of SARS. They are not unique to GHG of SARS in the sense that they are essentially emanated from the existing GHG analyses and that no additional new discourse is identified. This can be explained, in part, by the fact that GHG of SARS is part of the very fabric of GHG in general. That is, the key discourses identified in GHG of SARS are inextricably linked to other areas of global governance. Indeed, the research finds similar coherent underlying logic and narratives that reflect each of the four discourses identified elsewhere. Nonetheless, there is a possibility that this research might have missed out some potential discourses. In this respect, discourses presented in this research may not represent the entirety of ideas that informed policy outcomes in GHG of SARS.

Second, while all infectious diseases have potentially significant impacts on governance issues, whether local or global, some might argue that different governance arrangements or instruments are required for different infectious disease issues or even other global health issues. In other words, one should caution against overgeneralisations of the present analysis to a broader GHG architecture since special circumstances and conditions can facilitate and inhibit collective action across different types of infectious diseases in GHG. Indeed, the notion and account of GHG in this research has been mainly confined to the type of infectious diseases that have the features of potential uncertainty, rapid transmission within a short period of time and global geographical reach. Hence, this study on the SARS outbreak recognises that conclusions emanating from the study might not be analytically and operationally applicable to the larger literature on GHG itself, or even GHG around infectious diseases as a whole. Nonetheless, this study has endeavoured to make an intellectual and practical contribution to the development of current GHG debates on infectious disease outbreaks, and provide useful insights into the complexity of GHG.

Third, in terms of data collection and analysis, although considerable efforts were made to ensure that the fieldwork used a robust and rigorous research methodology, there were some challenges, especially with regard to fieldwork interviews. For example, informants affiliated with formal organisations such as the WHO and government bodies tended to develop attachments and justifications to their organisations and roles, and were often exceedingly cautious and defensive with their responses. These issues

might have been mitigated to a certain extent by cultivating a deeper rapport with respondents over a longer period of interaction. Data collection processes including field site visits, however, did not always allow for maximum rapport building, which is best done over a long period of intense interaction. The systematic application of a process of triangulation and verification connecting up with findings from an archival literature review, however, has significantly helped to mitigate these issues and challenges.

7.5. FUTURE RESEARCH DIRECTIONS

One way in which future research could build on this research is by examining the role of discourses in other global health issues in GHG. The social constructivist approach used in this research has been shown to offer a fuller understanding of the constitutive element of GHG related to infectious diseases. As such, social constructivism might be usefully applied to other issue areas, notably where policy action has been contested or intransigent. In recent years, a number of scholars have been identifying new research questions and agendas around the role of ideas, applying this approach to new empirical contributions to GHG in areas such as pandemic influenza preparedness, tobacco control, access to medicines and HIV/AIDS.[684] Nevertheless, this body of work remains less prominent that approaches focusing on material conditions. GHG scholarship would benefit from the expanded application of a social constructivist approach to a wide variety of specific global health issues to make sense of the interplay between ideas and material reality, and how this shapes the governing of specific health issues or "pathways of response". For example, this type of research might explain the limited presence of the human rights discourse in areas of non-communicable diseases, apart from tobacco control, (diet and nutrition, for example).[685] The emergence of a new discourse that shapes the governance response to a specific health problem (for example, harm reduction approach to alcohol) could also be an interesting topic to explore. [686]

Related to the above, one of the interesting questions arising from the analysis was how discourses work together, how some are more compatible with each other than others, and under what conditions they come together. This research has introduced the manner in which different interests can coalesce with each other by drawing on the discourses at hand, and the circumstances under which discourses are most likely to be in cooperation in the context of an infectious disease outbreak. Further consideration of why, where and how well discourses cooperate and reconcile across different global

[684] McInnes C, Kamradt-Scott A, Lee K, Romer-Mahler A, Rushton S, Williams OD (2014), The Transformation of Global Health Governance, New York: Palgrave McMillan.
[685] Sridar D, Brolan CE, Durrani S, Edge J, Gostin L, Hill P, McKee M (2013), "Recent shifts in global governance: implications for the response to non-communicable diseases," *PLOS Medicine*, 10(7): e1001487.
[686] Anderson P, Moller L, Galea G (2012), *Alcohol in the European Union: consumption, harm and policy approaches*, Copenhagen: World Health Organisation Regional Office for Europe.

health domains could enhance our understanding of the political dynamic of the coalition of interests examined here.

A future research area that was briefly touched upon in the research, but would benefit from further examination, is how particular discourses intensify or differentiate policy responses to health problems at the regional, national and sub-national levels. For example, the security discourse has been manifested, to a certain extent, differently across different jurisdictions during SARS. How does the delineation of boundaries in terms of territory frame specific priorities or agendas at other level of governance? Why do global ideas wield a different degree of influence across multiple sites? This line of questioning would require more targeted analysis at the local level to clarify how intersections between the local and global occur, and how local actors challenge or circumvent global norms. Future research could also focus on investigations into an exact pathway by which global ideas and norms are diffused.

Another avenue for further research is to examine the presence and role of epistemic communities in different policy domains in GHG. For example, in which domains are epistemic communities most likely to form and assert influence? Among these domains, in which ones have epistemic communities impacted policy choices? In which domains have epistemic communities failed to make an impact? If an epistemic community has failed to contribute towards policy change in some domains, what could be the potential causes for this failure? Such an examination would assess the broader role of epistemic communities in the process of global health policy making. An interesting further line of enquiry is to investigate the persistence of epistemic communities. According to the epistemic communities literature, an epistemic community is a self-organised social structure which typically has a tendency to disband, especially after achieving policy success on a particular issue that it has been engaged in.[687] An epistemic community may also disband for other reasons such as a failure to achieve consensus among its members, or an inability to sustain itself in the wake of the emergence of rivalling epistemic communities or the departure of certain members.[688] Persistence may enable epistemic communities to achieve long-term consensus, retain legitimacy, and institutionalise the normative beliefs they promote. Scholars may focus on this aspect.

Another intriguing line of research is to clarify how epistemic communities and discourses interact together and how the former uses the latter strategically to (or not to) further certain policy actions. This research has recognised that the SARS epistemic community was not only cognizant of the nature of the issues surrounding the outbreak through the knowledge they possessed, but appeared to have been capable of responding and adapting to the context. The SARS epistemic community deployed

[687] Adler E and Hass P (1992), "Conclusion: epistemic communities, world order, and the creation of a reflective research programme," *International organisation*, 46(1): 367-390.
[688] Cetina K (1999), *Epistemic Cultures: How the Sciences Make Knowledge*, Cambridge: Harvard University Press.

certain discourses according to the changing nature of the outbreak, prevailing economic and political circumstances, and other real world events to be resolved. The question remains as to whether the use of 'appropriate' discourses was a deliberate rhetorical strategy for persuading and gaining support of audiences to achieve the policy goals or it was merely a coincidental outcome of the interplay between framing and context. Future research might usefully elucidate whether epistemic communities have shared motivations to tactically (or even opportunistically) deploy and combine discourses to advance their policy preferences.

One of the interesting points that this research briefly touched on but could explore further is when epistemic communities are more likely to be persuasive and thus influence policy outcomes. The SARS epistemic community appears to be influential under particular circumstances such as during times of political uncertainty spurred by technical uncertainty and complexity of the problem at stake, and when members of the epistemic community are institutionalised into international organisations. While this research did not extend to investigating the relative importance of different conditions that have a path to influence, it would be important to research into the context within which epistemic communities and the norms they espouse are more likely to impact state behaviour and regime formation through comparative case studies.

Lastly, the analytical framework of epistemic communities guided investigation into the role of a community of technical experts in the introduction, acceptance, and diffusion of policies on infectious disease outbreaks at the global level – a hitherto unexplored area. Yet, one of the limitations with the framework is its assumption that epistemic communities are the only influential actors or set of interests at play. Partly due to the focus of the role of epistemic communities, this study has not extensively explored the role and interests of other important agents that might have contributed to the policy process. For example, the media was an important diffusion outlet and agent of discourse construction in that it highlighted certain policy issues (over others) during the outbreak, facilitating or hindering the ascendance (or decline) of particular discourses and overall policy debates related to SARS. In effect, GHG of infectious diseases involves a bewildering array of actors and configurations that extend beyond a community of technical experts. An examination of the perspectives of a broader array of actors on the issues of infectious disease outbreaks and the relative importance of epistemic communities against other types of actors would elucidate deeper understandings of GHG.

7.6. CONCLUSIONS

This research has examined the implications of specific sets of ideas through the epistemic communities concept with regard to the nature of global SARS governance. It is possible that objections may be made against the arguments put forth herein by pointing out that the reason why certain ideas surrounding SARS gained prominence is

simply that the ideas underpinning policies were better than others available at the time of the outbreak in meeting the challenges. In other words, critics may argue that global SARS governance is a rational (and thus value-free) response to international health crisis, with the aid of technical experts, in order to address the collective risks posed by the outbreak, on the basis of impartial and objective evidence. This research argues that such a view is inadequate. Indeed, the perceived crisis-like situation privileges technical experts during the outbreak. Yet, it does not explain fully why the very form of governance of SARS evolved the way it did. The introduction and acceptance of particular discourses over others still requires explanation – why certain ideas prevail and why certain policy decisions are chosen. This is especially true when there are a number of ways to define problems and address them.

The ideational understanding of GHG – in particular, the discourse contributing to GHG of infectious diseases – leaves this thesis open to the criticism that it does not provide a definitive policy solution from a positivist perspective. In effect, the ideational understanding of GHG does not directly offer a prescriptive solution to the perceived existing "deficit" in governance arrangements. However, identifying the dynamic process of the contestation and cooperation of ideas is arguably a first step to understand a deeper causal factor for the configuration of a particular form of GHG. The findings of this research do not intend to highlight the governance deficit, nor are they to pinpoint negative effects of specific policies surrounding SARS. Rather, the intent is to elucidate the policy process of GHG of SARS through an interpretive and reflective approach. Such an exercise, it is believed, speaks to the possibility of being other than how we are constructed, of opening up the space to understand global health problems in a number of ways, and perhaps of evolving alternative approaches to the existing one.

At the beginning of this research, the researcher laid out a series of research questions to be addressed throughout the thesis. Before concluding, one core research question to be answered here is what this analysis tells us about the notion of GHG of infectious diseases. The story of SARS unveils that GHG of SARS is vitally linked to the wider landscape of GHG and global governance, not least in the manner in which the dominant political and economic interests increasingly define it over a range of issue areas and policies. By engaging in account of key discourses, we begin to understand that discourses from other areas in global governance cross over into the domain of GHG of SARS. Thus, it is not surprising that discourses aligned with prevailing interests within the emerging global political economy such as trade flows, intellectual property, scientific progress and national security primarily inform the governance arrangements surrounding SARS. This suggests that understanding GHG of SARS is only viable in the context of recognition of the inter-linkages and lines of force which impact upon it. Significantly, this configuration coincides with the growing dissatisfaction with the current state of GHG, which is seen as highly flawed and disjointed. Now seems to be a right point at which to take a step back and ask why GHG has evolved the way it does, and what really drives global response to health problems. The present research from

the story of SARS underscores that governance response in terms of policy outcomes is the product of reconciling health with a plethora of competing priorities and political economic goals via social construction of reality. Interrogating the normative basis of GHG will not only elucidate the existing governance arrangements and their normative orientations, but it will also contribute to more reflective and critical debate about how to strengthen collective action on shared health needs.

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APPENDIX I

LIST OF INFORMANTS

WHO Headquarters (Geneva)

Name	Position during SARS	Position at the time of interview
Dr. David Heymann	Executive director of communicable diseases	Assistant Director-General for Health Security, Environment, and World Representative of the Director-General for Polio Eradication, World Health Organization (WHO)
Dr. Guenael Rodier	Director, Department of communicable disease surveillance and response (CDS)	Director, Department of communicable disease surveillance and response
Dr. Max Hardiman	Medical officer, CDS	Medical officer, CDS
Dr. Isabelle Nuttall	Medical Officer, International Travel in the Communicable Disease Section	Medical officer, Director-General's office
Dr. Thomas Grein	Medical officer, CDS	Medical officer, CDS
Dr. Kande-Bure O'Bai Kamara	Medical officer, CDS	Medical officer, CDS
Dr. Cathy Roth	Medical officer, CDS	Medical officer and Head, Dangerous and New Pathogens Cluster of the Epidemic and Pandemic Response Department
Dr. Nikki Shindo	Medical officer, CDS	Medical officer, CDS
Dr. Angela Merianos	Short-term contract consultant, CDS	Medical officer, CDS
Dr. Paul Gully	Senior Director General, Health Canada	Senior medical advisor, WHO

WHO Western Pacific Regional Office (Manila, The Philippines)

Name	Position during SARS	Position at the time of

		interview
Dr Hitoshi Oshitani	Regional Advisor, Department of Communicable Disease Surveillance and Response (CSR)	Professor, Tohoku University Graduate School of Medicine
Dr. Shigeru Omi	Regional Director, WHO Western Pacific Regional Office	Regional Director, WHO Western Pacific Regional Office
Dr. David Bell	Medical officer, Expanded Programme on Immunization	Medical officer, Expanded Programme on Immunization
Dr. Takeshi Kasai	Senior advisor, CSR	Senior advisor, CSR
Dr. Yoshikuni Sato	Medical officer, Expanded Programme on Immunization	Medical officer, Expanded Programme on Immunization
Mr. Peter Cordingley	WHO Spokesperson	WHO public information officer
Dr. Henk Bekedam	WHO China Representative	Medical officer, Health System Development, WHO Western Pacific Regional Office

Hong Kong, China

Name	Affiliation during SARS	Position at the time of interview
Dr. Malik Peiris	Professor, Department of Microbiology, University of Hong Kong	Professor, Department of Microbiology, University of Hong Kong
Dr. Tak-Sun Ignatius Yu	Professor, Chinese University of Hong Kong	Professor, School of Public Health, Chinese University of Hong Kong
Dr. Stephen Ng	Invited investigator on SARS/Lecturer in Epidemiology, Columbia University	President, Asia Molecular Diagnostics Limited.
Dr. Sui Hung Lee	Professor, School of Public Health, Chinese University of Hong Kong	Professor Emeritus, School of Public Health, Chinese University of Hong Kong
Dr. Anthony Johnson	Professor of Community	Chair Professor of

Hedley	Medicine, University of Hong Kong	Community Medicine, School of Public health, University of Hong Kong
Dr. Tze Wai Wong	Professor, Chinese University of Hong Kong	Professor, School of Public Health, Chinese University of Hong Kong
Dr. Nelson Lee	Senior consultant, Prince of Wales Hospital, Hospital Authority	Senior consultant, Prince of Wales Hospital, Hospital Authority

Singapore

Name	Affiliation during SARS	Position at the time of interview
Dr. Goh Kee Tai	Director, Quarantine & Epidemiology Department, Ministry of Environment	Senior Consultant, Ministry of Health
Professor Tan Chorh Chuan	Director of Medical Services	President of National University of Singapore
Dr. Teo Kwang Joo	Chief Army Medical Officer Colonel, Singapore Armed Forces	International SOS
Dr. Stefan Ma	Officer, Ministry of Health	Acting Deputy Director (Biostatistics & Research), Ministry of Health
Professor Leo Yee Sin	Clinical Director, Singapore CDC	Director, Singapore CDC
Dr. KU Menon	Ministry of Information, Communication and Arts	Ministry of Information, Communication and Arts
Dr. WH Yak	General Practitioner, Bedok	General Practitioner, Bedok
Dr. Chew Suok Kai	Epidemiology and Disease Control Division, Ministry of Health	Epidemiology and Disease Control Division, Ministry of Health
Dr Edison Liu	Director, The Genomic Institute of Singapore	Director, The Genomic Institute of Singapore
Dr. Aiee Ling	Senior consultant, Singapore General Hospital	Senior consultant, Singapore General Hospital

UK

Name	Affiliation during SARS	Position at the time of

		interview
Dr. Steven Riley	Post-doctoral Fellow, The University of Hong Kong	Reader, Infectious Disease Ecology and Epidemiology, School of Public Health, Imperial College

APPENDIX II

RESEARCH OBJECTIVES and INTERVIEW QUESTIONS

Objectives	Interview Questions
To critically review the existing literature on GHG of infectious disease outbreaks	
To develop a conceptual framework to analyse the SARS outbreak based on the concepts of epistemic communities and transnational managerial class	
To locate the transnational epistemic communities concerned with SARS by identifying key actors and their linkages	• Can you tell me firstly a little about your own background and your position when the SARS outbreak occurred? • Can you describe how you came to be involved in the SARS response? • Can you describe your role during the outbreak? What function did you perform? • Do you see yourself predominantly as a technical expert or a policy maker? Do you think that these roles are distinct and separate? • Which institutions/individuals do you think played the most important role during the outbreak and why? What kind of influence did these institutions/individuals exert? What determines which institutions/individuals are influential/powerful in your eyes? • (For participants in the WHO networks) How were the virtual networks for SARS (aetiology, clinicians, and epidemiology) organised? How did you come to be involved in the networks? Prior to SARS outbreak, did you have any formal/informal interaction with other experts participated (or with the WHO)? Which institution or individual do you think was distinct and why? • (For participants in the global meetings) How were the advisors of global meetings selected and appointed? (How did you come to take part in the global meetings?) Did you have any formal/informal interaction with other advisors attended (or with the WHO) prior to outbreak of SARS? Which individual, if any, do you think was influential in the discussion of SARS outbreak and why? What do you think were the

	major outcomes of the meetings? To what extent the meetings were important in guiding the global SARS response? • (For WHO HQ officials) Can you talk me through the process of mobilising experts in a global response to an outbreak such as SARS? Can you describe the actual mechanics? • (For, WPRO officials, national policy makers, and others) How did you interact with people involved in the global SARS response in general? • (For WHO HQ and WPRO officials) How were the guidelines, recommendations, protocols, and fact sheets drafted? Who was involved in preparing the documents and who were the individuals, if any, that provided the expertise? To what extent did these individuals help guide the documents? • (For national policy makers) How were the national measures and policies implemented in your country? Who decided how? Who were the individuals that provided advices to the national authority? Did the WHO officials and other technical experts play a part in national policy-making? If so, how and to what extent their advices were influential? • (For national policy makers) To what extent the WHO's guidelines/recommendations contributed to the national policy-making?
To explore the discourses constructed by this epistemic community	• Do you think SARS was unprecedented in terms of the nature of outbreak? • If so, to what extent it was exceptional? • What do you think of the media attention? Do you think the media attention was appropriate in level to outbreak's seriousness? • Why do you think SARS garnered unprecedented media attention? • What do you think was the rationale behind the (specific) policies? To what extent do you think it could be legitimized given the (specific) concerns? • To what extent do you think the SARS response was successful? If so what factors explain the success (or failure)?
To understand how, and to what extent, the discourses put forth by the epistemic communities impacted on the practical policy response to SARS	• To what extent do you think WHO played an important role in averting a major global outbreak? • What role do you think WHO played compared with other health organizations for example the US CDC? Do you think it played an appropriate role? • How would you describe the role of technical experts in policy making during the outbreak?
To draw conclusions about	

the nature of emerging forms of GHG.	

APPENDIX III

INFORMATION SHEET AND CONSENT FORM

London School of Hygiene & Tropical Medicine
(University of London)
Keppel Street, London, WC1E 7HT
Switchboard: +44 (0)20 7636 8636 Telex 8953474

LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

WHO collaborating Centre on Global Change and Health
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Study Information Sheet

Study Title: The role of epistemic communities in the global response to Severe Acute Respiratory Syndrome (SARS): Implications for global health governance

Dear _____,

I am writing to invite you to take part in PhD research to analyse the role of technical experts in the global response to SARS. This research seeks to understand the extent to which a "community" of experts came together, what was the nature of their expertise, and how they interacted to influence policy making. In the political science literature, the term "epistemic communities" is used to describe such a group.

Given your expertise in infectious disease control, and understanding of the SARS outbreak, I would be grateful if you would agree to be interviewed. My questions will seek to understand, from your perspective, who the key individuals and institutions involved in the response to SARS, what specific roles they played, how they interacted with other actors and, perhaps most challenging, what factors motivated their actions. It is hoped that the findings of this research will contribute to a fuller understanding of emerging forms of global governance of infectious diseases.

My aim is to conduct about 30 interviews. If you agree to participate in this study, the semi-structured interview will be conducted by myself and is likely to last around 30-60 minutes. I would like to tape record the interview to ensure accuracy. Please inform me if this is not acceptable to you. After the interview, I will transcribe the tapes and analyse their content alongside policy documents, statements, speeches and mass media coverage.

If you are willing to participate, I would be grateful if you would complete and return the brief consent form below by email or post. Then I will arrange an interview at a time which suits you. Your participation is entirely voluntary and you are not required to provide a reason if you decide not to take part. All interviews from this research will only be used for this thesis and outputs (e.g. peer reviewed articles) deriving from it. Any additional use will only be undertaken with your expressed permission. Quotes taken from the interview will be identified by name, position and institution of the interviewee. Please inform me if you would prefer that your interview remain anonymous.

This project has been approved by the Ethics Committee of London School of Hygiene and Tropical Medicine. If you require any further information about the study, either prior to or following participation, please do not hesitate to contact me.

Thank you for your consideration of this project and I look forward to hearing from you.

Sung-Won Yoon, PhD candidate
Centre on Global Change and Health
London School of Hygiene and Tropical Medicine
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email: Sung-Won.Yoon@lshtm.ac.uk
Tel: +44 07765 388 883

Consent Form

Study Title: The role of epistemic communities in the global response to Severe Acute Respiratory Syndrome (SARS): Implications for global health governance

Please delete as appropriate

- I have read the study information provided and I understand what will be required of me if I take part in.

  Yes/No

- I understand that my participation is voluntary and that I am free to withdraw at any time without providing a reason.

  Yes/No

- All my questions have been answered by the researcher.

  Yes/No

- I agree to permit the researcher to contact me via email or letter in order to make arrangements for the interview.

  Yes/No

- I agree to take part in the above study.

  Yes/No

Signed _____ Date _____