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Removing user fees in Africa: more than a technical challenge

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PhD Thesis

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‘I Nouria Brikci-Nigassa, 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’.

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I am immensely grateful to my supervisors, Prof. Anne Mills and Prof. Kara Hanson, for their unwavering support throughout the PhD adventure. They provided insight, challenges and most of all reassured me that I could get to the finish line. I am also enormously grateful to my family for having stood by me patiently throughout the years of sweat and tears, read drafts and commented tirelessly. Thank you also to Prof. Sophie Witter who has been a friend and a mentor throughout my professional life. And thank you to my friends (Barrett Road + VAT in particular) for always having a glass of wine ready for the highs and the lows. None of this would have been possible without all of you by my side.

'I, Nouria Brikci-Nigassa, 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. I also outline below my precise contribution to each of the co-authored articles presented in this thesis:

Witter S, (…), Brikci N (2019), What, why and how do health systems learn from one another? Insights from eight low-and middle-income country case studies, *Health Research Policy and Systems* , 17(9) · January 2019, available here.

I led the development and refinement of the framing of the research question and the development of the research protocol for the country level data collection. I then developed the entire qualitative approach for the 8 country case studies, and implemented two of the 8 countries (Burkina Faso and Rwanda), whilst supporting all other researchers in the other 6 countries. I wrote the analytical reports for my two countries and wrote in collaboration with Sophie Witter the cross country analysis for the final evaluation report. This report was then the basis of this article, which I co-wrote with Sophie Witter.

McPake B, Brikci N, Cometto G et al (2011), Removal of User fees: international experience and lessons learnt, *Health Policy and Planning*, 26 (suppl 2):104-117, available here

I worked at the time of writing this article for Save The Children. The idea behind the research for this article was mine and that of the third author, based on our country and global level experience of debates around user fees. I led the development of the research question through an iterative process with the other authors. Once the protocol was agreed, I led on the literature review analysing where and how user fees had been removed elsewhere. I then contributed to development of the approach and its 6 steps. I then wrote up this evidence for the article.

Witter S, Brikci N et al (2018), The free healthcare initiative in Sierra Leone: Evaluating a health system reform, 2010-2015, *International Journal of Health Planning and Management* 33(1) · January 2018, available here

For this article, I worked in close collaboration with Sophie Witter in the design of the research protocol and evaluation framework, developing the methodology for the entire evaluation. I led on two specific aspects of the research: the analysis of the governance pillar (from literature review to key informant interviews at central level) and the qualitative research. For the qualitative research, I worked with a national research team on the development of a full research protocol, and I developed the topic guides for the semi-structured interviews and focus group discussions with health workers and key target

groups (pregnant women and lactating mothers) as well as men and non-pregnant women. The collection of primary data took place in 3 sites. I collected and transcribed interviews in one of them, and supported through technical advice the local research teams in the other two sites. Once collection in all sites was undertaken, I guided the national researchers in the transcription and thereafter analysis of all data collected, and the write up of the analysis. Sophie Witter and I wrote the final report, upon which this article is based.

Mathauer, I (…) & Brikci N (2019), Revenue-raising potential for universal health coverage in Benin, Mali, Mozambique, and Togo, *WHO Bull.* Volume 97, Number 9, September, 581-644, available here;

The research for this article was led by me in each of the four countries: I led the research design in each of the four countries, led its implementation in Mali, Benin and Togo, and supported the implementation in Mozambique. For Mali, Benin and Togo, I led the qualitative aspects of the work (from topic guide development to transcription and analysis). I also led the expert group discussion to seek consensus on the financing mechanisms to be selected. For Mozambique, as I didn't speak the language, I developed all qualitative tools but did not lead the interviews. For the quantitative analysis, I led the framing of the modelling approach (what to consider, what assumptions to integrate, what policy basis to integrate) but did not the modelling myself. I rather guided a more junior staff member through its development and implementation. I wrote the four reports underpinning this article. I then worked in close collaboration with Inke Mathauer in the write up of the article, very heavily based on my original research.

Contents

Abstract

The introduction of user fees (formal payments at the time of seeking care at public health facilities) to finance healthcare in Low- and Middle-Income Countries (LMICs) in the 1980s has been, and remains, a controversial topic. User fees represent a key financial barrier to accessing care, particularly for poor people who may be further impoverished as a result of seeking care. The economic arguments in favour of user fees have been contested. Yet, despite the mounting evidence against them, user fees persist across most African countries.

This thesis seeks to answer the following research questions: Why have user fees persisted as a health financing mechanism in face of evidence that they present a financial barrier to access? What has constrained efforts to remove user fees, and particularly, what are the relative contributions of technical factors versus complex political interests that may have shaped these health systems policies?

The thesis takes the form of five papers and uses a combination of literature reviews, qualitative and quantitative methods. The first paper, Witter S, Anderson I, Annear P, Awosusi A, Bhandari N, Brikci N , Blandine B, Chanturidze T , Gilbert K , Jensen C, Lievens T , McPake B , Raichowdhury S and Jones A (2019), starts with a scoping review on the content of learning across health systems, a scoping review of institutions and platforms that facilitate learning, and a review of international health policy transfer studies. It includes the results of key informant interviews (KIIs). The second, McPake B, Brikci N, Cometto G, Schmidt A and Araujo A (2011), reviews studies on user fees experiences in developing countries, and on Uganda specifically. The third, Witter S, Brikci N, Harris T et al (2018), reviews regional experiences in removing user fees and Sierra Leone specific efforts in strengthening its health system to remove user fees. It also analyses the results of KIIs and Focus Group Discussions (FGDs), as well as the fiscal space for free health care in Sierra Leone. The fourth, Mathauer I, Koch K, Zita S, Murray A, Traore M, Bitho N and Brikci N (2019), presents a review of innovative taxes in Low- and Middle-Income Countries (LMICs), findings from a multistakeholder consultation, and a feasibility analysis of various taxes. The last, Brikci N. (2023), provides a systematic literature review of innovative domestic financing mechanisms for health.

The research contributes to the literature on health financing and removal of user fees in three interrelated ways. First, it shows that the identification of the removal of user fees as a national priority was the result of a complex interaction of primarily locally determined factors and the meeting of technical solutions with the interest of actors and institutions through a political window of opportunity. The absence of this window of opportunity may explain why user fees persist. Secondly, the work

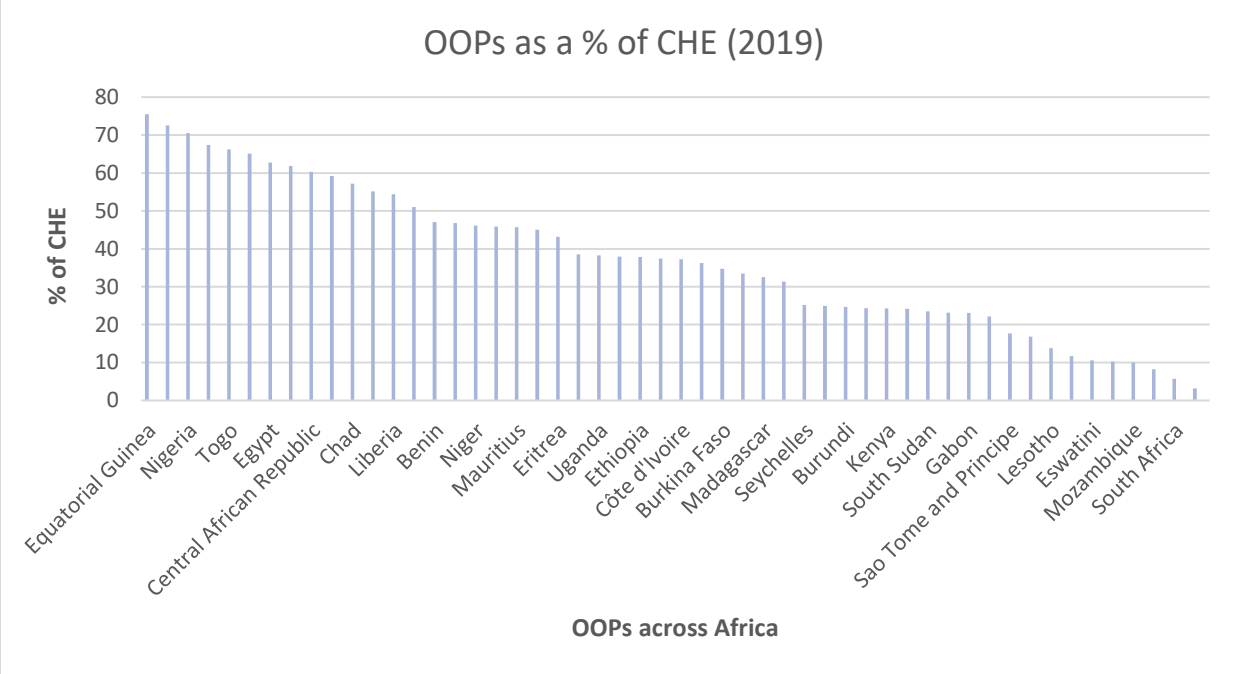
highlights the fundamental importance of integrating technical aspects and those that reflect the wider context affecting health systems. Indeed, the formulation and implementation of user fee removal requires (1) a systematic, step-by-step strengthening of each of the health systems pillars and (2) a careful consideration of the interests of actors impacted by the reform, of the readiness of formal and informal institutions to implement and accept the reform, and of the ideas and ideologies that the reform would challenge. Thirdly, the work discusses the alternatives to user fees, specifically the role of domestic 'innovative' financing mechanisms to replace them. It shows that these financing mechanisms may not offer much additional resource for health, although they represent a useful avenue for dialogue between Ministries of Health (MoH) and Ministries of Finance (MoF).

Section 1 - Introduction

Background

Financing of good quality healthcare across Africa is inadequate: governments allocate too little of their revenues to health whichever benchmark is used[1], and households continue to carry a significant proportion of the financial burden associated with seeking care through Out-Of-Pocket (OOPs) payments. [2] OOPs represent more than 70% of Current Health Expenditures (CHE) in Equatorial Guinea and Nigeria, for example (figure 1 below).

Figure 1 Share of OOPs across African countries as % of CHE (2019)

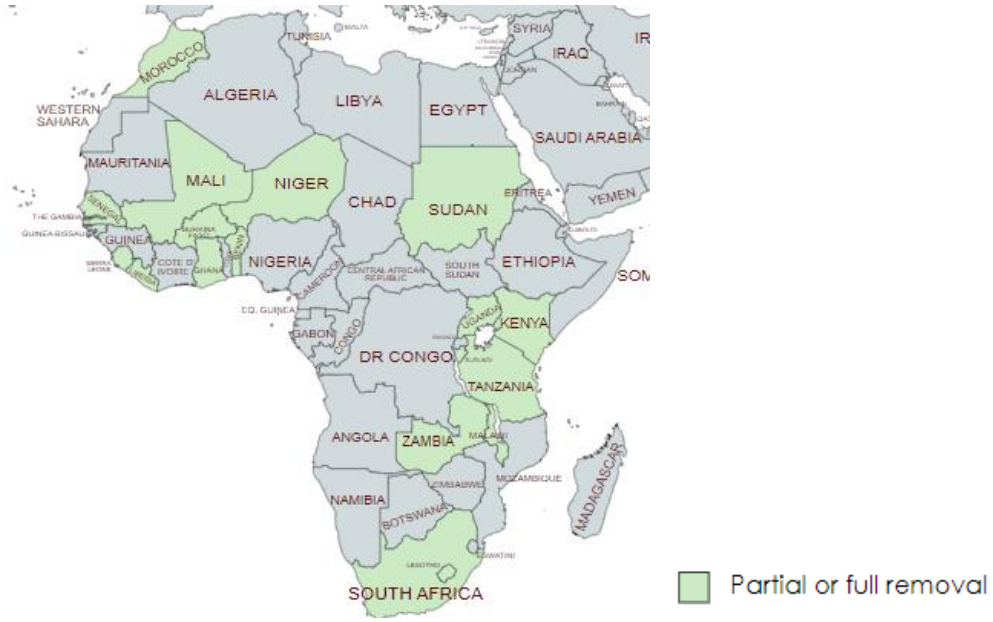


Source: Global Health Expenditure database, accessed 28 July 2022
https://apps.who.int/nha/database/Select/Indicators/en

OOPs are made up of formal and informal fees paid at the point of care, as well as other private expenditures for drugs and services, for example[2] . The introduction of user fees (formal payments at the time of seeking care at public health facilities) to finance healthcare in LMICs in the 1980s has been, and remains, a controversial topic[3]: User fees represent a key, although not the only, financial barrier to accessing care, particularly for poor people, who may be further impoverished as a result of seeking care[2]. The revenue they raise is also limited in absolute terms at national level, although can be

significant in relative terms at facility level[4]. The economic arguments in their favour (price inelasticity of demand for healthcare, improvement of allocative efficiency, for example) have been contested[5]. The mounting evidence against user fees has led to dwindling support for them among aid agencies[6], and to a wave of user fee removal across Africa in the early 2000s[7]. The map below (figure 2) represents the countries that have removed user fees. Table 1 lists all user fee removal policies in Africa.

Figure 2 Map of user fee removal across Africa



Source: author's research

Table 1 List of countries that have removed user fees

Countries	Full or partial removal	Date of reform
Malawi	Full	1964
Tanzania	Under five children and pregnant women	1994
South Africa	Full at Primary Health Care (PHC) level	1997
Uganda	Full	2001
Kenya	Full	2004
Mali	C- sections	2005
Zambia	Full in rural districts	2006
Niger	Under five children and maternal deliveries	2006

Countries	Full or partial removal	Date of reform
Burundi	Under five children and maternal deliveries	2006
Senegal	Free maternal deliveries	2006
Liberia	Full	2007
Ghana	Children and pregnant women	2008
Lesotho	Free at PHC level	2008
Republic of Sudan	Under five children and C- sections	2008
Benin	C- sections	2009
Morocco	Deliveries	2009
Sierra Leone	Under five children, pregnant women and lactating mothers	2010
Burkina Faso	C-sections and neo-natal care	2016

Source: author's research

Robert Evans referred to user fees as zombies that 'do not seem to want to die, surfacing time and again (…), like the living dead '[8]. Indeed, a puzzle this thesis engages with is that despite this wave in user fee removal, the solid evidence on their negative impact on access to healthcare, and the dominance of UHC as a global and national level agenda - for which the reduction of OOPs, including user fees, is essential-, user fees persist, fully or partially, across most African countries.

Part of the reason for their survival could be that the removal of user fees that has occurred across Africa has been fraught with technical challenges[6]: the immediate increase in demand associated with their removal[4] is often met with unprepared health facilities (for examples shortages of drugs and essential supplies to meet the increase in demand); health workers faced with sudden workload increases, and a loss of revenue at facility level (for those facilities that did retain the revenue in the first place), with no alternative financing available[4]. Part of the reason for their survival may also be related to the wider policy context hampering both the prioritisation of their removal as a national agenda, and the way the reform is formulated and implemented.

Research questions

The aim of this thesis is to answer the following research questions: Why have user fees persisted as a health financing mechanism in face of evidence that they present a financial barrier to access? What has constrained efforts to remove user fees, and particularly, what are the relative contributions of technical factors versus wider political interests that may have shaped these health systems policies?

The underlying objectives are: (1) to examine why the removal of user fees appeared as an agenda for reform in African countries, who decided to remove them and when, and what factors (technical or rooted in the wider policy context) influenced this decision; (2) to analyse how the reform has been formulated and implemented; and (3) to examine how policy learning through evaluations or other internal learning processes was fed back into the policy.

The main empirical contributions of the five articles included in this thesis span a range of sub-Saharan African (SSA) countries, which either attempted the removal of user fees (lessons drawn from multiple countries with a focus on Uganda and Sierra Leone), reflected alternative sources of financing for healthcare through innovative financing mechanisms (Mali, Togo, Benin, Mozambique), or implemented related health financing reforms (Burkina Faso and Rwanda). Each of these countries is and was at the time of the decision to remove user fees or introduce other health financing reforms, low-income and donor dependent (Rwanda and Mozambique more so than Togo), with low tax to GDP ratios (as low as 9.7% in Burkina Faso), high rates of poverty, inequality, population working in the informal economy but with varying key health outcomes (see Table 2 below).

Table 2 Characteristics of research countries (at the time of reform)

	Sierra Leone (2010)	**Mali (2018)**	**Togo (2018)**	**Benin (2018)**	**Mozambique (2018)**	**Burkina Faso (2000)**	**Rwanda (2000)**
GDP per capita	USD401	USD894	USD901	USD1,241	USD503	USD235	USD221
Percentage of population in the informal economy (year)	89.9 (2014)	95 (2015 data)	93 (2011 data)	95 (2011 data)	NA	94.6 (2014)	90.9 (2014)
% of population living below national poverty line	54.7 (2011 data)	43.8	55.1 (2015)	38.5 (2019)	46.1 (2014 data)	83.2 (1994 data)	78 (2000 data)
Tax ratio as % of GDP (year)	12.6*	11.7	12.7	15**	21.4	9.7 (2002 data)	13 (2014 data)
GINI coefficient	34 (2011 data)	36.1	42.4	37.8	54	47.3	48.5

	Sierra Leone (2010)	Mali (2018)	Togo (2018)	Benin (2018)	Mozambique (2018)	Burkina Faso (2000)	Rwanda (2000)
Domestic General Government Expenditure (GGE) as % of Current Health Expenditures (CHE)	11.63	30.84	16.75	19.6	22.38	32.58	18.07
External Health Expenditure as % of CHE	24.14	35	9.51	30.04	62.3	21.3	46.57
Under five mortality rate (U5MR) (per 1,000 live births)	161	97	69	91	76	179	185
Maternal Mortality Rate (MMR) (per 100,000 live births) (year)	1,405 (2008)	714 (2012)	416 (2014)	512 (2014)	589 (2011)	570 (1999)	994

Source: if year of interest not available, I obtained the latest available year closest to year of reform. GDP per capita, GINI coefficient, GGE as percentage of CHE and external expenditure as percentage of CHE were obtained from the World Bank database on 12th of August 2022 – Rate of population in the informal economy was obtained from Women and men in the informal economy: a statistical picture. 3rd ed. Geneva: International Labour Office; 2018 – * as data was not available from the World Bank Database, I obtained this figure from the Sierra Leone National Revenue Agency available here https://www.nra.gov.sl/sites/default/files/ANNUAL-REPORT-2010.pdf - ** as data was not available from the World Bank Database, I obtained this figure from the OECD revenue statistics for Africa available here https://www.oecd-ilibrary.org/docserver/c511aa1e-en-fr.pdf?expires=1660313879&id=id&accname=guest&checksum=227FFD01C1DF33402AC0084318087EE3

The research contributes to the literature on health financing and removal of user fees in three interrelated ways. First, it shows that the identification of the removal of user fees as a national priority agenda was the result of a complex interaction of primarily locally determined factors and the meeting of technical solutions with the interest of actors and institutions through a political window of opportunity, and that the absence of this interaction could explain why user fees persist. It highlights the importance of evidence for any health financing reform to be locally generated and shows that the role of international evidence and evaluations in influencing ideas and agenda setting was varied, and subject to national political agendas: governments set the parameters for when they would or would not over-ride evidence and persist with their political agenda. Secondly, my work highlights the fundamental importance of integrating technical insights and understanding of political interests

reflective of the wider context in the formulation and implementation of user fee removal, which requires (1) a systematic, step-by-step strengthening of each of the health systems pillars and (2) a careful consideration of the interests of actors (decision makers and health workers at the very least) affected by the reform, of the readiness of formal and informal institutions to implement and accept the reform, and of the ideas and ideologies that the reform would challenge. The thesis thus stresses the centrality of domestic agency, i.e., the interests and actions of national actors and institutions, although global level actors have some influence on the prevailing ideology and may resist or support reforms. Thirdly, my work discusses the alternatives to user fees as health financing mechanisms. I show that the idea that user fees represented an important source of flexible revenue at facility level was not backed by much empirical evidence. The replacement of the revenue lost at facility level through user fee removal, and the addition of resources needed to cope with the increase in demand that followed the removal of user fees, were considered in the literature to be key. Yet, this aspect was neglected in the implementation of the reform. My work also shows that the role of domestic 'innovative' financing mechanisms to replace user fees revenue and support progress towards UHC was of limited potential. These mechanisms only offered a limited source of additional revenue at national level. However, this additional revenue could be more substantial as a proportion of General Government Health Expenditures (GGHE) if multiple mechanisms were implemented together. While these financing mechanisms may not offer much additional resources for health, they represent a useful avenue for dialogue between Ministries of Health (MoH) and Ministries of Finance (MoF).

This commentary is structured as follows: section 2 outlines the conceptual framework underpinning the thesis and the methodology used across the papers. Section 3 presents the results of the five articles submitted for this PhD. Section 4 draws a series of reflections on the work, including implications for policy and identification of remaining research gaps. Section 5 concludes.

Section 2 – Conceptual framework and methodology

2.1. Conceptual framework

This thesis straddles and contributes to two fields: health financing and health policy.

The health financing literature addresses the way in which resources are raised for health, pooled, and used to purchase services with the intention of ensuring that people have access to good quality care without facing financial hardship. Within this set of issues, the thesis addressed only the first: i.e., how resources are raised. This is because user fees were first and foremost thought of as a resource mobilisation mechanism[5], and because they offer no pooling nor purchasing opportunity. Within the mobilisation function, I analysed domestic options rather than exploring all possible sources of additional fiscal space for health[9] as the global health financing agenda has put particular emphasis on the need for domestic governments to take responsibility for financing their social sectors, focusing on the need for domestic sustainability[10]. Within domestic options, I focused on certain types of taxation, as government capacity to raise taxes is recognised as a critical component of a government's ability to mobilise revenues[11]. I therefore did not engage with the question of how to increase the aid allocated to health, nor how to use debt or improve the efficiency of spending. These are nevertheless valuable areas of analysis.

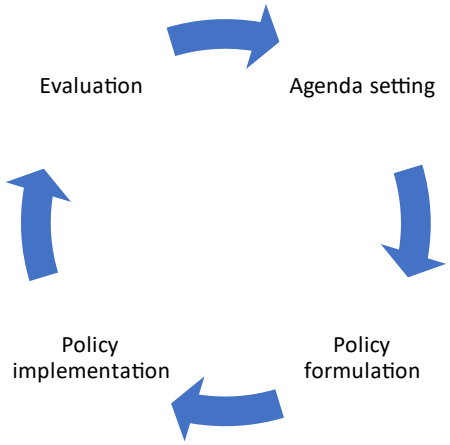
As health financing is identified by WHO as one of the health system pillars to achieve equity in access and outcomes, efficiency, financial protection and responsiveness, my founding conceptual framework was the WHO's health systems framework[12] . I considered how a health financing reform such as user fees removal would need to be supported by technical reforms in other pillars of the health system to achieve the UHC objective of improved access to good quality care for the population.

I have also drawn on the field of health policy and have used the policy cycle as an organizing framework to frame my overall thesis. Financing has been acknowledged as one of the most contentious elements of policy design for universal health coverage, as it involves redistributive politics which takes resources (or power) from some and gives it to others[13]. Bringing in the health policy dimension to my thesis was therefore important.

Walt[14] and Reich[15] both argued that "neither primarily technical work, such as economic analysis, nor a well-designed policy are themselves enough to bring about policy change"[16]. They contend that a good understanding of political processes is essential to bring about change. Health policy encompasses the

analysis of the policy process: how problems are defined and agendas set, policy formulated, decisions made and policy implemented and evaluated (see figure 3 below) [17,18].

Figure 3 The policy process



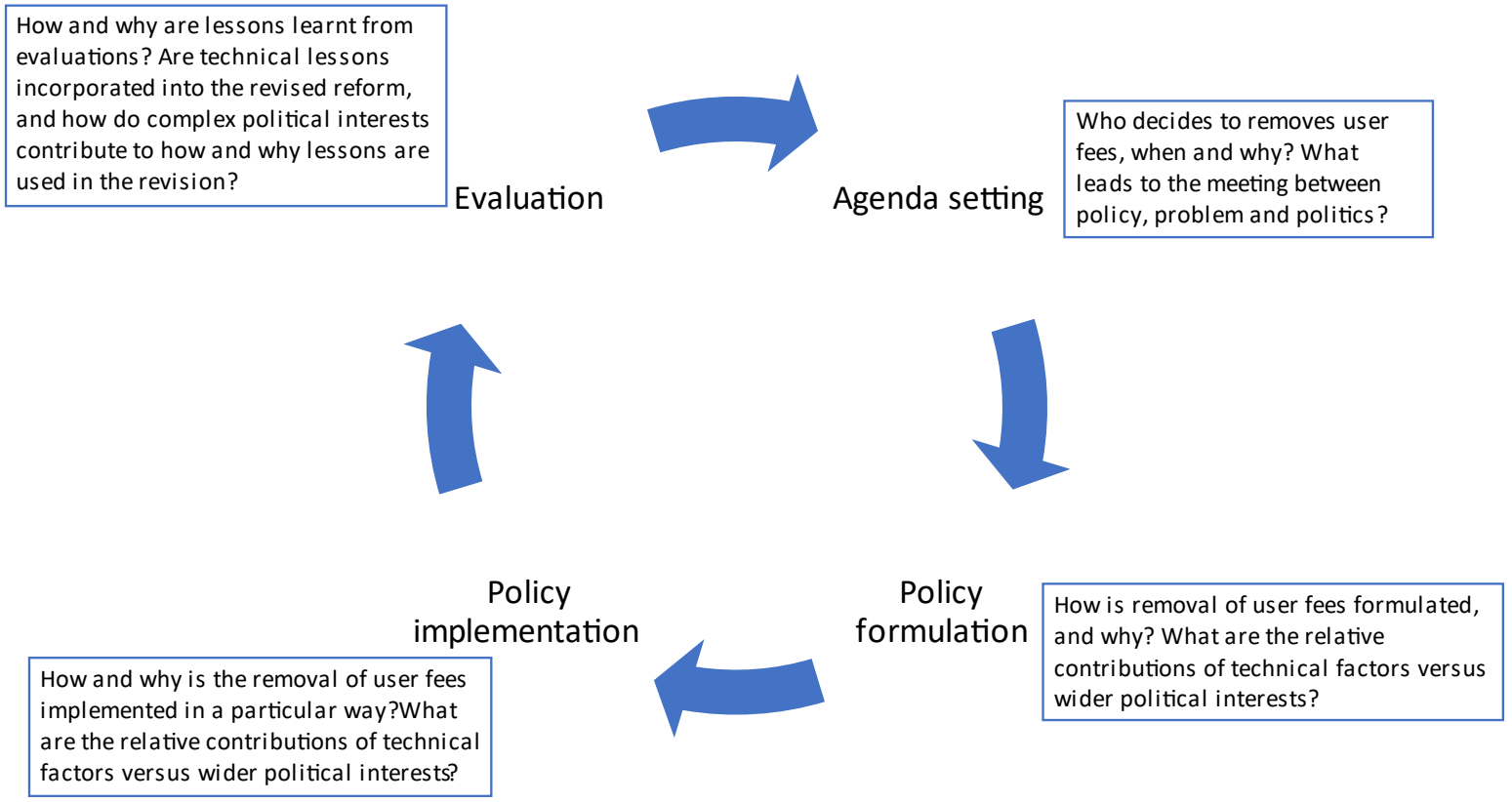
The field of health policy is vast and is structured around multiple analytical frameworks (which organize enquiry rather than aim to predict or explain behaviour or outcomes) and theories (which postulate a specific relationship among variables that can be tested or evaluated) [19,20], more or less well suited to different stages of the policy cycle[17]. There are a variety of health policy analysis frameworks and theories aimed at understanding how issues are identified as problems, and how decisions are taken, which are of potential analytical value to my work. For this purpose, I reviewed frameworks and theories of the health policy process and considered which ones could provide the greatest analytical insight to my empirical work (please see Annex 1 for the frameworks and theories that appeared most relevant to the thesis topic, and my reasons for choosing or dismissing each of them).

The challenge I faced was to select a framework or theory post-hoc – one that would help draw together the articles and identify key issues across them, without demanding information not present in the articles or their underlying research.

Based on my review of the literature, I chose Kingdon's three streams approach for two main reasons: firstly, it appeared to offer the greatest explanatory insights for my analysis and was relevant to the research evidence in some of my articles. Secondly, I gauged that whilst Kingdon focused on the role of policy entrepreneurs, which I did not explicitly explore in my articles, I could use his three streams to unpack the broader systemic changes that I had investigated in the various countries. For the

implementation stage, I chose the interest, institutions, ideologies and ideas framework (the 4is) adapted by Fox and Reich[13] rather than, for example, the health policy triangle. Whilst the health policy triangle and the 4is have significant overlap, Buse et al posited that the health policy triangle could be enhanced by adding ideas and institutions within it, and by giving greater space to how actors influence policy, for example[19]. The 4is framework also helps structure the space given to policy evaluations in agenda setting and policy adaptation, situating the role and uptake of evidence by interested parties, the extent to which they influence ideas and ideologies, and the contestation they may create in the formal and informal institutions. As such, I have analysed the role of evaluations, and more broadly evidence, as part of the agenda setting question. Again, as for the Kingdon framework, I considered that the structure of this framework was relevant to the research evidence in my articles, and gave me flexibility to discuss the interaction between the different variables.

Figure 4 Conceptual framework



This framework helps me organize and interpret the findings and implications of the five articles which together make up this thesis, as explained below (see figure 5). The first article (Annex 2) explores how and why ideas are formulated in relation to various health system reforms, including health financing, and the role of evaluations and learning in influencing the agenda setting stage.

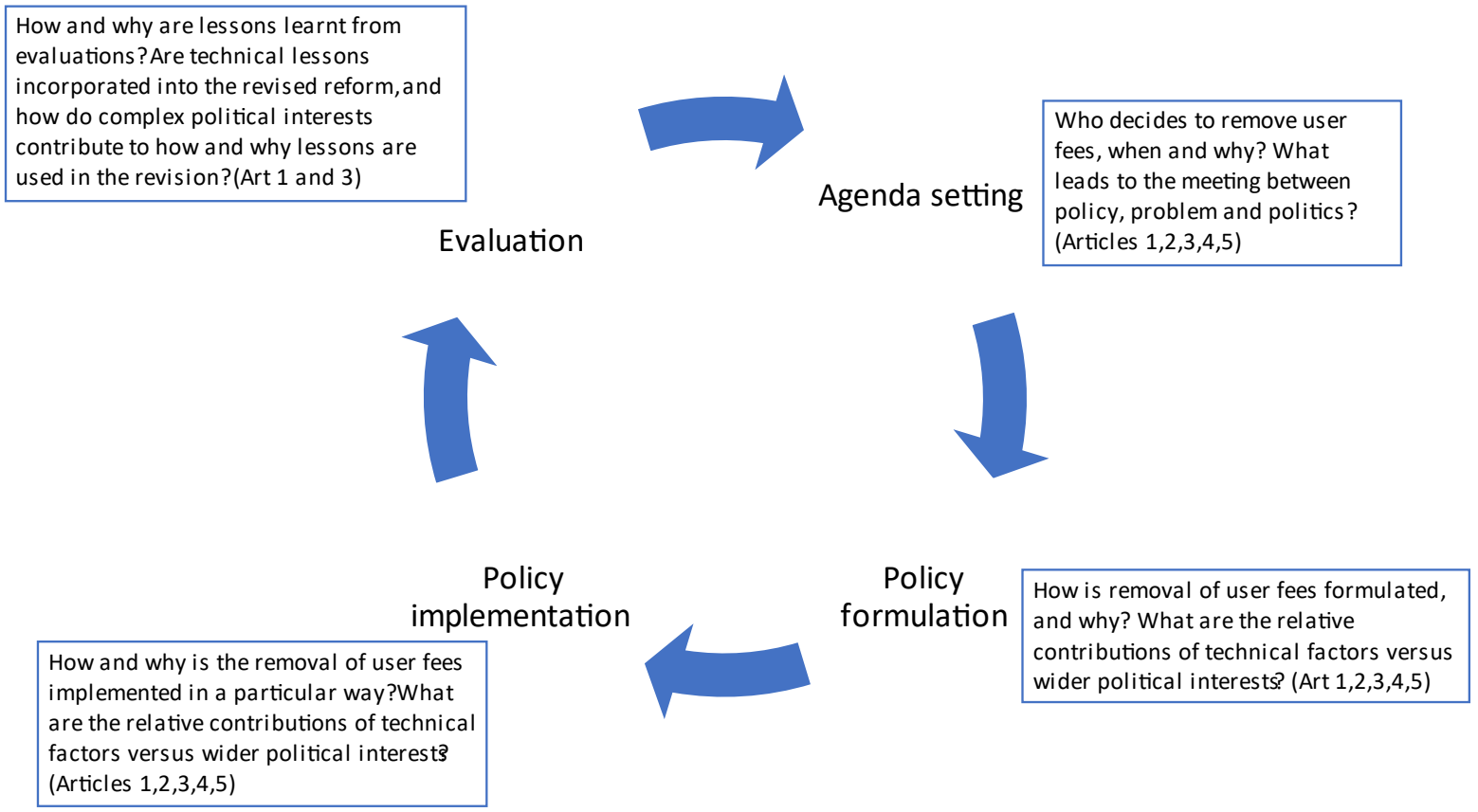
The second article (Annex 3) analyses how user fee removal was implemented and proposes an approach to prepare for and implement this reform. This article has a clear focus on the technical health financing considerations associated with user fee removal, i.e., revenue lost and how to replace it, and associated health system pillars that would need to be considered for a successful reform. The role of policy makers in setting this policy as an agenda for reform is considered, as is the role of international evidence.

The third article (Annex 4) delves deeper into the case of Sierra Leone and evaluates how the country removed user fees by strengthening all health system pillars. It goes beyond considering the role of decision makers in agenda setting and policy implementation to bring in the interest of health workers responsible for implementing the reform and identifies other factors such as culture and norms (the informal institutions influencing change) and interests of decision makers.

The fourth article (Annex 5) looks at the question of how innovative domestic financing mechanisms could contribute to filling the financing gap left by user fee removal, and more broadly financing for UHC. The article also acknowledges the interest of various powerful actors and what they stand to win or lose from the reform.

The fifth article (Annex 6) explores the extent to which policy process together with technical considerations have been evidenced and discussed in the existing literature pertaining to other ways of financing healthcare, specifically what so-called innovative financing mechanisms could bring to the objective of UHC.

Figure 5 Articles mapped against conceptual framework



2.2. Methodology

Overall methodological approach: I used a combination of literature reviews (scoping and systematic), quantitative analysis (financial modelling for resource projection), and qualitative methods. Table 3 below provides an overview of the methodology used for each of the five articles submitted as part of this PhD. Further details are available in each of the articles. The use of qualitative methods is particularly important considering the nature of the research questions, especially those on the politics of policy processes. The analysis of ideas, interests and institutions requires a data collection method suitable to revealing views, perspectives, and discourses from respondents that range from high-level policy makers (thus 'elite interviews') to on-the ground health workers who are at the receiving end of policy reforms. Qualitative interviewing was considered the most effective way of eliciting and probing relevant responses to these questions from purposively selected interviewees. I comment below on selected aspects of the qualitative research that I conducted for three of the five articles (articles 1, 3 and 4). These address qualitative sampling, issues of researcher positionality, dealing with selective disclosure, qualitative analysis techniques and key ethical issues.

- **Selection of respondents -** To select respondents, I used purposive theoretical sampling considering a range of key criteria for eligibility depending on the nature of interviews (perceptions from ordinary health workers, high level policy makers, extensive in-depth interview), their purpose and type of interviewees. For high level Key Informants (KIs), I identified, for example, who was likely to be well informed, who had power, who had institutional memory, who was likely to speak more openly. The high level of donor dependency in each of the study countries meant that including donors as KIs was essential. For ordinary health workers, we randomly selected a set of districts. Within these districts, we selected district capitals as well as remote health facilities and communities. Going beyond the capital was essential to triangulate responses and contrast perspectives from different levels of the health system.
- **Positionality in qualitative interviewing**[1] **-** All of the work described in the articles was policy focused and funded by large international organisations (UK Foreign, Commonwealth and Development Office (FCDO), World Health Organisation (WHO), Bill and Melinda Gates Foundation (BMGF)) who had formal relations with the key informant agencies or institutions

[1] This section only addresses my positionality as an interviewer. Section 2.3. discusses my positionality more broadly.

interviewed, hence some leverage over national institutions. This had advantages and disadvantages. On the positive side, I had easy access to high level policy makers (including ministers, prime ministers, and other key political figures), who were often out-of-reach for many researchers. On the negative side, I was aware that my position as consultant for these international organisations could influence the discourse and responses of these high-level decision makers to push a particular issue, for example, particularly considering the high level of donor dependence of the study countries.

I used several strategies to address this challenge: firstly, thorough preparation before the interviews, from reading literature to analysing existing data directly relevant to the substance of the interviews. I also attempted to schedule these high-level interviews towards the end of the visit, to ensure that I had gathered as much firsthand understanding of the situation through lower-level interviews (from district to rural facilities). This allowed me to constantly probe and identify implausible or misleading answers. The systematic probing and triangulation helped me address the principles of credibility and transferability in qualitative research[21].

- **Selective disclosure** - I was able to identify instances of selective disclosure by contrasting information I had gathered prior to the interview with what I was being told. Selective disclosure could only be identified from information gathered from people who had enough buy-in or trust to provide an unscripted perspective on the issue discussed, and from previous documentary and data analysis. This allowed me to probe potential inconsistencies in responses and implausible answers from high level policy makers and health workers, such as, for example, when asked whether they charged informal fees as a result of the Free Health Care Initiative (FHCI) in Sierra Leone. From that I was able to identify selective disclosure which itself was a finding, and identified the specific issue as sensitive, and potentially affecting policy implementation. This impacted my interpretation of the findings, and I ensured that I highlighted these inconsistencies in the analysis.
- **Rigorous analysis of transcripts** - throughout the qualitative research, I systematically went through and coded all transcripts. I started with several theoretically driven core themes across multiple interviews and subsequently inductively built a larger number of context-specific sub-themes for more granular analysis of responses. I developed a coding tree and refined it as the sub-themes further emerged. The analysis was done manually rather than through software such as NVIVO as a choice. I feel more in control of the data when analysing it manually. While

the frequency of instances was used as a guide towards shared views, special weight was given to some KII where the respondent had, for example, particular power over key decisions (a minister of health or prime minister for example). For certain questions, quotes were used with permission for examples of shared views as well as specific instances of significant evidence coming from high level KI.

- **Ethical issues** – all ethical guidelines were followed at all times. Consent forms were used for all interviews, and data was password protected. Privacy during interviews, which was not always easy, was provided. At all times respondents were assured of the independence of the research process from the organization interested in the findings and therefore lack of (direct) influence over funding decisions. I explained this in detail during consent form process.

Table 3 Methodology

Articles	**ARTICLE 1**	**ARTICLE 2**	**ARTICLE 3**	**ARTICLE 4**	**Article 5**
	Witter S, Anderson I, Annear P, Awosusi A, Bhandari N, Brikci N , Blandine B, Chanturidze T , Gilbert K , Jensen C, Lievens T , McPake B , Raichowdhury S and Jones A (2019)	**McPake B, Brikci N, Cometto G, Schmidt A and Araujo A (2011)**	**Witter S, Brikci N, Harris T *et al* (2018)**	**Mathauer I, Koch K, Zita S, Murray A, Traore M, Bitho N and Brikci N (2019)**	**Brikci N (2023)**
Detailed citation	Witter S, Anderson I, Annear P *et al* (2019), What, why and how do health systems learn from one another? Insights from eight low- and middle-income country case studies, *Health Research Policy and Systems* (17):9	McPake B, Brikci N, Cometto G, Schmidt A and Araujo A (2011), Removing user fees: learning from international experience to support the process, *Health Policy and Planning* (26): ii104-ii117	Witter S, Brikci N, Harris T *et al* (2018), The free healthcare initiative in Sierra Leone: Evaluating a health system reform, 2010-2015, *Int J of Health Plann Mngt* (33):434-448	Mathauer I, Koch K, Zita S, Murray A, Traore M, Bitho N and Brikci N (2019), Revenue-raising potential for universal health coverage in Benin, Mali, Mozambique and Togo, Bull World Health Organ (97): 620-630	Brikci N. (2023), Innovative domestic financing mechanisms for health in Africa: An evidence review. *Journal of Health Services Research & Policy* ;0(0)
Literature review	Scoping literature review on content of learning across health systems;	Review on user fees experiences in developing countries (academic databases and google scholar)	Rapid review of regional experiences (academic and grey literature);	Rapid review of innovative taxes introduced in LMICs to finance healthcare (academic and grey literature);	Systematic literature review of innovative domestic financing mechanisms for health;

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		building on a recent systematic review on the same topic (Lagarde and Palmer, 2008);			
	Scoping review of institutions and platforms that currently exist and aim to facilitate learning across health systems;	Review of peer-reviewed and grey literature on the Ugandan experience with removing user fees.	Review of grey literature on reforms and analysis of each health system pillar in Sierra Leone.	Review of global and country level evidence on selected innovative taxes as identified by qualitative approach (see below).	
	Review of international health policy transfer studies.				
Qualitative methodology	148 semi-structured interviews with KIs following a topic guide focused on different stages of the policy		**Interviews -** Sampling of respondents: theoretical purposive sampling of key decision makers at central and district levels, health workers	**Multistakeholder consultation -** Consensus building exercise (Delphi-technique) following a structured discussion to identify 4 to 5	

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	cycle. Sampling of respondents was purposive. Interviews were transcribed and analysed manually.		selected from randomly selected health centres representative of urban/ rural divides. I developed the topic guides for interviews, and I led all central level interviews, and interviews at the level of one district whilst a team of qualitative researchers led the interviews in other districts. We undertook a total of 137 interviews. Access was negotiated through own personal contacts (my own and my lead national consultant who was an ex-minister of health). Transcripts were analysed following a deductive approach (led by me).	potential new taxes to finance healthcare. Sampling of participants was based on theoretical purposive sampling. Analysis of discussions was done manually by me in three of the four countries.	

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			Focus Group Discussions (FGDs) with women and men in 4 districts. Selection of communities where FGDs undertaken based on random selection in selected districts in proximity of selected health centers. Two FGDs per communities (men and women of reproductive age. Ethical approval obtained. FGDs led by an experienced qualitative researcher supported by a transcriber. Analysis led by me and lead interviewer.	**Feasibility analysis** through semi-structured interviews with KIs following topic guide (an average of 20 KIs per country). KIs were selected following a purposive sampling technique based on initial long list of financing mechanisms proposed during consultation.	
Financial modelling		Projection of resource needs following removal of user fees;	Fiscal space analysis to identify resource needs and potential	Projection of additional revenue for each selected financing mechanism.	

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			alternative sources of financing for the FHCI.		
Evaluation			Theory-based evaluation approach (development of evaluation framework and Theory of Change with mixed methods approach)		

In addition to the methods deployed for each of the five articles that form the main contribution of the thesis, a literature review was undertaken to complement and enrich the discussion of the findings of the second article submitted for this thesis, and more broadly to complement the findings for the overarching research questions. The review systematically identified peer reviewed literature presenting primary research, or reviews of primary research, on the role of user fees in raising revenue at facility or national level, and the associated impact of their removal on income lost. I also captured articles that described the policy process of the removal of user fees, from agenda setting to implementation. Information was extracted from the full text of the reviewed articles. See Annex 7 for full details of the search strategy and results.

2.3. Positionality:

It is important to acknowledge the researcher's positionality and, in this case, the extent to which I can be (or not) a 'neutral' researcher on the topic of user fee removal in Africa.

My involvement with the removal of user fees debate started as a researcher with MSF in 2003 where I was part of a core group undertaking research and advocacy at country and global level focused on the impact of user fees on poor populations. This involved qualitative research (key informant interviews and focus group discussions) with poor populations across a range of settings and countries (Burundi, Sierra Leone, Haiti, and DRC[22]). Ministries of Health (MoH) in these countries were keen to listen to our findings and wanted suggestions as to options for financing healthcare. Aware of my limited expertise in this area, I undertook a master's degree in Health Policy, Planning and Financing to learn how to finance healthcare, to be of greater use to the countries I was working in. MSF however considered that its responsibility as a humanitarian organisation ended in documenting and denouncing the impact of user fees rather than recommending alternative financing mechanisms. I therefore moved to a more developmental-minded organisation, Save the Children UK, where I supported research and analysis in Sierra Leone on the impact of user fees on health outcomes and access to health, and worked with the technical working group in charge of preparing their removal. I was the lead researcher and advocacy adviser at global level on this issue for Save the Children[23-26]. Eventually I chose to leave civil society to become a technical adviser, to be closer to where decision making was taking place. I therefore moved to a consultancy firm, where I worked for 7 years with governments across Africa in identifying approaches to finance healthcare to support the removal of user fees and Universal Health Coverage (UHC) more broadly[27,28].

My position as a researcher in asking research questions, engaging with competing conceptual frameworks, and interpreting the empirical findings of this thesis is therefore influenced by these real-life professional and research experiences, including a first-hand understanding of the impact of user fees on poor populations across the continent, as well as in-depth policy engagement with Ministries of Finance (MoF) and MoH on this topic. In this sense, the experience of research and advocacy against a policy that penalises vulnerable populations, combined with an appreciation of the complicated world of policy deliberations and bargaining and the pressures under which policy makers and civil servants set agendas and implement policies, must be recognised as aspects of my positionality.

I recognise that this means that my engagement with the debate of whether to remove user fees may be influenced by the vivid stories I have heard across these countries, which have fuelled me with a deep outrage against this financing approach, and an attempt since to understand why user fees have continued to dominate financing arrangements and how else healthcare could be financed. I am also aware that these experiences could influence my interpretation of data, and the extent to which I would be able to engage impartially with evidence that would contradict my position. Throughout my career, I have been conscious of this issue, and have attempted to rigorously engage with evidence. Whilst I recognise that I remained an outsider in all these countries, my origin as Algerian, from an African country with a very high level of inequality, has made these issues even more personal, although as an outsider, I lacked the deep understanding of the historical and political economy of the countries in which I worked. My witnessing of the impact of user fees through the research undertaken as well as my experience of working with governments in thinking about how to remove them, and how to finance healthcare more broadly, as well as my academic training, mean that I engage with this issue with the understanding of the real urgency for solutions to be found, yet aware of the complexity of finding and implementing solutions.

Whilst as a technical adviser I was paid by international donors with specific agendas, I was always careful in choosing projects and donors that afforded me research and intellectual independence. I always explicitly considered my clients to be the countries, not the funders, and provided advice to countries based on what I considered to be the most robust evidence, rather than at times what the country may have wished. In Eswatini for example, I undertook analysis on the feasibility of Social Health Insurance (SHI), and recommended against its implementation, despite pressures from the funder and the government. My own integrity as a researcher has therefore always been an essential part of my work.

This PhD seeks to consolidate in a formal manner my engagement to date with the user fees debate, and health financing more broadly.

Section 3 – Results and discussion of each article

After presenting why each paper came about, I summarise the results and discuss them (situating them in the policy cycle), provide an update of the literature if relevant, and comment on how the paper fed into policy debates and implementation.

Paper 1 - What, why and how do health systems learn from one another? Insights from eight low- and middle-income country case studies (Witter et al, 2019)

The first article put forward for this PhD did not directly tackle the question of user fee removal, but rather looked at what, why and how health systems learned from each other. This is relevant to my thesis as it brings to the fore the importance of where reform ideas such as user fee removal come from, why some are implemented, and others dismissed, and how evidence is used or not used across countries when considering health financing reforms. This article analysed two health financing reforms in particular: Community Based Health Insurance (CBHI) and Performance Based Financing (PBF) in Burkina Faso and Rwanda, both initiated to move away from user fees.

This paper came about as part of conversations with the Bill and Melinda Gates Foundation (BMGF). A senior health programme officer approached my team at Oxford Policy Management (OPM), wanting to discuss why certain countries chose the paths they chose in reforming their health systems. As head of the health team at OPM at the time, I developed the research questions with the BMGF and took part in selecting the countries to investigate. I wanted to look at countries that had implemented health financing reforms and had attempted to reduce or remove user fees through other approaches. Hence Rwanda, often used as an example for its CBHI PBF approaches, and Burkina Faso, similarly considered successful in implementing these reforms, were chosen. I wanted to know why they had chosen these reforms, what had influenced them, and how they had gone about implementing them.

The research demonstrated a range of influences of externally imposed, co-produced and home-grown solutions on the development of initial policy ideas and the process of agenda-setting. In Burkina Faso, the broad idea of CBHI was initially promoted by major international agencies but was more actively adopted because it was perceived to meet a local need of replacing user fees with pre-paid mechanisms and to fit with local contexts (an alignment with local informal institutions based on the concept of solidarity). In Rwanda, the initial idea for the reforms emerged from a partnership of development partners and government, with ideas being introduced from other contexts. These were, however, incubated and developed in substantive ways in-country, through iterative pilot processes.

The role of international evidence in influencing ideas was varied, and seldom explicitly recognised as influential or even relevant, and subject to political agendas: governments set the parameters for when they would or would not over-ride evidence to persist with their political agenda. In Burkina Faso however, the influence of published studies was recognised, and occurred through their dissemination by international agencies. The role of international partners in sharing ideas through formal learning processes (for example study tours, technical assistance) was seen as important. Whether the ideas would eventually be owned, and implemented, was the result of a combination of (1) facilitating factors, for example having a performance oriented culture that pushed for results, hence learning, as in Rwanda, or a sense of regional identity that may encourage learning of ideas from neighbours as in Burkina Faso; and (2) barriers such as lack of accountability for results and weaknesses in supervision at middle management level and below which were both barriers to acquiring and implementing learning from others, as were politicised priorities and institutional constraints to being able to put evidence into effective use.

Eventual uptake of policy was strongly driven in most settings by local political and economic considerations of each country. In the case of Ethiopia, for example, these included ideology, legitimacy, and political support (the need to satisfy grassroot movements demands). In the case of Burkina Faso, these included the desire to emulate countries such as Rwanda. Policy development post-adoption demonstrated some strong internal review, monitoring and sharing processes but there was a more contested view of the role of evaluation. In many cases, learning was facilitated by direct personal relationships with local development partner staff. Barriers and facilitators to evidence use included supply and demand factors, of which the most influential facilitators were incentives and capacity to use evidence.

Once a policy was adopted, the article found that internal learning was the key to successful policy development over time. Rwanda, for example, successfully used annual reviews to improve policy performance. Yet the role of policy evaluation was much more contested, with some resistance to formally evaluating high-priority national programmes. The article found that key policies across the case studies were never formally evaluated, reflecting the higher stakes and more politicised nature of evaluative processes, compared to continuous learning through observation of a policy's outcomes over time.

The results of this research led to a follow up grant by the BMGF which supports regional health financing hubs across Africa, aimed at facilitating learning across countries.

Paper 2 - Removing user fees: learning from international experience to support the process (McPake et al 2011)

In 2008, Médecins Sans Frontières (MSF), Save the Children and Oxfam had been advocating against the negative impact of user fees on people's access to healthcare in LMICs for a few years. I had contributed to this research and advocacy myself at MSF[29]. At Save the Children, I initiated research on what was known about how to remove user fees and was responsible for sharing this research widely to support country level reflection and further push for their removal and condemnation globally. Having received agreement from within Save the Children UK to undertake the research required, McPake and Araujo were then brought on board. We contributed to a special issue on user fee removal in Health Policy and Planning, with the specific task of devising a step-by-step guide to user fee removal.

The research (which included a literature review) and associated article looked at how, and to a lesser extent why, African governments removed user fees. It found that removing user fees set off a chain reaction throughout the health system, which could improve access to services for the population. The benefits associated with the policy change could be maximized through adequate planning which we proposed should be introduced following a series of six sequential steps: (1) Analysis of start-up (2) Estimation of the impact of fee removal on utilization, (3) Estimation of additional requirements for human resources and drugs, (4) Mobilization of additional financial resources, (5) Building political commitment for the policy reform, (6) Communicating the policy change to all stakeholders.

Steps 1 to 3 focused on understanding the impact of user fee removal on the amount of revenue that would be lost if user fees were removed. The article showed that the removal of user fees could lead to an increase in utilisation, which would lead to a need for additional financial resources to replace the lost revenue at facility level, as well as to finance the additional requirements for human resources and drugs, at the very least[7]. Building on this finding, the article set out the process needed to make a realistic forecast of the possible resource implications of a well-implemented user fee removal programme. It found that the analysis of a country's initial position was essential to try and predict how much revenue would be lost, and how much would be needed as a result. This initial position was influenced by a combination of three factors: the original level of the fee system (were fees high, medium or low in relation to household income?), the effectiveness of exemption systems and waiver policies, if any, and the effects of fee revenues at the health facility level, especially in terms of staff remuneration and management of medicines supply.

According to the review undertaken within this paper, the wave of user fee removal across Africa in the 2000s partly originated in the accumulation of global level evidence on the negative impact of user fees on equity and efficiency, and the limited resources they raised (thus shifting ideas about user fees as a viable health financing solution into a problem), a shift in ideology at the global level of key donor and technical agencies (WHO, the World Bank and UNICEF) from proponents of user fees to opponents. Most importantly however, the article showed that for a window of opportunity to open for reform, the vision for policy change had to be inspired or owned by political leaders who saw the removal of user fees as a political opportunity afforded by presidential campaigns (the interest of presidents)[7]. Heads of state were involved in driving the policy change in several countries, such as South Africa, Uganda, Burundi and Liberia.

Paper 3 – The free healthcare initiative in Sierra Leone: Evaluating a health system reform, 2010-2015 (Witter et al, 2018)

The third paper put forward for this thesis presents the evaluation of how Sierra Leone went about removing user fees.

I had worked in Sierra Leone since 2008, with MSF and Save the Children, initially advocating against user fees with MSF, and later as part of the national technical working group preparing for the removal of user fees with Save the Children. Sierra Leone was considered unique at the time as the President, rather than announcing the removal of user fees to the population ahead of preparing for the reform, as had been the case in many other African countries such as Burundi, had given his government 8 months to prepare for the removal of user fees for pregnant women, lactating mothers, and children under five (the so-called Free Health Care Initiative – FHCI). Global and country level evidence was the basis upon which plans were drawn, and systematically implemented. The main donor which had supported this reform, FCDO, had wanted to evaluate its impact, and to document the process through which the country had gone. I wrote the proposal for this evaluation whilst at OPM and won the contract.

The evaluation found that taking a step-by-step approach to removing user fees, as proposed by my second article, was key, and that government action went beyond the two key pillars of drugs and medical supplies and health workers. The removal of user fees in Sierra Leone was supported with 7 supply-side interventions intended to strengthen health services to meet the additional demand created. As the health system in Sierra Leone was very weak when the policy was announced in 2009, only 7 years after the end of a brutal civil war, the government and development partners recognised

that all health system pillars needed reinforcing if 'free' healthcare was to be realized. As a result the FHCI encompassed reforms to ensure the need for the continuous availability of drugs and other essential commodities, the deployment of an adequate number of qualified health workers, strengthened and effective oversight and management arrangements, development of adequate infrastructure to deliver services, more and better information, education and communication to stimulate demand for free high-quality health services, comprehensive M&E system and sufficient funds to finance the FHCI.

However, the evaluation found that the systematic and ambitious technical approach taken to remove user fees was also a risk, and weaknesses in implementation were evident in a number of core areas, such as drugs supply and limited consideration of alternative sources of financing. An attempt was made by the MoH and FCDO at estimating the additional financial need associated with user fee removal. The approach used to estimate the need was referred to as 'back of the envelope'[2] and was never shared with partners nor across government, and as a result was assessed as one of the weakest steps in the otherwise well-planned reform. Hence how much was necessary and where those resources could come from was not a precise exercise.

Despite these challenges, the 2018 article found that the removal of user fees and the associated strengthening of the health system was one important factor contributing to improvements in levels and equity of coverage of essential services for mothers and children. The findings suggested that even—or perhaps especially—in a weak health system, fee removal, if tackled in a systematic way, could bring about important health system gains that benefited vulnerable groups in particular.

The research for my article suggested that what drove the reform and set it as a priority at the national level was a convergence of the three streams of problem, policy and politics: (1) the identification of user fees as a problem through accumulated evidence at national and global levels (both in terms of the impact of user fees on access to healthcare and high levels of maternal and child mortality rates); hence the idea of user fees as a viable approach to financing healthcare was debunked, and user fees identified as a problem to overcome; (2) the FHCI as a policy, heavily supported by external technical assistance and funding, and (3) very strong political commitment at the highest level, with FHCI made into a presidential flagship programme.

[2] Private communication with a FCDO health adviser in Sierra Leone

This paper also reinforced that, at formulation stage, a step-by-step approach focused on strengthening the varying health system pillars was needed, but not sufficient. Whilst the continued commitment of the President was key in sustaining efforts through the months of preparation, and in providing credibility to the MoHS's leadership, the role of informal institutions should have been further considered: the research underpinning[3] my 2018 paper found that that healthcare-seeking in Sierra Leone was a socially negotiated process where factors such as cultural norms, beliefs about disease aetiology, acceptability of interventions, perceptions on quality of care, household power relations, and social networks were all very influential. Gender roles were also important, with fathers typically deciding on most healthcare decisions that involved taking a child outside the home and which involved payments. Knowledge of danger signs (when to take mothers and children to facilities) was another factor that influenced uptake of care and health outcomes. The research underpinning this article also highlighted that the interests of health workers were considered in desigining the reform. When the FHCI was announced by the president in September 2009, health workers went on strike, fearing a loss of revenue and an increase in workload. As a result of this strike, salaries for health workers were increased, ahead of implementation.

Our initial research has been described as a 'how to' for complex evaluations by senior health officials at FCDO. I was told that the findings of our research were integrated in the Saving Lives business case for FCDO, in the Sierra Leone's Ministry of Health plans and in Ministry of Finance and Economic Development (MoFED) budget plans for the year, and in World Bank and GIZ thinking about their future programme priorities, for example[4].

Paper 4 - Revenue-raising potential for universal health coverage in Benin, Mali, Mozambique and Togo (Mathauer et al, 2019)

By the time the research for paper 4 was initiated, the dominance of UHC on the global health agenda was clear, and gave renewed impetus to the identification of OOPs, of which user fees are part, as a key barrier to achieving UHC. The WHO was a driver of the UHC agenda and issued a call for proposals to assess the potential of innovative financing mechanisms to fill the financing gap most African countries

[3] The 2018 paper was based on extensive research undertaken in Sierra Leone, for which a full report is available here https://www.opml.co.uk/projects/evaluation-free-health-care-initiative-sierra-leone

[4] Personal communications in February 2017 with FCDO health adviser, World Bank and GIZ health advisers and MOFED in Sierra Leone.

were facing for health. This was an example of action-oriented research, given that the outcome of the research could potentially influence policy design and implementation.

I wrote the proposal, keen to integrate quantitative and qualitative methods in the approach, and to identify the amounts those resources could raise, but also and crucially whether the politics of the countries would allow for their introduction and implementation. I and the WHO selected four countries, and I set out to do the research as described in my contribution section.

My 2019 article presented the results of this research undertaken in Mozambique, Togo, Mali and Benin. The research looked at the potential for non-conventional domestic taxation approaches (innovative financing) to fill the financing gap for UHC. I found that the additional revenue that could be raised through these mechanisms ranged from 0.47–1.62% of general government expenditure, or 0.11% to 0.74% of GDP in the four countries analysed. Overall, the revenue raised through these mechanisms was small.

The research meant to contribute to the ideas which would fuel a policy solution, hence aimed to feed into the agenda setting stage of the policy cycle. I explored at length the interests of various stakeholders (industry leaders, various ministries, civil society), and whether what they stood to win or lose would facilitate the integration of innovative financing mechanisms for the pursuit of UHC as an agenda for reform and whether they would support their implementation. For example, in Mozambique, a tax on the extractive industries would be resisted by the industry. In Togo and Benin, a tax on alcoholic drinks would similarly be resisted by the beer manufacturers, who, during interviews, threatened to close the production process in the countries if taxes were increased, even if used to finance health. In Mozambique, Benin, Togo and Mali, a tax on beer would have been resisted by the population. As a result, the consideration of interest was identified as key at both stages of the policy cycle (agenda setting and formulation). Indeed, the consensus building exercise was a way of identifying those financing mechanisms which would be made unfeasible because of strong resistance from key stakeholders. The role of formal institutions such as tax authorities and public administrations was also identified as key in selecting the financing mechanisms: for example, in Togo, the lack of an existing system to collect taxes from the extractive industry meant that this was not considered an administratively viable approach.

The article also presented a novel approach to fostering buy-in at agenda setting stage from all key government and industry stakeholders: a first phase of consultation to identify the preferred

mechanisms, followed by key informant interviews and financial modelling calculating the potential revenue gain of the chosen mechanisms, with a final group discussion aimed at seeking consensus on the mechanisms to propose for implementation.
The research resulted in the implementation of one of the recommended innovative taxes in Togo, and national level discussions on the potential of innovative financing in the other three countries.

Paper 5– Innovative domestic financing mechanisms for health: evidence review (Brikci N, 2023)

The last paper presented as part of this thesis synthesized the evidence on innovative domestic financing mechanisms for health (i.e. any domestic revenue raising mechanism allowing governments to diversify away from traditional approaches such as general taxation, Value Added Tax (VAT), user fees, or any type of health insurance) and sought to answer the following questions: what types of domestic innovative financial mechanisms have been used in relation to health? How much additional revenue have these innovative financing mechanisms raised? Has the revenue raised through these mechanisms been, or was it meant to be, earmarked for health? What is known about the policy process associated with their implementation?

This paper built on work undertaken as part of this PhD. I wanted to understand how the literature had evolved since I had published paper 3 in 2019, and whether what I had found in the four countries we studied held across Africa, both in terms of revenue raised and in terms of the importance of considering policy processes associated with their implementation.

The article found that few studies documented the revenue that could be raised through these mechanisms. For those that did, the revenue projected to be raised by these mechanisms ranged from 0.01% of GDP for alcohol tax alone to 0.28% of GDP if multiple levies were applied. As a share of General Government Health Expenditure (GGHE) however, these sources could represent a substantial addition, up to 13.8% of GGHE for mobile phone levies, and up to 48% of GGHE if multiple levies were applied. This offered a more nuanced picture than the 2019 article.

This article also showed that whilst the financing mechanisms implemented or planned for were varied, the most common were taxes on alcohol, tobacco products and mobile phones, thus acknowledging a shift in ideas, from any innovative taxes to mainly taxes with a pro-health agenda.

I also looked at what the literature identified as key political and implementation factors affecting feasibility. At agenda setting stage, I found that considering the interests of actors was fundamental to the reform being accepted: involving heads of state and parliamentarians over and above the various

ministries affected by the potential reform (Ministries of Health and of Finance, for example) was identified as key, as was the importance of involving the targeted industry, which might be powerful enough to disrupt implementation or resist the reform ever making it to the national agenda. I also found that the competing interests of central ministries may create political resistance at central level, and that there was greater political acceptability of taxes and levies if they represented an increase of an existing tax rather than a new one. This political acceptability also depended on the object of the tax, with greater support for taxes on harmful products for health, and if revenue from the tax was earmarked for health.

The strength of institutions and their own interests in implementing the reform was also identified as key and included understanding the full range of institutional reforms needed to implement these taxes, whether mechanisms to collect these taxes already existed, whether technical capacity to collect these taxes existed or needed to be built, and whether new laws would be required to enact these mechanisms.

Similar to my 2019 article on this topic (paper 4), most of the attention was given to the interests of high-level stakeholders, and slightly less to the role of institutions, with no analysis of where particular ideas and ideologies came from (for example, why property taxes were not part of the portfolio of potential innovations). Mention was made repeatedly, though, to the contextual specificity of any such reform.

Section 4 – Discussion

This thesis aimed to determine why user fees persisted as a health financing mechanism in face of evidence that they present a financial barrier to access; and what has constrained efforts to remove user fees, and particularly, what are the relative contributions of technical factors and wider political interests that may have shaped these health systems policies?

4.1. Discussion of findings:

The five articles have together contributed three main points to answer the original research questions.

Firstly, my research showed that identification as a national priority of a health financing reform, such as the removal of user fees (articles 2 and 3 in particular), their replacement through innovative financing mechanisms (articles 4 and 5) or through other health financing approaches such as CBHI or PBF (article 1), was the result of a complex interaction of primarily locally determined factors. The research partly supported Kingdon's theory that the convergence of the problem, policy and politics streams could form a window of opportunity, and that the absence of convergence could explain why user fees persist. Indeed, my research showed that the removal of user fees in the countries studied was the result of: (1) a shift over time in ideology and ideas away from user fees as a viable solution for financing healthcare fuelled by mounting evidence of their negative impact on access to healthcare (identification of the problem); (2) accumulated evidence of how other countries had removed user fees together with locally driven pilot projects allowing for a contextualisation of the solution. The importance of evidence for any health financing reform to be locally generated was particularly highlighted in article 1, which showed that learning was itself a political exercise, and that evidence that fitted a particular political objective would be more willingly picked up by political leaders, with internal learning processes better able than formal evaluations to feed into policy adaptation (the policy); and (3) the interests of high-level decision makers (presidents) who recognised the alignment between the idea and their own political interest was key (the politics).

My research however did not identify policy entrepreneurs as central to the convergence of these three streams, despite the fact that (1) the qualitative methodology used gave ample opportunity for these to be identified in the agenda setting stage, and (2) these policy entrepreneurs were present in Sierra Leone, for example. This finding does not necessarily contradict Kingdon's argument, but it does nuance

it at least in relation to user fee removal, and suggests that the interest of other actors played a more prominent role.

Overall, my findings would suggest that the persistence of user fees is not due to a lack of technical know-how, nor a lack of political support, but rather a combination of these factors: unless the removal of user fees is locally driven and a window of opportunity emerges where all three streams (politics, problem and policy) converge, user fees will continue to persist across the continent.

Secondly, each of my articles has shown the fundamental importance of integrating technical insights and political interests in the formulation and implementation of the removal of user fees, and related health financing reforms. From a technical perspective, articles 2 and 3 highlighted that the formulation and implementation of the removal of user fees required a systematic, step-by-step strengthening of each of the health systems pillars; articles 4 and 5 emphasized the importance of identifying alternative resources to fund the removal of fees, whilst articles 2 and 3 also highlighted the crucial role played by other pillars such as Monitoring and Evaluation (M&E), communication, infrastructure and leadership and governance. From a policy perspective, my research (articles 1,4 and 5) has shown that removing user fees, and replacing this income with alternative financing mechanisms, also required a careful consideration of the interests of actors (decision makers and health workers at the very least) impacted by the reform, of the readiness of institutions, formal and informal, to implement and accept the reform, and of the ideas and ideologies the reform would challenge. Each article showed that these considerations should primarily focus on national actors and institutions, although global level actors had some influence on the prevailing ideology and may resist or support reforms. The removal of user fees has also focused on specific target groups (women and children). The reasons for this choice were not made explicit in the research to date.

Thirdly, both articles 2 and 3 suggested that the replacement of the revenue lost at facility level through user fee removal, and the addition of resources to cope with the increase in demand that followed the removal of user fees, was key to the successful implementation of the reform yet neglected. Articles 4 and 5 highlighted that the role of domestic 'innovative' financing mechanisms in replacing user fee revenue and supporting progress towards UHC was of limited potential. These mechanisms only offered a limited source of additional revenue at national level but could be more substantial as a proportion of GGHE if multiple mechanisms were to be implemented together. Both articles 4 and 5 showed that relying on these to address the financing shortfall at facility level did not look promising. Whilst the

literature confirmed the interest in these specific mechanisms, particularly those with a pro-health agenda, they only represented a narrow selection of the available array of domestic financing mechanisms available to countries. The uptake of these mechanisms was subject to situating them as a potential policy solution to a problem, and requiring the alignment of interest of institutions, which partly explains the preference for pro-health taxes.

4.2. What are the main contributions of my articles to the health financing field?

Article 1 provided an in-depth country level analysis of the complex interaction of local, national and global factors influencing decision making at every stage of the policy process, from agenda setting to policy development and evaluation. This article highlighted the weak link between evidence and policy, and contributed to the existing literature on research uptake applied to health financing reforms[19].

Between the year 2000 and the publication of article2[7], 4 reviews had been published focusing on how to remove user fees[4,30-32]. They identified health system and community level factors that had negatively impacted their removal. Of these, one proposed a list of health systems and context areas to be considered prior to user fee removal[30]. Another developed operational guidance for health managers involved in user fees removal[33]. None however provided an approach, as I did in article 2, to making a realistic forecast of the resource implication of removing user fees.

Further, the careful approach taken by Sierra Leone in removing user fees had not been documented in the literature[34], despite its notable systematic approach to user fee removal. Article 3 therefore added a valuable documentation and in-depth assessment of how the country planned for the reform, and what worked and did not work in its implementation. It confirmed the need for locally driven decision making, for time to be given to the health system, the government as a whole and its financial and implementation partners to prepare for the reform, and the need to focus on each of the health system pillars to ensure that the health system was ready to accommodate the policy change. This article was particularly useful in demonstrating that such systematic approaches could be undertaken even in contexts as fragile and poor as Sierra Leone.

Article 4 provided detailed quantitative modelling of potential revenue that could be raised through a variety of innovative financing mechanisms in four specific countries (Mali, Benin, Togo and Mozambique), which had not been done before. It also proposed a novel approach to fostering buy in

from various interest groups, and to understanding whether formal institutions would be able to adapt to the reform.

Article 5 highlighted the lack of evidence on innovative financing mechanisms for health and posited that rather than dismissing these mechanisms as of limited financial interest, they could be of substantial importance as a way to align interests of key actors.

4.3. Limitations of contributions

Constructing a narrative ex-post, based on a selection of previously published articles, acts as a limitation and an opportunity at the same time: a constraint, as I have to accept the approach taken throughout the articles, and the conceptual frameworks within which these sit; an opportunity, as it affords me a chance now to identify what I would have done differently within each of the articles had I had the overarching perspective that I now have. I would have, for example, integrated health systems and health policy analysis more fully and adapted my methodology (literature review protocols and topic guides for KIIs) to capture information along the policy cycle, and to understand better the ideologies and ideas of informants, their interests and the role of institutions. I would also have explored why ideas such as 'removing user fees is unaffordable' were predominant. I could have further investigated why the idea that broadening and increasing direct taxation was deemed not feasible in Africa, justifying instead the focus on Value Added Tax (VAT) or smaller scale ad-hoc innovative mechanisms such as the ones presented in articles 4 and 5[18]. I would have investigated further, for example, the interests of key actors in Sierra Leone, going beyond the crucial role of the president to understand the role and interests of other leaders within the government, and those of implementers[35], or probed more deeply the role of donor agencies in trickling down ideologies and ideas in a setting with such high levels of donor dependency.

More fundamentally, a key issue in building a narrative ex-post has been the realisation that the concept of power was neglected in my research. Yet policy reforms such as the removal of user fees are highly contested, and actors with competing interests will struggle in support or opposition of them depending on their interests. The outcome of this struggle will often depend on the balance of power between actors (individuals and groups) and how power is exercised, directly, indirectly, through imposition or 'active consent'[19,36,37] Hence the relative power of actors (defined as the ability or capacity to 'do

something or act in a particular way' and to 'direct or influence the behaviour of others or the course of events')[38] is a neglected aspect of my work.

Power is a complex concept, sometimes used as explanatory factor, sometimes as a phenomenon that needs to be explained[36]. Power as capacity to act on interests may come from 'capitals' (economic, social, cultural or symbolic) as understood by Bourdieu.[39] While In Marxist political economy power is fundamentally and materially derived from the ownership of the means of production, Bourdieu extended this framework to consider different dimensions and manifestations of power which go beyond the 'economic'. In particular, he stressed the role of cultural and social capital as affecting the exercise of power and the maintenance of a social order. In that context, 'symbolic power', consisting of tacit, and unconscious modes of cultural/social domination in everyday social habits maintained over conscious subjects, may contribute to the consent that is necessary for powerful groups to stay in and exercise their political and economic power. [40] This type of power is also relevant to the idea of hegemony developed by Gramsci [37], which is central to the concept of power as class domination through multiple means, which often do not entail coercion.

Much of the power literature deals with why actors or institutions have power and how they chose to exercise it. Different theories underpin the distribution of power. For example, Luke's contends that power has three dimensions: as decision-making, as non-decision-making power and as thought control. Foucault (1994) argues that the socially accepted truths which shape and limit discourse, are core dimension of power. [17] Other schools of thought offer a different way of framing the question of who holds power: (a) pluralism, which holds that power is dispersed throughout society, with the state arbitrating among competing interests[19]; (b) public choice, who contest the neutrality of the state within a pluralist society[19]; and (c) elitism, who hold that policy is dominated by a small elite, or privileged minority. [19]. Despite this vast literature in social sciences, explicit analyses of power in health policy remain relatively infrequent.[38] and LMIC empirical research on health policy processes often fails to consider power adequately. [17]

Engaging with analytical frameworks that centre power relations in their analysis would have allowed me to (a) unpack the questions of who had power over whom. For example, who in Sierra Leone had power in defining the agenda, going beyond the acceptance that the President led the decision to remove fees, (b) how power emerged and was channelled, at central level and all the way to facilities, explaining the resistance, for example, to the removal of user fees at facility level; (c) how power was overtly or covertly expressed and exercised. For example, what was the role of the technical advisers

associated with prominent donors who were pushing for or against user fees, or the role of the extractive industry in successfully resisting the increase in taxation in their sector; and (d) how this power was distributed and affected outcomes in each of the countries. For example, I could have delved more deeply into the choice by those holding power of women and children under five as a target group over more broadly vulnerable population groups.

Following this reflection on what I did not explore in depth in the articles, I now turn to the limitations of my analysis across the material present in the 5 articles. A full discussion of limitations of study methods for the five articles submitted for this thesis is available in each of the articles. In this section I provide my own critical reflections on limitations across the research presented across the five articles. Firstly, variation in country settings makes comparisons difficult. Although all the countries used for this thesis are low-income African countries, and they all suffer from a high level of informality in the labour market, their histories and current political settlements are vastly different, as is their economic outlook. Whilst overarching findings have been highlighted, contextualisation of these findings when applying them would be essential. This is particularly true for poor countries with very basic structural weaknesses (such as very low government expenditure capacity, substantial aid dependence, undeveloped infrastructure), which requires greater efforts of adaptation and contextualisation, especially in relation to the role of ideas/ideology, the sources of which may be quite different from those in countries with different structural settings.

Secondly, the availability and quality of the secondary data available is generally poor across each of these countries, affecting the conclusions of the research. For example, as pointed out in article 1, the introduction or removal of user fees covered by the literature did not have in-built monitoring and evaluation strategies, hence limiting the reliability of impact assessments. Access to reliable data was also highlighted as an issue in article 3, where obtaining data from the extractive industry to calculate the potential revenue that could be raised if profit or production of these industries were taxed was, for example, impossible. Availability of data was also an issue in Sierra Leone, where for example the effectiveness of Maternal New-born and Child Health (MNCH) services was unknown, District Health Information Systems (DHIS) data had been lost, and up to 40% of values missing across the facilities checked. The 2008 Demographic and Health Survey (DHS) had also been riddled with quality concerns.

Thirdly, as a result of the poor quality and availability of data, my co-authors and I had to rely for projections on assumptions that could be deemed unrealistic. For example, the high scenario for revenue projections in Article 4 could be considered too high. The projections of needs used in Article 2

were based on an assumption of linear growth of inputs and costs in parallel with increased utilisation, which may or may not have been correct.

Fourthly, the perspective of the selected key informants should also be acknowledged as a potential limitation. In article 4 for example, I interviewed as wide a range of actors as possible to try and ensure some triangulation of information. However, the biases inherent in people's roles were hard to avoid. Similarly, article 1 relied on what key informants recalled of their country's learning journey, and their own interpretation of what mattered and what was dismissed and why.

4.4. How has the literature and debate evolved?

This section is based on the results of the literature review undertaken as background to the thesis, rapid reviews on each of the subject areas, as well as my own accumulated policy and research expertise.

Acceptance of the importance of strengthening each health system pillar when removing user fees

My 2011 and 2018 articles (articles 2 and 3) had mentioned that specific health system pillars (drugs and medical supplies and health workers) were key to the preparation for user fee removal in as much as they influenced the amount of resources needed to cope with the reform. The literature since has gone further in highlighting the importance of considering all health system pillars, confirming the importance of drugs and health workers, but also going beyond those identified in my articles, in particular: communication of the reform to health managers and staff, and the wider population[4,31,41,42], importance of an appropriate M&E system [41], need for functioning infrastructure[43], and for good governance and leadership [43]. See Annex 1 for further details on the literature review underpinning these findings.

Increased attention to the importance of the wider policy context

The health financing literature has increasingly acknowledged the importance of understanding the wider policy context of the country in which the reform would sit. The literature review undertaken as part of this PhD (Annex 7) brought out some key findings in terms of agenda setting and implementation. Firstly, in relation to the role of interests, the literature confirmed that the politics stream i.e. the interests of high level national decision makers regularly drove the identification of user fee removal as a priority national agenda for reform, in countries such as Burundi[44], Benin[45], Ghana[46] where removing user fees (the policy) became a winning political platform, symbolic of social reforms demanded by the populations (the problem). Secondly, in terms of ideas and ideologies, the literature showed that the idea of user fees as a way to raise additional resources and curb frivolous demand was counter-balanced by the accumulated evidence on the negative impact of user fees on utilization rates (the problem), particularly for the poorest segments of the population. This shift in ideas played a role in the MoH[47] succeeding in bringing the reform onto the policy agenda in Uganda[31] , Kenya[48] and Burkina Faso[49]. The shifting ideology at the global level was also identified as influencing the agenda setting. The idea of user fee removal was, however, not always well understood by health workers, as in Kenya or Senegal for example[50,51]. Finally, in terms of the role of institutions, direct (funding) support and push by external funding agencies and international NGOs made a surprisingly limited contribution to this reform being set as an agenda for reform[52], as in Liberia or Burkina Faso for example[32].

In terms of implementation, informal institutions and their structure affected the removal of user fees. Cultural barriers such as stigma or incompatibility of services with cultural norms[4,46], religion, marital status, and parity in Ghana[53] were identified as limiting access to health services. Community structures also influenced the removal of user fees where community health services were the core actors as in Uganda's user fee policy implementation process[54]. The lack of understanding of the policy by the population, partly caused by high rates of illiteracy, similarly limited the impact of the removal of user fees[31,46,50,51] in Mali for example[55].

Focus on achieving Universal Health Coverage (UHC)

UHC has dominated and continues to dominate the global health financing agenda. At its core is the need to protect people from facing financial hardship as a result of seeking good quality care[56]. Yet this agenda has also been recognised as insufficiently specific as to how to achieve this goal. Many countries have, for example, chosen the Social Health Insurance (SHI) path, starting with the formal sector, as easier to collect contributions from, and continue to require user fees at the point of use for the rest of the population, at the expense of equity[57]. The WHO has attempted to address this criticism through an

analysis of what constitutes “fair choices” on the path towards UHC, hence recognising the necessary critical trade-offs across the package of care, the population covered and the revenue mobilisation approach inherent in progressing towards UHC[58]. The WHO has recommended that when considering trade-offs across each of these domains, fairness and equity should be the driving concepts to strive for. The need to focus on equity when pursuing UHC has also been highlighted as key through the concept of ‘progressive universalism’, which gained some ground at global level[59]. Progressive universalism implies increasing coverage for the most vulnerable first, removing user fees first, and including those services that benefit the most vulnerable first. The need to focus on equity and make fair choices, or to progress towards UHC through the concept of progressive universalism, have however not translated into a clear shift in the way UHC is approached at country level across Africa[60].

Increased focus on how to create fiscal space for health, moving away from innovative mechanisms as a whole and focusing on taxation on products harmful to health and efficiency instead

The need for additional resources for health has been repeatedly emphasized in the recent literature. The fiscal space diamond as a sound base for framing analysis for additional resources for health (debt, aid, domestic resources and efficiency savings) has been commonly used at the global and national levels in the past decade[9,61-65]. Multiple fiscal space analyses for health, UHC, PHC and for specific diseases such as HIV or TB have been undertaken by several donors[66-73]. These exercises were deemed useful in fostering a dialogue between MoHs and MoFs, and de-emphasized the role of debt or aid, as the SDG agenda highlights the domestic responsibility for financing health. They focused instead on domestic resource mobilisation approaches and increasing the value for money of health spending through increased efficiency[74,75]. The literature assessing the linkages between efficiency savings and fiscal space has particularly grown[65,76], rooted in the WHO’s claim that up to 40% of health spending was wasted[56]. This claim, however, has limited empirical grounding, and ignores the complex policy context associated with addressing inefficiencies in the health system. A systematic review of the literature on efficiency and fiscal space found no direct empirical evidence proving that efficiency gains translate into more resources for the health sector[77]. It also concluded that mechanisms to translate efficiency gains into fiscal space are barely explored in the fiscal space literature[77].

The interest in ‘innovative’ financing mechanisms in general has also waned, for three main reasons: firstly, as highlighted in Articles 4 and 5, consensus has developed around the limited potential of these ‘innovative’ mechanisms as sources of significant additional domestic funding for health. Secondly, MoF

have resisted suggestions from the health sector to define what additional taxes could or should be implemented, for health or any other social sector. MoFs see public finance as their realm, in which health policy makers have little expertise[9]. Thirdly, the value and feasibility of earmarking of those taxes has been contested. Evidence shows that even when these innovative mechanisms are introduced, the additional resources that are provided to health are either null or short lived[78]. As a result, the health policy debate has moved away from taxes or levies on any products, and focuses more specifically on products that have a negative public health impact, such as alcohol, tobacco, sugar-sweetened beverages (SSBs) or fossil fuels[79]. The focus on these mechanisms is partly related to their 'pro-health agenda', i.e. the positive effect on health outcomes of reducing their consumption, increasing their political acceptability[80], making advocating for them from both MoH and MoF easier[78].

The debate is now moving towards identifying within the existing government budget how additional resources for health could be allocated, rather than modelling potential new ones as fiscal space does[81].

Increased focus on overcoming Public Finance Management (PFM) blockages to ensure resources reach facilities, although focus remains technical

The need to ensure that facilities have flexible resources available to them to fund a variety of needs, such as community health workers, security, or immediate needs such as soap, has been recognised as a pressing agenda. This prioritisation is linked to some extent to the full or partial removal of user fees, but also to the realisation that resources reaching front line providers from central budgets are limited[1]. Two avenues of analysis have been pursued. Firstly, replacing the lost revenue associated with user fee removal through Performance Based Financing (PBF) mechanisms. The literature on the impetus behind PBF, and its limitations (for example unclear impact on utilisation rates or quality of care[82], and excessive ideological influence of its main funder, the World Bank[83]), is vast [84-86]. The accumulated evidence on the poor or inconclusive results of PBF programmes has led to a fall in favour at the global level. Secondly, reforms have focused on identifying and addressing national level Public Finance Management (PFM) bottlenecks, meant to be at the heart of poor budget execution across Africa[87]. In the past few years, Direct Facility Funding (DFF) is increasingly considered as a potential solution to bypass these bottlenecks, although the extent to which it will be able to address the lack of resources at facility level remains a question[88,89]. More systematic solutions to overcome PFM constraints, which hamper the journey of financial resources from the budget to the facilities, have had mixed success[90,91]. This focus on ensuring that resources reach the facilities is welcome, although it does not address all the health system constraints, nor the policy ones.

In light of these evolving debates, my articles remain relevant in several ways: they confirm the need to continue to focus on removing user fees and provide evidence on how to do it. They propose an approach to calculate the revenue needed to replace user fees. They highlight the fundamental relationships between technical choices and the ideas and ideologies driving the interests of actors and the ability of institutions to engage with the reform. Finally, they highlight the evidence gaps that persist in terms of how to use innovative financing mechanisms to replace the revenue lost, and their potential as a pathway for dialogue between key stakeholders.

4.5. Remaining research gaps

Despite this progress in the available literature, some research gaps remain, some of which I hope to contribute to filling in the future.

Firstly, whilst the importance of user fees at facility level as a source of flexible revenue is accepted, there lacks quantitative detail as to how much exactly these revenues represent, and qualitative details as to what these revenues represent for health workers and other key interest groups such as politicians and communities, and institutions. Capturing the importance of user fees from a qualitative perspective is difficult, especially when these have been officially removed but persist in the form of informal payments. Yet it is necessary to fully understand how to ensure that user fees are removed in practice, as well as theory.

Secondly, structured analysis at country level of the ideas and ideologies that underpin the resistance to removing user fees (at agenda setting or implementation stages) and of the role of institutions in facilitating the reforms requires deeper understanding. Recognising the contested nature of the implementation stage in particular and delving deeper into the implication of the removal of user fees on all actors, institutions and interests would help in better preparing for the reform. This is an area I plan to research further, through my role as expert in political economy of health financing for the WHO, for which I will work with at least two countries in unpacking the ideas, institutions and interests underpinning health financing reforms.

Thirdly, whether bypassing national PFM bottlenecks through the implementation of DFF type mechanisms is the right approach from a national health system perspective should be better understood. Understanding what resources (financial and in-kind such as drugs) are needed at the frontline to support the removal of user fees, and what is the best way to ensure their availability, should form part of a new research agenda. This is also an area of work I plan to contribute to through

my role as health financing expert at the Global Financing Facility (GFF), working closely with west African countries in understanding their purchasing and PFM bottlenecks (the problem), and supporting the development of solutions (policy) aligned with interests of all key actors.

Fourthly, the health financing literature should engage more systematically with the research and evidence on taxation, and research the extent to which certain ideas, such as that LICs should prioritise indirect taxation, are valid. This is also an area that fascinates me, and that I consider fundamental to improving solidarity within countries. I do not yet know how I will contribute, but I hope to be able to undertake further training and research in this area.

4.6. Implications for policy

My research has implications for policy makers at national and global levels pursuing UHC.

At country level, the realisation of the UHC agenda will require renewed commitment to equity, from all actors. This implies, amongst other things, that the financial barrier that user fees represent must be removed. The difficulty in removing user fees in many African countries has been a failure of the technical grounding and policy analysis of the reform process, rather than a failure of the concept itself. When approached systematically, and with adequate appreciation of the key contextual factors (the ideologies, ideas, interests and institutions) affecting the fidelity, acceptability and feasibility of this intervention, user fees removal can have beneficial and sustainable impact on access to healthcare. Therefore, a careful preparation plan for their removal is needed, without which user fees will continue to persist.

This plan will need to be driven by national MoHs and encompass a systematic and thorough assessment and strengthening of the health system, across each of its pillars. Technical solutions will need to be embedded in a strong understanding of the institutional make up and historical socio-economic context of a country, as well as an understanding of the balance of power between different actors, their own ideas and ideologies, and the formal and informal institutions such as social norms binding the country. These will be context specific. This plan should therefore be rooted in a thorough understanding of, and preparation for, the policy context within which the reform will sit. This understanding can be obtained through simple stakeholder mappings, for example identifying who holds power within the health system, who stands to win or lose following the implementation of the reform, and how to bring all actors on board, or through more sophisticated policy analysis that would include a historical review of

the ideologies, ideas, interests and institutions that have supported or hampered previous attempts at reforming the health financing system.

The plan will need to include a costing of user fee removal, and identification of additional domestic level mechanisms to fill the gap left by their removal, as well as to cope with the additional demand associated with this reform. Increasing government revenue through widening the tax base will be necessary, over and above the limited potential of innovative financing mechanisms. This increase in tax revenue will be fraught with policy challenges, which will also require sustained commitment and a systematic dialogue between MoH and MoF. This dialogue should focus on ways to increase budgetary allocation to health and on a review of the taxation approach in the country. To lead this agenda and dialogue with the MoF, the MoH will need to invest in its budgetary, financial modelling, and health economics capacity. This dialogue will require from the MoF's perspective a willingness to recognise the importance of health as a productive sector for the economy, worthy of investment, and an openness in revisiting the potential to increase the tax base in the country, and the potential for hypothecation of the health taxes. Finally, this will require an investment at the MoF level in enhancing its tax capacity.

Civil society will be required to make renewed calls for the removal of user fees as a priority, gathering support from key political champions and, in collaboration with the MoH, identifying windows of opportunities to ensure that the reform is set on the national agenda. Civil society should also engage more systematically with the political struggle associated with the removal of user fees through stakeholder and power mappings and use all advocacy tools at their disposal to reinforce the continuous and urgent need to remove user fees.

Technical support agencies, if called upon, will need to recognise the importance of engaging with, understanding, and taking into consideration, the policy issues associated with removing user fees. These analyses take time and deep knowledge of the context and cannot be driven by external actors. International donors will need to recognise the urgency of the user fee removal agenda, and support countries in their ambition, stepping away from accepted wisdoms such as 'only VAT can be implemented, or frivolous demand must be tackled through a minimal fee at the point of use'. In this respect, research institutions have a role to play by improving the evidence base for the most common claims, as well as by addressing some of the remaining research gaps identified in section 4.5.

At the global level, international donor agencies should continue their engagement with the UHC agenda but be demanding in terms of the progressivity of revenue collection methods, and actively call

for and support the removal of user fees. This could take the form of (1) supporting the development of research aimed at identifying the financing gap that would be left at facility level if user fees were removed, and/ or supporting research focused on PFM blockages to resources reaching front line providers, and/ or taxation analysis supporting MoFs and MoHs in identifying additional sources of general revenue for the health sector. Each of these research agendas should integrate health policy analysis within the research design; and (2) supporting through technical assistance countries wishing to progress along the UHC path and ensuring that the user fee removal agenda is included in the UHC reflection.

The WHO should continue to share its evidence, generated through regular analysis of health expenditure data, on the dominance of OOP payments in financing healthcare and infuse a new sense of urgency at global level to address the persistent inequity that user fees represent. The WHO should continue to advocate for health financing policies that have equity at their core, and for political economy frameworks to guide technical solutions, at global and national levels.

Global academic institutions and think tanks should work in collaboration with national research agencies in addressing the research gaps identified in section 4.5, putting emphasis on translation of research results into policy material useful to policy makers in countries.

Section 5: Conclusion

Despite decades of evidence of their negative impact on access to healthcare, especially for poorer segments of the population, and the debunking of the economic arguments behind their introduction, user fees remain stubbornly prevalent across Africa. Removing them therefore remains a priority for countries intent on achieving UHC.

This commentary has sought to bring together the five papers put forward for the thesis and thereby to provide answers to the following questions: Why have user fees persisted as a health financing mechanism in face of evidence that they present a financial barrier to access? What has constrained efforts to remove user fees, and particularly, what are the relative contributions of technical factors versus the complex political interests that may have shaped these health systems policies?

Based on scoping and systematic literature reviews, case studies, key informant interviews and focus group discussions as well as financial modelling across various African countries, the thesis has found that context-specific health policy factors are central to both the decision to remove user fees and the subsequent success of the implementation of the reform: setting the removal of user fees as a key policy agenda has required the convergence of high level political commitment, ownership of user fees as a problem and understanding of what the policy solution, their removal, would entail technically and politically.

Technically, the articles have shown that the steps to remove user fees are known, hence that lack of technical know-how is not the reason for their survival across the continent. Removing user fees requires a systematic strengthening of each of the health system pillars. Part of this plan must include a careful assessment of the financial impact of the removal of user fees, which is a function of the original level of the fee system, the effectiveness of exemption systems and waiver policies, if any, and what the effects of fee revenues at the health facility level were. Going beyond innovative domestic financial mechanisms and engaging systematically with tax reforms, themselves fraught with policy challenges, will be key.

Over and above these technical considerations, the articles have shown that further progress along the UHC journey, partly supported by the removal of user fees, will require detailed country-level understanding of (1) the interests of different stakeholders (politicians, technicians across the levels of the health system, implementers of the reform such as health workers, and the population), (2) the role

of formal and informal institutions, from the capacity of MoH for example to implement the reform to the role and ability of norms and culture to engage with the reform and (3) the ideologies, explicit or implicit, and ideas that may lie in opposition to the change. This analysis will have to be country led and owned, and its learning will need to be gathered not only through formal evaluations, but also, and more importantly, through less politicised internal learning processes.

There are two sets of implications emerging from the work represented by this thesis. First, for researchers in this field, there is need to integrate technical and health policy considerations and consider evidence gaps pertaining to the extent to which user fees represent a flexible source of revenue at facility level. Researchers should also analyse how additional resources (financial and non-financial) could reach frontline providers, once user fees are removed. Second, for policymakers and practitioners, this thesis has underscored the importance of a renewed commitment to removing financial barriers to accessing healthcare, of constructing reforms that are rooted in both technical know-how and health policy considerations, and of the MoH working in close collaboration, at the minimum, with MoF, key health stakeholders such as health workers, and civil society. The collaboration with MoF will be particularly key as seeking alternative sources of revenue for health to replace user fees will require a thorough assessment of the tax base and capacity at national level.

The overarching implication of my thesis is that technical know-how as to how to remove user fees is not lacking. Rather, what is required is a concerted engagement, rooted in a deep understanding of the ideologies, ideas, interest, and institutions of the country, between technical experts and political actors. This engagement can result in successful formulation and implementation of the removal of user fees, and eventually their replacement with financing approaches more aligned with UHC objectives. This in turn will lead to an improvement in people's access to healthcare. Without this concerted engagement, user fees will continue to persist across the continent.

Annex 1 – Health policy frameworks and theories

Frameworks and theories	Main conceptual approach	Strengths of framework or theory	Critique of framework or theory and reason for including or not in analysis
Health policy triangle [20]	Looks at the content of policy, the processes of policy making and how power is used and the context in which different actors and processes interact.[19]	Helps to systematically explore somewhat neglected place of politics in health policy. [19]Also provides a useful framework for simplifying the complex, dynamic and interactive nature of policy making (ibid). Allows us to integrate processes, often neglected.	Simplified representation of complex set of inter-relationships, which pays insufficient attention to other factors that explain how and why policy changes.[19]I found it difficult to use as a basis for analysis of the interaction between these variables.
4is (ideology, ideas, interests, institutions) [13]	Classical political science frameworks identify four explanatory variables that influence health policy outcomes: (1) interests of decision makers and various other actors, and how these interests are affected by the proposed reform, (2) institutions (formal political institutions that affect how policy is made and its informal institutions including the legacies of past policies or even cultural norms embedded in how policy decisions are made), (3) ideas (which include specific policy solutions, information, and prevailing concepts and paradigms that influence thinking on a subject, and (4) ideology (which represents a particular worldview)[13] . Each is considered to play an independent (and	Useful lens for looking at how policies are framed, redefined and repackaged. [19] Also expands definition of stakeholders—recognizing the importance not only of agencies but also of individuals and coalitions sharing ideologies or ideas, or invested in institutions[17]	The concept of power is relatively neglected within the framework. However, as my original research did not explicitly consider power, I found this framework a useful structuring basis for my research. Buse et al posited that the health policy triangle could be enhanced by adding ideas and institutions within it, and by giving greater space to how actors influence policy, for example[19]. The 4is framework also helps structure the space given to policy evaluations in agenda setting and policy adaptation, situating

Frameworks and theories	Main conceptual approach	Strengths of framework or theory	Critique of framework or theory and reason for including or not in analysis
	interdependent) role in influencing policy outcomes[13].		the role and uptake of evidence by interested parties, the extent to which they influence ideas and ideologies, and the contestation they may create in the formal and informal institutions
Actor power, ideas, institutions and interests framework - Schiffman and Smith (2007)[92]	Emphasizes the importance of the characteristics (positive or negative) of the specific issue which may affect policy[19].	Gives greater space for consideration of ideas and issue characteristics than does the triangle. Includes the analysis of institutions as part of actor power.	The use of the concept of power did not fit my original research.
Bounded rationality [93]	Decision makers are unable to make fully rational choices (for example because of the incompleteness of information). They simplify decision making by taking routine decisions for recurrent problems, and aiming to reach satisfactory standards rather than optimal ones in finding solutions to bigger problems.	More realistic analysis of how decisions are made than the purely rationalist approach originally proposed by the same author.	This theory focuses on decision makers and their use of information, at the expense of other aspects that influence the uptake and implementation of policy.
Incrementalism - [94]	Decision makers muddle through in search of a solution to a problem, making small rather than radical changes, seeking agreement of the various interests.	More realist approach to decision making process than bounded rationality.	Unable to explain radical decision making and supports conservative approaches to reform. This did not fit with my research findings. In Rwanda for example, part of the reason for reform was the social collapse associated with the genocide, and the impetus for change this crisis generated.

Frameworks and theories	Main conceptual approach	Strengths of framework or theory	Critique of framework or theory and reason for including or not in analysis
The three streams approach [95]	Kingdon posits that a reform will be set on the national agenda when three flows converge: a problem (for example the negative impact of user fees on access to healthcare), a policy (i.e. a solution to that problem such as the removal of user fees and their replacement with alternative financing approaches), and the politics of reform (i.e. the willingness of political actors to set an idea into an agenda for action) [20]	Goes beyond the rational approach to policy reform and posits that ambiguity in problem definition prevents rational choices from being made[96]. This approach is also considered as more realistically representative of the dynamic nature of decision maker preferences and contexts.	Criticized for a lack of empirical base, and validated only in high income context (USA). Not considered robust enough to constitute a well-developed theory.[97] Despite this limitation, it offered the greatest explanatory insights for my analysis and was relevant to the research evidence in some of my articles. Also, whilst Kingdon focused on the role of policy entrepreneurs, which did not explicitly arise as important in my articles, his three streams helped me unpack the broader systemic changes that I had investigated in the various countries.
Top-down implementation theory[98]	Based on insights from Pressman and Wildavsky, holds that policy implementation will be successful if the process has: • Clear and logically consistent objectives • Adequate causal theory • An implementation process structured to enhance compliance by implementers • Committed, skillful implementing officials	Provides a clear structure to thinking about successful implementation.	• Underestimates limitations of rationality, availability of information, etc. • Misses complexity of policy processes, especially in an era of global policy concerns involving actors across the world

Frameworks and theories	Main conceptual approach	Strengths of framework or theory	Critique of framework or theory and reason for including or not in analysis
	• Support from interest groups and legislature • No changes in socioeconomic conditions that undermine political support or the causal theory underlying the policy		• Does not explain differences in outcomes of the same policy in different locations • Assumes that policy starts 'at the centre', 'from the top' and can be controlled in that way • Does not reflect political nature of policy making • Underestimates wider social, economic, cultural, etc. influences
Bottom-up implementation theory[99]	Social and health policy relies on large, skilled workforce interacting with people so policies rely very heavily on local interpretation.	• Considerable evidence now that what implementers do, on a daily basis, matters[17] • Leads to the insight that policy is made during its implementation • Focused on understanding role and motivation of frontline staff • Recognises that every policy has some level of interpretative 'space' [19]	Taken alone, disregards importance of top down vision and direction.
Advocacy Coalition Framework[100]	Holds that policy change occurs when external system events and relatively stable system parameters (such as the distribution of natural resources or social cultural values) interact with belief systems of a group who may form a coalition	Introduces the advocacy coalitions rather than formal institutional units to the policy literature and brings together the top-down and bottom-up approaches.	Difficult to determine the beliefs of main actors and identify the exhaustive list of external and internal factors which can affect the policy sub-system.[101]

Health Research Policy and Systems

RESEARCH Open Access

What, why and how do health systems learn from one another? Insights from eight low- and middle-income country case studies

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Abstract

Background: All health systems struggle to meet health needs within constrained resources. This is especially true for low-income countries. It is critical that they can learn from wider contexts in order to improve their performance. This article examines policy transfer and evidence use linked to it in low- and middle-income settings. The objective was to inform international investments in improved learning across health systems.

Methods: The article uses a comparative case study design, drawing on case studies conducted in Bangladesh, Burkina Faso, Cambodia, Ethiopia, Georgia, Nepal, Rwanda and Solomon Islands. One or two recent health system reforms were selected in each case and 148 key informants were interviewed in total, using a semi-structured tool focused on different stages of the policy cycle. Interviewees were selected for their engagement in the policy process and represented political, technical, development partner, non-governmental, academic and civil society constituencies. Data analysis used a framework approach, allowing for new themes to be developed inductively, focusing initially on each case and then on patterns across cases.

Results: The selected policies demonstrated a range of influences of externally imposed, co-produced and home-grown solutions on the development of initial policy ideas. Eventual uptake of policy was strongly driven in most settings by local political economic considerations. Policy development post-adoption demonstrated some strong internal review, monitoring and sharing processes but there is a more contested view of the role of evaluation. In many cases, learning was facilitated by direct personal relationships with local development partner staff. While barriers and facilitators to evidence use included supply and demand factors, the most influential facilitators were incentives and capacity to use evidence.

Conclusions: These findings emphasise the agency of local actors and the importance of developing national and sub-national institutions for gathering, filtering and sharing evidence. Developing demand for and capacity to use evidence appears more important than augmenting supply of evidence, although specific gaps in supply were identified. The findings also highlight the importance of the local political economy in setting parameters within which evidence is considered and the need for a conceptual framework for health system learning.

Keywords: Policy transfer, Evidence use, Health systems, Learning, Low-income countries

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Background

All health systems face challenges managing complex and changing health needs, with these challenges being the greatest in low-income countries due to the larger health needs, faster population growth [1] and least availability of financial resources for health [2]. At the same time, these governments are committed to progressing towards universal health coverage as part of the Sustainable Development Goals [3], within a context of more constrained development assistance [4, 5]. The use of evidence from other countries may result in health system reforms that are more efficient and effective [6–8]. This study seeks to understand policy transfer and evidence use around health systems in low- and middle-income settings in order to inform investments in improved learning between countries.

Globalisation and the activity of international organisations involved in the design, implementation and analysis of regional and domestic policies have facilitated dialogue and sharing of ideas and experiences across actors in different settings. The process of using the ideas, content and lessons from implementing policy from other countries, or what this study terms 'learning across systems', falls under the broader literature on policy transfer. Transfer is defined as the intentional process through which "*knowledge about policies, administrative arrangements, institutions etc. in one time and/or place is used in the development of policies, administrative arrangements and institutions in another time and/or place*" [9]. Unintentional emulation of policies, on the other hand, may be considered to be merely a 'convergence' of policy rather than a process in which one actor deliberately seeks and uses lessons from other actors [10].

A small but growing set of literature seeks to understand policy transfer processes in the health sector of low-income countries. Mechanisms of policy transfer that are identified include learning, coercion, socialisation and competition [11]. Financial assistance, identified as the most dominant form of coercion, has also led to changes in in-country policy, in many cases the adaptation of policy specifically to receive aid [12]. Significant attention in the literature has been placed on the role of international organisations, while questions around individual country-to-country transfers are not as well understood [12]. The bulk of relevant literature appeared in the 1990s and early 2000s, suggesting that research has de-prioritised this topic. This presents a missed opportunity to understand the mechanisms involved in policy transfer, especially those between low-income countries and those that are specific to the health sector.

Studies of evidence-based policy-making link to the policy transfer literature by highlighting the types of evidence that currently (or from the perspective of many researchers, should) inform policy, including systematic or scientific research, practical experience and political judgement [13]. Many also recognise that evidence is used in different ways, including instrumentally (using evidence to problem-solve in policy and to improve policy outcomes), conceptually (evidence contributes to knowledge on a particular issue) and symbolically (for example, when evidence is used by politicians to legitimise themselves or to support political claims) [14–19]. Further, it is now widely recognised that policy-makers make decisions in rational and emotional (e.g. political, value-based) ways (using 'bounded rationality'), which require different forms of evidence [20]. Recommendations for improving the uptake of evidence include pursuing the systematic examination of research that more holistically identifies past lessons and experiences [21]; using research that targets multiple stages of the policy process, for instance, to inform agenda-setting, examining alternatives and outcomes [22]; evaluation of policies that considers political factors [23]; and giving greater attention to the institutional and capacity factors that favour uptake of evidence [24].

Drawing from eight country case studies, this article seeks to supplement existing literature by drawing on the insights and experience of policy-makers in low-income countries and assessing their demand for evidence, how it is met (or not) and what barriers they perceive to exist. It aims to understand how learning has occurred in these case studies of health policy reform and what could be done to strengthen it. It was undertaken by Oxford Policy Management to inform the Bill and Melinda Gates Foundation on priorities for investment in supporting cross-country learning on effective health system policies.

Methods

The wider study within which the case studies were nested started in early 2017 with three scoping literature reviews focussed on (1) the content of learning across health systems, in terms of which topics comparative health systems literature has addressed since 2000 and using which methods [25]; (2) a review of institutions and platforms that currently exist and aim to facilitate learning across health systems [26]; and (3) international health policy transfer studies [12]. These background reviews and meetings fed into the design and framework for analysis of the case studies, which were overseen by an expert advisory group of researchers. The study was approved by the Ethical Review Committee of the lead UK institution.

The country case studies aimed to answer two research questions, as follows:

1. How do national and sub-national decision-makers access and use ideas and evidence about how to make their health systems work better and where does international evidence fit in that picture?
2. What gaps do national and sub-national decision-makers perceive in their access to appropriate health system evidence in general, and evidence about other countries' experiences in particular?

Case studies were selected from countries that were categorised as low income in 2000 and performed well in meeting Millennium Development Goal targets by 2015 (had achieved at least 1.5 on the Centre for Global Development's health score) [27]. From those countries that met these criteria (23 in total), eight were selected as initial case study candidates on the further criteria of geographic spread, inclusion of Anglophone and Francophone African countries, and feasibility of access to appropriate interviewees. The counties selected were Bangladesh, Burkina Faso, Cambodia, Ethiopia, Georgia, Nepal, Rwanda and Solomon Islands. Five of these are currently classified as low income, while three are now lower middle income.

One to two policies or programmes (policy is used as shorthand for both in this article) were chosen per country. The policy selection criteria were simply that the reforms were undertaken within the past decade (to ensure recall by interviewees), and involved significant change to at least one health system block. The studied reforms (described further in Box 1) cover a wide range of reforms, including the Health Extension Programme (HEP) in Ethiopia, the Sector Wide Approach and community clinics in Bangladesh, Health Equity Funds and Special Operating Agencies in Cambodia, hospital privatisation and health sector financing reforms in Georgia, the Integrated Management of Maternal, Neonatal and Childhood Illness programme in Nepal, the Role Delineation Policy in Solomon Islands, health financing reforms, including community-based health insurance (CBHI, the *Mutuelles de Santé*) in Burkina Faso, and CBHI and performance-based financing in Rwanda.

Key informants were selected purposively according to their involvement in the relevant reforms and willingness to be interviewed. The objective of the interviews was to elicit tacit knowledge on the two core research questions – knowledge that is often not documented due to its political and sometimes sensitive nature. A total of 148 key informant interviews were conducted (Table 1). Within these, the largest constituency was technical staff from governmental agencies, followed by technical staff from development partner agencies (bilateral and multilateral organisations that implement and/or fund health interventions).

Data collection and analysis

Data collection was conducted from July to September 2017 and started with the review of published and grey literature on the tracer policies, focusing on the research questions. A semi-structured interview guide was developed and used across the cases, structured according to the policy cycle stages, which had been identified as presenting different issues for evidence use in the international literature. The conceptual framework used to develop the policy stages starts with conceptualisation. This is the beginning of the policy transfer process and refers to the development of the broad idea of the policy itself. Formation and contextualisation refer to the processes by which the key conceptual and operational tenets of policy are concretised and then modified to the social, economic, political, and cultural norms of the country. Internalisation is the process by which a formed policy is accepted and transformed by in-country policy systems. Operationalisation is the process of actually carrying out or implementing the reform. Finally, evaluation refers to critical assessment of any component of the reform [12].

The interview guide included sections and suggested prompts for each of the policy transfer phases, as well as general questions on whether these reform experiences were common to other policies, whether there are particular barriers to learning in policy reform, and whether and how the country had shared its knowledge regarding these reforms with other countries.

Country visits took place over 1-week periods in July to September 2017. Most key informant interviews took place face-to-face, but some were undertaken by phone, as required. In Bangladesh, one focus group discussion was held with ex-government servants, researchers and academics in addition to one-on-one interviews held with key informants. The interviews were conducted by a lead and supporting researcher in each context and each lasted approximately 1 hour. Notes were taken during the interviews and findings were discussed each day between the two researchers. Data was subsequently analysed by both authors individually and then collectively. Data from the document review were primarily used to corroborate and triangulate with information gathered during the interviews, as well as for background information in advance of the interviews.

The framework used for interviewing was also used as a starting point for data extraction and analysis when

Box 1: Background on case study countries and policies

Bangladesh

Recent health sector reforms in Bangladesh commenced with the Health and Population Sector Strategy developed by government and donor partners in 1997, resulting in the pooling of donor funds through a Sector-Wide Approach. The introduction of one-stop services through Community Health Clinics to replace domiciliary services provided by Family Planning Services field staff were also established in 1998 to herald a major shift in family planning services, from door-to-door to clinic based [34].

Burkina Faso

Community-based health insurance (*Mutuelles de Santé*), as a health financing policy intervention, has had a long history in Burkina Faso, from the first experiments in the late 1980s to the 288 schemes identified in 2013. Moreover, the community-based health insurance 'movement' is said to have given rise to significant policy initiatives such as the planned universal health insurance (*Assurance Maladie Universelle*) [33].

Cambodia

Cambodia's health sector has been innovative. Among many initiatives that have accompanied the longer-term process of health reform that began in the mid-1990s, two in particular have attracted significant international attention. The Health Equity Fund (which was initiated in 2000) is now a nationwide social health protection scheme, delivering publicly provided health services to the poorest one-fifth of the population. On the supply side, the development of a unique form of contracting in the delivery of public health services (launched in different forms in the mid-1990s) has begun to produce observable results in the management of health service delivery [32].

Ethiopia

One of the policies credited with making a substantial contribution to progress towards achieving the health-related Millennium Development Goals 4, 5 and 6 in Ethiopia is the government's flagship Health Extension Program. Launched in 2003 and gradually scaled up nationwide, the Health Extension Program helped develop a new cadre of paid female community health workers, supported by volunteers at community level and contributed to universal access to primary health services in rural areas [33].

Georgia

Georgia has introduced extensive health sector reforms and made significant progress against the Millennium Development Goals by 2010. However, while some of the reforms were driven by international best practice, closely resembling developments in the region (e.g. health financing reforms in 1997–2003 aiming at introduction of Social Health Insurance, and later reforms from 2012 targeting Universal Health Coverage), others were home-grown and sometimes quite radical (e.g. hospital reforms in 2006–2012, resulting in privatisation of over 70% of public hospitals in a poorly governed environment, with subsequent implications for costs and quality of services) [31].

Nepal

Despite the constraints, Nepal made substantial progress in reaching the Millennium Development Goals, especially in reducing child mortality. Community- and facility-based health interventions focused on child health such as Integrated Management of Childhood Illness (now known as Integrated Management of Maternal, Neonatal and Childhood Illness), vitamin A supplementation, immunisation, and deworming programmes contributed to achieving the reduction. This was facilitated by a network of 50,000 female community health volunteers that played an important role in promoting health and reducing the gap between the community and the health facility [29].

Rwanda

Rwanda achieved substantial population health improvements and is particularly known for what is widely considered to be a successful introduction of community-based health insurance and performance-based financing, alongside wider health reforms including more effective aid coordination [30]. Introduced from the mid-1990s to early 2000s, Rwanda implemented community-based health insurance and performance-based financing – targeting demand- and supply-side barriers respectively – significantly more effectively and at a larger scale than any other low-income country [30].

Solomon Islands

The Role Delineation Policy in the Solomon Islands was developed to better define the range and level of services – or packages of care – to be delivered to populations across the country. It is designed to be a strategic and system-wide reform, delivering needed services, particularly to rural areas, in a way that is financially and institutionally sustainable. Over the 15 years through which it has been developed, the Role Delineation Policy has become a central part of policy for improved health services [28].

writing up the case studies, although themes were allowed to emerge inductively as relevant. Once individual case studies were documented, analysis of themes across contexts was produced by the research team, aided by a workshop in October, where commonalities and differences across the case studies were elicited for each topic and discussed by the researchers who had undertaken the country case studies. Findings were presented and discussed at a meeting in Kigali in November 2017, which allowed for further cross-checking of findings. For the drafting of this paper, one researcher analysed across all case studies to present high-level synthetic findings. More detailed evidence is contained in the individual case studies [28–35].

Results

The findings below are structured according to (1) conceptualisation; (2) uptake or implementation; and (3) further policy development, once a policy has been implemented. We then examine what respondents told us about the mechanisms of learning, which operate at international, regional and national levels. This follows the themes that emerged inductively from the interviews conducted and reflects not just findings on the specific tracer policies but also respondent's wider comments on learning and evidence use. Finally, we present cross-cutting themes in relation to facilitators and barriers to learning, which are grouped into factors focussed on the demand for and supply of evidence.

Conceptualisation

All of the reforms either started from or were accompanied by a local recognition of a problem. In relation to the origin of the policies, looking across the eight contexts, five broad models emerged, ranging from least to most home-grown, as follows:

1. In the case of the initial phase of the Integrated Management of Child Illness programme in Nepal, the country was adopting a specific international package, which was more or less standard practice across most countries.
2. In three cases (the Sector-Wide Approach in Bangladesh, health financing reforms in Georgia, and health financing reforms in Burkina Faso), the broad idea behind the policies was initially promoted by major international agencies, but was more actively adopted in the sense of being seen to meet a local need and fit with local contexts.
3. In three cases (Health Equity Funds and contracting in Cambodia, CBHI and performance-based financing in Rwanda, and community clinics in Bangladesh), the policies emerged from a partnership of development partners and government, with ideas being introduced from other contexts but being incubated and developed in substantive ways in-country. Later iterations of Nepal's Integrated Management of Child Illness followed this path too, through the shift to community-based delivery and the introduction of the package of newborn care.

Table 1 Overview of key informants interviewed, by country and constituency

Constituencies	Bangladesh (key informant interview)	Bangladesh (focus group discussion)	Burkina Faso	Cambodia	Ethiopia	Georgia	Nepal	Rwanda	Solomon Islands	Total
Politicians			1		2	2	1	2		8
Technical staff	6		5	3	6	3	5	3	11	42
Development partners	3	5	6	4	2	1	4	4	11	40
Non-governmental organisations	2	7		1	4	2	2	1		19
Academics and consultants	1	10	4	4	3	2	1	9		34
Civil society			3		1			1		5
Total	12	22	19	12	18	10	13	20	22	148

4. In one case (Role Delineation Policy in Solomon Islands), the idea was developed locally as a means of achieving more equitable, but affordable, health services after a period of ethnic tension. The approach drew on some regional inspiration and technical support from bilateral and multilateral partners.
5. Finally, in the Ethiopian HEP, there was no significant external input, though the policy was influenced in cross-sectoral learning internally from agricultural extension workers in Ethiopia within one state, and later scaled up.

These points illustrate how countries adopted international ideas, but the case studies that were undertaken uncovered many situations in which evidence was not sought, or was altogether ignored. Non-adoption of international ideas and the rejection of advice from other countries had varying consequences. In Ethiopia, the international consensus was antagonistic to community health workers in the late 1990s, when the HEP programme was being developed in Tigray. The government continued to support it, however, as it seemed one of the few feasible ways to reach a dispersed rural population in a context of limited resources and infrastructure. The decision is widely seen to have paid off. Similarly, Cambodia has resisted adopting a clear purchaser-provider split for Special Operating Agencies, despite some international encouragement to do so. Nepal has resisted a number of WHO-recommended adjustments to clinical guidelines, on the basis that they are not in line with wider health system strategy or capacity. Georgia pursued hospital privatisation in the face of cautionary international advice and the legacy of that has been much more mixed.

Uptake

It is clear from the case studies that the drivers of uptake, or moving ahead with implementation of a policy, are rooted firmly in the local political economy. In the case of Ethiopia, for example, the drivers were historical as well as ideological (the government having recently been engaged in grassroots mobilisation during civil war), combined with political imperatives (the need to deliver basic services to a large, poor population as a new regime) and pragmatism (other options were not feasible with the resources available). Ideological influences, industry lobbying and the powerful role of international agencies (such as the World Bank, during the period of reforms in transitional economies in the late 1990s) are also documented in Georgia, for instance.

Published, peer-reviewed evidence was rarely mentioned as the impetus or main source of information for policy development in the case studies. It was most likely to be consulted for review of clinical protocols, as this is an area in which local contextualisation is regarded as less critical. The influence of published studies is also seen to occur through their dissemination from international agencies such as in the influence of international researchers on healthcare in Burkina Faso and the research on sector-wide approaches that was incorporated by proposals from donor partners in Bangladesh. That said, local evidence being published in an international peer-reviewed journal was said to give it credibility and feed a sense of pride, with both increasing the likelihood of it being acted on.

Robust evidence may be lacking for a policy (like community clinics, in the case of Bangladesh), but if the concept fits well into the socio-political context and enjoys political patronage, then reforms will still be undertaken. The cases of Cambodia and Georgia, where senior politicians made executive policy decisions that were not exactly aligned with the evidence presented, also highlight how governments can set the parameters for when they will or will not over-ride evidence, and how the choice and application of evidence is often 'purpose-driven' and predefined by political agendas. In Cambodia, early evidence suggested that contracting services out (to non-government organisations) achieved positive results. The government has been concerned about the sustainability of this option, and adopted a contracting in approach instead. This is an example of some policy options being beyond consideration, even if the evidence may have appeared to be in their favour. This is in contrast to some evidence-informed modifications that have been made by the same government to the operationalisation of Health Equity Funds (though here again, political constraints apply).

Drivers of policy development (once adopted)

The case studies suggest that internal learning is the key to successful policy development over time. Further, capacities, skills and culture that support good examples in this respect are likely to be linked to the ability to filter experiences from other contexts intelligently.

The case studies illustrated the effective use of annual reviews to assess and improve policy performance (for example, in Rwanda and Ethiopia), adjustment of policies based on local evidence (in Cambodia, Nepal and Rwanda), using national and international routine data sources for monitoring (for example, in Georgia, which used regional comparators for benchmarking), use of evidence from operational research (in Cambodia), and technical assistance to identify the existing – and possible future – cost structures and affordability of interventions (Solomon Islands). Countries like Rwanda, Nepal, Cambodia and Ethiopia were also effective at sharing lessons across sites internally.

By contrast, the role of policy evaluation was much more contested. In some settings, like Bangladesh and Ethiopia, there was resistance to formally evaluating high-priority national programmes, while in others, like Nepal, there were reported tussles over the ownership of the evaluation process. While some countries (e.g. Cambodia) used evaluations actively as a means of lesson-learning and mid-course corrections, many of the apparently successful policies were never formally evaluated, reflecting the higher stakes and more politicised nature of evaluative processes, compared to continuous learning through observation of a policy's outcomes over time.

Mechanisms for learning

A wide range of mechanisms that had supported learning processes within and across countries were mentioned by key informants. These are outlined in rough order of frequency, starting with the international ones.

International study tours were the most commonly mentioned mechanism for international learning, used across all eight sites, typically early on in the policy development process and including a variety of constituencies (technical, parliamentary, etc.). These are typically facilitated by development partners and were seen as important, although suggestions for improving their effectiveness (such as better follow-up) were also made.

Country decision-makers and technical staff also use direct relationships with development partner staff to gain advice on topics of interest at all policy stages. Development partners facilitate access to and share ideas and evidence in all settings. Some organisations are widely influential, for example, WHO. Others are seen as offering specific expertise (for example, the World Bank on health financing or International Labour Organization for social protection), though bilateral and multilateral funding agencies are also seen as having their own agendas. Personal relationships with development partner staff are highly important, especially when their presence in-country is long-term, or the country has a small population.

Attending international meetings on specific topics of relevance was also highlighted as influential in five settings (Georgia, Nepal, Solomon Islands, Rwanda and Burkina Faso), particularly regional meetings that focused on a specific, shared problem.

Technical assistance programmes were perceived to be of particular importance in learning about reforms in other countries and in supporting implementation in Bangladesh, Cambodia, Georgia, Solomon Islands, Rwanda and Burkina Faso.

Many countries shared ideas and evidence internally and with external stakeholders such as development partners through routine health system governance structures, such as coordination and technical working groups (highlighted in Cambodia, Georgia, Nepal, Rwanda and Burkina Faso). In some instances, countries systematically established groups to review international published evidence to refine specific health packages (Nepal and Ethiopia).

Capacity-building through formal training or on the job experience also played a role, with countries tending to initially train abroad but gradually develop local capacity and institutions (for example, in Rwanda and Cambodia), also in order to better retain trained staff.

Regional networks also played a role, though these were less frequently mentioned. In the Solomon Islands, regional professional networks may have facilitated idea transfer, including through contractors working across countries, and regional training networks were highlighted as significant. In (former-)francophone African countries (Rwanda and Burkina Faso), influential individual consultants working across countries and community of practice networks were cited as having contributed to the spread of ideas, including through their reports. Burkina Faso was the only context where civil society – in the form of advocacy groups, working with international partners – was cited as having influenced policy uptake.

Within countries, pilot projects supported by international non-governmental organisations played an important role in developing some of the policies (in Rwanda, Cambodia, Nepal and Burkina Faso). Some countries also used domestic study tours and meetings to exchange learning across regions within their country (e.g. Ethiopia).

It was also encouraging that some countries have started to focus on how to share lessons from their own experiences and becoming 'centres of excellence' in particular areas, such as Rwanda, which has set up institutions to share lessons on performance-based financing (amongst others), and Ethiopia, which has established an international institute for training and research on rural primary healthcare.

Facilitators

Facilitators of learning were grouped into those which predominantly affect the demand for evidence, those which are more linked to evidence supply, and finally some which are related to the evidence topic and its presentation.

In relation to demand, having a performance-oriented organisational culture within government was mentioned as a key factor in three settings (Ethiopia, Solomon Islands and Rwanda). Linked to this is proactive identification of evidence needs by the country (highlighted in Bangladesh, Ethiopia, Nepal and Solomon Islands). Growing government financing, confidence and leadership in setting parameters within which evidence is used was highlighted in Cambodia, where a process of growing government

leadership was accompanied by a transition in the demand for evidence originating within international organisations to originating within government. This demand can often be focused on internal learning, however, more than seeking evidence from other contexts.

Factors tending to increase confidence in suppliers of evidence included that the latter have in-country staff with embedded knowledge of the health system (highlighted in Bangladesh and Ethiopia). In some cases, authority derives from international agency authority (e.g. for the WHO package), as well as from donor funding and endorsement (Nepal).

In terms of credible evidence supply, this can be facilitated by the development of networks of international and local researchers, producing strong evidence on local policies and building capacity for local analysis (Cambodia). Similarly, consulting groups which maintain deep local roots in the local context while also connecting to international evidence can be effective evidence suppliers (Georgia).

Regional factors were again less prominent but, within West Africa, shared regional identities may play a role, facilitating learning across countries (Burkina Faso), while Nepal has consistently looked to India and Bangladesh for their experiences of community-based care. Shared languages also play a role, for example, francophone African policy, teaching and consulting networks were cited as influential in Rwanda.

The content of the reforms also matters. If reforms are technical and do not imply large structural changes, they will be easier to adopt (Nepal). In terms of the topic and its presentation, evidence is considered by decision-makers when it is politically relevant, accessible and locally applicable (Georgia). It needs to be adapted to the local cultural and geographic context. It is also important that it is presented at the right time in the budget or policy cycle and is communicated in the most acceptable way (for example, oral presentations were highlighted as sometimes preferable in Solomon Islands).

Barriers

In relation to demand for or use of evidence, cited barriers are grouped into those relating to incentives and those relating to capacity, while on the evidence supply side, capacity and resource factors dominated. Some specific gap areas were also mentioned.

Despite good leadership at the top, lack of accountability for results and weaknesses in supervision at middle management level and below were both barriers to acquiring and implementing learning from others (Solomon Islands). Politicised priorities and institutional constraints to be able to put evidence into effective use were highlighted as barriers in Bangladesh, while fragmentation in the sector and unclear roles was another constraint for operationalisation of policies (Nepal). Civil society was not reported to have played a strong role in the policy cycle in most places (only in Burkina Faso was its influence noted). The lack of an evaluation culture was mentioned in Bangladesh and Solomon Islands, and the issue of decisions being made outside the sector was also raised in the latter. The role of vested interests was highlighted in the Georgia case study, while in others, donor funding was noted to skew priorities. All of these undermine the role and utility of evidence.

Sharing and accessing information can also face barriers. A controlling approach to evidence release was highlighted in Rwanda and Ethiopia and, in some contexts, access to information was even more limited at local (sub-national) levels (e.g. Burkina Faso). Others highlighted the per diem-orientation in relation to participation in meetings, where lesson-learning is further weakened if there is a lack of dialogue and feedback from meetings (Solomon Islands). Sharing of information and evidence is largely personal and unstructured in some settings, rather than being institutional (Burkina Faso). In some places, simple factors like lack of connectivity and ICT skills remain a barrier (Nepal).

Lack of capacity to use evidence well was also mentioned (in Burkina Faso), leading to lack of adaptation of policies from the surrounding region, while in other places (Solomon Islands) participants did not perceive the relevance of evidence from other countries, even evidence from close neighbours (Fiji and Papua New Guinea), which share some similarities but have differences in governance and financing.

On the supply side, a number of countries noted weak in-country capacity to generate evidence (Georgia, Solomon Islands), including the lack of a national institute to perform close-to-policy work; indeed, the Solomon Islands had just one person specifically responsible for research in the Health Ministry, which is not atypical in low-income settings (some have nobody with this role). Having a smaller territory and being geographically isolated may be factors here. Researchers are often unable to be independent because of funding constraints (e.g. Burkina Faso), leading to ad hoc and poor-quality research. Limited national resources to support evidence generation locally were highlighted, especially for health systems research (Ethiopia, Georgia). In some cases, the withdrawal of international support aggravated these challenges (Georgia).

In relation to international agency advice, it is also worth highlighting that pressures and ideas coming from international actors are not always supported by international consensus; indeed, in many cases, international players provide conflicting advice (Georgia), even over technical decisions like on best procedures for Integrated Management of Maternal, Neonatal and Childhood Illness

in Nepal. Advice can also be biased by donors' 'pet projects' (Burkina Faso). This is manageable if governments have clear priorities; however, capacity to set clear priorities is itself commonly a barrier in these settings.

Some noted that, while there is relatively good access to policy documents and general guidance online, it is harder to find operational information on how to implement specific reforms (Ethiopia, Rwanda). Furthermore, it was noted by several respondents that the substantial amount of online information may be useful, yet it is difficult to access and time-consuming to sift through. There is therefore a demand for a brokerage function that would identify high quality, implementable information from other studies and reports. Some also felt that there was a lack of access to practical information, such as regional drug prices or trends in non-communicable diseases (Solomon Islands), while language barriers and limited access to journals remain challenges in some areas such as in Burkina Faso.

Discussion

Many of the case study findings are consistent with the broader literature on health policy transfer in low- and middle-income countries [36, 37]. Both case studies and the literature illustrate that evidence is used in conceptualisation through the identification of a problem or policy need, facilitated by relationships that exist through policy networks, and sometimes through advocacy of international agencies, and is facilitated by the alignment of goals between relevant stakeholders [9–11, 38]. However, the case studies illuminate many aspects of health policy transfer that are either differently or under-represented in current literature. These aspects include political economic factors, how policies are implemented and the types of evidence that are used to inform implementation, and the kinds of practical mechanisms that are useful for policy-makers. The mechanisms highlighted are very varied but those which are most frequently cited – study tours and face-to-face interaction with development partners – highlight the importance of experiential learning, which allows for sharing of not just technical but also political insights. This article also complements existing literature by starting from a national and sub-national perspective (not the 'push' approach adopted by much of the literature on how international actors can promote evidence uptake, which tends to take a normative stance) and using a range of low- and middle-income settings to draw a broader analysis.

By starting from actual policy decisions (rather than from questions about use of international evidence), we find that many of our studied policies were home-grown or at least heavily home-incubated (for example, in Ethiopia, Rwanda, Bangladesh, Nepal and Cambodia). We can speculate that this may link with their subsequent good performance, either due to higher ownership and/or a correlation between the capacity to innovate and the capacity to manage implementation well. Social factors determining the effectiveness of policies, such as cultural norms changing how maternal health policies in Nepal and community clinics in Bangladesh are implemented, were understood by policy-makers. As a result, formative and technical recommendations from international agencies that conflict with these norms are generally rejected or adjusted by policy-makers.

The commitment of 'national elites' to policy transfer is commonly cited throughout both literature and the case studies as crucial for the success of policy implementation [39, 40]. Elites may consist of politicians, leaders of government agencies and organisations, as well as individuals who are employed by or participate in their home government but interact with international policy communities [40]. Discussions between international actors and national elites around the Sector-Wide Approach in Bangladesh and the formation of strategic plans in the health sector in Cambodia, as well as the integral role of policy-makers in small countries like the Solomon Islands, with a high turnover of development partner staff and limited numbers of senior level officials, demonstrate that buy-in from in-country policy-makers is crucial for reforms to be adopted and subsequently for resources to be mobilised around scaling up those reforms (see also Shroff et al. [41]).

International agencies are often cited as important since they mobilise interest and resources around issues that affect when and how a policy is conceptualised [42]. Bennett et al. [11] describe the role of agencies as being between advocates and neutral facilitators in the transfer of policy. This is a theme which emerges throughout the literature as agencies either impose or neutrally act as the medium through which policy is transferred. While most criticism of international agencies in the literature centres around the issue of coercion and how agencies and their financing have been used as a means for wealthy countries to shape policy formation for their own agendas [38, 43], the case studies present a more nuanced understanding of the role of international agencies as being influencers rather than controllers of policy conceptualisation, uptake and development. The case studies acknowledge that international agencies have their own mandates and agendas that, in some cases, differ from the governments they work with; however, the impact of agencies is met with the motivations of key in-country decision-makers. This greater agency given to domestic actors may reflect the make-up of our respondents to some extent, although more likely it relates to the country selection and the bias towards 'strong performers'. Country leadership is also not stable over time

– cases like Cambodia have seen a growth from a low base to current greater national confidence. These stages will very much influence demand for and use of international and local evidence.

The case studies overwhelmingly suggest that local political and economic factors determine when and what international evidence is used and whether that use is instrumental or conceptual (symbolic use was not raised in these case studies) [14–16]. Political power often supersedes the influence of international agencies and national technical elites, having earned support from the wider public and established social groups [44]. Unlike other policy transfer stakeholders, political parties have the ability to manoeuvre both public and private (e.g. corporate) interests [45]. In addition, other stakeholders often rely on political support to influence policy decisions, including those who provide financial, programmatic, and technical services [46–48].

It is also striking that conflict or crisis had propelled reforms in the majority of our case studies (Rwanda, Ethiopia, Solomon Islands, Nepal, Bangladesh and Cambodia), presumably creating the need and motivation to innovate, as well as a momentum to reduce inertia, challenge path dependencies and willingness to risk policy errors [35]. Resource constraints were also seen as having encouraged creativity in adopting new policies in some cases.

The existence of policy networks is another mechanism that is widely identified as important in conceptualisation by both published studies and the case studies. Policy networks consisting of formal or informal relationships between governments and other policy stakeholders [49] are understood to be useful for promoting dialogue and learning between stakeholders [11, 50, 51], and are enhanced by political and social connections between decision-makers and other actors [38, 39]. As would be expected, the case studies demonstrate that, while the influence of external information is typically stronger at earlier stages of the policy cycle, i.e. conceptualisation, implementation is strongly influenced by internal learning within policy networks, although external actors, especially consultants and technical assistants, remain important for the operational stage. The case studies point towards consistent dialogue between stakeholders as a mechanism of evidence uptake in conceptualisation, for instance, through discussions and consultations which led to health financing reforms in Georgia, the facilitation of learning through professional connections between officials and development partners in the Solomon Islands, and interactions between health officials in regional meetings and study tours in Burkina Faso and Rwanda.

Other studies on health policy transfer suggest that evaluation is needed to improve dissemination of progress in health policy reform and implementation [52], follow-up and management [53], alignment of policy goals and messages across stakeholders [54], and quality of health services provided through transfer [55]. The case studies in Cambodia, Nepal, Burkina Faso, and Rwanda show that evaluation can inform conceptualisation of policy by identifying weaknesses in health policies and informing policy development from pilot project outcomes and impact evaluations. However, in some cases, evaluations were blocked for political reasons. As evaluations present a more summative judgment, they are potentially more threatening to high profile policies than feedback from continuous monitoring.

Our findings highlight the importance of continuous learning and many positive examples of institutions which are doing this in different contexts. This is an important supplement to current literature, which does not provide much insight into how continuous learning affects uptake of evidence in health policy transfer. Most of the findings highlight the importance of developing the domestic incentives and demand for evidence – areas of gap in supply of evidence were reportedly more minor by comparison, as seen from the national level, though this is not to deny on-going access barriers. Smith et al. [56], for example, analyse more than 3000 papers in almost 1000 journals dealing with global health, and conclude that only 39% of papers published in a journal have open access, and 42% of scholarly articles require a subscription, although there is an increasing wealth of evidence available in grey and open-access sources.

The case studies illustrate how evidence that is used to inform policy is not 'systematic' in nature, in that evidence is often not systematically collected, examined or applied. This supports the views of most practitioners and many academics [23] that the ideal type of evidence-based policy – in which policy-makers are comprehensively rational, have the ability to systematically rank policy alternatives, and prioritise robust and critically appraised evidence – is unrealistic. Cairney and Oliver [20] suggest that researchers can be most effective when combining the principles of evidence and governance. They argue that the weight of value-driven arguments can be just as important, if not more so, to policy-makers than the importance of evidence and, therefore, evidence could be packaged to accommodate policy-makers' social, political and ideological predispositions and motives [20]. The case studies illustrate the variety of forms and processes through which evidence is used, and imply that evidence is best conceptualised as one element feeding into decisions, which are dominated by the interests and outlooks of the most influential actors. Perceived fit to local needs and context is key.

There are some important limitations to note, which include that the countries were selected as relatively strong performers which had undertaken some form of

significant health system reform in recent years. The selection allowed for the study of how evidence had, or not, informed policies. However, the findings may not be representative of a wider set of countries that may be less active in policy innovation. It should also be noted that each case study was conducted in a limited time, and thus not all perspectives are reflected and included. We can therefore regard the findings as a rich snapshot, rather than as a complete account. We also highlight our inductive approach to analysis, which meant that a structured comparison of learning across systems within a pre-determined theoretical framework was not undertaken.

However, the article can inform the future development of a conceptual framework for learning health systems, which should include not just internal factors (such as alignment of actors, incentives, capacities and resources) but also openness to and mechanisms for filtering international experiences and evidence (personal, organisational and institutional, explicit and tacit, strategic) by different actors and for different purposes (strategic, political and technical). Existing frameworks do not adequately reflect the agency we found for local decision-makers, as much of the focus is on 'push' models, such as policy transfer (which emphasises the transfer of specific ideas) and evidence-based policy-making (which emphasises getting research into practice), both neglecting a more active role of demanding, shaping and co-creating knowledge in the local arena.

Conclusion

This article reviews the experiences of eight low- and low–middle-income countries which have adopted health system reforms in the past two decades. Using key informant interviews with those directly engaged in the reforms at different periods of time, it probes whether and how international policy transfer occurred, how evidence informed the different stages of the policy cycle, what mechanisms were effective for learning and what barriers and facilitators were perceived by the participants. Extra focus was placed on unpacking the role of learning from other countries throughout the reform process. The findings emphasise the agency of national and sub-national players and the importance of developing local institutions for gathering, filtering and sharing evidence, locally as well as south–south. Developing demand for and capacity to use evidence appears more significant (in terms of current barriers) than augmenting the supply internationally, although specific gap areas were identified by respondents, especially in relation to more operational and practical questions. The case studies also highlighted that, beyond an initial sharing of information, a lot of work is needed to adequately contextualise and internalise ideas in a new setting. The overall learning process (including conceptualisation, uptake and development) is a long-term and complex endeavour, in some cases taking 15 to 20 years before a lesson can be said to be 'in action' at a national level. The findings also highlight the importance of the local political economy in setting the parameters within which evidence is considered and the importance of trusting relationships between national and international individuals and organisations. Finally, we highlight the need for a theoretical framework within which to further analyse learning across health systems.

Abbreviations

CBHI: Community-Based Health Insurance; HEP: Health Extension Programme

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Availability of data and materials

More detailed reports with individual case study data can be found at www.learningforaction.org.

Authors' contributions

All authors were involved in collecting data for country case studies, in analysis and in commenting on drafts of the paper. SW led on analysis across case studies and in drafting. SW, IA, NB, TL, BM and AJ were additionally involved in the overall study design. SW, IA, AA, NB, BB, BM, CJ and A were also involved in the literature reviews which fed into these case studies. All authors read and approved the final manuscript.

Ethics approval and consent to participate

The study was approved by the Ethical Review Committee of the lead United Kingdom institution.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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Removing user fees: learning from international experience to support the process

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Removing user fees could improve service coverage and access, in particular among the poorest socio-economic groups, but quick action without prior preparation could lead to unintended effects, including quality deterioration and excessive demands on health workers.

This paper illustrates the process needed to make a realistic forecast of the possible resource implications of a well-implemented user fee removal programme and proposes six steps for a successful policy change: (1) analysis of a country's initial position (including user fee level, effectiveness of exemption systems and impact of fee revenues at facility level); (2) estimation of the impact of user fee removal on service utilization; (3) estimation of the additional requirements for human resources, drugs and other inputs, and corresponding financial requirements; (4) mobilization of additional resources (both domestic and external) and development of locally-tailored strategies to compensate for the revenue gap and costs associated with increased utilization; (5) building political commitment for the policy reform; (6) communicating the policy change to all stakeholders.

The authors conclude that countries that intend to remove user fees can maximize benefits and avoid potential pitfalls through the utilization of the approach and tools described.

Keywords User fees removal, health policy, health financing

KEY MESSAGES

- In order for the removal of user fees to be successful, the policy change must be preceded by careful planning, including supportive policies to address increased service utilization and loss of revenue.
- By following the six sequential steps we outline, countries wishing to move beyond user fees and work towards universal access can maximize the chances for success and minimize unintended effects.

Introduction

The introduction of user fees to raise financial resources for health and regulate demand for health care in low- and middle-income countries has been a controversial topic in the public health discourse for decades. The current evidence suggests that their introduction was not beneficial: user fees only raised an average of 5–7% of health sector recurrent expenditures at the national level, net of administrative costs (Gilson 1997; Pearson 2004); it is not clear that they reduced 'frivolous' demand, nor that this is a significant or relevant

issue in these contexts; and their negative impact on equity and efficiency has been widely documented (James *et al*. 2006).

As a result, in recent years, several agencies have changed their policy positions on user fees: the World Health Organization passed resolutions 58.31 and 58.33, urging member states to work towards universal coverage of maternal, newborn and child health services through a move away from user fees and towards prepaid mechanisms and pooled health financing systems (WHO 2005a; WHO 2005b); the World Bank's new health strategy entails the provision of support to countries that wish to move away from out-of-pocket payments (World Bank 2007); and UNICEF has similarly committed to support governments wishing to remove user fees for children and pregnant women (Meessen *et al*. 2009).

Several countries have also recently moved away from user fees at the point of delivery for essential health services, particularly in sub-Saharan Africa. Before 2000, only Tanzania, Malawi and South Africa delivered services free at the point of delivery. In 2001 Uganda opened the way for a wave of health care financing reform in Africa, abolishing fees for all publicly provided health care services. Zambia, Burundi, Niger, Senegal, Liberia, Kenya, Lesotho, Ghana and Sudan have since followed suit, abolishing fees from public facilities, although these reforms were mostly confined to (some) maternal and child health services (Yates 2009).

The existing evidence demonstrates that, while this policy change has the potential to improve service coverage and access, in particular among the poorest socio-economic groups, quick action with no prior preparation can lead to unintended effects, including quality deterioration due to lack of funds, excessive demands on health workers, depletion of drug stocks (Gilson and McIntyre 2005), and 'crowding out' of preventive services by curative ones (Wilkinson *et al*. 2001).

This paper aims at providing guidance to policy makers on:

(1) Exploring the cost implications of a policy shift towards free health care at the point of delivery, and
(2) Identifying key steps to maximize benefits and minimize potential unintended effects of the policy change.

The paper illustrates calculations of projected resource requirements of the removal of fees using data from three sub-Saharan African countries. These data cannot be assumed generalizable to other African countries.

Methods

Building on the latest systematic literature review on the impact of user fees (Lagarde and Palmer 2008), an additional review of the published literature on user fees experiences in developing countries was conducted via academic databases (Scopus, PudMed, EconLit) and Google Scholar. Studies were included if they comprised a quantitative evaluation of policy changes relating to user fees. The search terms combined the following: ''user fees in health care'', ''user charges'', ''user fees*developing countries'', ''user fees abolition'' and ''user fees policy change''. The case studies which contributed to form the evidence base for the development of this paper are reported in Table 1. The full bibliography of the case studies of removal of user fees is reported in Lagarde and Palmer (2008) and in Save the Children UK (2008).

All studies that documented changes in health service utilization associated with user fee introduction, removal or change were compared. As no available study yet considers the longer-term impact of fee removal on utilization, we undertook further analysis of Uganda, where user fees were removed in March 2001, and experience of this policy is best-documented.

We sought to illustrate the projection of the resource implications of fee removal and service utilization increase by estimating pharmaceutical and human resource implications using two key sub-Saharan African based data sets that enabled the quantification of resource requirements associated with units of utilization, and the costing of inputs. As pharmaceuticals and human resources constitute the main recurrent costs of health services in low-income settings, these were considered an adequate proxy of the overall resource implications of increased utilization. A simple linear extrapolation of unit costs of pharmaceuticals and human resources was used to estimate resource requirements.

Staff time requirements were calculated using estimates provided by Kurowski and Mills (2006) of the amount of time required by type of staff for the delivery of the tasks involved in a standard Essential Health Package in Chad and Tanzania. Intervention type numbers per thousand health service users were obtained from estimates used to calculate the costs of the Malawi Essential Health Package (Box 1) which was costed in US$ in January 2008, applying an ingredients approach to standard protocols of care (Malawi Ministry of Health 2008). Additional human resource requirements in minutes were translated into full-time equivalents (FTEs), or an estimate of the number of workers of each cadre required. A similar approach was used to estimate the drug requirements associated with increased service utilization.

In addition, a qualitative analysis was conducted to define the most appropriate phasing of the policy reform.

Results

Removing user fees sets off a chain reaction throughout the health system, which can improve access to services for the population. Based on our review of the literature, a clear conclusion can be drawn that the removal of user fees can lead to increases in utilization rates (Gilson 1997; James *et al*. 2006; Lagarde and Palmer 2008) and that the benefits associated with the policy change can be maximized through adequate planning (Gilson and McIntyre 2005) which we propose should be introduced following a series of six sequential steps:

(1) Analysis of start-up position,
(2) Estimation of the impact of fee removal on utilization,
(3) Estimation of additional requirements for human resources and drugs,
(4) Mobilization of additional financial resources,
(5) Building political commitment for the policy reform,
(6) Communicating the policy change to all stakeholders.

Table 1 Summary of measures of utilization change in response to user fee policy, selected studies

Category of utilization/Type of facility	Result	Author, country(ies), date
1. STUDIES OF USER FEE INTRODUCTION OR PRESENCE		
1.1 Studies reporting own-price elasticity		
Public clinics	−1.34	Asfaw *et al*., Ethiopia, 2004
Hospitals	−1.06	
All formal care: richest quintile	−0.16	Pokhrel *et al*., Nepal, 2005
Poorest quintile	−0.23	
Physician visits	−0.14	Kim *et al*., South Korea, 2005
Child (deworming tablets)	−0.580	Kremer and Miguel, Kenya, 2007
1.2 Studies reporting % change in utilization		
Outpatient attendance	40% decrease	Biritwum, Ghana, 1994
Public facilities	52% decrease	Mwabu *et al*., Kenya, 1995
Provincial hospitals (OPD)	27% decrease	Willis and Leighton, Kenya, 1995
District hospitals (OPD)	46% decrease	
Health centres (OPD)	33% decrease	
Outpatient attendance	41% decrease	Meuwissen, Niger, 2002
Inpatient admission after 5 years	52% decrease	Sepehri *et al*., Vietnam, 2005
Outpatient attendance	35% decrease	Blas and Limbambala, Zambia, 2001
Number of consultations for curative care	−15.4%	Ridde, Burkina Faso, 2003
Average monthly curative outpatient attendances	−35%	Mbugua *et al*., Kenya, 1995
Inpatient services (admissions)	−12%	
Mean length of stay (inpatient)	−17%	
Maternity admissions	−12%	
General outpatient attendances[a]	−27% Provincial hospitals −46% District hospitals −33% Health centres	Collins *et al*., Kenya, 1996
Attendance at a referral centre for sexually transmitted disease	−60% for men[a] −35% women[a]	Moses *et al*., Kenya, 1992
2. STUDIES OF USER FEE INCREASE		
2.1 Studies reporting % change in utilization		
Gynaecologist visit	−18.2% (16.2% price increase); 24.8% (30.2%); −30.3% (42.3%)	Bratt *et al*., Ecuador, 2002
IUD insertion	−8.7% (16.9% price increase); 8.1%[b] (32.3%); −17.7% (43.8%)	
IUD revisit	−2.1% (16.2% price increase); 10.7% (33.8%); −23.6% (42.0%)	
Prenatal	−3.2% (15.6% price increase[a]); −5.0% (31.3%); −13.4% (42.9%)	
Number of paediatric outpatients (private hospitals)	−74% and +4%	Issifou and Kremsner, Gabon, 2004
3. STUDIES OF USER FEE REDUCTION		
3.1 Studies reporting own price elasticity		
Number of users of intrauterine devices[a]	1991/92: −10.2 (−25% price) −5.7 (−50% price) 1992/93: −9.5 (−25% price) −4.8 (−50% price)	Ojeda *et al*., Colombia, 1994

(continued)

Table 1 Continued

Category of utilization/Type of facility	Result	Author, country(ies), date
4. STUDIES OF USER FEE REMOVAL		
4.1 Studies reporting a % change in utilization		
Public facilities	42% increase	Mwabu *et al*., Kenya, 1995
Rural health centres (OPD)	25% increase	Fafchamps and Minten, Madagascar, 2007
Antenatal visits	3.8% increase, 1994–5 followed by 10.5% decrease, 1995–6	Schneider *et al*., South Africa, 1997
Antenatal visits	14.9% increase—average site but followed by larger fall	Schneider and Gilson, South Africa, 1999
Booked deliveries	4.6% increase	
Curative services (total/new)	+22%/+5%	Wilkinson *et al*., South Africa, 2001
Antenatal visits (total/new)	−0.8%/−0.7%	
Under 6 care (total/new)	−34.7%/−3.8%	
Under 5 care	18.5% increase	Deininger and Mpuga, Uganda, 2004
Over 5 care	26% increase	
Vitamin A supplement	61% increase	
Deliveries	28% increase	
Postnatal care	34% increase	
All ages	53.3% increase	Burnham *et al*, Uganda, 2004
Under 5	27.3% increase	
Under 5 immunization (always free)	17.2% increase	
Antenatal visits	25.3% increase	
Family planning	32.3% increase	
Public hospitals after 1 year	25.5% increase	Nabyonga *et al*., Uganda, 2005
Public hospitals after 2 years	55.3% increase	
Health centres after 1 year	44.2% increase	
Health centres after 2 years	77,1% increase	
Attendance at a referral centre for sexually transmitted disease	−66% for men[a] (compared with fee period; −46% compared with pre-fees period) −88% women[a] (same as above; +22% compared with pre-fees period)	Moses *et al*., Kenya, 1992[b]
Outpatient visits to health care providers	+52%	Mbugua *et al*., Kenya, 1995[a]
2.2 Studies reporting a change in probability of accessing care when sick		
All formal care	10% increase	Deininger and Mpuga, Uganda, 2004
Public services after 3 years	10.65% increase	Xu *et al*., Uganda, 2006
Private services after 3 years	2.49% increase	
Non-use after 3 years	16.18% decrease	

Notes:
[a]From Lagarde and Palmer (2008).
[b]Authors argue for 'unstable demand' at one of the clinics observed before and after the price increase.
OPD = outpatient department.

Step 1: Analysis of start-up position

The assessment of the impact of user fee removal on health services will depend on the original level of the fee system, as this will determine the level of revenue foregone, and the relative impact on utilization rates (analysed in detail in Step 2). Our analysis has, however, shown that country data are often scarce. Reviewing experiences from countries in the same region or facing similar issues can be helpful, although the availability of comparative data on levels of user fees is also limited.

Questions that should guide an initial situation analysis include:

- Are fees high, medium or low in relation to household income?
- Are there exemption and waiver policies—and if so, how effective are they?

Box 1 Components of the Essential Health Package in Malawi

- Vaccination, and treatment of vaccine preventable diseases
- Case management of acute respiratory infections in under 5s
- Case management of malaria
- Safe delivery and management of adverse maternal and neonatal outcomes
- Case finding and treatment of tuberculosis
- Case management of acute diarrhoeal diseases
- Treatment of sexually transmitted infections including HIV and AIDS
- Case management of schistosomiasis
- Supplementary feeding, micronutrient supplementation and case management of acute malnutrition
- Case management of eye, ear and skin conditions
- Treatment of injuries

- What are the effects of fee revenues at the health facility level, especially in terms of staff remuneration and supply management of medicines?

Relative fee level

There are two direct impacts of removing fees: a loss of revenue and a change in patterns of service use. In most countries, the loss of revenue is likely to be relatively small at the national level. Studies in 16 African countries in the early to mid-1980s showed that revenues from user fees contributed between 1% and 12% of total health sector expenditure, net of administrative costs, averaging between 5–7% at the national level (Gilson 1997; Pearson 2004). In a recently documented African case, the revenues of the user fee system barely offset its administrative costs (Masiye *et al*. 2005). In Uganda for example, before user fees were removed, fee recovery rates at public health facilities were about 7% (Singh 2003), despite the system allowing the bulk of the fees to be retained at facility level. At the facility level however, the absolute revenue from user fees can be more important (20% of recurrent expenditures in Benin, for example; Pearson 2004). The analysis of the start-up position must therefore distinguish, as far as possible, between the relative national revenue and the absolute district or facility level revenue.

The amount charged to the individual service users relative to their income determines the extent to which fees represent a barrier to access. Fees that might be considered 'high' will have a larger deterrent effect on utilization than those considered 'low'. However, there are a number of difficulties in making this judgement. There is little comparative evidence available on levels of user fees and a number of problems of comparability, including the need to compare currencies in a way that reflects local prices and to compare disposable income levels and their distribution. While methods are available to cope with these problems, they involve the collection of more data than is likely to be feasible. Instead we propose a series of rules of thumb that reflect the range of estimates of fee levels found in the literature expressed in terms of 1 day's average gross national product (GNP):

- Fees that amount to less than 1 day's average GNP per capita might be considered low;
- Between 1 and 5 days' average GNP per capita might be considered medium;
- Above 5 days' GNP per capita might be considered high.

Effectiveness of exemption or waiver system in place

Most fee systems include, in principle, waiver and exemption policies. However, in practice, such policies are difficult to implement in a consistent manner. Therefore, the provisions to waive user fees should also be analysed before estimating the impact of fee removal. Evidence shows that actual granting of waivers on the basis of poverty is not frequent, and when it does happen, it only inconsistently benefits the poorest segments of the population (Bitran and Giedion 2003). In Ghana, less than 1 in 1000 users was granted a waiver on the basis of poverty status although it is estimated that 15–30% of the population lives in poverty (Nyonator and Kutzin 1999). In Kenya, when the waiving of fees was left to the discretion of facility managers, some facilities treated patients on credit, some treated patients free of charge and others turned those with insufficient money away (Mwabu *et al*. 1995).

Data on the types and numbers of effective waivers and exemptions granted must therefore be assessed. Where a fee policy grants waivers and exemptions to a large percentage of users who successfully claim their entitlement, and where those users represent poorer sections of the population, removal of fees will have less impact. Waivers for population groups, such as children under 5 or pregnant women, or for specific services (e.g. malaria), have been more successful (Abdu *et al*. 2004; Witter 2009).

Loss of revenue

As identified previously, the loss of revenue from the removal of user fees will be limited at national level but could be more substantial at district or facility level. In some countries, loss of revenue from removal of fees accrues to the national Treasury. In these circumstances, the amount is usually not substantial enough to warrant concern for the sustainability of health care service provision. On the other hand, in countries where a significant share of fee revenue is retained at, or close to, the point of collection, to finance a proportion of staff income (Sepehri *et al*. 2005; Yates 2006), to supplement pharmaceutical costs in case of stock-outs or to cover other operating expenses (Nyonator and Kutzin 1999), the loss will need to be offset and careful consideration given to this process.

Step 2: Estimation of impact on service utilization

Change in service utilization is determined by a number of factors: the underlying epidemiology of infection and disease; costs associated with care-seeking behaviour (user fees plus other out-of-pocket expenses including transport, costs of accompanying carers and sometimes food) and other indirect costs; subjective perceptions of disease and illness; and social factors, including status of women as decision-makers about their own and their children's health care.

Table 2 Various scenarios of impact of fee removal on service utilization

Scenario	Impact on health service utilization
• High level of fees and limited exemptions • Supportive policy measures put in place	50–70% increase over 2 years, level sustained thereafter
• Low level of fees and effective exemptions • Supportive policy measures put in place	20–50% increase over 2 years, level sustained thereafter
• High or low level of fees • Limited supportive policy measures	Initially a potentially large increase in utilization, but not sustained

Nonetheless, some clear patterns emerge. When other factors are controlled, price elasticities are negative, which means that service use declines as fee levels increase. Where analysis allows for the identification of different utilization effects by socio-economic or income group, poorer groups are most affected by user fees and least likely to use services.

Table 1 summarizes the experience of a number of countries that removed, introduced or changed the level of user fees, and the impact this had on service utilization. Because the studies employed different methodologies, arose from diverse policy and implementation contexts and focused on different population groups, it is not possible or useful to identify any average or universal effect of the introduction or removal of user fees on service utilization. Some studies focused on exemptions or the removal of fees for specific population groups only. Even where several studies look at the same policy change, as is the case for Uganda, the differing methods and geographical scope make it difficult to compare the results directly.

However, experience indicates that, overall, removing user fees has had a varied impact on health service utilization rates, with increases ranging from 3.8% (Schneider *et al*. 1997) to 287% (Ojeda *et al*. 1994), although most studies report increases ranging from 10% to 80% (see Table 1). The Ugandan experience shows the impact of removing fees on service utilization in a context where fees have clearly acted as a barrier to access, and other measures have been put in place to support the fee removal policy. The data suggest that annual increases in utilization of 20–70% are achievable in the first few years, and that the resulting level of utilization can be sustained (Deininger and Mpuga 2004; Tashobya *et al*. 2006). Where fees are less of a barrier, or where supportive measures are not introduced, there is likely to be a less marked and less sustained impact.

Table 2 illustrates three scenarios, and their possible impact on utilization, based on the above and further similar information included in the table, primarily for illustrative purposes. Ultimately, impact on utilization cannot be estimated with any confidence from other countries' experiences and is difficult if at all possible to predict. The literature can at best provide a framework to estimate a range within which expectations of the impact of policy change in a specific country should be situated.

A change in user fee policy may also lead to one type of service being 'crowded out' by increased demand for another. For example, in South Africa it was argued that preventive activity was crowded out by the demand for curative services stimulated by user fee removal (Wilkinson *et al*. 2001). The impact on public sector utilization may overstate the overall increase of health care use as people substitute public for private sector care (Mwabu *et al*. 1995; Asfaw *et al*. 2004). As incentives for providers change through the introduction of fees, the level of supplier-induced demand may change (Sepehri *et al*. 2005). Some of these indirect effects have implications for public sector costs while others are important from the point of view of the overall public health impact of a change in policy.

These observations suggest that additional policy support measures required might include management of staff incentives and measures to protect preventive services as demand for curative services increases.

Step 3: Estimation of additional requirements for human resources and drugs

Health workers' salaries and drugs are the two largest recurrent expenditures on health budgets in low- and middle-income countries. We therefore assumed that an increase in health service utilization will impact on resource requirements primarily through additional needs in terms of health workers and pharmaceutical products.

Human resources

A projection of human resource requirements was constructed by combining the estimates of the skill levels and times required to carry out specific tasks according to the research of Kurowski and Mills (2006) carried out in Chad and Tanzania, and the estimates of numbers of people requiring those specific tasks and the level of the health system at which those tasks should be carried out from the model of the Essential Health Package (EHP) constructed for Malawi (Malawi Ministry of Health 2008). These estimates were compiled for the disease or condition groups that were covered by both studies (malaria, tuberculosis, HIV/AIDS, childhood illness, motherhood-related conditions) and were combined across skill levels to produce the estimates provided. Hence they may understate the requirements to provide a broader package of care.

We made no attempt to reconcile all data to the situation of any specific country. The data are used in an illustrative way to demonstrate the approach, and the results are interpreted as relating to no country in particular. They may or may not prove typical of sub-Saharan African experience, or indeed in resource-poor settings elsewhere, as similar data are gathered.

Table 3 shows the skill categories that were used in the task analysis. These skill categories do not correspond to 'jobs' or cadres of health workers. Rather, it is recognized that cadres are differently structured in different health systems and that each country will uniquely combine skill categories in identifying a cadre. In the Tanzania and Chad case studies, the 18 skill levels were merged into five broader categories consisting of unskilled, nursing and midwifery, clinical, technical, and managerial and administrative.

Table 4 shows the total human resource requirements of the Malawian Essential Health Package (EHP) at health centre

Table 3 Definition of skill categories of human resources (Kurowski and Mills 2006)

Skill level	Definition of skill category
1	Essential nursing care, including monitoring of vital signs and basic maintenance tasks, for example cleaning of equipment.
2	Directly observed treatment.
3	Basic and advanced nursing care of inpatients.
4	Birth attendance, syndromic management of sexually transmitted infections among female adults.
5	Diagnostic and patient management of uncomplicated adult cases of infectious diseases such as tuberculosis, malaria, sexually transmitted infections among male patients, basic palliative care, continuation of complex treatment courses initiated at higher levels of the service delivery system.
6	Diagnostic and patient management skills for cases of complicated and severe infectious diseases such as tuberculosis, malaria and HIV/AIDS among children and adults and for emergency care.
7	Basic laboratory procedures and maintenance of equipment.
8	Basic radiological procedures and maintenance of equipment.
9	Distribution (giving out) of drugs.
10	Management of drug storage and supply at facility level.
11	Supervision and management of district health system.
12	Supervision and management of health facility (other than drug related).
13	Counselling of cases of infectious disease, provision of patients with supplies (e.g. insecticide-treated nets).
14	Counselling of pregnancy-related risks and family planning, basic obstetric physical examination, monitoring of vital signs, ordering and performance of simple diagnostic tests (e.g. urine protein), provision of basic drugs (e.g. iron) and supplies (e.g. condoms).
15	Syndromic management of paediatric diseases.
16	Emergency obstetric surgery.
17	Basic anaesthetic procedures, including epidural anaesthesia.
18	Assistance in the operating theatre.

Table 4 Total human resource skill requirements for Malawian Essential Health Package at health centre level

Skill level	Estimate in minutes	Estimate in FTEs	FTEs per 10 000 health centre users	FTEs per 10 000 health centre users without HIV programme
1	33 548 589	386	0.28	0.10
2	8 531 704	98	0.07	0.07
4	670 123 649	7708	5.66	4.31
5	47 710 376	549	0.40	0.39
6	523 771 797	6025	4.42	0.00
7	920 227 857	10 585	7.76	2.62
9	82 168 133	945	0.69	0.29
13	473 638 046	5448	3.99	0.00
14	27 710 344	319	0.23	0.23

Note: FTE = full-time equivalent.

level, expressed in terms of these 18 skill levels (not all of which were applicable in the Malawian context). It shows the total number of minutes required at each skill level. To make interpretation easier, we have translated these into FTEs, or an estimate of the number of workers required.

The translation from requirements in minutes was done on the basis of a 35-hour working week,[1] a 46-week working year, and by making an allowance of a further 10% of time for professional development activities. This gives a total of 86 940 minutes in a working year.

Hence, in row 1, the number of people in Malawi who require essential nursing care (skill level 1) has been multiplied by the number of minutes each person is estimated to require (column 1). This is translated into FTEs by dividing by 86 940, the number of working minutes in a year (column 2), and this in turn has been translated into FTEs per 10 000 health centre users by dividing by the Malawian population estimate $\times 10\,000$ (or on the basis that 1363 health centres with that intended catchment would theoretically be required to cover the population of 13 630 000 estimated in 2008) (column 4).

These estimates of numbers of health workers required may seem high relative to the actual availability of health staff in some African countries, or other resource-poor settings, reflecting the scarcity of health workers, that workload analysis has generally not informed staffing establishment and that new aid-funded programmes exert a considerable burden on staffing capacity without in most cases enhancing it. Sixty-four per cent of the total staff time estimate was accounted for by the HIV/AIDS programme. Given the variance in disease burden associated with HIV/AIDS in different contexts, we have recalculated the FTEs per 10 000 health centre users without taking into account HIV/AIDS.

This guide focuses on increased utilization as a result of removing fees at the health centre level. Similar calculations of human resource requirements for community and hospital levels can be found in Save the Children UK (2008). These will be relevant for countries removing fees at community and hospital level or considering possible implications for hospitals of increased health centre utilization.

The model assumes a linear relationship between human resource requirements and utilization. In practice there may be economies or diseconomies of scale in the use of health staff as utilization increases, but in the absence of specific knowledge of local production functions, a linear basis of estimation is a reasonable central assumption. The worked example in Box 2 illustrates how the coefficients in Table 4 can be utilized.

Drug requirements

Based on the Malawian EHP, an exercise similar to the above was conducted to estimate the drug requirements associated with increased service utilization. For the Malawian EHP model, interventions, treatment lines and associated drug regimens were defined. Table 5 estimates the drug costs at health centre level in the Malawian EHP. Similar tables for community and hospital levels are available in Save the Children UK (2008).

The results show that the drug budget requirement per additional user is US$1.76 (calculated using January 2008 prices). As with the other estimates in this paper, it is provided

Box 2 A worked example: estimating human resource requirements at health centre level

In Country X, the skill levels represented in a typical health centre (treating 10 000 patients per year) are considered to best equate to the local cadres as follows:

Levels 1, 2 and 13:	Basic trained nurse
Levels 4, 5, 6:	Medical assistant
Level 7:	Laboratory technician
Levels 9 and 10:	Pharmacy technician
Level 14:	Midwife

Country X has estimated—following the process recommended in step 2—that the increase in utilization to be associated with user fee removal in the average health centre will be 5000 per year. Hence in each health centre, country X will need:

Basic trained nurse 5000/10 000 $(0.1 + 0.07) = 0.085$

Medical assistant 5000/10 000 $(4.31 + 0.39) = 2.35$

Laboratory technician 5000/10 000 $(2.62) = 1.31$

Pharmacy technician 5000/10 000 $(0.29) = 0.145$

Midwife 5000/10 000 $(0.23) = 0.115$

Each health centre will require at least two new medical assistants and a laboratory technician. Comparing the existing establishment with the estimated requirement for each 10 000 population before user fee removal will allow consideration of which other cadres are short staffed and will require additional recruitment, and which may have spare capacity to cope with increased demand. These figures exclude HIV prevention and treatment. Should these be included, the human resource requirements would increase significantly (as per column 3, Table 4).

Table 5 Drug costs at health centre level in Malawian Essential Health Package

	Users	Total drug costs (US$[a])	Drug cost/user (US$[a])
Vaccine-preventable disease	613 357	214 675	0.35
Acute respiratory infection	1 303 942	74 139	0.05
Malaria	2 512 550	3 525 544	1.40
Adverse maternal/neonatal conditions	2 409 595	3 016 453	1.25
Tuberculosis	284 390	581 423	0.28
Acute diarrhoeal disease	854 959	189 488	0.22
Sexually transmitted infections including HIV/AIDS	2 289 212	11 419 979	4.99
Schistosomiasis	477 056	138 346	0.28
Nutritional deficiencies	0	0	0.00
Eye, ear and skin conditions	128 916	54 106	0.42
Common injuries and poisoning	56 583	65 598	0.40
TOTAL	10 930 560	19 279 751	1.76

Notes:
[a]At 2008 constant US$ rate.

for illustrative purposes. Drug prices vary significantly across even neighbouring countries and differences in epidemiological patterns imply that the mix of conditions presenting has a significant effect on the average; for example, countries with a higher proportion of users presenting with sexually transmitted infections and malaria compared with acute respiratory infection (ARI) and tuberculosis will have a higher budget requirement per additional user at similar price levels to Malawi's.

Many countries are removing user fees for selected conditions and sections of the population, most commonly pregnancy and the prevention and treatment of illness in children. Cost implications vary by condition and population group, so it should not be assumed that the resource requirements of such policies can be assumed proportionate to the shares of population covered. Adverse outcomes of pregnancy for women and neonates generated the highest costs in the Malawian costing exercise, in part because an ambitious 'road map' to maternal health was under implementation there, but nevertheless suggesting that policy makers should be particularly careful to fully anticipate resource requirements in this area.

Step 4: Mobilization of additional financial resources

The successful implementation of the fee removal policy must be supported by additional financial commitments to cope with the increase in utilization and offset the revenue forgone, however limited. In principle, additional resources can be generated domestically and/or from external sources. Options for identifying new sources of finance will vary greatly from one country to another. In some cases, the overall resources available may need to be increased; in others, improvements in efficiency may suffice; or it may be necessary to look for both.

UK Department for International Development (DFID), the Government of Denmark, the World Bank and the World Health Organization have pledged to support technically and/or financially countries wishing to remove user fees for a basic package of health services (Yates 2006). The need for some countries to rely on foreign aid to finance their health care should be balanced vis-à-vis the unpredictability of external assistance (Gilson and McIntyre 2005).

Funds freed from debt relief can also be redirected towards health. Uganda, Senegal, Ghana and Burundi, for example, benefited from the Heavily Indebted Poor Countries (HIPC) initiative, which enabled the governments to invest in improved health systems at the same time as removing user fees (Meessen *et al*. 2009). Eligible countries engaged in dialogue with the International Monetary Fund (IMF) towards achieving irrevocable debt relief could therefore propose a user fee removal policy within that framework.

The funds available domestically for health care in most low-income countries are far from adequate, both because general revenue in these countries is limited, but also because of a limited prioritization of health by national governments. African countries agreed in 2001 to allocate 15% of their budget to health, yet only a handful is doing this. Nigeria, for example, allocates only 6.4% of its national budget to health; the Congo only 5.8% (WHO 2011). Alternative domestic financing mechanisms to generate revenue may also be identifiable in many contexts, for example through property or corporate taxes

(Di John 2008; Di John 2009) and/or from non-tax sources such as royalties from extractive industries (Warmer 2005).

Beyond preserving or increasing the overall resource envelope, it is of paramount importance to ensure that funding flows to health facilities are not reduced as a result of the user fee removal. In contexts where fee revenues are kept at the facility level, it will be necessary to find additional funds to cover revenue reductions. In settings where funds are routinely transmitted from the central to the facility level, such funding flows need to be protected and increased to offset lost revenue. In those rare settings where no such systems are in place, they need to be created. The approach of providing funding to replace user fees directly to health facilities, as it has been documented in Kenya, seems promising (Opwora *et al*. 2009).

Providing direct funding to health facilities may eventually lead to the introduction of performance-based payments, directly linking level of payments to results achieved. This policy option has generated increasing interest among development partners and policy makers in light of its theoretical potential of improving the efficiency of service provision by aligning the incentives of payers and providers (Hecht *et al*. 2004). While the evidence base on performance-based financing presents important gaps and unanswered questions (Eldridge and Palmer 2009) that should caution against turning it into a universal policy prescription, there have also been well-documented successes that highlight the positive potential of this financing approach in some contexts (Basinga *et al*. 2010).

Step 5: Building political commitment for health financing policy reform

Engage and manage stakeholders

Policy reform is an inherently political process, the outcome of which is influenced not only by the contents being discussed, but also by the positions and power of the actors involved, the processes according to which they interact, and the context in which they operate (Walt 1994; Gilson and Mills 1995). As in other domains of public policy-making, the real nature of health financing policy change is characterized by incrementalism and 'bounded rationality' (Simon 1957; Lindblom 1959; Etzioni 1967).

A typical framework to describe policy making revolves around a four-stage process of: (1) problem identification; (2) policy formulation; (3) policy implementation; (4) evaluation. While this sequential categorization is logical, the linearity that it implies is an idealized framework that bears little resemblance to the reality of health policy making. According to a more realistic model of public policy change, opportunities for reform stem from iterative interactions between the three processes of analysing problems, identifying solutions and generating policy consensus around the latter; actual change occurs when these three flows converge (Kingdon 1984).

Applying these principles to the policy process of removing user fees, we can articulate recommendations in three categories.

Actors

Various stakeholders can have an influence on a discussion on health financing policy. While achieving decisions by consensus would represent the ideal strategy, this may not always be possible. Stakeholder analysis may help in identifying the actors that can play a role in the policy dialogue, mapping their interest in the issue and their power to affect decisions. Through active actor management, a strategy to remove user fees needs to seek to mobilize support from possible like-minded actors, while minimizing opposition from others who could potentially be opposed to this policy reform (Eden 1996).

Influential actors typically include the presidency (or office of the prime minister), the ministries of health and finance, the local government authorities, the World Bank and other development partners. UN agencies, non-governmental organizations and academic institutions typically have significant expertise, but rarely have much power in shaping the course of action. The relative lack of influence of technocrats and the weak links among different branches of government may partly explain the lack of appropriate preparation and planning of health financing reforms in Zambia and South Africa (Gilson *et al*. 2003).

Experience, however, shows that it is important that the vision for policy change is inspired or owned by political leaders (Osborne and Brown 2005). Heads of state were involved in driving the policy change in several countries, such as South Africa (Gilson *et al*. 2003), Uganda (Burnham *et al*. 2004), Burundi (Batungwanayo and Reyntjens 2006) and Liberia (Meessen *et al*. 2009).

Processes

The decision-making processes which characterize policy change may be extremely variable, but in the majority of cases they have taken the form of 'big-bang' reforms inspired by the highest level of political leadership (as in Uganda and Burundi). Processes characterized by a thorough situation analysis, the weighing of policy options and a consultative and inclusive process leading to policy formulation have been less frequent (Meessen *et al*. 2009). Rather than following due process, however, the most important determinants for successful introduction of the policy reform seem to be (1) political commitment at the highest level, and (2) adequate prior preparations (*ibidem*).

Arguably, a more incremental approach which allows for problems to emerge and be resolved more gradually might be advisable, but such approaches are rare, suggesting that their technical advantages may be outweighed by political difficulties. The exception is those countries that have removed fees for some population groups only. In some contexts this might prove a step towards more general removal of fees

The identification of key players through a stakeholder analysis needs therefore to be followed by an examination of the modalities by which stakeholders interact, and the fora for policy dialogue and decision making. A typical pitfall is restricting the policy dialogue to health sector technocrats: generally, health financing decisions have important political and financial implications, and restricting the dialogue to technical fora is not likely to foster the necessary inter-sectoral dialogue nor generate political support.

Context

Finally, the overall health policy and macro-economic environment of a country must be understood in order to identify the most appropriate strategies, timing and sequence of the

proposed reform. It is important to understand the macro-economic situation, the fiscal space and the opportunities for external support of a country, the current contribution of user fees to the health financing envelope (in terms of both quantity and distribution), how this links to the overall health expenditure and the mid-term expenditure framework.

It is important also to consider the wider political situation of the country and to identify appropriate windows of opportunity for initiating a policy dialogue on removal of user fees, for instance as part of the run-up to an election campaign, as was the case in Uganda, or in the case of post-conflict health sector recovery, as in Liberia and Burundi.

Also important is the policy of development partners in the country: some donors have pledged to support governments who want to move away from out-of-pocket payments, and leveraging their commitment and support can be instrumental in achieving policy change.

This analysis may lead decision makers to adapt a free-for-all approach, as in Liberia, or a two-step approach, for example removing fees for children under 5 and women as a first step, as done in Sierra Leone and Burundi.

Step 6: Communicating the policy change

Evidence has shown that communication is key to success in effecting a policy change to remove fees (Gilson and McIntyre 2005). It ensures that users know about the policy and demand free health care where an entitlement has been created. It is also crucial for health care providers to know exactly which services are free at the point of use and which ones are not. And it is critical for building and sustaining political support. The process of communicating the policy change should begin at the very start, with the initial planning.

Communication is more than a one-way process of educating and providing information. Across a wide range of contexts it has been shown that behaviour change—such as encouraging people to seek treatment when they are ill—cannot be achieved on the basis of giving information alone. Other elements are required to engender confidence in the exchange, and hence in the information communicated. Nevertheless, in reality, attention is often focused on one-sided provision of information and thus communication overall is not as successful as it could be. Good 'public engagement strategies' focus on achieving all of the following: communicating information, consulting, achieving active participation, attracting and managing wide public representation, dealing fairly with all involved parties, enabling a three dimensional flow of information and questioning, and assuring that recommendations of participants will be used in decision-making (Nisker *et al*. 2005).

Inform the health workforce

One of the key stakeholder groups to get on board is health workers. They are the patient's first point of contact with the health system, and they have the greatest influence on how a patient perceives the quality of care, whether this is objective or not. Where health workers do not support a policy of fee removal—for example because they fear loss of income—they can act as gatekeepers and prevent the policy from being implemented by continuing to charge fees at their own discretion. Effective staff communication strategies should be developed to provide opportunities for dialogue to enhance acceptability of the new policy and maintain morale in the face of increased workload (Burnham *et al*. 2004). Meetings between senior health managers and local-level health workers as well as supervision visits and newsletters are also recommended.

Inform the public

Some attribute success of Ugandan fee removal to effective information dissemination. The policy was supported at the highest political level (it was an initiative of the President himself), which resulted in its wide dissemination through the media and other channels. This ensured that Ugandans were made fully aware of the policy change and knew about their right to free health care when they arrived at health facilities. It also helped that the message to be communicated was a simple one—all government health services were to be free to everyone (Yates 2006).

Multiple forms of media should be engaged to let people know about their new entitlement: for example, an advertising campaign could use posters and radio, and the Minister of Health and other health officials could use radio interviews to promote the message. It may also be appropriate to establish and advertise a mechanism by which members of the public can report instances where fees are still being charged, providing a bottom-up mechanism for voice and accountability.

Discussion

Limitations in study method

This paper builds on a body of peer-reviewed and grey literature and experience accumulated over more than two decades of health financing reform in low- and middle-income countries. Yet the empirical basis of the primary evidence referenced here presents important limitations (Lagarde and Palmer 2008; Meessen *et al*. 2009). None of the country-wide health financing reforms (both introduction and removal of user fees) was conducted with a deliberate in-built monitoring and evaluation strategy. As a result, most of the primary evidence relates to either small-scale pilots, whose findings cannot be easily generalized, or country-wide implementation of the reform undertaken in the absence of rigorous evaluations that would allow attribution of changes in health services utilization to the health financing policy change. There is also limited evidence on the long-term effects of user fee removal on service utilization, and most of our projections relating to long-term results are based on one country alone.

Most of the evidence and data used in our discussion has originated from sub-Saharan Africa. As a result, we believe that the estimates of the human resources and drugs additional requirements may be a useful illustration for sub-Saharan African settings, but require analysis of the extent to which cost structure and epidemiological profile vary from our worked examples to the setting in question. While variation may be large even for other low-income sub-Saharan contexts, it is likely to become even larger with the epidemiological variations that arise from greater geographical distance and the epidemiological and cost-structure differences that arise from income variation.

The model on which our projections was based assumes a linear growth of inputs and costs in parallel with increased utilization. While alternative models would have been possible, there was no empirical basis on which to found these alternative assumptions and we chose to use a simple assumption which appeared as good as any. Countries that understand more about the nature of the production functions in health facilities (for example those who know that there is significant spare staff capacity) might choose to apply a more accurate assumption about the relationships between utilization levels and particular resource requirements.

Finally, we chose to concentrate on additional human resources and drugs needed, not considering additional infrastructure and operating costs, as these contribute the largest share of the total cost of health care. With regards to infrastructure, the evidence base was not a guide to estimated additional requirements, but in the authors' experience health services infrastructure tends to be under-utilized in most low- and middle-income countries, and therefore we speculated that, in the majority of cases, significant increases in health service provision could be accommodated without substantive new capital investments. However, in a context where infrastructure is used at full capacity, additional investment in upgrading and expanding it might of course be required. With regards to operating costs (e.g. transport, stationery, utilities etc.), they are relatively small and mostly not directly related to utilization levels.

An additional factor that must be considered in contextualizing the implications of this model is that user fees contribute only a proportion of out-of-pocket payments: fees may be charged separately—without being officially accounted for—to pay for drugs and laboratory examinations. Informal charges can exist in the presence or absence of formal ones, and guidance on how to reduce or remove them, or mitigate their effects, is limited. User fee removal might change the level or tendency to charge informally by affecting the incentive environment, or by rendering specific resources scarcer than before, increasing their potential market value. The measures proposed in this paper, to render drugs less scarce, and to compensate staff for user fee revenue losses and additional workload, should mitigate these potential problems.

Moreover, households may need to face the costs of travel to and from medical facilities, of providing daily subsistence for the patient and a carer during periods of admission. Ideally, the various components of financial barriers contributing to overall out-of-pocket payments should be analysed to derive more precise and realistic estimates of the likely impact of removing user fees; the relative importance of different financial barriers is likely to vary significantly within and across countries.

From planning to implementation

The careful analysis of health system variables and implementation of these six steps should ensure that the removal of user fees is adequately prepared. Yet there may be tension between preparedness and the timing of implementation. Once the decision to phase out user fees has been taken, a balance must be struck between a hasty pace of reform and an over-cautious approach of small pilots, which can lead to the loss of momentum and eventually to shelving the proposed reform once attention shifts to other competing priorities ('death by pilot').

The guidance provided in this paper concentrates on making adequate preparations for the introduction of the policy change, which can assist in the successful removal of user fees, but are not a substitute for focused attention to the nuts and bolts of the implementation itself. Adequate implementation comprises multiple dimensions and steps, including sufficient resourcing, provision of technical stewardship and managerial leadership by government and its technical partners, the development of more detailed implementation plans, linking the policy reform to the budgeting cycle and to the systems for decentralized financing of health facilities, leveraging the comparative advantages of the various health sector stakeholders in achieving the most effective division of responsibilities, setting up roll-out and supervisory mechanisms to ensure that the policy change is implemented as per design, and monitoring and evaluating the impact of the reform. Overall, it should be emphasized that the removal of user fees is not an end in itself, but a step towards a more effective and equitable health system.

The evidence gaps on the effectiveness and the impact of user fee policy changes have been explored elsewhere, and a research agenda has been identified accordingly (Lagarde and Palmer 2008). In addition to better documenting the long-term effects on coverage and equity of user fee policy changes, however, we argue that it is important to identify and better document also the determinants of and factors conducive to successful introduction and implementation of this type of policy reform. Broadening the research agenda on user fee policy to a wider system perspective entails exploring not only 'what works', but also 'how, for whom, and under what context' (de Savigny and Adam 2009). Achieving this deeper level of understanding requires complementing the traditional paradigm of effectiveness analyses with a more qualitative dimension, which, by exploring how policy reform is achieved and implemented in the real world, can provide more practical guidance to policy makers and health service planners.

The challenges faced by many health systems in low- and middle-income countries are deep-seated, and in many cases are of daunting complexity, relating to a disrupted social fabric in the society, fundamental governance constraints, or health systems problems which are intractable in the short term, such as an absolute shortage of funds or qualified health workers. Policy makers and advocates should be under no illusion: removing user fees is not going to be a panacea for failing health systems (Yates 2009).

In many contexts, however, demand-side barriers play an important role in constraining access to health services (Ensor and Cooper 2004). In these cases it appears that financial barriers are frequently an important part of the constraints, and are within the power and mandate of policy makers to address. In these circumstances, removing user fees has the theoretical potential to increase service coverage and, as a consequence, improve health outcomes (James *et al*. 2005).

In order for the policy change to be successful, it must be preceded by careful planning, including supportive policies to address increased service utilization and loss of revenue. Removing fees without giving adequate consideration to these associated impacts means that the policy change may fail to

achieve the desired results. When uptake of health services increases as a result of fee removal, it affects other parts of the system, from staff workload to demand for drugs and medical supplies. While lost revenues are likely to be limited, additional resources will be required at local level to fund the additional human resources and drugs required, and to cover items currently funded through user fee revenues, especially at health centre level. Following the sequential steps we have outlined, countries wishing to move beyond user fees and work towards universal access can maximize the chances for success and minimize unintended effects.

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Conflict of interest

All authors declare that they have no conflict of interest.

Endnote

[1] 35 hours per week is based on two assumptions: (1) 7 hours is the realistic time availability for task performance in a working day; (2) there are 5 working days in a week.

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RESEARCH ARTICLE

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The free healthcare initiative in Sierra Leone: Evaluating a health system reform, 2010-2015

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Summary

This article presents the findings of a theory-based evaluation of the Sierra Leone Free Health Care Initiative (FHCI), using mixed methods. Analytical approaches included time-series analysis of national survey data to examine mortality and morbidity trends, as well as modelling of impact using the Lives Saved Tool and expenditure trend analysis. We find that the FHCI responded to a clear need in Sierra Leone, was well designed to bring about needed changes in the health system to deliver services to the target beneficiaries, and did indeed bring funds and momentum to produce important systemic reforms. However, its ambition was also a risk, and weaknesses in implementation have been evident in a number of core areas, such as drugs supply. We conclude that the FHCI was one important factor contributing to improvements in coverage and equity of coverage of essential services for mothers and children. Modelled cost-effectiveness is high—in the region of US$ 420 to US$ 444 per life year saved. The findings suggest that even—or perhaps especially—in a weak health system, a reform-like fee removal, if tackled in a systematic way, can bring about important health system gains that benefit vulnerable groups in particular.

KEYWORDS

cost-effectiveness, fee exemption, Sierra Leone

1 | BACKGROUND

Introduced by the President of Sierra Leone in 2010, the Free Health Care Initiative (FHCI) abolished health user fees for pregnant women, lactating mothers, and children younger than 5 years. This action was taken in response to very high mortality and morbidity levels among mothers and children in Sierra Leone—some of the worst in the world—and reports that financial costs were a major barrier to health service uptake and use by these groups.[1]

The global movement towards universal health coverage has emphasised the importance of reducing out-of-pocket payments for healthcare, and especially fees charged at the point of use for essential healthcare.[2] There is a growing body of literature documenting lessons learned from different national policies to reduce these user fees, especially for mothers and children.[3-5] The FHCI in Sierra Leone has not been assessed hitherto, and its lessons are of wider interest, for a number of reasons. The first is that the policy was implemented in a systemic way—not just announcing a change of fees but also complementing by 7 "supply-side" interventions intended to strengthen health services to meet the additional demand created. As the health system was very weak when the policy was announced in 2009, only 7 years after the end of a brutal civil war, the government and development partners recognised that all health system pillars needed reinforcing if free healthcare was to be realised. The policy[6] therefore targeted the following:

- Drugs and medical supplies: the need for the continuous availability of drugs and other essential commodities;
- Health workforce: deploying an adequate number of qualified health workers;
- Governance: strengthened and effective oversight and management arrangements;
- Infrastructure: development of adequate infrastructure to deliver services;
- Communication with the general public: more and better information, education and communication to stimulate demand for free high-quality health services;
- Monitoring and evaluation (M&E): the need for a comprehensive M&E system
- Financing: sufficient funds to finance the FHCI.

It is also important to note that the FHCI was not a one-off change but triggered a series of reforms over a period of years; this relates to the systemic approach that was taken and the support that the policy enjoyed from government and development partners in the first few years.

This article reports on the findings of an evaluation of the FHCI, conducted over 2014-2016. It assesses whether the FHCI included the right interventions, how effectively the FHCI has been implemented, how it has interacted with other sociocultural barriers to accessing health care, its contribution to changing health indicators for target groups, its equity effects, whether it had unintended consequences, and whether the policy provided value for money in general.

2 | METHODS

2.1 | Evaluation design and approach

The evaluation covered the period from 2010 to 2015, although earlier data points were included to establish trends. There were a number of important features of the intervention that influenced the design of the review—firstly, its complexity, as described above, which meant that the evaluation had to consider a whole package of health system reforms, implemented in a dynamic way, triggering and responding to changes over time. The evaluation was therefore not one of a single change in time but of an evolving story. In addition, the FHCI was a "whole system" change, introduced in all regions simultaneously. This meant that there was no "control group" to provide a counterfactual. No baseline was done, and many data sources were introduced after the FHCI or altered by it, which are major constraints to traditional before/after assessments.

The study used a theory-based evaluation approach. A theory of change (Figure 1) was developed in 2014 by the evaluation team to map out how the FHCI might produce impact and what would need to be examined to understand whether it had done so and, if so, how and why.[7] An evaluation framework mapped possible information sources against each domain. We then drew on mixed methods to populate the framework, triangulating between sources where

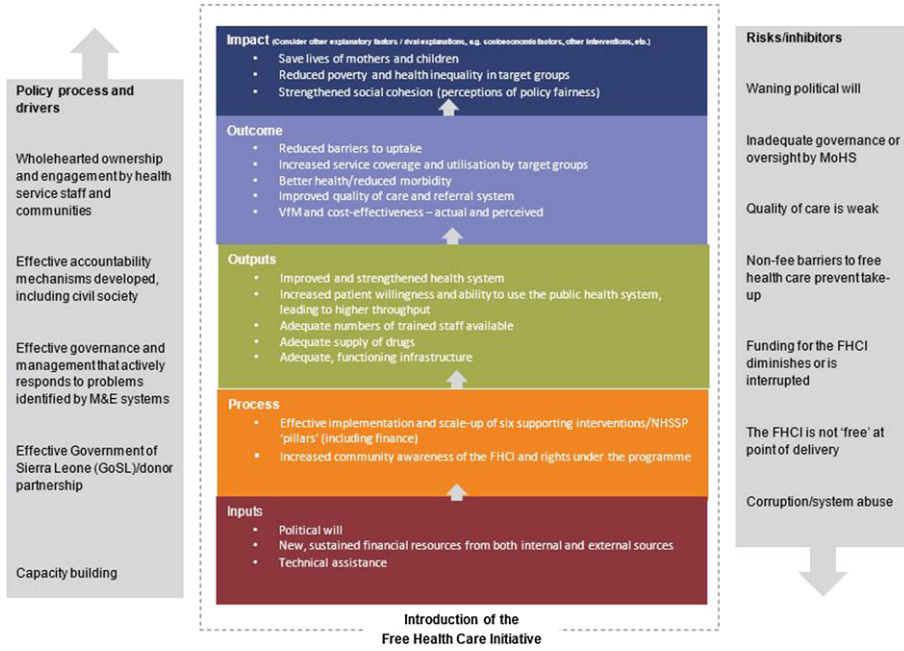

FIGURE 1 Evaluation theory of change [Colour figure can be viewed at wileyonlinelibrary.com]

possible to come to judgements about the plausible contribution of the FHCI. The nature of the intervention and the evaluation design meant that attribution of impact was not possible. The contribution of other factors, such as changing determinants of health (like income), was considered. In addition, the evaluation team had to take account of major epidemiological shocks, in particular the Ebola epidemic of 2014-2015 and cholera outbreak in 2012.

The evaluation tested the linkages, relations, and assumptions along the theory of change pathway (including drivers and inhibitors that were hypothesised at the start). While the different steps along the pathway are potentially important in terms of producing the outcomes and impacts, many have their own intrinsic value too, and so a reductionist assessment should be avoided. A reduction in out-of-pocket payments, for example, or enhanced awareness of the need to seek medical health in specific circumstances, are valuable in their own right, even if barriers at other points in the chain prevent their full impact on mortality.

2.2 | Data sources and analysis techniques

For service coverage, morbidity, and mortality, we used a mixture of household survey data and administrative data. The main survey used is the Demographic and Health Survey (DHS); 2 rounds of which were conducted in 2008 and 2013. A similar survey was also conducted in 2009: the District Health Services Baseline Survey.

The administrative data came from the Health Management Information System (HMIS). The data are collected by health facilities on a monthly basis.

Financial data came from the Ministry of Health and Sanitation (MoHS), Ministry of Finance and Economic Development, and Ministry of Local Government sources, as well as the National Health Accounts (NHA) and interviews.

A fiscal space analysis was undertaken to inform forward financial planning. The core of the fiscal space analysis took the form of a "funding gap analysis," underpinned by a macroeconomic model to project forward key economic, fiscal, and health funding variables.[8]

Cost-effectiveness was modelled using our estimate of the incremental expenditure on the FHCI and the Lives Saved Tool (LiST) tool to estimate how increased coverage of maternal, newborn, and child health (MNCH) interventions now free under the FHCI (compared to a counterfactual) translated into reductions in under-5 and maternal mortality. The key cost-effectiveness metric resulting from our analysis is the cost per life year gained of the FHCI, which is then compared to commonly accepted cost-effectiveness thresholds.

A series of focus group discussions (FGDs) was undertaken in 4 districts to collect the community perspective on the FHCI (Table 1). Ethical approval for these was provided by the Sierra Leone Ethics and Scientific Review Committee in 2015.

We also undertook 137 KIIs, many at national level but also including 42 interviews of health workers and managers in the same 4 districts selected for the FGDs at facility level (Table 2).

We reviewed all available documentation pertaining to each of the health systems pillars under analysis. A rapid literature review of regional experiences was also undertaken to set the Sierra Leonean experience in context.

The evaluation also incorporated key findings from other relevant research projects, such as ReBUILD for analysis of human resources[10] and some health financing indicators.[11]

2.3 | Study limitations and how they were managed

Beyond the constraints derived from the complex nature of the intervention and evaluation, which have been noted, the main study limitations are derived from the quality and availability of data sources that were in some cases absent, partial, or weak. For example, the HMIS had a number of issues, including lost data from before April

TABLE 1 Distribution of FGDs by participant category, district, and region

Region	District	Young People (18-24 years)	Adult Females (25 + years)	Adult Male (25 + years)	Community Leaders	Total
West	Western Area	3	3	3	3	12
East	Kono	3	3	3	3	12
North	Koinadugu	3	3	3	3	12
South	Bo	3	3	3	3	12
Total FGDs		12	12	12	12	48
Total participants		90	85	87	89	351

Source: Focus 1000 and OPM.[9] FGD, focus group discussion.

TABLE 2 Type and distribution of district interviews

	Bo	Koinadugu	Kono	Western Area
Local council	1	1	1	1
District health management team (DHMT)	1	1	2	1
Hospital	2	1	1	2
Community health post (CHP)	1	2	1	2
Community health Centre (CHC)	4	3	2	2
Maternal and child health (MCH) post		2	2	1
Civil society	1	1	1	
Drug store			1	
Total: 41	10	11	11	9

2011, significant inconsistencies between the data recorded in the database and the situation recorded in health facility registers, and a high level of non-response for key variables. The sample of facilities and variables we checked showed missing values for between 20% and 40% of cases. There were also concerns about the accuracy of NHA data, especially for household expenditure, which could suggest biases in opposing directions. The DHS had particular quality concerns in the 2008 survey—these are evident from the age distributions of the participants in the survey, which do not match the known population profiles from the census. As a result of the weaknesses in the 2008 DHS, we have focused on the 2013 DHS as our main source. We have only used the 2008 survey where necessary, for example, to look at changes in relation to equity issues using the disaggregations by wealth quintile and where the 2008 survey is judged the best available baseline. In general, our interpretation and findings are cautious where data are weak, unless other sources are found to corroborate trends.

It is also important to note the assumptions that are built into particular models. In particular, for the LiST tool, inbuilt assumptions of the effectiveness of core MNCH interventions are used to convert coverage to outcome changes. These are based on international literature. In the absence of Sierra Leonean evidence, we have relied on these estimates. Three counterfactuals were developed to understand how these estimates change when some key assumptions vary. Comparison with other reductions in mortality estimates are also made to understand whether the modelled estimates are credible in terms of their level.

3 | RESULTS

We summarise below the main findings in relation to the core evaluation questions.

3.1 | Were the 7 priority interventions the right ones to ensure continued and increased utilisation of services by the target beneficiaries?

This question focuses on the relevance and comprehensiveness of the 7 pillars—health financing, governance, human resources, drugs and medical supplies, infrastructure, monitoring and evaluation, and communication—that formed the focus of the FHCI. The evaluation concluded that each of the pillars was relevant and appropriate—even essential—to making the FHCI potentially effective, and that the FHCI itself responded to a clear population need. It was in fact one of the distinguishing features of the FHCI, compared to previous user fee removal policies in the region that a systematic approach was adopted, proactively identifying the health system pillars needing strengthening.

Within pillars, some elements should have received more focus, such as human and physical capacity at the facility level, and across the board, there have been issues of how reforms were effected. The cross-cutting area that was relatively neglected from the start was quality of care, incorporating crucial elements that have not received sufficient attention, such as improving staff performance and responsiveness, clinical supervision in support of evidence-based practice, and monitoring of core quality of care indicators. Community engagement was also limited to monitoring by civil society groups—an innovative strategy but which lost momentum over time.

3.2 | How and to what extent were the priority interventions that were put in place effective in enabling the FHCI to be operationalised?

The breadth of ambition of the FHCI was a risk, especially given the weak starting position of the health system in Sierra Leone. We found that there was differential effectiveness of implementation across not only the pillars but also over time. Some real gains were achieved initially, notably in terms of revitalising structures for sector governance, increased staffing, better systems for staff management and pay, and for getting funds to the facilities. New monitoring and evaluation systems were introduced, facility audits conducted, infrastructure improved from very weak starting points, and a communication campaign initiated. Underlying these measures was an increase in

health financing resources, including a prioritisation of mother and child health programmes and a switch from household to donor spending to some degree (discussed below). However, some important areas such as improvements to pharmaceutical procurement and distribution were not effective, and in other areas, such as human resources, reforming momentum was lost over time. With the benefit of our long lens (6 years on from the start of the FHCI), we see problems that were tackled just prior to the FHCI, like cleaning the payroll, re-emerging as problems now in the post-Ebola era.

3.3 | What are the sociocultural issues that affect the uptake of free healthcare among the target beneficiaries?

Studies undertaken since 2013 highlight that healthcare-seeking in Sierra Leone is a socially negotiated process where factors such as cultural norms, beliefs about disease aetiology, acceptability of interventions, perceptions on quality of care, household power relations, and social networks are all very influential.[12] Distance from clinics is one factor influencing uptake of care, with more distant households more likely to follow alternative and traditional routes. Gender roles are also important, with fathers typically deciding on most healthcare decisions that involve taking a child outside the home and which involve payments. Knowledge of danger signs (when to take mothers and children in to facilities) is another factor that influences uptake of care and health outcomes.

We examined 5 barriers to healthcare utilisation and health gain: affordability, access, awareness (of the policy and danger signs for mothers and children), attitudes (towards health seeking), and accountability. All show improvements over the period, although some are modest. Household funding as a proportion of total health expenditure has gone from a high of 83% in 2007 to 62% in 2013, with donor funding ranging from a low of 12% in 2007 to a high of 32% in 2013, according to NHA data. However, the absolute expenditure remains low per capita, and households are still the predominant source of healthcare finance. The best available data show a modest reduction in real out-of-pocket expenditure from 2003/2004 to 2011. Data from various sources suggest that both the chance of payment and amount of payment have been reduced for FHCI groups, although evidence also consistently shows that a minority of those in FHCI groups (estimates vary but a recent study[13] found 12%) are still paying for healthcare. The attribution of any of these changes to the FHCI is, however, constrained by data limitations.

Awareness of the policy is high among all population groups, and there is evidence that the FHCI contributed to increased awareness of danger signs by the community, greater willingness to seek healthcare for children, and, to a small extent, greater accountability on the part of services. However, all of these barriers need continued focus and improvement as the health system moves ahead.

Information from before the FHCI on user satisfaction was not available. However, a survey in 2013 found that the average satisfaction score at primary care level was 7.3 out of 10. Patient satisfaction was generally higher for care received at lower-level facilities (MCH posts, compared to health centres).[13] Our FGDs highlight concerns about the state of the healthcare infrastructure, staffing levels, skills and attitudes, and the non-availability of drugs in particular.[9]

3.4 | What contributions to health outcomes, among the target groups, did the FHCI make?

The latest United Nations (UN) estimates of maternal mortality put the levels in Sierra Leone at the highest in the world—1360 maternal deaths per 100 000 live births in 2015.[14] Their central estimates do show declining levels, but these are accompanied by wide uncertainly intervals that make it difficult to draw firm conclusions on the trend. It is not possible to measure directly if maternal mortality has changed as a result of the FHCI.

The situation for child mortality is more positive. The UN-modelled estimates show a declining trend. The UN has also produced annual estimates of under-5 mortality using the 2013 DHS. These show a sharp reduction in rates immediately after the start of FHCI (Figure 2). The levels fell from 187 deaths per 1000 live births in 2009 to 147

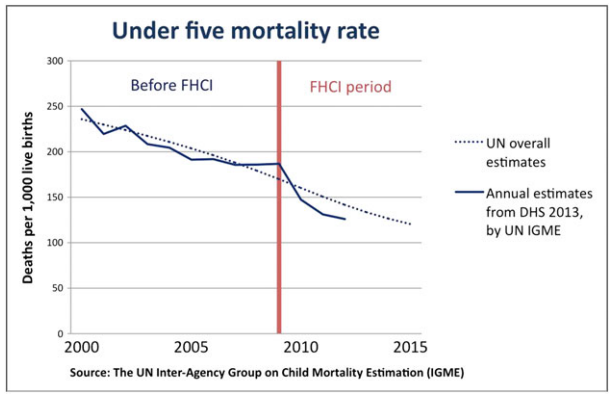

FIGURE 2 Under-5 mortality in Sierra Leone, 2000-2015 [Colour figure can be viewed at wileyonlinelibrary.com]

in 2010. The level continued to fall in the following years, reaching 126 per 1000 live births in 2012. The bulk of this fall relates to children aged between 1 month and 5 years. The fall in neonatal mortality (deaths of children younger than 1 month) has been slower.

Information is available in the DHS for prevalence rates of acute respiratory infection (ARI), fever, and diarrhoea for children younger than 5 years. Overall, there was little change in the prevalence of these symptoms in under-5 comparing before and after the FHCI, despite an increase in the coverage of interventions that should have improved these, such as reported bed-net use. In contrast, nutrition indicators for these children did show large improvements, with the proportion of underweight children falling sharply since the beginning of FHCI.

There have been clear improvements in the coverage and uptake of services in recent years, and we would expect these to have a positive impact on the outcomes described above. Some of these appear to have started before the launch of the FHCI, but there have also been positive changes after the start of the initiative. In many cases, the gap in coverage between geographical areas and wealth groups has closed significantly. These reflect a combination of contributions.

Basic antenatal care (ANC) is now near universal in Sierra Leone, reaching 98% in 2010/2011, up from 88% in the period 2004-2009; however, the improvement in overall coverage appears to have been predominantly before the FHCI.

Protection from malaria during pregnancy has increased greatly from before the FHCI. The proportions of pregnant women using insecticide treated bed-nets (ITNs) and taking protective treatments (intermittent preventative treatment: IPTp) for malaria both more than doubled, with bed-net use going from 21% in 2009 to 53% in 2013.

Births in a health facility remain low by international standards, but there have been improvements. These started before the FHCI, but there has also been growth in the numbers since 2010, from 36% between 2004 and 2009 to 57% of all births in the period 2010 to 2013. The picture is similar for births that are attended by a skilled health worker, with improvements both before and after the FHCI.

Coverage of postnatal care (PNC) has improved since the start of the FHCI, with HMIS data in particular showing strong growth: numbers of first PNC appointments rose by 50% between 2010 and 2014. The survey showed coverage up from 60% in 2009 to 73% in 2013. This suggests that the quantity of PNC has increased as a result of the FHCI.

The FHCI brought a surge in the number of consultations for under-5 at health facilities. The numbers more than tripled immediately after the launch to over 300 000 consultations in May 2010. Numbers then declined rapidly, probably as the facilities struggled to cope with the increased demand. By 2014, before Ebola, the number of under-5 consultations was once again approaching the 300 000 per month mark (Figure 3).

The picture for child immunisation rates shows improvements, although the size of these is less clear. The survey data show strong growth in fully vaccinated children under-1 following the FHCI, from 41% in 2009 to 68% in 2013.

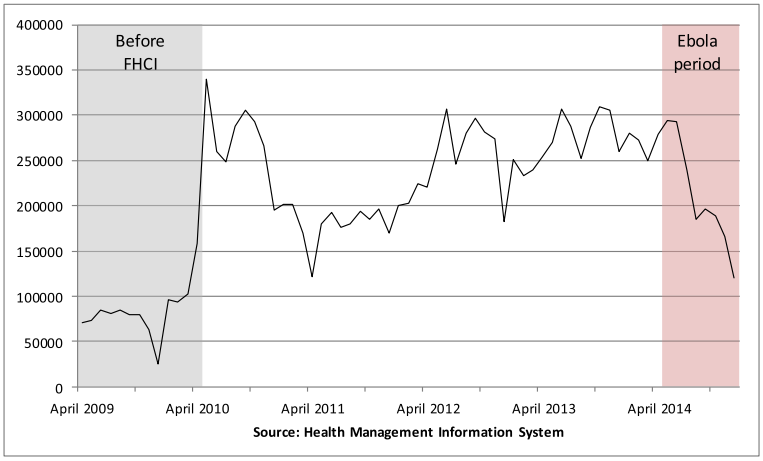

FIGURE 3 Under-5 consultations per month, Sierra Leone, 2009-2014 [Colour figure can be viewed at wileyonlinelibrary.com]

The use of ITNs by children younger than 5 years more than doubled between 2009 and 2013 from a quarter of children in 2009 to half in 2013.

Treatment rates for children under-5 for pneumonia, malaria, and diarrhoea all appear to have improved in the years following the FHCI. In particular, the proportion of children under-5 with symptoms of ARI (a proxy for pneumonia) that were treated with antibiotics doubled to 45% in 2013 compared to 2009.

The gains are clear, but the precise contribution of the FHCI is less so as the 2008 DHS was the first of its kind, and so it is hard to assess whether the improvements in coverage accelerated after 2010 compared with earlier growth. Other developments also contributed. Social determinants of health are an important part of the picture too, although in general, they have improved slowly over the period and so are not likely to be major explanatory factors behind any of the health improvements observed. External investments have played a part, especially support to infrastructure and the major programmes such as malaria and vaccination. There have been some improvements in poverty rates and the overall economy, albeit subject to recent shocks. In addition to these areas, there are no doubt other important influences, such as national road-building programmes, that may have increased access to healthcare, for example. Ebola has also had a major detrimental impact on health outcomes after 2014.

Quality of care is not only affected by the FHCI and its implementation but is also a determinant of its success. In Sierra Leone, the challenges to quality of care in the delivery of MNCH services continue to be wide-ranging, with both supply- and demand-side factors as well as underlying social determinants exerting influence. Some progress from a weak base had been made prior to the Ebola outbreak, largely catalysed not only by the FHCI but also by other programmes focusing on reproductive, maternal, neonatal, and child health, according to documentary evidence and KIIs, but the health services remain weak. In addition, the evidence base to track changes to care-giving in facilities is exceptionally weak. Information on inputs and outputs has been collected, but to examine the effectiveness of services more information is needed on indicators such as case fatality rates, readmissions, sepsis, and fresh still births, as well as on some of the influencers such as adherence to protocols and staff competences and responsiveness.

3.5 | Did the FHCI have a differential impact on different socio-economic or marginalised groups?

The evidence for changes to the gaps in coverage between socio-economic groups from DHS data is encouraging for the period 2008 to 2013. For almost all indicators, inequalities reduced, and for some, coverage is now either

equal or even positively pro-poor (such as use of treated bed-nets for pregnant women, and childhood immunisation). The gap between geographical areas and wealth groups has narrowed for PNC. The growth in use of ITNs for under-5 was particularly noticeable among those in rural areas and the bottom 4 wealth quintiles (this was not a direct component of the FHCI but may have been assisted by higher facility contact rates). The lowest wealth quintile group for child immunisation has seen the most improvements: before the FHCI, rates were fairly even across groups but the latest figures show that the bottom wealth quintile now has higher rates than others. Skilled attendance at delivery and facility deliveries remain a challenging area, as is the case in many low-resource settings globally. It is plausible that the FHCI has been a significant contributory factor to increasing facility deliveries at a faster rate for the lower wealth quintiles, although significant differences in coverage still remain in absolute terms.

There have also been some improvements in equity across regions in terms of coverage of services. Eastern Region in particular showed great improvements moving from the worst region to the best during this period for treatment with antibiotics of children with ARI symptoms. This pattern for Eastern Region was also seen in improvements in malaria treatment for children.

Combining analysis of the poverty profiles with reported utilisation rates by district from the District Health Information System suggests interesting dynamics. In 2011, Moyamba was the second poorest district and had one of the highest proportions of rural households. However, it is generally reporting the largest use of Peripheral Health Unit (PHU) services. This would need further investigation before it is concluded that the FHCI is well targeted. However, the analysis of the Sierra Leone Integrated Household Survey (SLIHS) 2011 also suggests more significant improvements in MNCH care utilisation in rural areas compared to urban ones.[11] Urban Western Area shows the lowest level of poverty but, when combined with Rural Western Area, also some of the lowest levels of PHU service use. This may reflect higher use of private sector and hospitals' services, matching with evidence from our FGDs.

Analysis of per capita funding of health through local councils suggests relatively equal distribution. The same is true for performance-based financing (PBF) funds. However, other general health system resources such as staff are very unequally distributed, which is a long-standing pattern.

It is also possible to use HMIS data to look at the equality of utilisation by gender of children under-5, although only from 2011 onwards. Overall, the ratio of girls to boys visiting a PHU for outpatient care has changed in favour of girls since 2011: in that year, slightly fewer girls visited a PHU than boys, whereas by 2013, it was slightly more. In 2011, girls in Bonthe visited facilities far less than boys (0.9:1), and in 2012, the same was true in Koinadugu (0.85:1). However, by 2013, more visits were undertaken by girls than boys in all districts other than Bombali.

Other access barriers include physical ones, such as distance to facilities and the transport required to reach them. There have been investments in improving infrastructure and referral systems, such as ambulances, and transport under the FHCI, but distance and transport costs remain significant barriers, especially for remote communities.

One study provides insights into access by disabled mothers, who might be expected to have greater difficulty reaching and using services.[15] However, access to maternal care for disabled mothers was slightly higher than for non-disabled mothers. Access to ANC, a skilled birth attendant, a facility for delivery, use of condoms, and emergency obstetric care were all roughly equally accessible. This does not indicate any change relating to the FHCI as we lack baseline data, but is an encouraging finding in relation to barriers for the disabled.

In regard to disaggregated analysis of utilisation changes and out-of-pocket levels, initial results from one study suggest a mixed picture.[11] Overall, they find no discernible impact of the FHCI on utilisation of health facilities and out-of-pocket expenditure for children under-5, and this result holds when the sample is disaggregated for household location and median household expenditure. However, they do find a positive effect for utilisation of maternal services, particularly for women in rural areas. We should note, though, that this analysis uses to SLIHS data from 2011 when the HMIS data show that the number of under-5 consultations dropped dramatically after the initial surge. It is quite possible that if we had data for other years, it would show a different picture.

3.6 | Were there any unintended consequences of the FHCI?

We examined 10 possible unintended consequences of FHCI on the health system and society but only found evidence to support one of them, which was a squeeze on nonsalary expenditure within the MoHS budget.

One concern expressed by informants was that the policy would contribute to a *rise in teenage pregnancies*, presumably because of falling costs of maternal healthcare. However, the DHS data do not back this up. Fertility rates for 15- to 19-year-olds fell from 146 per 1000 women in 2008 to 125 in 2013. All other age groups showed much smaller reductions in fertility.

A second concern, and one that was expressed in some early reports on the FHCI, was that it had contributed to a *drop in preventive services* (through diversion of resources to curative care). However, analysis of the DHS data suggests that this has not been sustained beyond a known fall in community immunisation rates for children in the early months of the FHCI.

It is also reasonable to monitor trends in *utilisation of public services by non-targeted groups* such as general adult outpatient visits and those for older children. However, while there might be some risk of providers focussing on target groups, it seems more likely that general utilisation is driven by demand-side factors, and here, the FHCI might have positive effects too, if funds are liberated to pay for non-target group members (as the household data hints). The lack of HMIS data before April 2011 has made it difficult to assess this issue completely, and we do not know how relative utilisation rates changed in the year after the start of the initiative. However, the trends from 2011 to 2013 appear to show that the number of outpatient consultations has been rising for both FHCI and non-FHCI groups.

On the positive side, it was initially hypothesised that the FHCI could have had an impact in terms of *women's empowerment*. Women in Sierra Leone face discrimination in virtually every aspect of their lives, with unequal access to education, economic opportunities, and healthcare. Given their low status and lack of economic independence, women were rarely able to decide for themselves to go to a healthcare facility, whether for family planning, ANC, deliveries, or emergency services. Such a decision was normally in the hands of the husband and often dependent on his assessment of whether they had or could raise sufficient money. However, we found no evidence that a strong shift in gender roles has occurred.

Other *changes to the healthcare market* might be expected to result from the FHCI. For example, private and faith-based facilities will have had to respond to changing prices in the public sector, although this is mediated by perceptions of quality and convenience. There is qualitative evidence that the private sector continues to be important for health seeking, especially in the Western Area. In the DHS, however, there is virtually no change between 2008 and 2013 in terms of private sector use for delivery care: just over 2% of births take place in a non-government health facility in both years.

In the informal sector, traditional birth attendants (TBAs) can no longer make the living they used to, although there is clear evidence from a number of sources that TBAs have been given the new role of linking communities and facilities, in part funded through the PBF funds at facility level. This is potentially a positive consequence, as it follows a wider global pattern of changes to the role of TBAs. Participants in our FGDs expressed confidence in the skills of TBAs and also reported using alternative services like "traditional healers" because, according to them, they are cheap and the medication they provide works effectively. It seems overall, therefore, that non-state providers remain resilient.

A number of potential unintended financial consequences were also explored. One was that there might be a *crowding out of other budget lines* in the MoHS budget by the increase in salaries awarded in 2010, which was linked to the FHCI. Looking at a breakdown of MoHS expenditure, there were significant absolute and relative decreases in human resource management, secondary, and tertiary expenditure in 2011, the first budget that included FHCI expenditure. This may reflect a declining nonpayroll recurrent budget (with significant increases in the payroll budget). This is a risk that requires careful management, as expectations of continuing salary increases are easily established.

Another concern was whether *other programmatic areas were squeezed* by the allocation of funding to the FHCI. There were large increases in funding to MNCH in the 2011 budget. Although there was the potential for displacement of funding to vertical programmes through funding the FHCI, this does not seem to have materialised and in any case

may have been minimised by some of this funding being off-budget and subject to existing donor programmes. The MNCH expenditure increased from 8% of nonsalary recurrent MoHS expenditure in 2008 to 28% in 2014. Government prioritisation for drugs and medical supplies also increased greatly, doubling from 2010 to 2014.

Analysing NHA data by type of expenditure shows that there were significant expenditure increases in public health programmes in 2010 (even in real terms). This was most notably with respect to MNCH, consistent with the FHCI, but also occurred in relation to malaria prevention. This latter finding is perhaps important given the potential displacement effect of the FHCI on other health programmes. Inpatient expenditures also reduced, potentially suggesting better first-line treatment.

A third financial concern related to the increasing salaries of health workers was that other public servants would demand similar increases (*wage increase contagion to other sectors*). Wages have increased significantly in Sierra Leone since 2010, making up a growing share of the economy, from around 5% of gross domestic product (GDP) in 2009 to a projected 7% of GDP in 2015. While there is some anecdotal evidence that this led to pressure in other sectors, other factors, such as the minimum wage, which was brought in 2014, appear to be more important.

A final possible unintended consequence that was posited in advance as a potential risk was *opportunistic responses by facility managers* to the FHCI, which would include changing the prices for other services to cope with lower or more irregular funds for FHCI target groups. This was examined in the district KIIs, and no evidence found to support it, with any informal charging more likely a result of the irregularity in salaries or drug supply, rather than the loss of revenue from FHCI groups. The PBF funds have also acted to buffer the losses from FHCI. If they diminish or become more irregular, this risk would likely become more real again.

3.7 | Does the FHCI provide value for money?

3.7.1 | Cost of the FHCI

The direct cost of the FHCI for large known items, as an increase on previous funding to similar groups, was estimated at around US$ 25 million (2010) to US$ 40 million (2013). These are not far off the calculation of the MoHS in 2012. These are much higher at US$ 40 to 90 million if all additional expenditures on these groups are included.

Direct financing of the FHCI (e.g. payroll, drugs, and PBF) equated to an increase of an additional US$ 4 (2010) to US$ 6.2 (2013) per capita in government and donor funding. Broader indirect reproductive and child health (RCH) expenditure added US$ 2.5 (2010) to US$ 8 (2013) per capita spend per year.

3.7.2 | Economy

Human resources and drugs were the two largest expenditure items, accounting for about 50% and 30% of direct FHCI costs, and 25% and 15% of the broader increases in expenditure on RCH as a whole.

For staffing, we cannot comment on changes in overall pay but can say that doctors are very well paid now. Primary care doctors/district medical officers and specialist doctors (public health) received close to SLL 15 million, or 52 times the average GDP per capita, and generalist/medical officers and public health sisters received close to SLL 5 million, which is 18 times the average. However, 78% of health workers providing reproductive or contraceptive services were either state enrolled community health nurses or MCH aides. They received between SLL 700 000 and 800 000 per month, between 2.4 and 2.8 times the average income. The relative wages in comparison to average national income were more spread out in Sierra Leone, with doctors receiving much more and nurses receiving much less in Sierra Leone than Ghana.[16] In 2013, 60% of general government expenditure on health was spent on health worker remuneration—up from 35% in 2008.

Unit costs for drugs are not available for the pre-FHCI period. However, it appears that up to 76% of the drugs procured for the FHCI were available at a lower price elsewhere, indicating that greater economy could be achieved through stronger purchasing.

3.7.3 | Efficiency

If the number of services provided rises, as has been the case in Sierra Leone, then efficiency can be maintained or increased even as core input costs increase. In total, it is estimated that the cost of the FHCI rose from SLL 357 billion in 2010 to SLL 635 billion in 2013. Total expenditure on the FHCI per health facility visit of all kinds fell from SLL 151 164 to SLL 106 606. This was equivalent to a fall from US$ 35 to US$ 26 per visit. However, the changing case mix (a shift towards less intensive activities such as ANC and relatively smaller increases in deliveries) may mean an increase in expenditure per hour of staff time.

In relation to drugs, there are certainly improvements in efficiency that could be made to the public drug supply system. An independent assessment of the FHCI stock control in 2016 expressed grave concerns regarding the efficiency and effectiveness of logistical arrangements. It revealed poor storage and stock management, 6% missing stock and 31% of drugs expired or within 6 months of expiry.[17]

3.7.4 | Cost-effectiveness

Using the LiST tool, we estimate a likely marginal effect of between approximately 1500 and 1600 maternal deaths averted over 2010 to 2013 due to coverage of key maternal health interventions being higher than it would have been if it had remained at 2009 values or if the pre-2009 trend line had continued. Assuming no change from 2008, DHS coverage values are more generous and result in an estimate of 1900 maternal deaths averted.

We estimate a likely marginal effect of between 6300 and 7600 newborn deaths averted over this 4-year period. Assuming no change from 2008, DHS coverage values are much more generous and result in an estimate of 10 400 newborn deaths averted.

We estimate a likely marginal effect of between 13 600 and 13 800 child (1-59 months) deaths averted over this 4-year period if only child interventions directly linked to the FHCI are included (i.e., curative interventions for which user fees were previously charged). The estimate is even higher at between 18 200 and 18 400 child deaths averted if ITN ownership and vaccinations are included (i.e., interventions that more under-5 receive because of increased health facility utilisation but that were actually already free).

The cost per life year saved of the FHCI is between US$ 420 and US$ 445 (Table 3). This estimate uses the marginal cost, including the increase in all donor financing to RCH and the more conservative assumptions for the maternal and newborn intervention coverage counterfactuals.

In 2013, the GDP per capita in Sierra Leone was US$ 680 according to the World Bank's World Development Indicators. On these thresholds, our estimates of cost per life year saved indicate that the FHCI was a very cost-effective intervention. These findings, although modelled, are consistent with the estimates generated by our outcome analysis.

3.7.5 | Sustainability

Sustainability was examined in a number of domains, including financial, political, and institutional. Donors have provided between 60% and 80% of the new funding to the FHCI, outside of household financing. The main funder for the FHCI's direct costs is the UK Department for International Development (DFID), making up between 40% and 55% of

TABLE 3 Cost effectiveness estimates for Free Health Care Initiative (2010-2013)

	Lives Saved	Life Years Saved
Newborn	6300-7600	239 400-270 100
Child	13 600-13 800	288 300-290 700
Maternal	1500-1600	31 400-35 800
Marginal effects (A)	561 500-594 200 life years saved	
Marginal costs (B)	US$ 249.56M	
Cost per life year saved (B/A)	US$ 420-445	

new direct FHCI funding. Other important funding streams, such as PBF, are donor-dependent. These will only be sustainable with a mix of continued donor funding, large reprioritisation of government spending for health, additional resource mobilisation strategies, and improved efficiency (including strengthening of public financial management [PFM] and bringing more donor funding on-budget). Apart from some DFID and Global Fund support to salaries through budget support, much of the external financing in the sector is off-budget and outside public control.

The changing composition of expenditure raises some concerns for sustainability, particularly in relation to expenditure on salaries, which has increased from 26% of the health budget in 2009 to 49% in 2010 and 60% in 2013. While this remains within the international range for expenditure on salaries, it is on the high side and the trend cannot continue. Over the period, there has been a proportional reduction in expenditure on goods and services, and capital expenditure remains a small part of the budget (2% in 2013, although this was higher at 10% in 2010 and 16% in 2011, correlating with FHCI facility investments). In the last 3 years, foreign financing capital expenditure has made up over 95% of total budgeted capital expenditure.

Other areas of concern in relation to sustainability include the dependence on short-term external technical assistance for some of the reforms described under the pillars. While this was effective in bringing in changes quickly, the concern is that momentum has slowed as these "enablers" pull out, with the MoHS pursuing multiple priorities with limited staff.

Political commitment to the FHCI remains strong—the policy is still a presidential flagship programme, and there is strong public demand and expectation, such that reversing the policy would be extremely problematic. However, new areas of emphasis in the post-Ebola period raise the risk that improving and deepening the FHCI could be neglected. In addition, longer-term institutional challenges remain, such as establishing an effective new National Pharmaceutical Procurement Agency, as well as strengthening the MoHS capacity overall.

The fiscal space analysis found that without a reprioritised focus on domestic FHCI financing, the financing gap would grow to US$ 66 million by 2025. This would mean the FHCI programme was underfunded by an amount equivalent to 0.6% of GDP. However, policy areas were identified to improve the sustainability outlook for the FHCI. First, long-term rises in budget allocation to FHCI should be considered now and implemented gradually for the impact to be felt post-2020 (when donor funds may reduce). Second, medium-term earmarked taxes and efficiency savings can be greatly beneficial and should be further researched, planned, and implemented for their introduction in the near term (before economic growth can support greater budgetary allocation to FHCI). Third, the analysis suggests that continuation of external donor support is essential to continue to deliver FHCI services in an effective manner throughout the country. Sierra Leone clearly continues to require external support before it can transition to a self-sustaining health system. If this does not transpire, the improvements in health outcomes Sierra Leone has achieved in recent years will be at risk.

4 | DISCUSSION AND CONCLUSION

Despite the difficulties with data and counterfactuals, we can say with confidence that the FHCI responded to a clear need in Sierra Leone, was well designed to bring about needed changes in the health system to deliver services to the target beneficiaries (under-5, pregnant women, and lactating mothers), and did indeed bring funds and momentum to produce some important systemic reforms. Underlying this achievement was strong political will, which has been sustained, enhanced donor cooperation, the deployment of supportive technical assistance, and consensus among stakeholders that the FHCI was significant and worth supporting. However, weaknesses in implementation have been evident in a number of core areas, such as drugs supply.

We conclude with reasonable confidence that the FHCI was one important factor contributing to improvements in coverage and equity of coverage of essential services for mothers and children. Other important contributors have probably been the other RMNCH investments that would have continued in the absence of the FHCI and broader economic changes. Clearly, Ebola in 2014/2015 also plays a major role in eroding previous gains.

Whether the FHCI contribution fed through into improved health is less clear from the data, although there was a very sharp drop in under-5 mortality associated with the start of the initiative. Modelled cost-effectiveness is high. However, it is important that efforts are made to monitor and very likely improve the quality of care provided in public facilities. In addition, there needs to be continued efforts to overcome residual barriers, including lack of transport and sociocultural barriers, to ensure gains are fairly distributed. On the supply side, efforts to improve the economy and efficiency of key resources—especially staffing and drugs—will be critical, as will address some of the harder-to-reach underlying systemic challenges, such as strengthening the MoHS and the devolved health functions at district level and improving public financial management. The sustainability of the FHCI is not assured without such a focus and increased public investment in healthcare in general. This requires the efforts of all stakeholders, including development partners, to enhance performance and accountability in the sector.

It is instructive to compare the FHCI with similar policies adopted in post-conflict countries in Africa, such as Burundi, and with neighbours such as Ghana. Both have prioritised free care for mothers and under-5 over the past decade. In the case of Burundi, like Sierra Leone, it used PBF funding to replace resources lost at facility level, with some success (at least until recent unrest), although the policy has not been systematically evaluated.[18] In the case of Ghana, the use of a VAT levy to support the National Health Insurance Scheme enabled free care to be extended to all pregnant women in 2008.[19] This provides some insights for Sierra Leone as it considers future financing options, although Ghana as a middle-income country is in a somewhat different position to Sierra Leone.

What Sierra Leone attempted was more ambitious than the interventions implemented in both of these countries, in that it did not approach fee exemption as a "vertical programme" focused solely on finance but understood that, for fee exemption to work, the whole health system had to be upgraded. This ambition, the relatively short preparation period (4 months from announcement to implementation) and the weak starting point, is part of the context in which our evaluation findings have to be situated, along with the subsequent shock of the Ebola epidemic. Our findings have relevance also for neighbours—for example, Burkina Faso, which in March 2016, announced free care for pregnant women and children under-5[1]. They highlight the potential contribution of a policy shift towards free care as a catalyst for tackling fundamental health system challenges, as well as the huge commitment that is required to successfully pursue and maintain these gains.

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ENDNOTES

[1] http://lefaso.net/spip.php?article69912

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Revenue-raising potential for universal health coverage in Benin, Mali, Mozambique and Togo

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Abstract Increasing overall fiscal space is important for the health sector due to the centrality of public financing to make progress towards universal health coverage. One strategy is to mobilize additional government revenues through new taxes or increased tax rates on goods and services. We illustrate how countries can assess the feasibility and quantitative potential of different revenue-raising mechanisms. We review and synthesize the processes and results from country assessments in Benin, Mali, Mozambique and Togo. The studies analysed new taxes or increased taxes on airplane tickets, phone calls, alcoholic drinks, tourism services, financial transactions, lottery tickets, vehicles and the extractive industries. Study teams in each country assessed the feasibility of new revenue-raising mechanisms using six qualitative criteria. The quantitative potential of these mechanisms was estimated by defining different scenarios and setting assumptions. Consultations with stakeholders at the start of the process served to select the revenue-raising mechanisms to study and later to discuss findings and options. Exploring feasibility was essential, as this helped rule out options that appeared promising from the quantitative assessment. Stakeholders rated stability and sustainability positive for most mechanisms, but political feasibility was a key issue throughout. The estimated additional revenues through new revenue-raising mechanisms ranged from 0.47–1.62% as a share of general government expenditure in the four countries. Overall, the revenue raised through these mechanisms was small. Countries are advised to consider multiple strategies to expand fiscal space for health.

Abstracts in عربي, 中文, Français, Русский and Español at the end of each article.

Introduction

Countries may need to raise additional funds to progress towards universal health coverage (UHC). This implies increasing the fiscal space for health. Fiscal space has been defined as "the ability of governments to increase spending for the sector without jeopardizing the government's long-term solvency or crowding out expenditure in other sectors needed to achieve other development objectives."[1]

Fiscal space for health can be expanded in several ways: general economic growth in a country; increased state or tax revenues and improved tax collection; an increased proportion of government spending on health; and improved efficiency in the use of funds.[1,2] Mobilizing additional tax revenues can be done by introducing new taxes or increasing existing tax levels. Imposing taxes on specific products and services to increase general government revenue has also gained attention through the World Health Report 2010.[3] Countries' interest in resource expansion for health is increasingly important in the light of decreasing levels of funding by global health initiatives to low- and middle-income countries.[4] Importantly, raising additional revenue for health needs to be examined within the context of overall government revenues, of which health is only one component. The objective to increase fiscal space for health does not necessarily require new revenues to be earmarked for the health sector, although some countries do so. Instead, the aim is to increase overall government revenues and augment the share going to health.[2]

While a mix of strategies may be needed to expand fiscal space, we focus in this paper on mechanisms for raising additional government revenue. We illustrate how countries can assess the feasibility and quantitative potential of the mechanisms. To do this, we review and synthesize such processes and results from four country studies in Benin, Mali, Mozambique and Togo.[5–8] The studies were part of the countries' efforts to develop strategies to expand UHC.

Context of country studies

Table 1 summarizes key demographic, health and health coverage indicators of the four countries. The data show that there is still a long way to go towards UHC. For example, the UHC service index which measures coverage of essential health services ranged from 32 to 42 across the four countries, compared with above 70 in Organisation for Economic Co-operation and Development countries.[11]

The share of the population working in the informal sector is high (Table 1). Currently, people rely largely on underfunded, government health services. Benin has begun to build up a national insurance scheme in which funds from the government budget would be used to finance the health coverage of the very poorest people and to partially subsidize poor people, while higher economic groups would make contributions.[13] In Mali, the parliament approved a law in 2018 on a national universal health insurance scheme, but implementation has not yet started. The idea is to use state budget transfers to subsidize the contributions of vulnerable

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and poor population groups in the informal economy. The health ministry has projected the funds needed to provide these subsidies, with a core assumption being an increased budget for the health sector.[14] However, the precise source of revenue and which additional revenue-raising mechanisms will be applied has not yet been decided. In Togo, the health ministry is in the process of finalizing a national health financing strategy. The existing mandatory health insurance scheme is still limited to current and retired civil servants and their family members, and covers 4% of the population in 2019.[15] Contributions are paid by the civil servants and their employer (government agencies). Hence, a core question is how to expand coverage to the whole population. Technical debates currently focus around the idea of using budget transfers to cover people in the informal economy.[16] Benin, Mali and Togo are members of the West African Economic and Monetary Community. The Community provides a harmonized tax framework, which sets a limit on specific taxes (tobacco products and alcoholic drinks, for instance) and has harmonized taxation rules for certain sectors, such as banking and aviation.[17]

In Mozambique, the government has developed a health financing strategy, which is currently subject to approval from ministries. In this strategy, the aim is to define various mechanisms to raise financial resources to enhance fiscal space.[18] Mozambique is part of the Southern African Development Community, which also seeks to harmonize certain tax rates among member countries.[19]

Table 2 presents some key health expenditure indicators and reveals that domestic general government health expenditure as a share of current health expenditure is low in the three west African countries (ranging from 20.0% to 31.1 %). In Mozambique, the figure is higher (53.3%), but its per capita current health expenditure is also much lower than in the other three countries. The priority given to health and hence the budget allocation to health (which includes domestic general government health expenditure and the external funds flowing into the health budget) as a share of general government expenditure is still rather low.[20] Likewise, general government expenditure as a share of gross domestic product (GDP) is still low for Benin and Mali (21.3%

Table 1. **Key demographic, health and health coverage indicators in Benin, Mali, Mozambique and Togo**

Variable	Benin	Mali	Mozambique	Togo
Population in thousands[9]	10 872	17 995	28 830	7 606
% of population in the informal economy (year)[10]	95 (2011)	93 (2015)	NA	93 (2011)
Maternal mortality ratio[a] in 2015[11]	405	587	489	368
Under-five mortality rate[b] in 2017[11]	98	106	72	73
% of 1-year-olds receiving DTP3 in 2017[11]	82	66	80	90
No. of medical doctors per 10 000 people in 2009–2018[11]	1.6	1.4	0.7	0.5
% of population with catastrophic health expenditure[c] (year of latest available data)[12]	11.11 (2003)	3.38 (2006)	1.19 (2008)	10.65 (2006)
% of births with skilled health personnel in 2009–2018[11]	78	44	73	45
UHC service coverage index[d] in 2015[11]	41	32	42	42

DTP3: third dose of diphtheria, tetanus and pertussis vaccine; NA: not available; UHC: universal health care.
[a] The maternal mortality ratio is the number of maternal deaths per 100 000 live births.
[b] The number of deaths of infants and children under five years of age per 1000 live births.
[c] Percentage of the population with household expenditure on health exceeding 10% of total household expenditure or income.
[d] The universal health coverage service coverage index (range 0–100) is a measure of sustainable development goal indicator 3.8.1, which is coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, noncommunicable diseases and service capacity and access, among the general population, and the most disadvantaged groups).

Table 2. **Health expenditure indicators for 2016 (latest data available) in Benin, Mali, Mozambique and Togo**

Variable	Benin	Mali	Mozambique	Togo
GDP per capita, US$	788	780	379	586
Current health expenditure per capita, US$	30	30	19	39
General government expenditure as a share of GDP, %	21.3	22.2	32.4	31.2
Current health expenditure as a share of GDP, %	3.9	3.8	5.1	6.6
Domestic general government health expenditure as a share of general government expenditure, %	3.7	5.3	8.3	4.3
Domestic general government health expenditure as a share of GDP, %	0.8	1.2	2.7	1.3
Domestic general government health expenditure as a share of current health expenditure, %	20.5	31.1	53.3	20.0
External health expenditure as a share of current health expenditure, %	30.5	32.7	38.1	20.7
Out-of-pocket expenditure on health as a share of current health expenditure, %	43.5	35.3	7.7	50.4

GDP: gross domestic product; US$; United States dollars.
Note: County populations are shown on Table 1.
Source: Based on World Health Organization global health expenditure database.[9]

Box 1. **Revenue-raising options discussed at stakeholder consultations and selected for the in-depth analysis in the country studied**

Benin

Discussion of taxes on: airplane tickets, financial transactions, alcoholic drinks, tobacco products, public contracts, imported vehicles, petroleum products, extractive industries, large companies, real estate property, luxury products, companies with large volume of pollution, household garbage, mobile phones, large cars, lotteries and gambling, health insurance contracts, pharmaceutical companies of branded medicines, voluntary diaspora contributions, or an increase of VAT and of traffic violation fees.

Selected taxes for in-depth analysis on: alcoholic drinks, airplane tickets, telephone (mobile), financial transactions and national lottery.

Mali

Discussion of taxes on: airplane tickets, visa applications, alcoholic drinks, tobacco products, public contracts, hydrocarbon, hotel nights, extractive industries, sugar-sweetened drinks, real estate property, transport companies, companies with large volume of pollution, earnings of ministers and deputies, mobile phone calls, livestock exports, lotteries and gambling, pharmaceutical companies of branded medicines, voluntary diaspora contributions, road tolls, financial transactions; or an increase of municipal taxes and of VAT.

Selected taxes for in-depth analysis on: alcoholic drinks, airplane tickets, telephone (mobile and fixed), financial transactions and extractive industries.

Mozambique

Discussion of taxes on: alcoholic drinks, tourism services, vehicles, extractive industries, private clinics, forestry and wildlife activities.

Selected taxes for in-depth analysis on: alcoholic drinks, tourism services, vehicles and extractive industries.

Togo

Discussion of taxes on: airplane tickets, financial transactions, alcoholic drinks, tobacco products, public contracts, imported vehicles, petroleum products, extractive industries, large companies, real estate property, luxury products, companies with large volume of pollution, household garbage, mobile phones, large cars, lotteries and gambling, health insurance contracts, pharmaceutical companies of branded medicines, voluntary diaspora contributions, or an increase of VAT and of traffic violation fees.

Selected taxes for in-depth analysis on: alcoholic drinks, airplane tickets, telephone (mobile and fixed), financial transactions and extractive industries.

VAT: value-added tax.
Source: Based on country studies.[5–8]

and 22.2%, respectively), compared with 31% and 41% in upper-middle- and high-income countries.[21] Global cross-country evidence shows that the absolute level of public spending matters and a systematic improvement in UHC performance, in particular a lower incidence of catastrophic health expenditure, is observed when public spending on health increases.[22,23] Thus, the four countries' UHC expansion efforts would benefit from more revenues through an overall increased government budget and a higher share of this going to health.

Illustrating the assessment approach

We outline a four-step method and process that was applied to assess new revenue-raising mechanisms in the four country studies. Each country study was part of the technical and policy advisory support process that was requested from the World Health Organization (WHO). Each country study team consisted of a national and international consultant, from among the authors with this specific expertise, accompanied by the country's health ministry and WHO country office and headquarters staff.

Multistakeholder consultation

The first step was a multistakeholder consultation in each country that served to pre-select the new revenue-raising mechanisms to be explored in detail. A wide range of stakeholders participated in a one-day meeting: representatives from ministries of health, finance, tourism services and infrastructure; civil society organizations; development partners; and the private sector. Following the same format and approach in each country, study teams presented a range of revenue-raising mechanisms, with their advantages and disadvantages, based on evidence from the literature. Small group and final plenary discussions of what stakeholders considered useful resulted in a shortlist. The list was screened for a final selection of four to five revenue-raising mechanisms to be explored in depth (Box 1).

Feasibility analysis

In the second step, each country team conducted a detailed qualitative analysis of the feasibility of the selected mechanisms. This started with a literature and document review, which informed the subsequent data collection process. A series of semi-structured interviews were held with key stakeholders from government agencies, the private sector and development partners. The interviews provided insights into current taxation mechanisms and rates in the respective sectors, the feasibility of the mechanisms explored, and potential challenges, such as whether stakeholders would support or resist the introduction of a new revenue-raising mechanism. This qualitative analysis was guided by six criteria looking at various aspects of feasibility (Box 2). The criteria were developed during the first country study in Togo[5] and applied in the other three studies. We graded the criteria from very weak to very strong based on the data from stakeholders' discussions and interviews.

Quantitative analysis

The third step was the quantitative analysis. The country teams collected data from country statistics and global databases, such as World Bank development indicators, the International Monetary Fund's world economic outlook indicators and WHO global health expenditure data. This step also served to set assumptions and projection variables to estimate potential revenues for different scenarios, for a defined projection period which was determined at the stakeholder meetings. Box 3 illustrates the approach to estimating revenues, taking the example of a tax on airplane tickets in Togo.

Different high and low scenarios were specified for each mechanism to estimate potential revenues for the defined period (Table 3). For example, a high scenario was based on a higher tax rate or assumptions of higher increases in the consumption of a product or a higher growth rate over the projection period.

Stakeholder feedback discussions

In the fourth and last step of this process the country teams reported back the results of the qualitative and quantitative analysis to all stakeholders and decision-makers at a workshop to receive feedback on the suggestions. The workshop also served to build ownership on the conclusions and translate the analysis into an agreed way forward for policy discussions and decisions on next practical steps, also in relation to the development or the implementation of the health financing strategy.

Illustrations of country findings

The list of mechanisms selected for the in-depth studies and the feasibility issues expressed by stakeholders were similar in the three West African countries (Table 4). Stability and sustainability were rated positive for most mechanisms, except for a tax on the extractive industries and national lottery tickets. Stakeholders thought that a new tax on remittances might raise equity concerns due to potentially negative impacts on lower income groups. Tax differentiations between consumer goods (wines and spirits versus beer in the case of a tax on alcoholic drinks) and consumer groups (business versus economy passengers in the case of a tax on airplane tickets) can make the tax more progressive. Political feasibility seemed to be an issue for nearly all the mechanisms assessed. Taking all feasibility criteria into consideration, new taxes or increased tax levels on alcoholic drinks, airplane tickets and telephone calls received the most positive ratings in the feasibility assessment. Taxes on national lottery tickets, financial transactions and the extractive industries were rated as less acceptable. Stakeholders argued that the financial sector and extractive industries are emerging and need to attract investors and the political situation around the extractive industries was still unclear.

For Mozambique, stakeholders assessed most of the studied mechanisms positively regarding sustainability, progressivity and potential trade-offs, but rated political feasibility lower, due to the likely competing interests of different ministries (Table 5). Moreover, administrative efficiency was a concern for taxes on the extractive industries, since the set-up and running costs of the tax are expected to be high and technical capacity to be weak. Overall, stakeholders rated new taxes on alcoholic drinks and on tourism services as more promising.

Table 6 illustrates the quantitative potential for raising revenue of the low-scenario and high-scenario cases (i.e. the combination of all low-scenario settings for each mechanism, or of all high-scenario settings respectively), as well as of the basket of revenue-raising mechanisms that were proposed for further policy consideration (Table 3). The range of estimated additional revenues, as a share of general government expenditure, that could be mobilized from this suggested basket of revenue-raising mechanisms were 0.47–1.62% across the four countries, or 0.52–2.88% for the high-scenario case.[5–8]

Box 2. **Feasibility criteria and related key questions for the qualitative assessment of revenue-raising mechanisms**

Political feasibility
Is there political will for this funding mechanism, or does it create reluctance at the political level (whether from government or civil society)?

Sustainability
Would the mechanism be applicable in the long term?

Stability
Would revenues be stable over time?

Progressivity (equity in financing)
Would financially better-off people likely contribute with a larger proportion of their income than poorer people?

Administrative efficiency
Are institutional and operational arrangements in place to implement the financing mechanism? What would be the risks of fraud and corruption and how could these be reduced?

Other possible effects
Which (positive or negative) effects would this revenue-raising mechanism have on the supply and demand of particular goods and services?

Source: Adapted from Brikci & Bitho, 2014.[5]

Box 3. **Example of scenario definitions and assumptions set to estimate revenues from an airplane ticket tax in Togo**

Projection period: 10 years

Definition of different taxation scenarios:

- scenario 1: taxing only passengers going abroad; distinction of taxes between economy class and business class;
- scenario 2: scenario above plus taxing arrival passengers;
- scenario 3: scenario 2 plus taxing transit passengers.

Setting of assumptions over the projection period for: economic growth, demand elasticity and inflation rates; share of business-class or first-class versus economy-class passengers.

Projection of the number of passengers departing from, in transit and arriving in the country, in business and economy class, over the projection period, based on the above assumptions.

Calculation of potential revenues, using the above scenarios and assumptions, was done using the following formula:

revenues (in national currency) = tax rate (%) x tax base (in national currency)

with the tax base calculated as: number of services or number of consumed products multiplied by the elasticity factor, projected over the number of years with estimated growth rate and inflation rate for each year.

Note: Explanations on more detailed formulas can be found in country studies [5–8] and Vigo & Lauer, 2017.[24]
Source: Adapted from Brikci & Bitho, 2014.[5]

Policy lessons and key issues

The results from both the qualitative and quantitative assessments showed that the proposed new revenue-raising mechanisms could be feasible options for increasing domestic revenues. The estimated additional revenues as a share of general government expenditure from the suggested basket of revenue-raising

Table 3. **Illustrations of low- and high-scenario settings for each revenue-raising mechanism in Benin, Mali, Mozambique and Togo**

Country and tax to be considered	Low scenario	High scenario[a]	Options proposed for consideration
Benin			
Alcoholic drinks	NA	Increase in tax rate by 15%; currently 15% on beers and ciders; 35% on wine; 40% on spirits & champagne[a]	High scenario
Airplane tickets	NA	New levy of US$ 20 on airplane tickets	High scenario
Telephone (mobile)	NA	New tax of 2% on airtime or mobile phone credits	High scenario
Financial transactions	NA	New tax of 5% on official remittances	NA
National lottery	NA	New tax of FCFA 200 per ticket, based on the average price of a lottery ticket	High scenario
Mali			
Alcoholic drinks	Increase in tax rate by 5% on imported alcoholic drinks	Increase in tax rate by 15% on imported alcoholic drinks	High scenario
Airplane tickets	Increased taxes on tickets for passengers going abroad: economic class FCFA 15, business class FCFA 150; arriving: FCFA 15; in transit: FCFA 15	Increased taxes on tickets for passengers going abroad: economic class FCFA 25, business class FCFA 250; arriving: FCFA 150; in transit: FCFA 25	High scenario
Telephone (mobile and fixed)	New tax of 1% tax on operators' revenues	New tax of 3% on operators' revenues	New tax of 2% on operators' revenues
Financial transactions	New tax of 0.01% on diaspora remittances	New tax of 1% on diaspora remittances	NA
Extractive industries	No scenarios defined[b]	No scenarios defined[b]	NA
Mozambique			
Alcoholic drinks	New tax of 1% on retail price of beer, 2% on wine and 5% on spirits	New tax of 1% on retail price of beer, 2% on wine and 10% on spirits	Low scenario
Tourism services	New tax of 1% on cost of accommodation	Same as low scenario[c]	Low scenario
Vehicles, cars	Increase in statutory tax rates by 10% once every 3 years	Increase in statutory tax rates by 20% once every 3 years	Low scenario
Extractive industries	10% minimum statutory rate of hypothecation; annual growth rate of tax revenues equal to a minimum of 5% (earmarking)	10% minimum statutory rate of hypothecation; annual growth rate of tax revenues equal to a minimum of 15% (earmarking)	Low scenario
Togo			
Alcoholic drinks	Increase in tax rate by 15% on all imported alcoholic drinks	Increase in tax rate by 10% on beer from the local brewery, and a 15% increase in the tax on all imported alcoholic drinks	High scenario
Airplane tickets	Increased taxes on tickets for passengers going abroad: economy class FCFA 10, business class FCFA 100; arriving: FCFA 10; in transit: FCFA 10	Increased taxes on tickets for passengers going abroad: economy class FCFA 20, business class FCFA 200; arriving: FCFA 30; in transit: FCFA 20	High scenario
Telephone (mobile and fixed)	New tax on calls of 1 FCFA per minute	New tax on calls of 5 FCFA per minute	Low scenario
Financial transactions	New tax of 0.01% on diaspora remittances	New tax of 1% on diaspora remittances	NA
Extractive industries	No scenarios defined[b]	No scenarios defined[b]	NA

FCFA: West African CFA franc; NA: not assessed and/or not proposed for consideration; US$: United States dollars.

[a] No data on alcoholic drinks taxes, prices and consumption were available in Benin. Instead, average revenues of other countries were used as an approximation. West African Economic and Monetary Union tax ceiling of alcoholic drinks beverages of 50% needed to be considered.

[b] No scenario defined due to lack of data

[c] Due to lack of accurate data and simplicity, it was assumed that circumstances would remain the same as under the low scenario.

Notes: A new tax refers to introducing a new type of tax, independent of whether another type of tax (for example a value added tax) existed on the same product or service. An increased tax rate refers to an existing tax that is raised.

Source: Based on country studies.[5–8]

Table 4. **Illustrations of feasibility considerations on revenue-raising mechanisms in Benin, Mali and Togo**

Criterion	Increased tax on (imported) alcoholic drinks	New[a] or increased[b] tax on airplane tickets	New tax on telephone communications	New tax on remittances in financial transactions	New tax on the extractive industries[c]	New tax on national lottery tickets[d]
Political feasibility	Resistance from the population would be expected, especially for a tax on beer (–)	Unitaid airline tax was previously rejected by parliament in Togo but is already in force in Mali. Tax for the purpose of UHC may gain more acceptance (+ –)	Competing interests of ministries (–)	Resistance from the population would be expected (–)	Competing interests of ministries. Unclear political situation (– –)	Popularity of gambling may be an advantage to advocate for UHC. Tax on national lottery tickets already exists to fund social, cultural and sport events (+)
Sustainability	No high consumption rates so far, but increase would be expected (+)	Growing industry (+ +)	Growing industry (+ +)	Growing amount of remittance from migrants (+)	Growing industry (+)	Revenues may be unreliable due to irregular consumers (–)
Stability	Stable market (+)	Stable market (+)	Stable market (+)	Stable market (+)	Revenues would fluctuate due to varying commodity prices (–)	No stable market (–)
Progressivity	Taxes could be higher for wine and spirits which are consumed by more affluent population groups (compared with beer) to be more progressive (+ +)	Affects more affluent population groups. Distinction between economic and business class passengers would enhance progressivity (+ +)	A flat tax rate is more progressive. The tax would be more progressive if differentiated in terms of volume and services (+ –)	Potential negative impact for people who depend on remittances, as those who receive remittances spend the highest proportion of their income on consumption (– –)	Not enough information to assess this	Potential negative impact for low-income groups (–)
Administrative efficiency	Mechanism to collect taxes already in place (+ +)	Mechanism to collect taxes already in place (+ +)	Mechanism to collect taxes already in place (+ +)	No information available	No effective collection mechanism in place. Lack of data on how much is collected (Togo) (– –)	Mechanism to collect taxes already in place (++)
Other possible effects and trade-offs	Has the potential to reduce alcoholic drinks consumption, which increases health status of the population (+)	Marginal risk that national airports would lose competitiveness (+ –)	Investments may slow down, which would affect the rural poor who depend on telephone services (–)	Informal transactions would benefit. (– –)	Extractive industries already highly taxed (Mali). This emerging sector still needs to attract investors (– –)	Current market is competitive, with diverse gambling options. Existing lottery already in place (–)

UHC: universal health coverage.

[a] Only in Benin and Togo.

[b] Only in Mali.

[c] Only in Mali and Togo.

[d] Only in Benin.

Note: We graded the criteria from very weak to very strong based on the data from stakeholders' discussions and interviews: (– –) = very weak; (–) = rather weak; (+–) = neutral; (+) = strong; (+ +) = very strong.

Sources: Based on country studies.[5–7]

options are rather small. Nevertheless, even a small increase in revenue is valuable. This finding is in line with the evidence from a recent WHO review that reiterated the importance of increasing fiscal space through new general revenue-raising mechanisms in combination with other strategies to expand the fiscal space for health.[2]

Consideration of various limitations and implementation issues is important. Unavailable or inaccurate data made it impossible to adequately estimate potential revenues for a few mechanisms, particularly for a tax on the extractive industries. There also remains uncertainty about how realistic the assumptions are. These factors affect the strength of the projections. Moreover, it is unlikely that countries would implement the full basket of mechanisms under consideration. Also, the estimates do not consider existing shortcomings in tax administration and collection (including tax evasion, smuggling and the informal economy), which would reduce the estimates of revenues raised.

The stakeholder consultations and interviews revealed that some sectors seemed more attractive than others for the introduction of new revenue-raising mechanisms. This was the case for a new or an increased tax on airplane tickets, telephone calls and (imported) alcoholic beverages in Benin, Mali and Togo. In Mozambique, new taxes on tourism services, alcoholic drinks and the extractive industries and an increased tax on vehicles were considered as possible options. This attractiveness may also relate to the fact that some of these taxes are already in place in other countries in the region and worldwide, and will be paid by a large share of people. For example, Gabon is well known for collecting a tax on the turnover of mobile phone companies.[26] More than half of the funding for the international drug purchasing facility Unitaid comes from a tax on airline tickets levied by 10 countries.[27] Also, nearly all countries globally already have an excise tax on alcoholic drinks, although few adjust this for inflation.[28] Moreover, most countries worldwide have a tax on tobacco products and although these taxes are mostly rather low, 106 countries have increased their tobacco excise taxes since 2007, after the Framework Convention for Tobacco Control was ratified.[29]

Table 5. **Illustrations of feasibility considerations on revenue-raising mechanisms in Mozambique**

Variable	New tax on alcoholic drinks	New tax on tourism services	Increased tax on vehicles	Earmarking of a share of revenues from the extractive industries
Political feasibility	Competing interests among ministries. Local producers may claim high sector-specific taxes already exist (–)	Competing interests among ministries (–)	Competing interests among ministries. Revision of law could be complex and lengthy. Autonomy of municipalities might create friction with the central ministry if earmarked (or lead to eventual delays of transferring funds) (–)	Competing interests among ministries (–)
Sustainability	Levy needs to be high enough to deter abusive alcohol consumption or to represent a good source of revenue (+)	A 1–3% levy would probably not provoke shifts in the demand for different types of tourist accommodation (+)	Price elasticity of demand for cars is fairly rigid. No effective and efficient alternative means of (public) transport is in place (+)	Already annually collected and in place for the lifetime of natural resources (+)
Stability	Growing industry (+)	Growing industry and competitive environment (+)	No major fluctuations, at least for light and heavy vehicles in the short and medium term (+)	Revenues depend on fluctuations of international commodity prices, but industries overall are growing (+ –)
Progressivity	With a high level of current smuggling, the burden of a new levy would likely affect the formal sector (+ –)	The burden of the levy would increase with the price of accommodation (+ +)	The levy would be mostly incurred by vehicle owners who can afford to purchase and maintain a vehicle (+)	The tax burden of different income groups would not be affected through this earmarking
Administrative efficiency	Mechanisms to collect taxes are already in place (++)	No information available	Running costs would be high. Building technical capacity will be crucial (– –)	No mechanisms are in place. Running costs would be high. Inter-ministerial management committee is required (– –)
Other possible effects and trade-offs	Potential to reduce alcohol consumption, which increases the health status of the population (+)	Supply side will likely be challenged to provide better services (+)	No anticipated side-effects. Increase in the statutory vehicle tax is unlikely to substantially reduce demand for vehicles (+)	Calls for improved and transparent financial management (+ –)

Note: (– –) very weak; (–) rather weak; (+ –) neutral; (+) strong; (+ +) very strong.
Source: Based on country study.[8]

The country studies further demonstrated that exploring the feasibility of new mechanisms is essential, as it may rule out some of the options that appear promising from the quantitative assessments. For example, country stakeholders considered taxing financial transactions and the extractive industries (in Togo and Mali) as not currently feasible. Also, the studies revealed that a feasibility assessment needs to go beyond national borders to consider the role of sub-regional regulations, such as from the West African Economic and Monetary Community for the three West African countries.[17]

In terms of the process, the country studies confirmed that a wide range of stakeholders and decision-makers need to be included from the very beginning, to create a mutual understanding of the role of new revenue-raising mechanisms, with an ultimate aim of increasing funds for the health sector for progress towards UHC. While finance ministries will lead such discussions, health ministries can contribute in a constructive way to this dialogue. A set of arguments for ministries of health to use in this dialogue have been suggested by other researchers.[30] The consultation process also allows for raising new considerations for the development of health financing strategies. Moreover, discussions around fiscal space enabled better exchange on health financing with the finance ministry and other ministries and fostered collaborations, as is found by other reseachers.[2]

Finally, it is important to carefully assess whether and if so, when, to bring up the issue of earmarking for health into these discussions in order not to affect the health financing and domestic revenue-raising policy dialogue. International evidence points to the fact that earmarking for health may raise additional resources, but this may be offset by reducing discretionary budget allocations, resulting in little if any overall increased fiscal space for health.[31,32] However, from the perspective of finance ministries, tying the messaging and advocacy for a specific tax increase to the health sector may be preferable, as it may increase acceptability by the public.

Conclusion

Discussions on health financing reforms for UHC are ongoing in the four studied countries and so is the process of reflection about new revenue-raising strategies. As in other countries, these are multi-year processes of political negotiations and decisions on new revenue-raising mechanisms remain to be reported. This type of work, however, can trigger or further inform such policy discussions.

In summary, new revenue-raising mechanisms remain a topical subject, as countries seek to estimate the potential of new revenue-raising mechanisms. With a rising burden of noncommunicable diseases, so-called health taxes (on products high in saturated fat, trans-fatty acids, sugar or salt) receive increasing attention, similar to so-called sin taxes (on tobacco products and alcoholic drinks). However, it needs to be emphasized that the primary rationale of such taxes is to reduce the consumption of products with harmful health consequences. Increasing general government revenues is only a secondary objective.[33]

Table 6. **Illustrations of the estimates of revenues raised under various scenarios**

Scenario	First projection year	Projected revenues, US$	Last projection year	Projected revenues, US$	Projected revenues as a share of general government expenditure in the first projection year, %[a]	Projected revenues as a share of GDP, %[a]
Benin						
High scenario[b]	2015	36 680 738	2025	75 783 005	1.78	0.42
Proposed for consideration[c]	2015	33 444 464	2025	70 493 807	1.62	0.38
Mali						
Low scenario[d]	2016	10 478 967	2024	21 507 687	0.32	0.09
High scenario[d]	2016	40 796 954	2024	86 115 765	1.23	0.34
Proposed for consideration[c]	2016	21 478 015	2024	44 211 372	0.65	0.18
Mozambique						
Low scenario (same as Proposed for consideration[c])	2014	34 557 600	2019	38 267 000	0.47	0.21
High scenario	2014	38 000 008	2019	60 981 700	0.52	0.23
Togo						
Low scenario[d]	2014	5 252 688	2024	12 092 065	0.44	0.11
High scenario[d]	2014	34 029 351	2024	77 772 288	2.88	0.74
Proposed for consideration[c]	2014	15 113 063	2024	35 894 263	1.28	0.33

GDP: gross domestic product; US$: international United States dollars.

[a] Revenue as shares of general government expenditure and GDP were calculated based on 2014 data, using the World Health Organization global health expenditure database.[25]

[b] In Benin, only a high scenario was calculated.

[c] Estimates of the basket of mechanisms proposed for policy consideration, listed in Table 3.

[d] For Mali and Togo, no data were available to project revenues for a new tax on the extractive industries.

Sources: Based on the results of country studies.[5–8] Total amounts of revenues per high, low and proposed scenario cases were translated into shares as of general government expenditure and GDP.

For future initiatives and studies, there are several key messages. First, whatever the source of additional revenue, in principle such new revenue-raising mechanisms should flow into the general government budget rather than being ring-fenced for a specific sector or disease programme. Second, more attention is needed on how to improve tax collection, which is also part of increasing revenues. Importantly, various publications suggest that improved tax collection is one of the most effective strategies to increase government revenues.[2,34,35] Finally, it is important to remember that new revenue-raising mechanisms represent only one of several strategies to expand fiscal space for health and a combination of strategies is needed. While a health financing strategy highlights the need for additional revenues going to health, overall government revenue-raising must be distinguished from the question of health financing for UHC. ■

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ملخص

إمكانات زيادة الإيرادات للتغطية الصحية الشاملة في بنن، ومالي، وموزامبيق، وتوجو

إن زيادة الحيز المالي العام أمر هام بالنسبة لقطاع الصحة وذلك بسبب مركزية التمويل العام لإحراز تقدم تجاه تغطية صحية شاملة. تتمثل إحدى الاستراتيجيات في تحقيق إيرادات حكومية إضافية من خلال فرض ضرائب جديدة، أو زيادة معدلات الضرائب على السلع والخدمات. نحن نوضح كيف يمكن للدول تقييم الجدوى والإمكانات النوعية للآليات المختلفة لجمع الإيرادات. كما نقوم باستعراض وتقنين العمليات والنتائج من تقييمات الدولة في بنن ومالي وموزامبيق وتوجو. قامت الدراسات بتحليل الضرائب الجديدة أو الضرائب المرفوعة على تذاكر الطيران، والمكالمات الهاتفية، والمشروبات الكحولية، والخدمات السياحية، والمعاملات المالية، وتذاكر اليانصيب، والمركبات، والصناعات الاستخراجية. قامت فرق الدراسة في كل دولة بتقييم مدى جدوى الآليات الجديدة لزيادة الإيرادات، باستخدام ستة معايير نوعية. تم تقدير الإمكانات النوعية لهذه الآليات عن طريق تحديد سيناريوهات ووضع افتراضات مختلفة. أدت الاستشارات مع أصحاب المصلحة في بداية العملية لاختيار آليات جمع الإيرادات للدراسة، ومناقشة النتائج والخيارات لاحقاً. كان استكشاف الجدوى أمراً ضرورياً، حيث ساعد ذلك في استبعاد الخيارات التي بدت واعدة نتيجة للتقييم النوعي. قام أصحاب المصلحة بتقييم الاستقرار والاستدامة بكونها إيجابية بالنسبة لمعظم الآليات، إلا أن الجدوى السياسية كانت جانباً بارزاً طوال الوقت. تراوحت الإيرادات الإضافية المقدرة من خلال آليات جمع الإيرادات الجديدة، من 0.47 إلى 1.62٪ كحصة من الإنفاق الحكومي العام في الدول الأربع. بشكل عام، كانت الإيرادات التي تم جمعها من خلال هذه الآليات، قليلة. ويتم نصح هذه الدول بالتفكير في استراتيجيات متعددة للتوسع في الحيز المالي للصحة.

摘要

在贝宁、多哥、马里和莫桑比克四国实现全民健康覆盖的国家收益潜力研究

由于公共融资在实现全民健康覆盖上的重要性，因此增加总体财政空间对卫生部门至关重要。策略之一是通过对商品和服务开征新税或提高税率，从而提高政府的额外收入。我们旨在论证各国如何评估不同收益机制的可行性和定量潜力。我们评审并综合了贝宁、多哥、马里和莫桑比克的评估进程和结果。这些研究就在机票、电话、酒精饮料、旅游服务、金融交易、彩票、汽车业和采掘业方面开征新税和提高税率进行了分析。各国的研究小组使用了 6 个定性标准来评估新收益机制的可行性。这些机制的定量潜力是通过定义不同的情景和设定假设来估计的。进程开始时，与利益相关者协商有助于选择要研究的收益机制，并随后讨论调查结果和备选方案。探索可行性是必要的，这有助于从定量评估中排除看似可行的方案。利益相关者对大多数机制的稳定性和可持续性给予了正面评价，但政治上的可行性自始至终都是问题的关键。在这四个国家，通过新收益机制获得的额外收入约占一般性政府财政支出的 0.47%-1.62%。总而言之，通过此类机制获得的增收依然有限。建议各国考虑多项策略来扩大卫生财政空间。

Résumé

Potentiel de mobilisation de fonds pour la couverture sanitaire universelle au Bénin, au Mali, au Mozambique et au Togo

Il est important d'accroître l'espace budgétaire global alloué à la santé en raison du caractère crucial du financement public pour accomplir des progrès en faveur de la couverture sanitaire universelle. Une stratégie consiste à mobiliser des fonds publics supplémentaires par le biais de nouvelles taxes ou d'une augmentation des taux d'imposition applicables aux biens et aux services. Nous expliquons comment les pays peuvent évaluer la faisabilité et le potentiel quantitatif de différents mécanismes de mobilisation de fonds. Nous examinons et synthétisons les processus et les résultats d'évaluations nationales menées au Bénin, au Mali, au Mozambique et au Togo. Ces études ont analysé la mise en place de nouvelles taxes ou la hausse de taxes sur les billets d'avion, les appels téléphoniques, les boissons alcoolisées, les

services touristiques, les transactions financières, les billets de loterie, les véhicules et les industries extractives. Les équipes chargées des études au sein de chaque pays ont évalué la faisabilité des nouveaux mécanismes de mobilisation de fonds à l'aide de six critères qualitatifs. Le potentiel quantitatif de ces mécanismes a été estimé en définissant différents scénarios et en formulant des hypothèses. Des consultations ont été menées auprès des parties prenantes au début du processus afin de sélectionner les mécanismes de mobilisation de fonds à étudier et de discuter des résultats et des options à un stade ultérieur. Il était essentiel d'étudier la faisabilité, car cela a permis d'écarter les options qui semblaient prometteuses à partir de l'évaluation quantitative. Les parties prenantes ont jugé la stabilité et la durabilité positives pour la plupart des mécanismes, mais la faisabilité politique a été une question clef tout au long du processus. Nous avons estimé que la part des fonds supplémentaires générés par les nouveaux mécanismes de mobilisation de fonds dans les dépenses générales de l'État allait de 0,47 à 1,67% dans les quatre pays. Dans l'ensemble, les fonds générés par ces mécanismes étaient de faible ampleur. Il est conseillé aux pays d'envisager plusieurs stratégies pour augmenter l'espace budgétaire alloué à la santé.

Резюме

Потенциал увеличения дохода для всеобщего охвата услугами здравоохранения в Бенине, Мали, Мозамбике и Того

Расширение фискальной сферы в целом важно для здравоохранения, так как централизованный характер общественного финансирования помогает добиваться целей, связанных со всеобщим охватом медицинскими услугами. Одной из стратегий является привлечение дополнительных источников госдохода путем введения новых налогов или увеличения ставок налогообложения товаров и услуг. Авторы на примере показывают, как страны могут оценить осуществимость и количественный потенциал различных механизмов повышения дохода. Авторы изучили и обобщили процессы и результаты, полученные в ходе оценки таких стран, как Бенин, Мали, Мозамбик и Того. В ходе исследований были проанализированы новые налоги или повышение налогов на авиабилеты, мобильную связь, алкогольные напитки, туристические услуги, финансовые транзакции, лотерейные билеты, автомобили и продукцию добывающей промышленности. Группы исследователей в каждой из стран оценили осуществимость новых механизмов повышения дохода с помощью шести качественных критериев. Количественный потенциал этих механизмов оценивался с использованием различных сценариев и вариантов регулирования. Консультации с партнерами в начале процесса помогли выбрать изучаемые механизмы и обсудить результаты и возможности. Изучение осуществимости таких механизмов имело критически важное значение, поскольку помогло исключить варианты, которые казались многообещающими с точки зрения количественной оценки. Партнеры положительно оценили стабильность и возможность устойчивого развития для большинства механизмов, но во всех случаях ключевым фактором оказывалась политическая осуществимость. Оценка прироста доходов за счет новых механизмов их повышения оказалась в пределах 0,47–1,62% доли общих правительственных расходов в четырех странах. В целом прирост дохода за счет таких мероприятий был малым. Странам рекомендовано рассмотреть несколько различных стратегий расширения фискальной сферы для поддержки здравоохранения.

Resumen

Potencial de recaudación de fondos para la cobertura sanitaria universal en Benin, Malí, Mozambique y Togo

El aumento del espacio fiscal general es importante para el sector de la salud debido al carácter central de la financiación pública para avanzar hacia una cobertura sanitaria universal. Una estrategia consiste en movilizar fondos públicos adicionales mediante nuevos impuestos o aumentar los tipos impositivos sobre los bienes y servicios. A continuación se ilustra cómo los países pueden evaluar la viabilidad y el potencial cuantitativo de los diferentes mecanismos de recaudación de fondos. Se han revisado y sintetizado los procesos y los resultados de las evaluaciones nacionales en Benin, Malí, Mozambique y Togo. Los estudios analizaron nuevos impuestos o la subida de los impuestos sobre los billetes de avión, las llamadas telefónicas, las bebidas alcohólicas, los servicios turísticos, las transacciones financieras, los billetes de lotería, los vehículos y las industrias de extracción. Los equipos de estudio de cada país evaluaron la viabilidad de nuevos mecanismos de recaudación de fondos mediante seis criterios cualitativos. El potencial cuantitativo de estos mecanismos se estimó mediante la definición de diferentes escenarios y el establecimiento de supuestos. Las consultas con las partes interesadas al comienzo del proceso sirvieron para seleccionar los mecanismos de recaudación de fondos que se estudiarían y posteriormente examinar las conclusiones y las opciones. Era esencial explorar la viabilidad, ya que ayudaba a descartar opciones que parecían prometedoras de la evaluación cuantitativa. Las partes interesadas calificaron la estabilidad y la sostenibilidad como positivas para la mayoría de los mecanismos, pero la viabilidad política fue una cuestión clave en todo momento. Los fondos adicionales estimados por medio de los nuevos mecanismos de recaudación oscilaron entre el 0,47 % y el 1,62 % de los gastos de las administraciones públicas de los cuatro países. En general, los fondos recaudados mediante estos mecanismos fueron reducidos. Se aconseja a los países que consideren múltiples estrategias para ampliar el espacio fiscal para la salud.

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Review Article

Innovative domestic financing mechanisms for health in Africa: An evidence review

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Abstract

Objectives: This article synthesizes the evidence on what have been called innovative domestic financing mechanisms for health (i.e. any domestic revenue-raising mechanism allowing governments to diversify away from traditional approaches such as general taxation, value-added tax, user fees or any type of health insurance) aimed at increasing fiscal space for health in African countries. The article seeks to answer the following questions: What types of domestic innovative financial mechanisms have been used to finance health care across Africa? How much additional revenue have these innovative financing mechanisms raised? Has the revenue raised through these mechanisms been, or was it meant to be, earmarked for health? What is known about the policy process associated with their design and implementation?

Methods: A systematic review of the published and grey literature was conducted. The review focused on identifying articles providing quantitative information about the additional financial resources generated through innovative domestic financing mechanisms for health care in Africa, and/or qualitative information about the policy process associated with the design or effective implementation of these financing mechanisms.

Results: The search led to an initial list of 4035 articles. Ultimately, 15 studies were selected for narrative analysis. A wide range of study methods were identified, from literature reviews to qualitative and quantitative analysis and case studies. The financing mechanisms implemented or planned for were varied, the most common being taxes on mobile phones, alcohol and money transfers. Few articles documented the revenue that could be raised through these mechanisms. For those that did, the revenue projected to be raised was relatively low, ranging from 0.01% of GDP for alcohol tax alone to 0.49% of GDP if multiple levies were applied. In any case, virtually none of the mechanisms have apparently been implemented. The articles revealed that, prior to implementation, the political acceptability, the readiness of institutions to adapt to the proposed reform and the potential distortionary impact these reforms may have on the targeted industry all require careful consideration. From a design perspective, the fundamental question of earmarking proved complex both politically and administratively, with very few mechanisms actually earmarked, thus questioning whether they could effectively fill part of the health-financing gap. Finally, ensuring that these mechanisms supported the underlying equity objectives of universal health coverage was recognized as important.

Conclusions: Additional research is needed to understand better the potential of innovative domestic revenue generating mechanisms to fill the financing gap for health in Africa and diversify away from more traditional financing approaches. Whilst their revenue potential in absolute terms seems limited, they could represent an avenue for broader tax reforms in support of health. This will require sustained dialogue between Ministries of Health and Ministries of Finance.

Keywords
health financing, Africa, innovative

Introduction

The health and fiscal shocks of the COVID-19 pandemic have put into sharp focus the need to strengthen national health systems and the difficulty for governments across the world, and in particular in low- and middle-income countries (LMICs), to invest in them.[1] Financing of good quality health care across Africa, in particular, remains inadequate: governments allocate too little of their revenues to health,

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whichever benchmark is used,[2] and households continue to carry a significant proportion of the financial burden associated with seeking care through out-of-pocket payments.[3] Increasing fiscal space for health is therefore urgent.

Fiscal space for health can be generated through economic growth, increased prioritization given to health, additional aid allocation, additional borrowing from governments, generating financial savings through greater efficiency in spending existing health resources, and domestic revenue mobilization.[4] Whilst each of these avenues are important and should not be considered in silo, increased attention has been paid in the past decade to the last of these.[5] So-called innovative financing mechanisms have generated great enthusiasm for their potential to raise additional domestic resources for health.[6]

The World Health Organization (WHO) defines innovative financing as mechanisms offering avenues for countries with large informal economies to diversify away from well-known approaches that are relatively easy to collect, such as taxes on formal-sector employees and their employers, import or export duties of various types and value-added tax (VAT).[7] The World Bank Group uses innovative financing as an overarching term that includes any financial approach that enables additional funds generation by utilizing new funding sources or engaging new partners or increasing efficiency by reducing time and service delivery costs.[8] Innovative domestic financing mechanisms are defined here, using and further specifying the WHO definition, as any domestic financing source that is outside of general taxation, VAT, user fees or any type of health insurance, and from which revenues would be intended to be, or were, allocated to health. This paper investigates whether these domestic innovative financing mechanisms could provide part of the answer to the fiscal crisis facing health systems across the African continent.

Methods

This paper synthesizes the evidence on domestic innovative financing mechanisms, as defined above, in African countries to answer the following research questions:

- What types of domestic innovative financial mechanisms have been used and documented in relation to health?
- What is known in relation to the additional revenue that these innovative financing mechanisms raise?
- Have these mechanisms been, or were meant to be, earmarked for health?
- What is known about the policy process associated with their design and implementation?

To address these questions, a systematic review was conducted of peer-reviewed and grey literature providing quantitative information about the additional financial resources generated through innovative domestic financing mechanisms for health care in Africa, and/or qualitative information about the policy process associated with their design or effective implementation. A combination of the following search terms was used: 'domestic' or 'national', and 'innovative' or 'tax*' or 'levi*' (levies being a synonym for taxes) or 'sin' (taxes on tobacco and alcohol are sometimes referred to as sin taxes), and 'health*', and 'financing'. Seven databases were systematically searched: Scopus, Pubmed, Global Health, Cochrane Library, Econlit, Embase, Medline. Details on how many articles were obtained from each database can be found in Table S1 in the online supplement. The search was conducted in November 2021.

This search was accompanied with a targeted search of the WHO, OECD, Global Fund and World Bank websites, as these institutions have most published on this topic, but their reports may not be identifiable in standard bibliographic databases. To ensure all highly relevant publications were captured, experts at the WHO and World Bank were contacted to help identify any additional relevant documentation. This process identified an additional four reports.

Articles were selected following the following criteria:

(a) Articles were included if they:

- were published in English or French, the two primary publication languages used in Africa,
- described the policy process associated with designing or implementing innovative domestic financing approaches for health,
- provided quantitative estimates of how much money these mechanisms had the potential of raising, or had raised,
- focused on a single or multiple African countries.

(b) Articles were excluded if they:

- were policy briefings, blogs or material documenting international innovative financing mechanisms. Policy briefings were excluded as they do not undergo systematic peer review processes, which would have limited the quality of evidence;
- were set outside of Africa,
- were not related to financing health,
- did not discuss domestic revenue mobilization,
- did not focus on innovative financing approaches,
- were published prior to 2000,
- were not written in English or French,
- did not provide any quantitative information on revenue raised (or potential for revenue to be raised),
- did not discuss the feasibility of policy implementation.

The same inclusion and exclusion criteria were applied for the WHO, World Bank, Global Fund and OECD targeted searches. When evidence was cited in an article, the references were checked to identify any material that had so far been missed.

For every financing mechanism identified but not yet implemented, a follow-up Google search was undertaken in August 2022 to determine whether the mechanism had subsequently been implemented, and whether the revenue raised had been documented.

Results

The review search led to an initial list of 4034 articles. Figure 1 details how this original list of articles was ultimately reduced to 15.

These 15 studies were included in a narrative synthesis. The main details of the 15 articles are summarized in Table S2 in the online supplement.

Type of studies

Ten studies used literature reviews, eight used qualitative methods and five used some form of quantitative analysis (either actual budget data analysis or financial modelling) (see Table 1).

Range of innovative resource mobilization mechanisms

The types of mechanisms implemented, or considered for implementation, were varied. The most common were taxes on mobile phones (10 articles discussed taxes on mobile phone usage or mobile operators in Gabon, Ghana, Republic of Congo, Senegal, Benin, Mali, Togo, Tanzania, Mozambique and Uganda),[9,12,13,14,15,16,18,20,21,22] alcohol (nine articles analyzed this tax across 14 sub-Saharan African countries including Mali, Benin, Togo, Tanzania, Mozambique, South Africa, Botswana, Malawi, Nigeria and Eswatini),[5,10,11,12,13,14,18,20,21] eight discussed taxing money transfers (particularly diaspora bonds and remittances, to and from other countries in Gabon, Benin, Mali, Tanzania, Mozambique and Togo),[9,10,12,13,16,20,21,22] and another eight articles considered taxing tobacco products (in countries such as Egypt, Ivory Coast, Djibouti and Ethiopia).[10,13,14,15,16,18,19,21] Five articles looked at levies on natural resource extraction in Botswana, Mali, Mozambique, Togo and Ghana,[15,18,20,21,22] another five looked at soft and sugar-sweetened beverages taxes in Uganda, in particular.[11,13,14,18,19] Four looked at airline levies or taxes on the tourism industry in Benin, Cameroon, Congo, Madagascar, Mali, Mauritius, Mozambique, Togo, Tanzania and Niger.[11,12,20,21] Three articles considered levies on fuel (storage), tax on motor vehicle insurance in Malawi and on cars and other vehicles in Mozambique.[17,18,20] Finally, two examined lotteries[16,20] and two at profitable industries, such as the banking sector,[18,21] whilst one article mentioned the possibility of taxing bottled water in Uganda.[11]

Revenue potential

The evidence on the revenue that could be raised through these mechanisms was limited, with scarce documentation either of their potential or actual revenue raised. Of the six quantitative analyses included, three documented actual revenue raised in Gabon, Egypt, Tanzania and Uganda[9,16,18] and three used various modelling techniques to project potential revenue streams.[5,17,20] Two literature reviews gathered additional quantitative analysis.[13,15]

The revenue projected to be raised by these mechanisms was relatively low, ranging from 0.01% of Gross Domestic Product (GDP) for alcohol tax alone,[5] for example, to 0.49% of GDP if multiple levies were applied.[12] As a share of general government health expenditure (GGHE), however, these sources could represent a substantial addition - up to nearly 14% of GGHE for mobile phone levies,[15] and up to 43% of GGHE if multiple levies were applied.[20] This upper limit was the case of Benin, where taxes on five classes of goods and services simultaneously were considered – alcoholic drinks, aeroplane tickets, mobile communications, financial transactions and the national lottery. The implementation of these five taxes in different sectors was to some extent unrealistic. However, all these figures should be treated with caution, as they are focused mainly on modelling exercises conducted in advance of any implementation of the tax rather than actual data gathered from implemented financing approaches. Further details on potential revenue raised are given in Table S3 in the online supplement.

Few of the mechanisms discussed in the selected studies have apparently been implemented. Subsequent Google searches (conducted in August 2022) to establish whether proposed reforms had materialized suggest that of the taxes proposed, only one country had done so. Botswana introduced a tax on alcohol, of which 10% went to health (Table 2).

Political acceptability

Taxation was recognized as a political reform, even more so if introduced to prioritize a specific sector. This was the most recurrent theme across the articles selected.[10,12,13,15,16,18,20] As a result, at the stage of identifying the mechanism to introduce financing, a key task identified was engaging heads of state and parliamentarians over and above the various ministries affected by the potential reform (Ministries of Health and Ministries of Finance, for

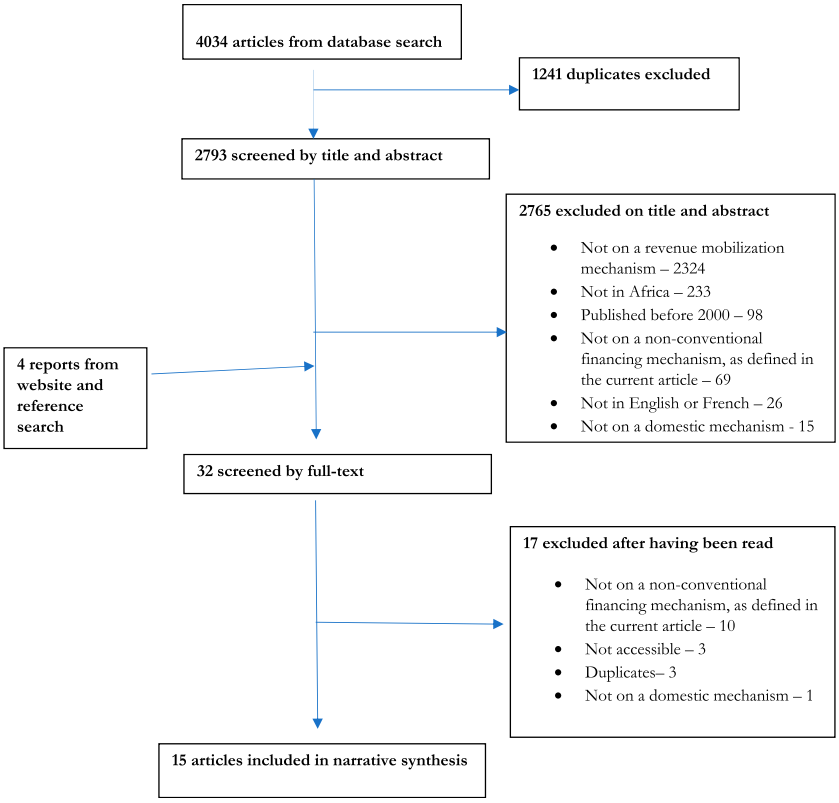

Figure 1. PRISMA diagram detailing the selection of the articles included in this review.

Table 1. Research designs of the selected articles.

Article	Literature review	Qualitative methods	Quantitative methods or data
Musango and Aboubacar[9] (2010)	✓	✓ (Key informant interviews)	✓ (Budget data analysis)
Musango et al.[10] (2012)	—	✓ (Summary of discussions between Ministers of health and finance)	—
Remme et al.[5] (2016)	—	—	✓ (Modelling)
Atun et al.[11] (2016)	✓ (systematic)	—	—
Global fund[12] (2016)	✓	—	—
Cashin et al. (2017)[13]	✓	✓ (Questionnaire)	✓ (Based on literature review)
Allen[14] (2017)	—	✓ (Write-up of World Health Organization working group discussion)	—
Elovainio and Evans[15] (2017)	✓	—	✓ (Based on literature review)
Barroy et al.[16] (2018)	✓	—	✓ (Cross-country analysis of cross-sectional data)
Chansa et al.[17] (2018)	—	✓ (Delphi technique)	✓ (Modelling)
Doherty[18] (2019)	✓	—	✓ (Budget data analysis)
Zakumumpa et al. (2019)[19]	✓	✓ (Key informant interviews)	—
Mathauer et al.[20] (2019)	✓	✓	✓ (Modelling)
Ifeagwu et al.[21] (2021)	✓	—	—
Laar et al. (2021)[22]	—	✓ (Key informant interviews)	—

Table 2. Implementation of the innovative domestic funding mechanisms, as at August 2022.

Country	Nature of innovative funding mechanism	Mechanism implemented?
Benin	Taxes on alcoholic drinks, aeroplane tickets, mobile telephones, financial transactions and national lottery	Unclear. No information found
Botswana	Alcohol tax	Yes. Levy introduced, 10% of which goes to health
Eswatini	Alcohol tax	Unclear. No information found
Malawi	Alcohol tax	No. Tax on alcohol was decreased – no mention of allocation for health
	Increase tax from existing fuel levies (storage and major electrical infrastructure). New tax on motor vehicle insurance	Unclear. No information found
Mali	Taxes on alcoholic drinks, aeroplane tickets, mobile and fixed telephones, financial transactions and extractive industries	Unclear. No information found
Mozambique	Taxes or levies on aeroplane tickets, phone calls, alcoholic drinks, tourism services, financial transactions, lottery tickets, vehicles and the extractive industries	No. However, reform being prepared
Nigeria	Alcohol tax	No. Taxes on alcohol and sugar-sweetened beverages in discussion but no mention of allocation for health
South Africa	Alcohol tax	No. In 2021 increase in tax on alcohol and tobacco products, but no earmarking for health
Tanzania	Remittances levy, airtime levy, alcohol levy and airline levy	No. However, pilot study looking at acceptability of earmarked marginal levy for tobacco, alcohol, sweets/soft drinks and fuel found public support to be overwhelmingly high, at more than 90%
Togo	Taxes on alcoholic drinks, aeroplane tickets, mobile and fixed telephones, financial transactions and extractive industries	No.

example).[10,12,13] This was the case, for example, in Botswana where political leadership by the president was crucial the success of the reform.[12]

The competing interests of central ministries may also create political resistance at central level. For example, in Togo and Benin a new levy on the tourism industry was supported by the Ministry of Health, as the tax was earmarked for health, but was resisted by the Ministry of Trade, which saw the tax as anti-business.[20] If the interests of autonomous municipalities or districts in decentralized settings are ignored, this can also lead to resistance that hampers reforms, as was the case in Mozambique.[20] The articles also noted that political acceptability depended on the object of the tax, with greater support for taxes on harmful products for health.[10,13,18]

According to the selected papers, it was also important to understand the full range of institutional reforms needed to implement the taxes. These reforms could be substantial and time consuming,[5] and depended on whether mechanisms to collect these taxes already existed, whether technical capacity to collect these taxes existed or needed to be built, and whether new laws would be required to enact these mechanisms.[20] In Botswana, for example, the new tax was supported by legislative reforms (amendments to the Road Traffic Act).[12]

Industrial acceptability

Several articles noted the importance of involving the targeted industry. In Gabon, for example, mobile phone companies were not consulted about the implementation of a new tax on mobile phones. They learnt about the new levy on their revenue for health through the press.[9] Such lack of consultation can increase the chances of the targeted industry actively resisting the proposal.

The power of the industries affected by the new taxes also affected whether these would eventually be implemented. In Benin, for example, taxes on the extractive industries were resisted by the country's large extractive companies, and eventually deemed infeasible.[20] In Malawi, taxation on tobacco was deemed undesirable by the government, as tobacco, referred as 'green gold', was the key export commodity of the country, and involved a large proportion of agricultural producers.[17] In the case of taxation on mobile phone usage, there were concerns this tax would have a detrimental impact on the promising growth of mobile banking in Africa.[15]

Design considerations

The question of whether, and how, to earmark the additional revenues for health was a key design feature identified in the

literature. All of the innovative mechanisms were expected to be, or were, earmarked for health or HIV, although two proposed innovative mechanisms for health but did not specify whether earmarking would take place.[11,16] Earmarking was highlighted as a complex issue. Whilst it might allow the financing mechanism to bypass annual budget negotiations and ensure a protected revenue stream for health, it might also decrease the flexibility of budget allocation across sectors, hence reducing the allocative efficiency of public finance.[13] This might hamper the ability of Ministries of Finance to implement stabilization policies in times of economic turmoil,[13] and create tension between Ministries of Health and Ministries of Finance.[10]

Earmarking revenue can be even more complicated in decentralized settings, such as Mozambique, where autonomous municipalities might not approve of the centrally driven and sector-specific prioritization inherent in earmarking.[20] Furthermore, whereas earmarking of revenues for health might be assumed to equate to additional revenues for health, this was not necessarily the case. The introduction of an earmarked financing mechanism could be offset by a reduction in health expenditure in areas that are not part of the earmarking. This happened in Ghana and Gabon,[10,13,16] and is known as the fungibility of resources. In fact, what evidence there is suggests that even when these innovative mechanisms are introduced, the additional resources that are provided to the health sector are either zero or short-lived due to the fungibility of resources at budget level.[13]

Earmarking was less problematic when health and finance authorities had aligned objectives[13] or when the earmarking was identified as supporting a politically more acceptable cause.[10]

Equity impact

Five articles raised the issue of the potentially regressive nature of these mechanisms.[13,15,17,18,20] In particular, the negative impact of taxes on tobacco, financial remittances and alcohol – all used disproportionately highly by poorer segments of the population – were mentioned.[20] This potential regressivity in revenue-raising could be counterbalanced by relative progressivity in spending if the poorest segments of the population were targeted for increased health spending.[18]

It was also noted that any revenue-raising approach that contributed to some form of pre-payment away from out-of-pocket payments could be deemed as improving the progressive nature of the health-financing mechanism overall.[18]

Discussion

Our systematic review found that the available literature on innovative financing mechanisms in Africa was limited, although the suggested products or industries to be taxed were varied. The potential revenue that could be raised through these mechanisms was low when compared to GDP, but could be more substantial when compared to GGHE. The evidence base for this, however, was limited and to some extent unrealistic, as the upper bound (the case of Benin) represented the implementation of up to five new taxes across five different sectors.

Certain policy factors – such as political acceptability, the potential distortionary impact these reforms may have on the targeted industry and the readiness of institutions to adapt to the proposed reform – were identified as being key to consider prior to implementation. This would suggest that tax reforms may be more successful if built on existing systems rather than relying on the creation of new institutions. From a design perspective, the fundamental question of earmarking proved complex, both politically and administratively. Indeed, despite earmarking, the additional resources that are generated for the health sector would appear to be either zero or short-lived. Finally, ensuring that these mechanisms supported the policy's underlying equity objectives was recognized as important.

Further research

Despite the importance of identifying additional domestic resource mobilization avenues, much still needs to be understood about the potential and application of domestic innovative financing mechanisms and how to diversify away from the traditional tax approaches used across LMICs. In particular, few studies have looked at the implementation challenges of such reforms (e.g. political acceptability and need for administrative reforms), and how to overcome them. Further research in this area would be essential to fully understand the potential of these mechanisms. This is particularly the case given virtually none of the mechanisms identified in this review have apparently been implemented.

Furthermore, as demonstrated by this review, many avenues to diversify the tax base in LMICs could be further explored, although the political nature of taxation may limit what is feasible. The health literature could engage more systematically with the research and evidence on taxation more broadly.[23] This could go beyond innovative financing mechanisms to review, for example, the extent to which property taxes could yield additional revenue for health.[24]

The impact on equity of innovative mechanisms should also be more fully investigated. Whilst the potential regressive nature in the short term of health taxes has been noted, this could be offset by a decrease in consumption of harmful products in the medium to long term, particularly for poorer households, and an

improvement in health outcomes, or at least a reduction in negative health impact.

There is limited discussion on the desirability of earmarking, and what would make earmarking policies successful. Research into earmarking for health, which is inextricably linked to public finance management systems,[25] is key, as the ultimate intention of these mechanisms is to provide additional resources for health. Research could focus on: (1) better understanding the contextual characteristics that would ensure translation of earmarked innovative financing mechanisms into additional revenue for the health budget formulation stage, and (2) how to ensure that these resources are protected for health throughout the budget execution stage.

Finally, a better understanding is necessary of how to design and implement the mechanisms to achieve the desired impact on revenue, as the evidence base on the policy factors facilitating their success is still limited.

Policy implications

The need to increase domestic public resources for health across LMICs in Africa is unequivocal.[2] The health policy debate has moved away from taxes or levies on products generally, and focuses more specifically on products that have a negative public health impact such as alcohol, tobacco, sugar-sweetened beverages or fossil fuels.[26] The focus on these mechanisms is partly related to their 'pro-health agenda', that is, their positive impact on health outcomes, increasing their political acceptability[1] and making advocating for them easier with both Ministries of Health and Ministries of Finance.[13]

Whilst the revenue-raising potential of innovative financing mechanisms is not a panacea, they can still form part of the solution. In the case of health taxes, most LMICs do not sufficiently tax products that are harmful to health.[27] It may therefore be possible to start with these innovative financing mechanisms, given their greater political acceptability, and use them as a catalyst for greater dialogue between Ministries of Health and Ministries of Finance. These mechanisms could generate momentum for broader tax reforms, which remain the most promising pathway towards universal health coverage.[23] The role of industries, at global and country levels, in resisting taxes on the products they produce and sell, such as tobacco and alcohol, should also be further analyzed.

The question of additionality and fungibility of the resources raised through innovative financing mechanisms should be taken seriously by Ministries of Health, and their destination and use should be closely scrutinized, in close collaboration with Ministries of Finance. This implies that Ministries of Health will need to fully engage with existing public finance management processes, push for the additional resources raised through these mechanisms to be visibly allocated to health at budget formulation stage, and follow their allocation at budget execution stage. This may require capacity building of Ministry of Health staff at central and sub-national levels.

Beyond these technical considerations, and the need for capacity building of Ministries of Health, any taxation reform will need to fit within the social, economic and political conditions of the country, particularly as compliance with taxation is closely related to level of public trust in government policy decisions, and the strength of the social contract between taxpayers and decision-makers.[28] Identifying windows of opportunity – such as upcoming elections, periods of economic growth, or even a health crisis such as Ebola or COVID (which have highlighted the fundamental importance of well-functioning health systems) – could be a first step to garner public support for increasing an existing tax or introducing a new one.

The emphasis at the international level on supporting additional taxation in LMICs, including across Africa, has been focused on VAT and income tax, and to a lesser extent on the innovative taxes described in this article.[29] Renewed support from global agencies for broader taxation reform is urgently needed. More broadly, this focus on innovative financing mechanisms should not detract from the importance of greater prioritization of health by governments.

Limitations

There are three main limitations in this study. First, there is the difficulty of defining innovative financing. Whilst our definition was based on the WHO and World Bank's initial interpretations of the term, it remains debatable as to whether increasing a tax rate is truly innovative. Nevertheless, the fundamental message of the potential for diversification through less traditional funding approaches remains valid and guided the selection of articles.

Second, there is the issue of which literature we chose to include. As we considered only literature written in English and French, this may have led to the omission of research and analysis undertaken and published in other languages. However, the fact that this review is focused on Africa, where French and English are the dominant publication languages, hopefully means that little has been missed. The focus on specific grey literature, at the expense of government or consultancy reports, may also have led to the omission of additional evidence.

Third, no quality assessment of the literature selected was applied. This was because study designs were varied and included some types of study for which standard guidelines are not available (e.g. financial modelling studies). This may mean that evidence of a lesser value has been included. Although this meant a broader range of policy considerations was included than might otherwise

have been the case, it does mean that evidence of a lesser quality may have been included.

Conclusions

Despite the limited additional revenue that innovative domestic financing mechanisms raise, and the lack of clarity as to whether they result in a net increase in health spending, Ministries of Health and Ministries of Finance must discuss such mechanisms more fully if Africa's health sector financial crisis is to be addressed. Additional research should focus on better understanding the design choices made to date and their impact on financing health, as well as on how to design these mechanisms in such a way that they are more likely to be accepted and lead to an increased overall fiscal envelope available for health.

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ANNEX 7 - Review - African countries' experiences in removing user fees for healthcare.

Aim: scoping review of peer-reviewed literature documenting the policy process associated with the removal of user fees (formal payments collected at facility level) and/ or evaluating the impact of the removal of user fees on revenue raised at facility and national levels, in Africa.

Approach:

- Search terms:
  - user charge* or user fee* or cost recovery or cost sharing or direct payment or co-payment or fee* and
  - remov* or aboli* or free, and
  - Health*
- Databases: Scopus, Pubmed, Global Health, Cochrane Library, Econlit, Embase, Medline.
- English-and French language literature.
- Inclusion criteria: Articles focused on description of the policy process of removing user fees for health; experimental or quasi experimental studies (before-after studies, RCTs, ITS) and theory-based evaluations only included for articles documenting policy impact. Articles focused on single or multiple African countries.
- Exclusion criteria: articles focusing on other health financing reforms, not about health, set outside of Africa, published prior to 1980, not in English or French, or exclusively reporting on impact indicators related to access to healthcare.

Results

The review initially yielded 5,762 articles. 2,192 duplicates were excluded. 3,570 articles were screened by title and abstract. Of these, 64 were excluded as they were published prior to 1980, 2,840 because they were not on topic, 580 because they did not discuss an African country, or set of countries, 8 because they were neither in English nor French, and finally 10 were excluded as the full text was not available.

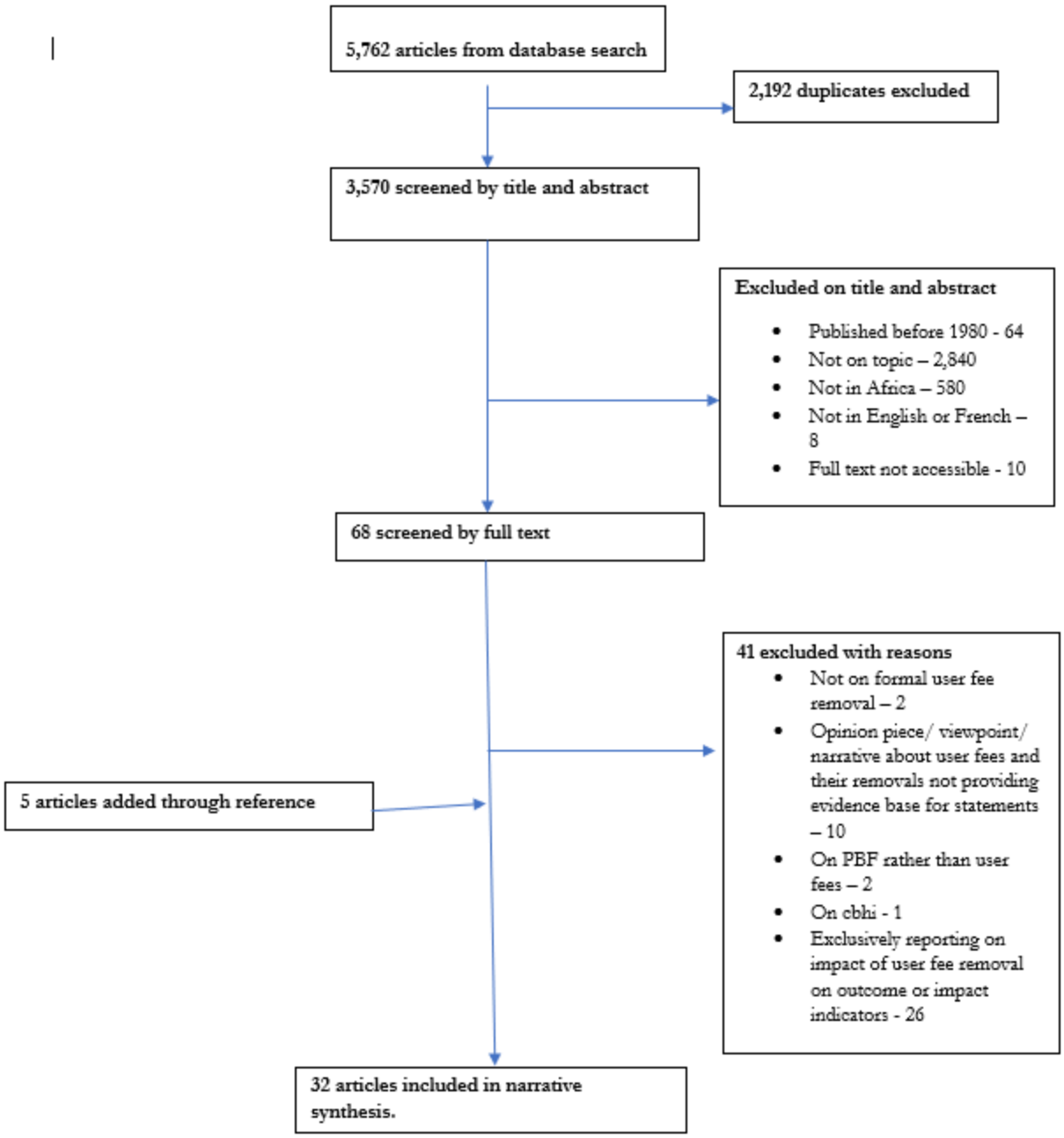
I thereafter screened 68 articles by full text and excluded a further 41 for the following reasons: 2 were not on user fees removal. 10 were opinion pieces or viewpoints about user fees removal, 2 discussed PBF, 1 discussed CBHI. Finally, I excluded 26 articles that focused exclusively on the impact of user fee removal on utilization rates or health outcomes as this relationship had been extensively reviewed[106,107]. 5 articles were added through checking references of selected articles. The remaining 32 were used for my narrative analysis (see table 1 and graph 1 below).

Table 1 – Search results per database

Database	Articles
Ovid-Medline	1,510
Scopus	24
Pubmed	2,710
Global Health	518

Cochrane	695
EconLit	207
Embase	98
Total	5,762

Graph 1 - PRISMA diagram



Of these 32 articles, 16 articles were published up to 2011 (excluding mine): 6 literature reviews on whether to remove user fees (3 of which were in the same special issue as my article), the remainder (10) were original research focused on specific countries (5 of which were Uganda). The 16 articles published since 2011 were original research (15) documenting the experience of 9 countries in user fees removal, and one literature review on the effects of user fee exemptions on the provision and use of maternal health services (see table 2 below).

Table 2: literature up to and post 2011

Type pf article	Up to 2011	Post 2011
Original primary research	10	15

Literature / desk review	6	1

Of the nine countries documented since 2011, only two (Kenya, and Zambia) implemented a full removal of user fees (i.e., for the entire population across the entire country). Seven implemented targeted removal (i.e., removal of fees for specific target groups or specific conditions/ diseases), all Reproductive Maternal New-born and Child Health (RMNCH) related: C-Sections (in Mali, Burkina Faso, North Sudan, and Benin), deliveries of any type (Morocco), maternal care (Ghana), neo-natal care (Burkina Faso) and/or under-fives (North Sudan and Sierra Leone) (see Table 3 below).

Table 3: Country representation in selected articles since 2011

Country	Number of articles	Type of removal
Ghana	4	Maternal care
Zambia	3	Full
Benin	3	C-sections only
Burkina Faso	4	C-Sections and neonatal
Kenya	1	Full
Mali	2	C-Sections
Morocco	1	Deliveries
Northern Sudan	1	C-Sections and children under five
Sierra Leone	1	Maternal and children under five

Overall, the articles identified in this literature review also documented the revenue raised at facility level through user fees, although only a small fraction of the evidence base collected provided primary evidence. Of the 32 articles originally selected, more than half discussed the impact of user fees on revenue lost (18 articles). Of these, only four provided some quantification of revenue lost: three in Uganda (where fees have raised between USD3.4M[108] and USD6M[43] per year, and 5% of total health expenditure[109]), and one in Senegal, where user fees made up nearly 96% of the lowest level facilities' budget[52]. None of the papers since the publication of my article documented revenue raised. Most reviews and some articles quote Gilson's study in 16 SSA countries which found that fees generated at the national level an average of around 5% of total recurrent health system expenditure not including administrative costs[110].

Despite this limited quantification, user fees were recognized as an important source of flexible funding for recurrent expenditures at facility level (for purchasing drugs and other essential items or supporting salary top ups and community staff/ volunteers[4,32,33,42,44,45,51,111,112]), either because resources from the central level did not easily reach peripheral facilities[4], and/ or because of limited allocation from the centre to the periphery[4].

In the countries picked up by the review, funding for removing user fees (in the form of cash to replace revenue lost, salary increases for health workers, or in-kind medical supplies) came from a mixture of government budget and foreign aid and evolved over time: donors and debt-relief agreements, which facilitated redistribution of revenue from debt repayment to social sectors of the economy, tended to provide the original financial impetus, as in Ghana[33,113] or Kenya[49]. The funding was eventually taken over by government budgets, although in countries with budget support, distinguishing between project and programme-specific donor funding and government budget was difficult. The evidence made clear

that funding for the reform across all countries was both insufficient and lacked medium to long-term time-horizon[32,43,47,114].

The review also found that whilst the lack of a transparent or clear calculation framework to assess the funding requirement to cope with the removal of user fees was identified as an issue, only one article highlighted the need to consider additional resources, over and above replacing the revenue directly lost through user fees removal[34]. The need to consider not only the cost of dealing with the previous level of demand, but also the additional demand linked to the removal of a financial barrier (user fees) did not form part of the calculation in any country highlighted by the literature. In other words, a static rather than a dynamic approach was taken in addressing the financing need question.

The literature has also highlighted the importance of considering all health system pillars when preparing for the removal of user fees:

- **Drugs and essential medical goods** –user fees were often used to purchase drugs at facility level. The great majority of studies identified the lack of drugs to cope with the removal of user fees as a negative factor impacting the implementation of the reform, as in Uganda[42,109], Burundi[45], Burkina Faso[50], and Benin[46]. In Kenya, the lack of drugs was the most common reason for poor implementation of the reform[51]. In Zambia, 31% of health centres reported stock out of tracer drugs and supply following the implementation of the reform[111,115].
- **Health workers** - health workers were similarly recognized in the literature as an essential health system factor for the successful implementation of the reform. Their lack of involvement in the development of the reform in Uganda[55], their lack of preparation and lack of subsequent support in dealing with the impact of the reform and the associated increase in workload[31,45,48], the inability to pay and motivate community staff[42] as in Senegal for example [52], and the inadequate quantity and quality of staff in general[44,111], all weakened support for the implementation of the removal of user fees.
- **Communication of the reform to health managers** and staff, and the wider population[4,32,42,43] were identified as important. In Kenya for example health workers complained that they did not understand the exemption policy well[49,51]. The same observation was made in Burundi[45] and Burkina Faso[50]. The first article for this thesis also emphasized as a last step the need to communicate clearly the policy change[7].
- **Lack of appropriate M&E system** [42] – a review of six African countries documented that weak M&E systems jeopardized the sustained impact of the reform, and user fee removal was implemented without a basic monitoring system to monitor its progress[33]. The lack of a clear system for verifying claims and lack of registry of stocks at facility level in Senegal for example hampered the continued implementation of the reform[52], as it did in Burkina Faso[116].
- **Poor infrastructure** – one article noted that poor distribution of facilities across a country worsened the ability of the population to access healthcare, which limited the impact of the reform[44].
- **Governance and leadership** – the 2022 review highlighted the need for good planning and found that the above health system limitations were in great part associated with a lack of planning. Indeed the need for clear leadership from the highest level and throughout the MoH was identified in the literature as essential to adequately prepare for the reform [44], with particular case studies provided in Uganda[42,43], Ghana [113] and Benin[117]. In Kenya[51], Burundi[45] ,

Northern Sudan[118] and Senegal[52], noting that the lack of planning and poor policy design led to poor implementation. The lack of autonomy of facility-level managers to arrange their health workforce freely was also identified as a barrier to successful implementation in Benin, Burkina Faso, Mali and Morocco[48].

The review also showed that other policy factors could determine whether user fees would be chosen as a policy reform, and whether their removal would be successful in improving people's access to care. I have organised these along the ideas, institutions and interest variables outlined in my conceptual framework, although they were not presented as such in the literature. I distinguish between agenda setting and policy formulation throughout.

- **Role of interests–** the politics stream i.e. the interests of high level national decision makers regularly drove the identification of user fee removal as a priority national agenda for reform, in countries such as Burundi[45], Benin[46], Ghana[47] where removing user fees (the policy) became a winning political platform, symbolic of social reforms demanded by the populations (the problem). In Uganda for example[42], President Museveni removed fees during a political campaign, pushed by another presidential candidate[43,55]; In South Africa, it was one of the first decisions of the post-apartheid government[32]. The material interests of key affected stakeholders, in particular whether health workers stood to win or lose from the removal of user fees, was also highlighted as key in Uganda[55] and Burundi[45]. Indeed, in both countries, the removal of user fees led to an increase in workload, a loss of revenue associated with the removal of user fees and a decrease in the level of motivation of health workers, as well as low level of support to the actual implementation of the reform.
- **Role of ideas and ideologies** – the idea of user fees as a way to raise additional resources and curb frivolous demand was counter-balanced by the accumulated evidence on the negative impact of user fees on utilization rates (the problem), particularly for the poorest segments of the population. This shift in ideas played a role in the MoH[48] succeeding to bringing the reform onto the policy agenda in Uganda[32] , Kenya[49] and Burkina Faso[50]. The shifting ideology at the global level was also identified as influencing the agenda setting. The idea of user fees removal was however not always well understood by health workers, as in Kenya or Senegal for example[51,52].
- **Role of institutions –** direct (funding) support and push by external funding agencies and international NGOs surprisingly contributed to a limited extent to this reform being set as an agenda for reform[53], as in Liberia or Burkina Faso for example[33]. In terms of implementation, informal institutions and their structure impacted the removal of user fees. Cultural barriers for example such as stigma or incompatibility of services with cultural norms[4,47], religion, marital status, and parity in Ghana[54] were identified as limiting access to health services; community structures also influenced the removal of user fees where community health services were the core actors as in Uganda's user fee policy implementation process[55]; the lack of understanding of the policy by the population, partly caused by high rates of illiteracy, similarly limited the impact of the removal of user fees[32,47,51,52] in Mali for example[56].

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