Ophthalmology Perspective

Applying principles of health system strengthening to eye care

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Understanding Health systems have now become the priority focus of researchers and policy makers, who have progressively moved away from a project-centred perspectives. The new tendency is to facilitate a convergence between health system developers and disease-specific programme managers in terms of both thinking and action, and to reconcile both approaches: one focusing on integrated health systems and improving the health status of the population and the other aiming at improving access to health care. Eye care interventions particularly in developing countries have generally been vertically implemented (e.g. trachoma, cataract surgeries) often with parallel organizational structures or specialised disease specific services. With the emergence of health system strengthening in health strategies and in the service delivery of interventions there is a need to clarify and examine inputs in terms governance, financing and management. This present paper aims to clarify key concepts in health system strengthening and describe the various components of the framework as applied in eye care interventions.

Key words: Global eye health, health interventions, health systems, systems thinking

Access this article online

Website: www.ijo.in

DOI: 10.4103/0301-4738.100553

Quick Response Code:

The notion of health system appeared in international health in the 1990s when health experts realized that disease-specific interventions such as HIV AIDS, malaria or trachoma control programs did not produce the expected outcomes (i.e., the improvement of the health status of the population) due to the lack of capacities within health systems in low and middle income countries (e.g., lack of qualified staff, low level of health spending). Previous debates around health systems raised comparisons between vertical versus horizontal programs. Eye care was at the heart of this debate, as a few eye care interventions in developing countries had been, in the past, vertically implemented (e.g., trachoma, cataract surgeries) often with parallel organizational structures (e.g., a parallel supply chain of drugs and consumables distinct from the supply chain of the Ministry of Health) or specialized services (e.g., an eye hospital only delivering 'comprehensive' eye care services). The functioning of eye care modified itself around centralized, decentralized, and mixed models of health systems.

In 2010, during the First Global Symposium in Health System Research in Montreux, Switzerland, all the keynote speakers recognized the need for combining health system strengthening with any health intervention. With the emergence of health system strengthening in health strategies, the debate is not about why health system strengthening should be a component of every health intervention but more about how to strengthen a health system to support the delivery of intervention. The present paper aims to clarify key concepts in health systems strengthening and describe the various components of health systems strengthening through concrete examples of eye care interventions.

What is a Health System?

The first task of public health scholars was to clarify the definition of health system. In the 1990s, the notion of the 'district health system' was seen as pivotal for health sector reform[1] and the 'modernization' of the state,[2] which started in the 1980s.[3] This decentralization strategy consisted of a transfer of responsibilities and decision-making power from central to district authorities within the various functions of health service management (i.e., finance, service organization, human resources, and general governance) to a well defined population in a delineated administrative zone. The main objective was to increase the capacities of district managers to respond to populations' needs and bring decision-making services closer to populations.

In The *World Health Report 2000*,[4] World Health Organization (WHO) complemented the definition of the district health system with the concept of 'health system.' WHO defined a health system as 'all organizations, people and actions whose primary intent is to promote, restore or maintain health.'[4]

However, this definition reflected neither the interactions between actors nor the ongoing adaptations within systems in response to the changing environment [Fig. 1]. Upon examination of the applications generated by this definition, it becomes apparent that the definition was a clear response to both the increasing demand from international donors for better accountability,[5] as well as the need for appropriate health system performance assessment tools and methods.[6]

Defining a health system has become more challenging in a globalized world, due to the multiplicity of actors intervening on different scales and the increasing interactions between global health policies and local health systems. Analyzing health systems consist in understanding how health systems are structured and governed. Every country has a unique health

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Manuscript received: 12.06.12; Revision accepted: 28.06.12

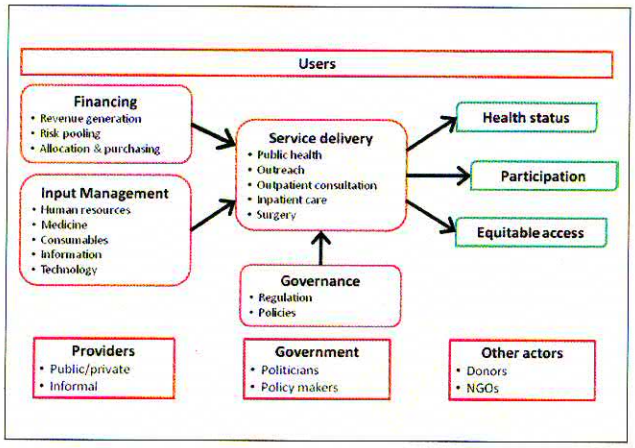

Figure 1: The health system: actors, functions, and objectives (Adapted from WHO[7] and Islam[8])

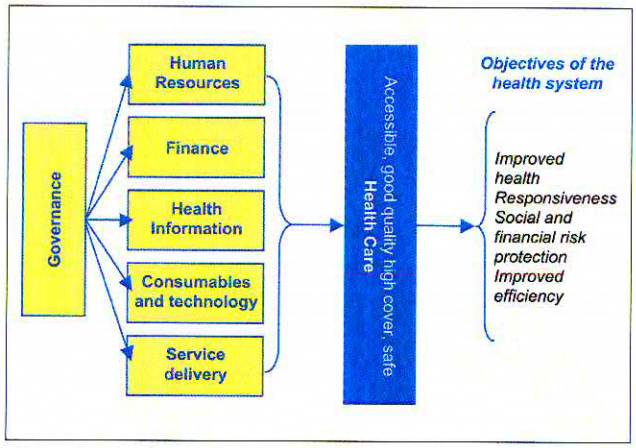

Figure 2: The different foundations of the health system[10]

system characterized by the role of the government in the health system (e.g., liberal, socialist), the values of the health system (i.e., more or less equitable), the model of financing (e.g., taxes or private insurances), and its history.[9]

Examining Eye Care Programs in the Context of Health Systems

Eye care has traditionally been established as an entity separate from the rest of health care, although the VISION 2020 strategy has extensively promoted the integration of eye care services. This is because the majority of eye care services do not require the input of any other health services (e.g., an anesthetist is not required for adult cataract surgery whereas they might be required for an orthopedic surgery). This has led to the existence of eye hospitals and eye clinics which stand alone from the rest of the health care structure. This history has meant that eye care has been late in realizing the importance of health systems as an enabling factor [Fig. 2].

VISION 2020: The Right to Sight aims to eliminate avoidable blindness by the year 2020. This aim will not be achieved by 2020 by eye care services acting in isolation. Eye care staff need to engage with the wider health system, identify ways to interact with their peers, influence decision makers, and advocate for change. Increasing magnitude of blindness due to noncommunicable eye diseases such as glaucoma and diabetic retinopathy are dependant prevention following on early detection, and raise the urgency to shift from vertical to more horizontally integrated programs. This change is far more likely to occur, be effective, and sustainable if a health systems strengthening approach is taken.

Governance

The governance function is mainly under the responsibility of the government. The Ministry of Health has the responsibility of improving the health status of the populations, ensuring equal access to health services for every socio-economic group of society, ensuring that the resources are distributed so that health services can respond the needs to the population and providing general guidance to the actors of the health sector.[7] The government can use several tools to influence the governance of the health system: elaboration of policies, allocation of budget, elaboration of quality standards and regulations, and introduction of incentives. In the table below [Table 1], examples of tools used by governments to influence eye health systems are described.

Service Delivery

Health services can be organized in various ways, hence the diversity of health systems in the world.[11,12] Eye care services can be delivered through the private sector, the not-for profit sector or the public sector, in facilities or in outreach, by eye care professionals or eye care volunteers, through a vertical or horizontal program.[13-19] The main issue in eye care is access and demand.[10] Access to services and coverage of needs is influenced by the model of service delivery adopted by the country. This encompasses, for example, the degree of decentralization of the health system (i.e., at which level of the health system are decision made?),[2,20] the geographical distance between health facilities and residents (e.g., How many facilities are available per population?),[16] the range of services offered at different levels of the health system (e.g., what services are offered by community eye care workers? How many ophthalmic nurses should work at the district level? Should we train cataract surgeons?),[21-24] the level of quality of care offered by facilities.[9,25,26] The function of service delivery is under the general responsibility of the Ministry of Health although service providers, donors and nongovernment organizations (NGOs) have a key role to play. The following table [Table 2] illustrates the types of decisions that can be taken and their potential impact on the health system.

Financing

Financing is a key element of the health system and is an issue of how much money should be invested into eye care but also where to allocate the funds to obtain the best value for money.[27,28] Thus, efficiency and equity are the two objectives of health financing.[29] Understanding the financing system of an eye health system consists of identifying the various sources of funding of the health system (i.e., taxes, health insurance, user fees, international aid) and where this money is spent (i.e., types of expenses covered (equipment, maintenance,

Table 1: Examples of governance tools used by governments and their potential impact of the eye health system

Governance tool	Expected impact on the eye health system
Introduction of incentives for the deployment of eye care staff in remote areas	This measure can influence the behavior of eye care professionals and encourage them to work in rural areas
Accreditation of private eye care structures (e.g., eye clinics, optical shops)	Through accreditation, the Ministry of Health can control the creation of new private providers and ensure that they respect the minimum standards of quality
Exemption of user fees for poor people	The government may declare eye care services for people who are indigents. This category of the population will be exempted of paying user fees
Inclusion of eye care into the national health insurance scheme (e.g., Ghana)	The population has access to eye care services (e.g., cataract surgeries) for free at the point of delivery when they become members of the national health insurance scheme

The governance of the health system is also influenced by nonhealth governmental actors. For example, the Ministry of Economy may lower the taxes of imported pharmaceutical goods, which will have a positive impact on the cost of eye care services. Or the policies of Ministry of Education may have an impact on the literacy rate, which in turn influence the utilization of health services

Table 2: Examples of service delivery tools and their expected impact on the eye health system

Service delivery tool	Expected impact on the eye health system
Decentralization of services (e.g,. Ethiopia): the decisions concerning budget, planning, and allocation of resources are made at different levels of the health system	Hospital managers and health district managers can respond and adapt to shocks affecting the local health system: e.g., resignation of an ophthalmic nurse by recruiting a newly trained nurse, motorbike breakdown by allocating a budget line for repair
Integration of eye care services into the general health system (e.g., Mali)	All the mechanisms in place in the general health system will be applied to eye care: e.g., patient record, budgeting, patient circuit. This will help strengthen the collaboration links between eye care professionals and other health professionals.
Introduction of outreach activities with the help of community eye care workers (e.g., Togo and North Mali with the Swiss Red Cross)	Most patients need to travel long distances for eye care consultations. One strategy to bring eye care services to the population is to conduct outreach consultations in communities where community eye care workers identified patients
Introduction of quality assurance (e.g., Ghana Quality Assurance in Eye Care)	The quality of care can be improved by first elaborating a quality assurance system consisting of the elaboration of quality standards, the training of eye care staff, and the monitoring of the quality indicators.

running costs, consumables, medicine, salaries), types of activities covered (facility-based, eye camps, outreach), and type of facility funded (primary, secondary or tertiary levels)). Understanding how money is allocated by government and which sources of funding are used can be of great interest for organizations on Health Rights to advocate for better equity in the allocation of resources.[27,30] This is also an excellent way of comparing the volume of public spending in eye care compared with other areas of the health sector (e.g., HIV AIDS, malaria). The financing system is governed by all the actors of the eye health system: the users who pay user fees or their insurance premium, the government who collect taxes and redistribute them within the health system, the health providers who collect user fees and receive money from the government and donors and NGOs who contribute to the financing of the health system [Table 3].

Input Management

Input management concerns the procurement and supply of medicine, the investment and maintenance of equipment and facilities and the recruitment, training, and deployment of human resources. The shortage of drugs has been a key factor for under utilization of health services.[26,31,32] This is then essential to ensure that the supply chain of drugs is not interrupted and the quality of medicine is guaranteed (e.g., respect of cold chain, monitoring of expiry dates). In terms of management of human resources, the areas that need to be considered: the number of eye care professionals and the profile needed in relation to the needs of the population and the country, the volume of the active workforce and its distribution in the country, and the number and profile of eye care professionals leaving the system (retirement or emigration).[33,34] In the table below, a few examples of strategies are listed to understand how they can have an impact on the health system [Table 4].

Health System Strengthening: A Paradigm Shift

Strengthening health systems requires a wide range of skills not only to be able to table issues in various areas (e.g., governance, management, finance) but also to be able to collaborate with diverse actors that have different agendas and priorities.[35] Health system strengthening also requires a paradigm shift within international health.[36]

Health system strengthening is a complex intervention that requires a good understanding of how the eye health system functions and how the eye health system is connected with the general health system. In 2012, innovations were introduced

equipment, consumables, staffing, skills, and infrastructure but might struggle with following up on patients (ensuring that their refractive error is corrected) or monitoring outcomes.

Addressing these challenges depends on the functioning of the hospital and its operations. A low income setting will require different approaches to improve quality when compared with those taken by a high income hospital. This makes understanding the context of the hospital critical before making any changes to improve outcome.

Monitoring

A critical component in improving outcome is monitoring. In the absence of monitoring, it is not possible to assess what needs to change and difficult to determine the impact of any interventions designed to change the service.

A regular clinical (medical) audit by the service provider is a good way of monitoring clinical outcome.

Monitoring is time consuming and expensive. Often there is resistance from medical staff as they feel that monitoring outcome is also a measure of their performance. However, without an effective monitoring system it is not possible to assess whether the service being provided is effective.

Monitoring clinical outcomes is usually simpler than monitoring patient reports. Patient reports add a further level of complexity into the monitoring system as they require a different approach to collect, comprehend, and disseminate.

Summary

Evidence suggests that the clinical outcome of surgery in many LMICs is sub-optimal. However, outcome of cataract surgery is integrally linked to every aspect of the cataract surgical service and as a result the process of improving outcome is complicated.

When addressing poor outcome the relative development of the cataract surgical service must be assessed and any planned interventions must reflect this development. For example, there is no point in investing in patient-centered care when there is no surgeon.

The complexity of measuring outcome must be tempered by the necessity to collect outcome, both clinical and patient reports. Without outcome data it is not possible to assess the effectiveness of the service, or address issues in the service.

Conclusion

Collecting information on clinical and patient reported outcome is critical for every cataract surgical service to continue to improve. Monitoring outcome should be as integral to the service as performing the surgery.

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Cite this article as: Lindfield R, Vishwanath K, Ngounou F, Khanna RC. The challenges in improving outcome of cataract surgery in low and middle income countries. Indian J Ophthalmol 2012;60:464-9.

Source of Support: Nil. **Conflict of Interest:** No.