Josefien van Olmen, Bart Criel, Wim Van Damme, Bruno Marchal, Sara Van Belle,
Monique Van Dormael, Tom Hoerée, Marjan Pirard and Guy Kegels

Analysing Health Systems To Make Them Stronger

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Authors:

Josefien van Olmen, Bart Criel, Wim Van Damme,
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Guy Kegels

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Executive Summary

The attention for Health Systems (HS) and Health Systems Strengthening (HSS) has re-emerged in the frontlines of global debate since several years. This document aims to clarify the authors' ideas and visions on HS development by presenting a framework for description and analysis. *The book outlines a framework that can be used by anybody wishing to analyze and strengthen HSs and it elaborates a vision for discussion.*

This working paper is the *product of a consultative process* that started with a literature review on models and frameworks on HSs and HSS. In consecutive discussion group meetings, including members of in- and outside the department, and invited visitors from partner institutions, more than twenty persons participated in the first draft of the text. The editorial team wrote out the paper's drafts, which were circulated for comments, before finalizing it. Thus, this book is broadly supported beyond the authors' team.

The framework presented is developed for the analysis of any HS at national, intermediate or local level. Furthermore, it can be loaded with specific values and principles so that it becomes normative. As such, it can contribute to the development of strategies for action. *Ten elements* or functions are identified as essential and constitutive of any HS (see fig): 1) goals & outcomes; 2) values & principles; 3) service delivery; 4) the population; 5) the context 6) leadership & governance; and 7-10) the organisation of resources (finances, human resources, infrastructure & supplies, knowledge & information).
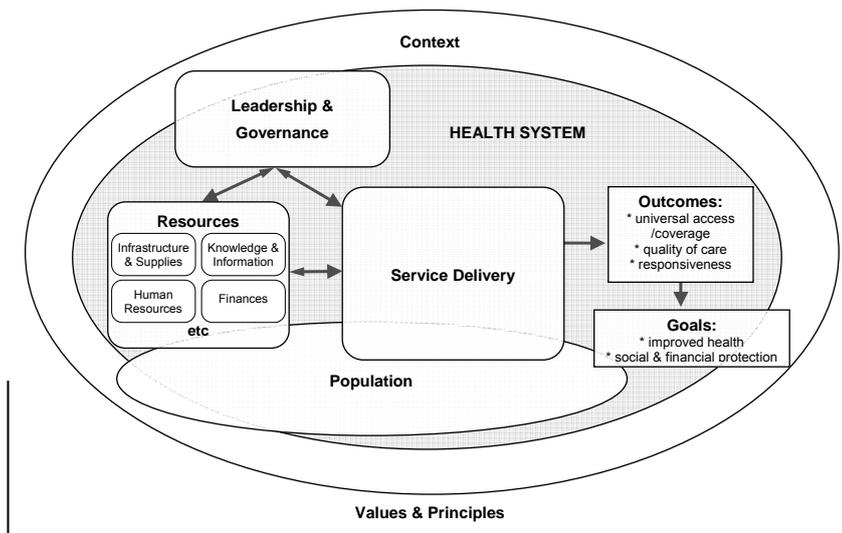
Figure 1. The HS framework in its generic form

The emphasis of the framework is on *outcomes and goals*. As such, it looks at performance, but it takes into account the important influence of the other factors in- and outside the system. *Service delivery* needs managerial and organisational attention in order to produce outputs that lead to outcomes. And, services cannot be productive without proper *allocation and management of resources*. Both these functions are to be governed, which means that the *leadership* role of the system is crucial. But, a HS is part of the public domain, which implies the involvement of the *population* is involved, on the receiving end as patients and, via representation and other means, in having control over all HS functions. Finally, HSs have only a partial influence on the final outcomes. Many other *factors outside the system* determine people's health, like hygiene, sanitation, education... And, many factors have a direct interaction with and profound influence on the system's functioning, e.g. the international community and donors, the economic status of the country, pharmaceutical companies, et cetera.

The arrows in the framework indicate that the relations between the elements are reciprocal and interconnected. The context encircles the HS, able to influence whatever part of the HS. And the population touches on all elements of the system, indicating its omnipresence. Indeed, *HSs are complex adaptive systems*. This implies interdependence and interaction between its elements, including feedback loops, emergent, generative and non-linear processes, leading to dynamic equilibriums between operating forces and to sometimes or partly unpredictable results.

This book consists of three parts. The first is the main part and develops in depth the characteristics of all ten elements and discusses their interactions. The authors' views are each time highlighted and controversial topics described. The second part gives a view on HSS and deepens the processes of problem analysis, stakeholder analysis and coordination of interaction and adaptation. It ends with five guiding principles to guide decision-making and action. The third part illuminates how the framework can be used, applied to different levels and ends with three illustrative case studies. The annex gives an overview of frameworks that have been developed by other authors, and that have been instrumental as a starting point for the deliberations that let to the present framework.

Our vision in summary

The *goals* for a HS are improved health, social and financial protection, and responsiveness to the expectations of the population. To contribute to these goals, the HS should organise health services that ensure universal access, for all citizens, to care of good quality that is responsive to the actual needs. This requires strategies with a collective and an individual dimension. Financial protection refers to the protection of people against the economic consequences of disease, whilst social protection also embraces the vulnerability of ill people.

Access relates to how many people can use a health service, while coverage is traditionally used to define the proportion of a target population that benefits from an intervention. Providing access implies searching for a balance between responsiveness to people's felt need and excessive medicalisation and overconsumption of health care. Utilisation rates can be used as an indicator of comparison. *Quality* of care and of other health service interventions comprises effectiveness, efficiency, safety, patient-centeredness, integrated and comprehensive care, continuity within and beyond a single episode of disease and beyond the visits to one specific health institution. *Responsiveness* is being responsive to the needs and demands of the population and its different subpopulations, at individual level and community level. Package of care should be defined taking into account both rationally defined health needs and the broader demand of individual patients and the population for health care. It should evolve along with changes in those needs and demands.

Often implicit, *values* influence the debates around HSs and the choice of directions. Examples are 'health care as a right', 'participation', 'solidarity', 'choice', 'autonomy', 'security and protection'; 'efficiency and effectiveness'; 'maximization or optimization'; 'individual and collective perspective'; 'a cosmopolitan or national paradigm of social justice', 'equity', 'sustainability'. The variation in interpretation and valorisation of values and principles and the underlying tensions result in major challenge to decide on common goals and values in a HS. The values at stake and the balance are unique in each context. Priority setting should take place at country level, in view of technical and rational criteria and broader societal values, whereby existing power balances cannot be ignored.

HSs are overall shaped and influenced by wider societal change and function as social institutions reflecting the society in which they are embedded. *Interaction with the context* involves a continuous reaction and adaptation to social, economic, technological, cultural,

political, regulatory and environmental developments and transitions over time.

Health services are all services that have as primary purpose the improvement of health. They are very diverse in nature and are delivered to the population via multiple modes and channels. The context of scarce resources, rationing and optimisation of results often leads to a selection of prioritised interventions. The choice for delivery platforms depends on the nature of the service, the capacity of these platforms and other factors such as regulation and disease burden. A strong HS is composed of a mix of platforms that is highly path-dependent, but somehow balanced.

The character of service providers can be described as private or public, for-profit or not–for-profit, formal or informal, professional or non-professional, allopathic or traditional, remunerated or voluntary, although boundaries are blurred. Most HSs are pluralistic, constituted of a complex mixture of categories, partly as a result of planning and organisation and partly due to personal initiative or spontaneous evolutions. We believe that at local level, HSs should function as an integrated system, meaning that there are no gaps in access, an optimal flow of patients and information and the patient is helped at the most appropriate level. The first line health services are at the core of this system.

The *population* is involved in the HS as patients or customers, but also as citizens having certain rights and obligations and as funders or even suppliers of care. The concept of participation includes a wide variety of approaches on a scale towards increasing empowerment, from mobilising people to contribute to inputs, over common decision-making processes, towards increased capacity to autonomously recognize and act upon situations. The striving for empowerment as an important goal, both at individual and at community level, needs different approaches at the supply and demand sides. As customers, people's health seeking behaviour is determined by choices that are usually based on a pragmatic and

eclectic basis. Important determinants are physical and financial access, the reputation of and trust in a provider or a facility and contextual socio-cultural constraints.

Service delivery is closely linked with all other elements in the HS. The availability of resources, especially qualified staff, and the organisation of their use determine the possibilities for service delivery. It is a governance task to determine the optimal delivery models for different health services in society and to steer and motivate providers to behave accordingly.

Governance is defined as policy guidance to the whole HS, coordination between actors and regulation of different functions, levels and actors in the system, an optimal allocation of resources and accountability towards all stakeholders. Although many actors have an influence on governance, there is a central role for the state in ensuring equity, efficiency and sustainability of the HS. This requires a strong capacity at the Ministry of Health (MOH), its decentralised structures and local governments. The HS is accountable to the population at all levels, from the individual provider towards the patient and from the MOH towards the overall population.

Financing involves the acquisition, the pooling and the allocation of financial resources in such a way that it contributes to goals and outcomes, taking into account equity, efficiency, accountability and sustainability. The way in which different health services are financed and how providers are paid influences directly what type of services are being delivered in which way and thus the access to services in general.

The transaction intensity of many health services makes professional staff one of the scarcest resources in many HSs. The *health workforce* can only meaningfully contribute to the performance of the HS, if health workers are available, competent and performing up to standards. To create an enabling environment, human resource management ideally consists of a mix of financial and non-financial incentives, control and sanctions and values and ethics.

Developing the HS *infrastructure* implies enough health facilities, within proper reach of the population that are well-equipped and well-maintained. *Drugs* are a crucial commodity in any HS. Frequent problems are their poor availability, supply and quality, the poor financial accessibility and inadequate prescription or use.

Information and knowledge is needed for monitoring, evaluation and research, clinical decision-making, organisational management and planning, analysis of health trends and communication. The priority of routine information systems should be their potential to contribute to sound decision making, limiting the collection to those data that are necessary for that purpose and be kept as simple as possible. Knowledge and information needs to be shared in all directions, vertically and horizontally, so that the ongoing processes of research and practice can feed each other. This urges for research of all sorts, for pilot projects, for communication and sharing of results, and for the assessment of constraints to further implementation.

HSS is a continuous development to improve the performance of existing HSs. It involves a root cause analysis of problems and an analysis of the power and interests of important actors in relation to the issues at stake of their relations. HSS interventions often lead to tensions between actors and resistance to change, because they affect the existing power relations or the distribution of resources and because they require adaptations of actors. The steering of this process is part of governance and leadership, which encompasses the coordination the interaction and negotiation between actors; the creation of mechanisms for priority-setting; balancing of different interests; and steering actors. The following principles should guide any HSS efforts: 1) The most important capacities of HS need attention first: the governance function, the health workforce component and the service delivery component; 2) Strengthening the overall system capacity requires the coordination of efforts based on a *coherent* policy, vision and long-term view, clearly linked with goals and values; 3) Strengthening governance is a long-term effort, necessitating

continuity in time and the creation of structures to ensure institutionalisation of processes; 4) Alignment and coordination should be improved through dialogue, in addition to other steering mechanisms such as bureaucratic control and financial incentives; and 5) HSS entails a continuous interaction with and adaptation to context and transformations in time, in which gradual change prevails.

Acronyms

DCP	Disease Control Programme
DPH	Department of Public Health
GERM	Groupe d'Etude pour une Reforme de la Médecine
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
HR	Human Resources
HS	Health System
HSS	Health System Strengthening
ITM	Institute of Tropical Medicine
Km	Kilometre
LIC	Low Income Countries
MOH	Ministry of Health
NGO	Non Governmental Organisation
PFP	Private For Profit
PNFP	Private Not For Profit
WHO	World Health Organisation

Acknowledgements

Introduction

Background

The attention for Health Systems (HSs) and Health Systems Strengthening (HSS) has re-emerged in the frontlines of global debate since several years, but has become part of the domain of public health since the 1960-ies. During that period, characterised by a global context in which optimism and a comprehensive vision on personal and societal development and social values dominated, an awareness of the concept of a HS and of health gradually emerged, that included much more than the medical and technical focus of the preceding decades. Donabedian was one of the first to look at the interrelations and processes in health care and outcomes and to describe the quality of care in those terms (Donabedian 1978;Donabedian 2005). The Alma Ata conference was a landmark event in the development of primary health care and the linking of health with the broader context and development (Alma Ata 1978). In the period thereafter, the focus shifted gradually to a more focused approach of technically formulated interventions. This gave rise to a fierce and long debate between advocates of comprehensive and selective approaches, also framed as horizontal and vertical, or general health care versus disease control interventions.

The DPH of the ITM, to which the authors of this document are related, participated in the development of the primary health care movement and international public health. While being involved in action-oriented research, the department gradually deepened and broadened its own vision on public health and HSs (Kasongo Project Team 1981). Its approach to HS, more specifically health service organisation and the organisation of health systems at local level, was not only descriptive but also normative.

Departing from the basic assumption that health is the result of a balance between different domains of human life - physical,

psychological and social well-being (World Health Organisation 1946), the guiding principles for health service organisation were: the relativity of health and health care as a priority for people; the importance of participation of the population, not only understood as instrumental but also leading to empowerment; and the premise that decisions on health interventions should be technically sound and also guided by efficient use of resources.

Strategically and methodologically, analysis and action were guided by systems thinking, acknowledging that activities cannot be conceived in isolation and that there is a constant need for adaptation to and development with the context. This view is in line with the present concept of 'complex social systems'. It led to an emphasis on local planning and bottom-up approaches to influence policy-making. Systems' thinking indeed leads to reluctance to one-size-fits-all processes and systematic standardisation on issues where social dynamics and relations are as important as technical factors.

The conceptualisation of HSs at national level started in the eighties, with models that describe actors and processes. The broad definition of a HS as "all organizations, institutions and resources devoted to producing actions whose primary intent is to improve health" has become widely accepted, but the further elaboration into explanations and strategies has been subject to various interpretations (World Health Organisation 2000).

Frameworks for HSs serve different purposes, from describing or analysing existing situations to predictive and prescriptive models (Hsiao *et al.* 2009). The difference between various frameworks is not always obvious and many contain elements of all these aims. There are comprehensive frameworks for the national level, of which those of the World Health Organisation (WHO) are most dominant (World Health Organisation 2000; World Health Organisation 2007; World Health Organisation 2009). A HS analysis can zoom in, resulting in frameworks for subsystems. There are frameworks for specific 'building blocks' (e.g. a fund-flow framework), for the interaction between actors (e.g. a demand-supply framework) or between different

components (e.g. frameworks for integration between programmes and health services). An important framework that is focused on the subsystem of primary health care, but that at the same time links very well with the overarching goals and other elements of the HS, is provided by the World Health Report 2008 (World Health Organisation 2008a). Lastly, HS can be looked at from different levels, which brings about frameworks for local health systems or individual health care delivery organisations. A more detailed description of existing frameworks over time is given in annex one.

Origin, aim and scope of this book

The development of this book started from the felt need in the DPH of the ITM to re-clarify its ideas and visions on HS development. From its origin, the department has worked on HSs and HSS, although some terms were different from those used today. *This book aims at providing a framework enabling a comprehensive view on a HS, its composing parts and its functioning.* This framework is certainly based on a common history, but the thoughts of the authors are neither static nor entirely homogenous. Views continue to evolve, both in reaction to transitions in the world and inspired by new contacts and fresh ideas. Hence, the need to bring old and new ideas together and produce a snapshot of the current thinking. It can be a reference document for students, staff and any interested person, in their work on HS and HSS. It provides a comprehensive vision, explaining general concepts and giving detailed descriptions on specific topics and subsystems within HS(S). It deals with questions such as: What is a HS? What do we understand by HSS? What are the relations and tensions between different points of view? The book aims to reflect a spectrum within our 'schools of thought' on HS matters.

The starting point for this book was a literature review on HSs and HS frameworks for HSS. Some of the studied frameworks are briefly highlighted in annex one. Combining these insights with those developed by the DPH over the course of its existence, a proposition

was formulated and discussed in five consecutive meetings. The participants of these meetings were experts of different departments of the ITM and experts of collaborating institutes. These discussions led to the drafting of a discussion text, which in several consultative rounds was amended by other reviewers. The application of the framework was tested with MPH students and in case studies which were presented at the Geneva Health Forum 2010. A few examples of these applications are given in annex two. Over 30 people took part in this reflection and formulation process. The final version of this book has been further refined and edited by the group of authors.

This framework primarily serves an analytic purpose. It is meant to analyse the structure and functioning of HSs at national, meso- or micro-level. It is possible to compare the outcomes or ways of organising elements of different HSs with each other, but this book does not give a classification of HSs. In order to be able to compare specific interventions across HSs, such a typology would be useful. The existing attempts for typologies include characteristics like the level of income of a country, its institutional financial arrangements, the availability of human resources, kind of service delivery and the health status of the population. Most classifications don't lead to a clear relation with performance and thus it seems very difficult to construct a predictive and/or prescriptive framework (McPake *et al.* 2009; Paris *et al.* 2010; Riley 2008). Nevertheless, the links between the different elements in our framework help to understand the relationships between certain HS characteristics.

Policy-makers and implementers also need strategic frameworks that help to decide what to do, how to do, and what results to expect (Reich *et al.* 2009). We believe that one universal framework for such purpose is not possible. However, the analysis of specific HSs with frameworks like ours and the meta-analysis of these applications will contribute to a number of principles for action. In the second part, we list a number of guiding principles for HSS.

A framework for analysing health systems

This paper's framework incorporates common elements of many frameworks such as the WHO building blocks, but intends to go further (World Health Organisation 2007). It emphasises that a HS should be geared towards outcomes and goals and that HS are and should be based on values and principles. Resources are present as input in the HS, but we consider the organisation and delivery of health care services the most central element. Besides this, HSs interact with the population and with other actors, in a particular context. This brings us to a framework consisting of ten elements: 1) goals & outcomes; 2) values & principles; 3) service delivery; 4) the population; 5) the context 6) leadership & governance; and 7-10) the organisation of resources (finances, human resources, infrastructure & supplies, knowledge & information).
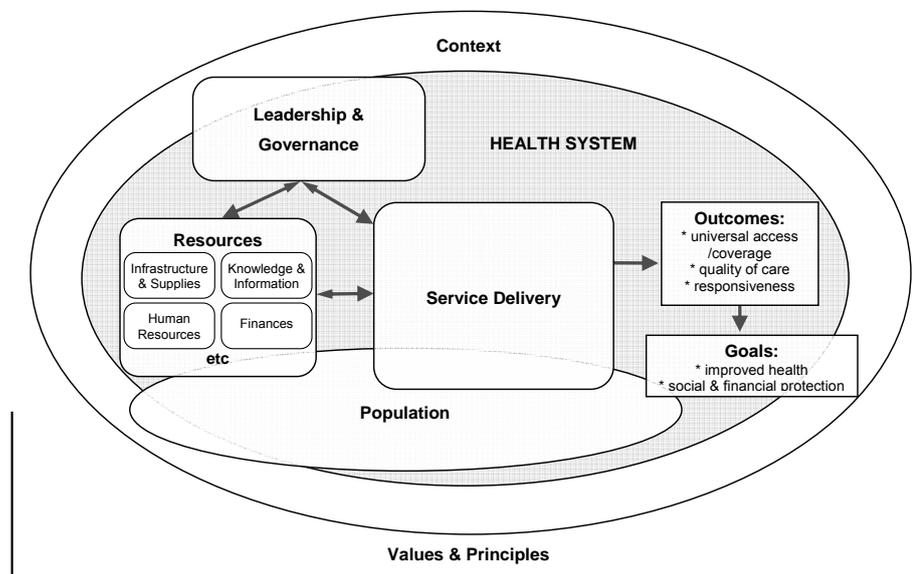
Figure 1. The HS framework in its generic form

The framework is compatible with a view on HSs as complex adaptive systems. It suggests that elements are interdependent. There are a lot of possible interactions in all directions between the elements, such as feedback loops, generative processes and emergence. Processes in such a system are often non-linear result from forces operating between dynamic equilibriums. Besides, HSs are open systems and influenced by context and history.

This is the most basic form of the framework, which can be used to analyse an existing situation systematically. It can be used at different levels (national, district, health care organisation) or for particular problems. Some applications are attached in Annex two. We will elaborate how the context of each element and the relationship with other elements can be described, to enable the use of the framework. We will make our views on the elements and interactions explicit. Thereby, we present a vision on a HS and HS strengthening that is based on values and principles, which is a normative application of the framework.

Goals & Outcomes

Values, goals and outcomes are strongly related with each other, but are not the same. Values underlie the choice of goals of a HS, which determine the outcomes to strive for and the choice of strategies that will be put in place to reach these outcomes. In the outcomes box[1], we place the direct results of the organisation of the health care system and the delivery of care. Attributes like efficiency, sustainability and others also could be mentioned there, but we consider these as underlying values that are important for all the processes in the health system and discuss them in the next chapter.

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[1] We prefer to see access, quality and responsiveness as 'outcomes' instead of 'outputs', since this is a step further in the process. Outputs are measurable products of health services leading to outcome, for instance, the coverage of specific interventions.

Goals represent the final sought impact of HS measures. Their attainment is not dependent on the HS only, hence its place in the framework partly outside the HS. Social, economic and other determinants of health have a major impact, especially on health outcomes and on well-being and satisfaction of people in general. Social and financial protection is also influenced by the wider institutional arrangements in and the organisation of society.

In the literature, both goals and values are used as general terms, but there are important differences in nuance of interpretation and in the choice of balance between the goals and values which reflect underlying fields of tension. The interpretation of goals and the choice for a balance between goals is a reflection of the interests, and the underlying values among actors inside a country or local health system. This is also influenced by the power of different actors in the HSs, the political context and the influence of external actors. This is further elaborated in the chapter 'interaction with the context'. It is an element of governance to make these different values and tensions explicit, to coordinate and steer the process of negotiation in a transparent way and to give accounts to the actors in the process and the population about the choices made. Tools for assessment of these goals depend also on the interpretation and usually capture only part of the reality.

The goals for a health system have been described by the WHO in 2000 as: improved health, social and financial protection, and responsiveness to the expectations of the population (World Health Organisation 2000). The term responsiveness is the most debated term. In our vision, the core function of the HS, in order to contribute to the above goals, is to organise health services. Health services is a broad term that includes a range of benefits, such as programmes, interventions, goods and services (World Health Organisation 2007). The outcomes of service delivery are: universal access for all eligible citizens, to care of good quality that is responsive

to the needs of people.[2] We will discuss each element separately and clarify our specific interpretation of it.

IMPROVED HEALTH

Health can be considered narrowly as 'absence of disease' or, more holistically, as physical, mental and social wellbeing (Alma Ata 1978) and WHO foundation, 1946. Improved health is often measured as a decrease in burden of disease, with indicators such as crude and disease-specific mortality rates, Disability Adjusted Life Years, Quality Adjusted Life Years and Disability Adjusted Life Expectancy, which capture mainly the first aspect of improved health, the bio-medical aspects of health. It is difficult to capture the broader definition of health in an indicator that could be measured at population level.

We agree with the WHO concept of health. The HS can contribute to improved health by focusing both on the population dimension (for example through prevention and health promotion that aims at decreasing the disease burden) and on the individual level through provision of curative and rehabilitative care.

SOCIAL AND FINANCIAL PROTECTION

Financial protection refers to the economic consequences of disease and usually refers to arrangements for access to care of decent quality and for ensuring income and financial support in case of sickness. The ability of a country's HS to offer financial protection to its population is an important factor in creating trust towards the HS. In most countries, there are several coexisting systems to cover different parts of the population, which will be further described in the section on financing. An assessment of the attainment of this goal comprises process indicators (description of financing systems including taxation, analysis of national health expenditure accounts) and their effects, for

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[2] We have placed responsiveness under intermediate outcomes instead of under final goals, since we consider it closely linked to health services.

instance the number of people experiencing catastrophic health expenditure and population differences in health status.

Social protection is a broader concept. In our vision, it also embraces addressing the vulnerability of people who have fallen ill, for example, to social exclusion. Social protection implies provision of services for relief from deprivation (e.g. ensuring access to health and other social services), but also addressing more structural causes of inequity and power imbalance in the context (Michielsen *et al.* 2010).

ACCESS & COVERAGE

Access and coverage are related terms. **Access** relates to how many people can use a health service. It has different dimensions of which the important ones are: financial accessibility (affordability), psychological accessibility (acceptability) and geographical accessibility. Universal access implies organising HS to provide affordable and accessible health services that are acceptable to all. **Coverage** is classically used by epidemiologists and disease control programme managers, to define the proportion of a target population that benefits from an intervention[3]. Coverage implies the notion of an objective to be achieved and targets which can be set. Coverage is also used for other interventions in the HS, such as health insurance.[4]

Tanahashi has shown how the term coverage can also be used for general health services and what is the relationship between coverage and access and we have visualised this in figure 2 (Tanahashi 1978). The Tanahashi model is conceptually similar to the Piot-Fransen

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[3] The term coverage is here used as actual coverage. Sometimes, coverage is used to denote the distribution of a certain intervention among the population, without the actual use of this intervention. This is a potential coverage and related to the provider capacity to deliver an intervention (Tanahashi 1978).

[4] In health policy and public health literature, universal coverage refers to universal access to a specified package of health benefits and social protection. Access may be increased by broadening the package (depth) or extending the reach to excluded groups in the population (width).

model (Hayes *et al.* 1997). It somehow makes explicit and visualises the different bottle-necks in the health seeking behaviour process.
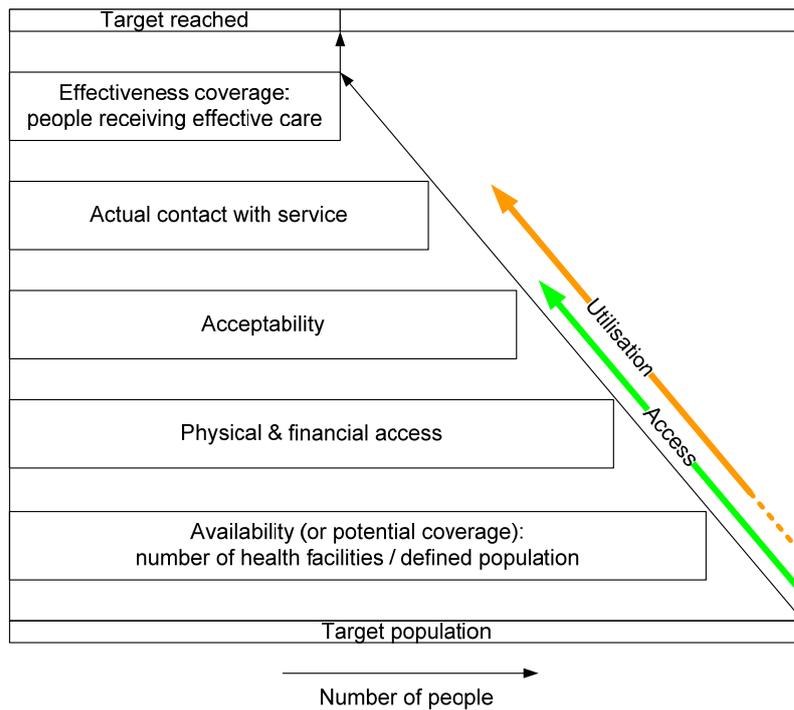
Figure 2. Coverage and access to health services (based on (Tanahashi 1978)

The picture shows the multiple layer dimensions of access and coverage. Coverage is measured as the ratio of services in relation to the target population and follows the planner's perspective. Access takes the user's perspective and has different dimensions, the most important ones being the physical, financial accessibility and the acceptability of health services. **Utilisation** is the number of people who actually use a particular service (the actual contacts with the service, as related to the population).

The assessment and measurement of access to general health services is methodologically difficult. Firstly, because access is

multidimensional. It might be visualised in spider diagrams, but there is not one comprehensive or composite indicator that captures all dimensions. Indicators for the availability are the number and distribution of health facilities & beds, possibly with additional information about the type of facility and the differences in distribution across subpopulations. Geographical access is often expressed in terms of the proportion of people living within 5 km of a health facility, but in order to interpret such figures one needs a detailed description of local health systems. In urban areas, affordability is usually a stronger determinant than physical access. In order to describe the package of services to which access is available, other indicators are used such as general basic capacity (% of facilities meeting a defined standard related to amenities, equipment, infection control, human resources and available drugs and diagnostics and capacity for specific health problems, such as child health, malaria, safe motherhood). Quantitative indicators need to be complemented with qualitative data, which measure the less tangible dimensions of both access and quality, for instance with questionnaires and interviews. Utilisation rates are often used as proxy indicator for access to health services because maximum accessibility is assumed to result in optimum utilisation, but this is a very crude indicator.

A second difficulty for the evaluation of access is that there is no real standard. For certain interventions, such as immunisation and health insurance, the desired coverage is 100% of the population. This can be measured as the percentage of people that have been immunised or have health insurance. However, for general health services, the desirable utilisation is not easily determined. There is no 'ideal' utilisation rate, for any defined community. It is also influenced by other factors (such as burden of disease and the presence of self-care and support in a society). A balance needs to be found between responsiveness to people's felt need and excessive medicalisation of health problems with overconsumption of health care as consequence. Utilisation rates are therefore best used as an indicator to monitor the effect of changes in the situation, instead of as an objective to be

achieved or as a benchmark between different institutions in the same or similar areas.

QUALITY OF CARE

The definition of quality of care very much depends on the perspective of the actor. The patient will define it differently from the manager; the manager will define it differently from the health care provider, etc. This makes productive discussions on quality of care so difficult. For us, quality of care (and of many other health service interventions) comprises the following components: effectiveness, efficiency, safety, patient-centeredness (giving information, shared decision making, combining a biomedical, psychological and social perspective), integrated and comprehensive care (addressing the needs for curative care, prevention and health promotion), continuity within and beyond a single episode of disease (dimension of time) and beyond the visits to one specific health institution (dimension of place) (Unger *et al.* 2003b; World Health Organisation 2008a). We believe that good quality care strives to improve health where possible, but also to enable or empower patients, so that they are better able to master their own affairs and to cope with their situation (Howie *et al.* 2000; van Olmen *et al.* 2010).

Quality is a determinant of the acceptability of care and thus of access. It also determines the outcomes of care and thus the final coverage of effective interventions. The multidimensional aspect of quality and the lack of a universal single yardstick for ideal care results in similar assessment problems as with access and coverage. The WHO indicators for quality assess the structure and processes that assure quality. They assess infrastructural elements, such as capacity standards for basic and specific services, and personnel-related elements, measured by patient surveys and indicator lists and the processes to assure quality, such as quality assurance mechanisms, supportive management, appropriate funding mechanisms and a proper working environment (World Health Organisation 2008b). Other instruments have been developed to assess the quality of patient

care, usually focusing on different aspects of quality, such as technical quality of care, appropriate referral, continuity of care or patient-centeredness. (Howie *et al* 2000; Kruk *et al.* 2008; Starfield 2010).

RESPONSIVENESS

The original interpretation as proposed by the WHO is 'responsive to people's expectations, including safeguarding patient dignity, confidentiality and autonomy and being sensitive to the specific needs and vulnerabilities of all population groups'. Other people have proposed the term trust, referring to the people's trust in the HS as critical to its sustained integrity (Peters *et al.* 2010). In reality, the evaluation of this element has often narrowed down to the measurement of people's satisfaction and client orientation, which includes elements such as prompt attention, amenities, access to social support, choice. The evaluation is usually done with questionnaires, for example those developed by the WHO (World Health Organisation 2000).

In our model, we interpret responsiveness more broadly as being responsive to the needs and demands of the population and its different subpopulations, at individual level and community level. This definition relates to the overlap between (professionally defined) need, demand and supply. It is not easy to develop a quantified indicator for that, but one could describe to what extent the package of care in a country meets the demand and needs, where a 'responsive' supply would preferentially cover 'felt needs' - i.e. where need and demand coincide.
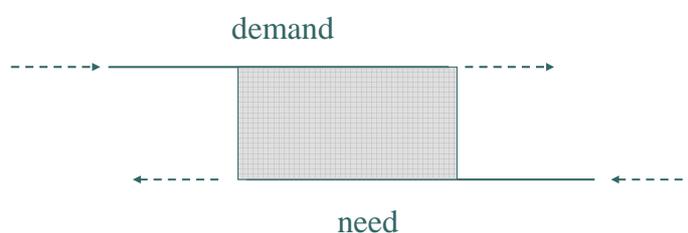

Figure 3. Responsive supply starts from the overlap between demand and need

Attempts for universal definition of **care packages** have been controversial and often been limited to maternal and child health care and health problems which are considered as global priorities (often infectious diseases with a global threat) (World Health Organisation 2008a). We consider the following criteria as important in the definition of a package of care: it should take into account rationally defined health needs (which can be framed as priority interventions identified by experts) and be responsive to the broader demand of individual patients and the population for health care, starting from the overlap between the two (which is dynamic, context-specific and changes over time), with the capacity to resolve most problems at the lowest possible level (Van Damme 2009). From the rational needs-perspective, the package includes at least curative care for common problems, care and follow-up for chronic patients, prevention and care for major at-risk groups (under-fives and women in reproductive age) and care for medical, obstetrical and surgical emergencies. Too often, this concept is viewed in a rigid way and the "minimum" in MPA has become the "maximum" package of activities. We consider the package of activities as a dynamic notion and should evolve in function of evolving needs and demand.

Values and principles[5]

The three goals already imply that HSs are not only mechanical structures to deliver health care, but that they are social institutions, implying that they are shaped by values and that they enforce these values, through their structure and the inter-personal relationships.

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[5] Values and principles have a slightly different meaning. Values are principles or moral standards of a person or social group, the generally accepted or personally held judgement of what is valuable and important in life. Principles are general statement or tenets or primary assumptions forming the basis of a system of belief or of a chain of reasoning (The New Shorter Oxford English Dictionnary 1993). Principles are thus not necessarily morally based. In order to cover all underlying ideas that steer the HS and the behaviour of people, we prefer to use both terms in tandem.

(Freedman 2005; Gilson 2003). These values and principles can be quite variable between societies and among actors, and their effect on the HS is thus influenced by power structures. Examples of values and principles are health care as a right, participation, solidarity, choice. Other, often conflicting, principles are autonomy, security and protection; efficiency and effectiveness; maximization or optimization; individual and collective perspective; a cosmopolitan or national paradigm of social justice, equity and sustainability; and a vision of health as an economic or as a social good (Evans *et al.* 1990; Roberts *et al.* 2004b). These values are often implicit, but influence the debates around HSs and the directions where to go. The vision on health (care) as a social good stresses the fact that it should be accessible to everybody according to their need and even contribute to principles of greater equity in society. From the view of health as an economic good, the focus is on efficiency gains in the organisation or distribution, and there will often be a big role for market mechanisms and the correction of market failures.

The variability in interpretation and valorisation of values and principles and their underlying tensions results in big challenges to decide on common goals and values in a HS and to motivate and steer all actors in a HS towards these goals.

Our perspectives

Our approach to HSs is strongly influenced by the values and principles that have been explicated by the Tavistock and the GERM groups (Groupe d'Etude Pour une Reforme de la Medecine 1971; Smith *et al.* 1999). They include: health as one valued thing among others, to be assessed in its socio-economic and socio cultural context; health care as a right for all; social justice, equity and solidarity; protection of the public in balance with response to individual suffering; autonomy (meaning right of self-determination and ownership at national, local and individual level) in balance with security and global social responsibility; effectiveness in balance with efficiency at both the individual and the population level;

sustainability; participation and negotiation between (groups in) the population and professionals; trust and accountability; and others.

Since there are tensions among and between the goals and values, balancing those tensions is important, taking into account the values and principles of actors in the system and giving proper weight to each of those. We highlight a number of balances.

Quality of care combines a number of attributes and seeks to achieve a balance between those attributes. Effective care should be in balance with efficiency, in order to deliver optimum quality of care matching with a concern to contain cost (Unger *et al.* 2003b). This is also called rationalisation of care. Another balance is that between a reactive and proactive approach in health care. A reactive HS leaves the responsibility and initiative on the side of the patient; a proactive approach means that the HS takes the initiative and responsibility to improve people's health. This paradigm is clearly seen in disease control programmes (like TB for instance), where health services go far to ensure that people take their medication.

Participation and negotiation between population and professionals is influenced by power balances between population and professionals but also by inequalities among subgroups on each side. The ability of the system to respond to general health care demands of the population and the evidence-based priorities for disease control can be at odds with each other (Criel *et al.* 2004).
Another balance is that between a cosmopolitan or nationalistic paradigm of social justice, equity and sustainability. The ITM paradigm was originally focused at national level, in line with the Alma Ata declaration. Globalisation and other transitions have raised questions about this paradigm and brought up new tensions, such as those between national sovereignty and global responsibility. Should we aim for sustainability at local/national or global level? The perspective for the short and middle term (next decades) is, for Low Income Countries (LIC), not self-sufficiency in finances, but sustainable financing, from whichever source. In our view, the package

of activities needs to be responsive to local demand and needs. Donors should respect national sovereignty as a central tenet of their policies and practices (Levine *et al.* 2009; Shah 2009).[6]

Other important tensions to be managed are those between short- and long-term goals and between focused and comprehensive approaches. A focused approach allows reaching results in a particular field, until limits are reached. In some resource-poor settings, resources may not be sufficient to run a consistent sector development programme, in which case some areas of particular concern, such as malaria or HIV/AIDS may be given priority.

Whichever tensions and values are at stake, we believe that the values at stake and the weighing of balances are unique in each context and that they are paramount in the determination of goals and processes of the HS. The choices and priority setting should take place at country level, and take into account technical and rational criteria as well as the values that impregnate the HS and society.

Service delivery

This is the central process inside a HS: the delivery of services is the immediate output of all the inputs into the delivery system. The organisation of this delivery determines to a large extent if the inputs lead to the desired output: access to quality care. Delivery of health services is produced at the interface with the population. The most atomised product of this is the interaction between a single health provider and patient. However, in the perspective of a (national or local) HS perspective, it comprises the sum total of services in a specified area. The word 'health service' can refer both to the organisation that supplies care and to the specific product which is delivered (rectangle and circles in figure 4). In this document, we will

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[6] This does not imply that local communities and national governments should not make their share of the effort, as is stated in the Abuja targets. Local financing may contribute to shared responsibilities of people at local level.

use the word 'service' to denote the products of provision (the circles in the picture).
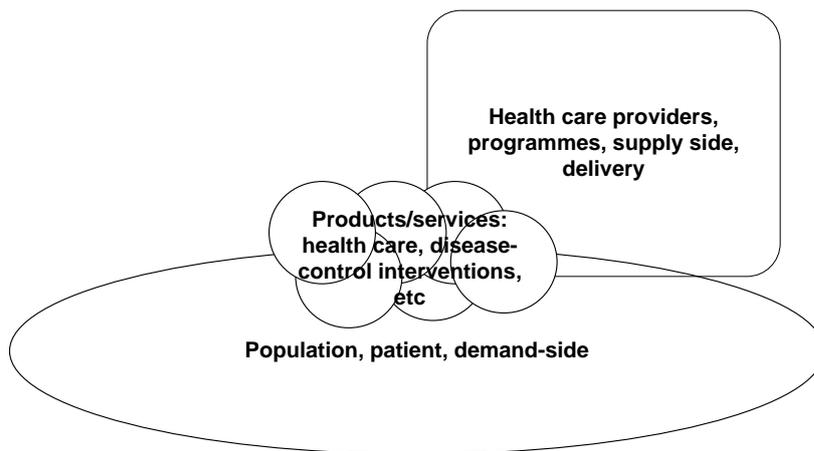
Figure 4. Clarification of terminology in health service delivery

As we said before, the boundaries between providers and population are not very strict and both elements partly overlap; the population is also a 'producer' of health and provider of care. In these paragraphs, we will focus on the professional side of supply. The role of population is elaborated further in the document. We will first elaborate further on what is provided and then by whom it is provided.

When we talk about health services, we mean all services that have as primary purpose the improvement of health. The term includes general health care and services that are aimed at specific health problems; disease control interventions and services responsive to suffering of individuals; preventive and curative services; personal health services and population-based activities. There are many other terms with a different focus, for instance on the level of care or on the package of services. Examples of other terms are 'health care', 'primary

health care', 'essential services' or 'priority interventions'. We will use 'service' as a generic term, which can refer to all of the above.

Health services are thus very diverse in nature. In addition, these services are delivered to the population via multiple modes and channels. This makes the description of delivery of health services an extremely varied bag of multiple services and multiple channels. We will first look at characteristics of health services, then at different modes of delivery and after that at different types of providers.

HEALTH SERVICES AND DELIVERY PLATFORMS

Health **services** can be classified along different characteristics. An economic classification can use the degree to which health services are transaction-intensive (how much professional input is needed); discretionary (similar for everybody or customised to the individual); and the level of information asymmetry (to what extent are both parties equally able to judge the transaction in terms of quality and appropriateness). Individual-oriented clinical care is transaction intensive, discretionary and having a high degree of information asymmetry. Immunisation services might be transaction-intensive but are less discretionary and have little information asymmetry (Soucat 2004). Other criteria for classification are the need for permanent availability or the possibility for intermittent scheduling, and the focus on individuals or on the total population (Van Damme *et al.* 2008).

Health services can be delivered to the population (and, in some cases, by the population) via specific modes and channels. Examples are different types of health facilities providing health services (such as clinics, health posts, health centers, district hospitals, a.o.), but also outlets for health-related goods (such as pharmacies, informal drug outlets, mobile drug peddlers a.o.), and other entities (such as mobile teams, community health workers, vaccination campaign teams, etc). These can be classified in a variety of ways. Examples are family-oriented community-based services; population-oriented schedulable services; individual-oriented clinical services at different levels (primary level, first referral level and second referral level). Another term for

these channels or modes is **"delivery platforms"**, which we will use from now on (Van Damme *et al.* 2010).

Specific services can be delivered via different platforms. The list of potential health services in a health system is indefinite, but in the context of scarce resources, the rationing of services and the drive for optimisation of results, there will often be choices to be made, which leads to a selection of prioritised interventions. Some services will flow through delivery platforms partly or completely outside the HS. Residual insecticide spraying, for instance, is done outside the HS; bed nets are delivered partly via HS delivery platforms (health centres, drug outlets) but also in general supermarkets. At the same time, people will come to places where health services are provided with all kinds of problems that will often not be part of the priorities set by planners. Providers will thus also provide services in response to this demand (the parts of the horizontal bars that don't overlap with the vertical bars in figure 5). The number of delivery platforms is not indefinite. The household level itself can also be considered a platform through which health services are delivered. Not all health services, can, are or should be delivered via all delivery platforms. It depends on the nature of the service, the capacity of the delivery platforms and other context factors such as regulation, which delivery platforms are most appropriate for which health services. For a particular health service bar, one can thus 'tag' the delivery platforms that are or should be used. We visualised some examples of this in figure 5.
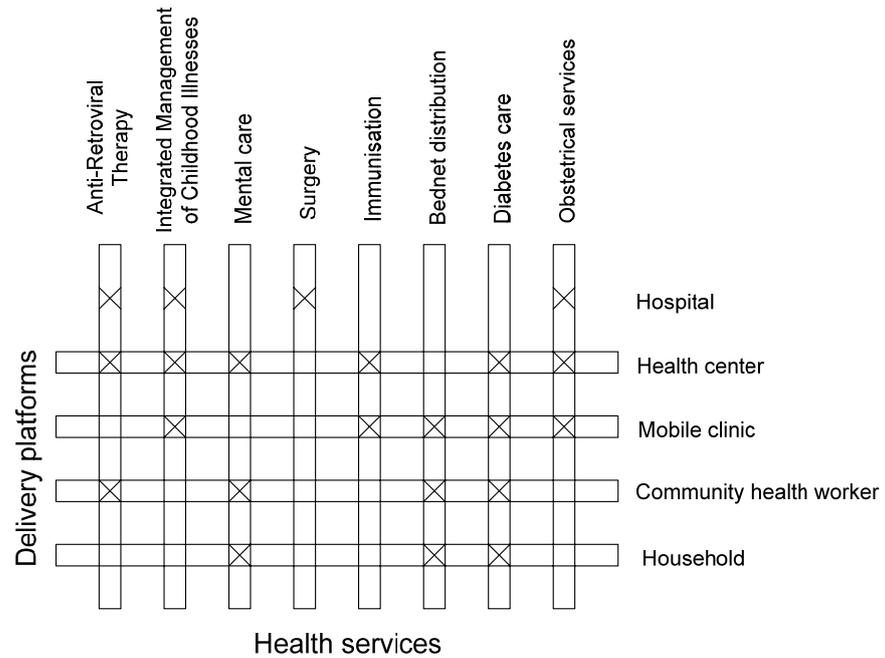
Figure 5. Delivery platforms for various health services

The term 'integration' is generally used to describe the extent to which Disease Control Programme (DCP) activities are bundled with the general services of a health system and a health care organisation, rather than being implemented by a separate entity. Several frameworks exist to describe integration more specifically at national level (Atun *et al.* 2010) and at the operational level of health service delivery (Coulibaly *et al.* 2008). Often, the term 'integration of disease control activities' into general health services' is a simplification of the complex mix of services and delivery platforms, as we visualized them above. The choice which delivery platform to use for which health service depends on various factors, such as the added value to bundle different services, the possibility to standardise and delegate activities and the capacity of a specific delivery platform (Unger *et al.* 2003a). It

is important to optimise the articulation between the different approaches, so that duplication and distortion and imbalance take place as little as possible (Criel *et al.* 2004). We believe that a strong HS is composed of a mix of all such platforms, and that the optimal mix depends on contextual issues (such as disease burden) and is highly path-dependent, but that the resulting overall health system should somehow be balanced. This also implies the need for strong coordination between these platforms.

PROVIDERS OF HEALTH SERVICES

The delivery platforms indicate modes or channels of delivery (processes or structures). The providers are the organisation or persons who actually deliver the service. When we zoom in on providers of services, we can characterise them as private or public, for-profit or not–for-profit, formal or informal, professional or non-professional, allopathic or traditional, remunerated or voluntary. The distinctions between these categories are seriously blurred in many countries, to the point that some consider the use of these categories as obsolete or counter-productive (Giusti *et al.* 1997). In most health systems, providers constitute a complex mixture (often referred to as 'pluralistic health systems'), partly as a result of planning and organisation and partly due to personal initiative or spontaneous evolutions. In many countries the backbone of the health system is formed by a public system, often owned and managed by the state. In many LICs, this public system has historically been quite dominant, even monolithic. In others, it has always co-existed with a private sub-system (often faith based). The past couple of decades have seen an important shift, mainly due to the fast expansion of a Private For-Profit (PFP) sub-system and the proliferation of Non Governmental Organisations (NGOs) as part of the Private Not-For-Profit (PNFP) sub-system. The distinctions between these three sub-systems within the HS are often blurred which may partly explain the confusion in debates around the public and private roles and realities in health systems.

To better understand how different providers deliver services, we can focus on the meso level, that of a local health system. This is an administratively or geographically bounded area, for example a district, which can be considered a subsystem of a national HS, with a defined population, a governance structure and health services and resources. In figure 6 we visualise the variety of health providers in such a local health system.

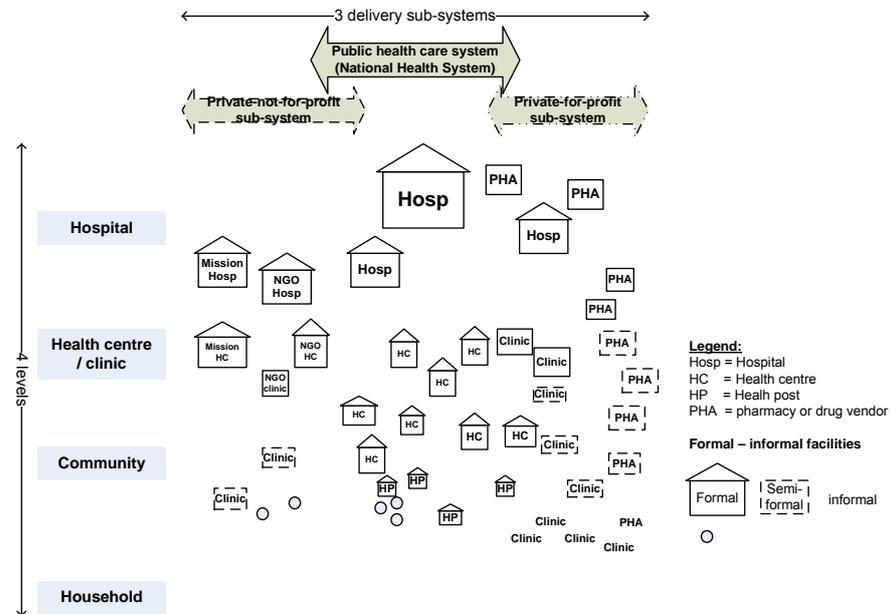**Figure 6. Pluriform health care providers as they are present in many areas (Van Damme *et al.* 2010)**

The hypothetical district in this figure has a 'backbone' public health care system with hospitals, health centres, health posts and community health workers. The PNFP sub-system in this area is composed of mission and NGO hospitals, health centres and clinics as well as some semi-formal community clinics and community health

workers. The PFP sub-system in this district is dominated by drug vendors and clinics. The composition of this picture will vary according to the context. In sparsely populated very poor areas, there are often very few formal health facilities at all and the gap might be filled with community health workers; in densely populated areas in which the private sector can develop freely, the number of private facilities and drug vendors can be very high.

The linkage with other elements of the Health System

Service delivery is closely linked with all other elements in the HS. The availability of **resources** and the organisation of their use determine the possibilities for service delivery. Health service delivery can be organised in various way, using more or less resources. The transaction intensity of many health services makes professional staff one of the scarcest resources in many HSs. The more delivery can be simplified and standardised, the more opportunities for efficiency gains are possible, for instance in task-delegation and rationalisation of drugs use. However, not all tasks of health service delivery, especially in clinical care, can be simplified and there is a trade-off between simplification (standardisation) and a customised approach. It is a governance task to determine the optimal delivery models for different health services in society.

Another crucial element of **governance** in relation to service delivery is the steering and motivation of providers to deliver health services according to the desired outcomes and goals of the HS. The different possibilities of steering are elaborated in the chapter on governance. The oversight and steering function is usually executed by a public authority, but the extent of influence into the private sub-systems varies and is often very weak. There is often a lack of balance in the services delivered and a poor coordination between the actors (Bloom *et al.* 2001). In these contexts, the organisation of health care delivery is only partly the result of planning, but also determined by the preferences and behaviour of the population and health care providers. All providers react to a variety of incentives, motivators,

demotivators and disincentives. Governing involves steering both population and provider behaviour, which links especially with the elements of human resources and population. Apart from public authorities, there might be also a governance role for professional organisations towards the behaviour of their own professional group, but this is mostly the case in countries with a tradition of medical professionalism such as Europe and the Americas.

The linkage between health services and the **population** comprises many dimensions. We will discuss their role of producers of care and users of care in the chapter on population. Here, we discuss the dimensions of trust and of accountability between health providers and the population, since health providers bear great responsibility in ensuring these two dimensions. Trust between health providers and the population (meso level) or patients (individual level) is important for quality of care (both a determinant and a consequence) and for the acceptability of health care providers and the health seeking behaviour of people (see under population). Trust of the population/patient is influenced by the behaviour of providers, but also by the institutional set-up of the health provider organisation, for instance the impression of truthfulness, solidarity and fairness in the organisation (Gilson *et al.* 2005). These determinants are linked to governance and the organisation of human resources.

The HS as a whole and the health services themselves have the responsibility to be accountable towards the population. Any health provider is accountable to his patients, for the services that he provides or does not provide. Since this relationship is characterised by a high degree of information asymmetry and power imbalance, there should be systems in place to correct this imbalance and to enable the patients to claim their rights. This is a function of governance. However, the accountability of health providers goes beyond individual patients; health care organisations are supposed to be accountable to the population they serve. Various structures exist to create channels for this accountability. The classical participation structures such as health committees have had different degrees of

success. The introduction of third party payer arrangements has also resulted in institutional mechanisms for control, which can include procedures for users to hold the provider accountable. New information technologies, especially in information and communication, have a great potential to increase the information to users and the voice of users towards health providers. At higher level, that of the local or national health system, decision-makers are supposed to be accountable to the population. The decisions about priorities, financing, packages of care, etc. are taken by a mix of people, bureaucrats and politicians, influenced by academics, pressure groups, the public opinion and many actors outside the HS. Important guarantees for accountability are general democratic principles, such as free press, absence of corruption, elections and transparency of information and decision-making.

OUR PERSPECTIVES ON THE LOCAL ORGANISATION OF A HEALTH SYSTEM

Organisation of health care delivery implies decisions about which services can be best provided by which delivery platforms and by which providers. These decisions depend on the characteristics of interventions, the capacity of providers, the burden of disease, etc. Apart from these technical criteria, both population and providers will have their own preferences and behaviours. The organisation of health care delivery is partly the result of planning, but also determined by these preferences and behaviour of the population and health care providers that is not under full control of planners. Nevertheless, we believe there are some principles for the optimal organisation of a health system at local level.

A **local health system** has a defined population, which could be called the catchment population or the population of responsibility. The latter term implies that the authorities in the system have a responsibility for reaching outcomes and goals for the people in that area. We believe that such a local HS should function as an integrated system. With this, we mean that all actors coordinate so that there are no gaps in access and that there is an optimal flow of patients and

information is created, where the patient is helped at the most appropriate level. In order to ensure access, and to use all opportunities of contact between people and health services to deliver priority interventions, there might be overlaps in delivery platforms offering services, but efficiency considerations should be taken into account. The opposite of an integrated system is a fragmented system. The following guidelines can help in planning and steering local health systems: development of tiers with a certain degree of homogeneity and specificity; a minimum package of services/activities; responsibility for a well-defined population; legitimacy and accountability towards a population; and planning based on rational criteria and pragmatism (Unger *et al.* 1995).

In our view, the first line health services (health centres, GP practices, clinics and the like) are at the very core of the local health system. It is at that level that the majority of the health problems that people face should be able to find an adequate solution. A primary care provider is the first contact to this system for the patient, a gatekeeper[7] to other providers in the system and a hub and coordination for the patient to navigate the system, as also visualised by the WHR 2008 (World Health Organisation 2008a). We call this hub also the synthesis function (referring to the fact that the generalist first line provider can make a 'synthesis' of people's health problems at any point in time on their journey through life).

The first line is therefore decentralised (i.e. physically close to the people they serve), permanently accessible and staffed with versatile (teams of) health workers, who are capable of addressing a wide range of health problems. Other health services, and other social services for that matter, can then be organised around the first line facility. More

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[7] The image that comes to mind with the use of the term 'gatekeeping' is usually one of 'keeping the gate closed'. However, a gatekeeper can also be imagined to be one who is knowledgeable about who and what is behind the gate, and who is therefore better able to direct visitors more efficiently.

specialised referral services are usually more centralised, and some of them can operate on a basis of periodic rather than permanent access.
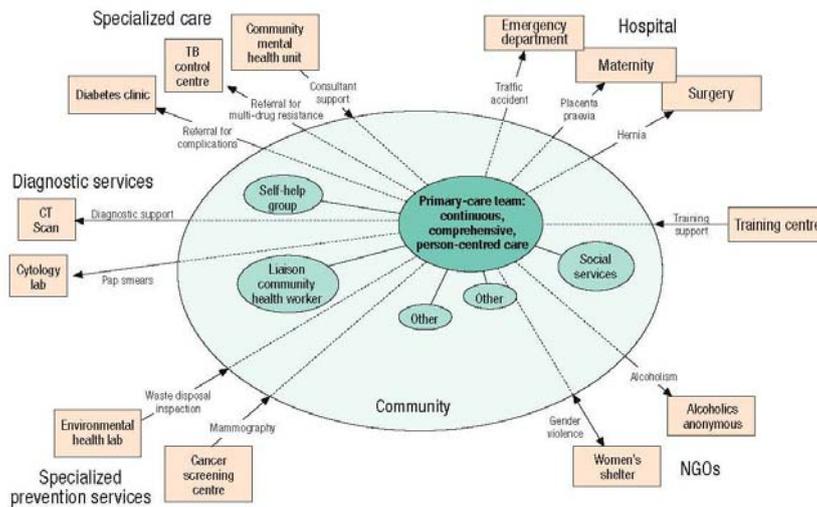
Figure 7. The primary care provider as the hub in health service delivery (Source (World Health Organisation 2008a)

Population

The population cannot only be viewed as a 'target' or 'beneficiary' of the health system. Individuals, groups and organisations fulfil a number of different roles, which are linked to different aspects of their involvement in the HS. They are patients and customers, creating a demand for health care. They are citizens with rights and obligations to whom the HS is accountable. They are funders and suppliers of care, and as such participate in and contribute to the functioning of the local health system (Frenk 2010).

HS have often been designed by technocrats and health professionals, which leads to a skewed attention for professional health programmes and services. The recognition of the contribution of people as producers of health and health care has often been more implicit. It is often framed as participation in technocratic programmes, for instance community health workers. However, this ignores the spontaneous activities of individuals and collective action of groups in the community. The attention for self-help groups, patient organisations, peer-groups and informal care givers has long been under-valued. One should not underestimate many people's striving for self-reliance in taking care of their health and well-being. People deploy a wide array of self-help mechanisms before they resort to professional health services, (and make use of preventive activities to stay healthy). We should recognise individuals' own contributions to their personal health and well-being as a contribution to the health system on its own.

The concept of **participation** includes a wide variety of approaches on an increasingly empowering scale from mobilising people to contribute to targets, over common decision-making processes, towards increased capacity to recognize and act upon situations oneself (Rifkin 2003). These approaches are not mutually exclusive and depend on the context and issue at stake and one's perspective on outcomes.

The striving for **empowerment** as an important goal, both at individual and at community levels is widely recognized, also because it is an essential contribution to reducing inequities and bringing about desired social change (Gilson *et al.* 2007). At community level, a stronger community voice in relation to other actors in the health system is important in the striving for empowerment; at individual level it means a changed relationship between patient and provider with the latter being responsible to instead of for the patient. This

implies the transformation of power relations and is likely to create resistance. Different approaches are needed, directed at both the care supply and demand sides (van Olmen *et al.* 2010).

DEMAND AND HEALTH SEEKING BEHAVIOUR

People are patients and or customers of health services. For some services, such as community-based prevention activities, they are actively approached by health workers (supply side), although they can still decide not to engage. However, for most health services, the locus of decision-making is centred at the demand-side, meaning that the initiative and decision to make use of a service is taken by the individual who has a particular need or demand for a health service.

It is the responsibility of the planners and providers to make sure that the health system provides those services that respond to the needs and demands of the population (proper supply - see responsiveness). But it is the population itself who, for the majority of services, decides whether to make use of these services and, if so, from which provider to get these services. This can be described as **health seeking behaviour**. The demand for a particular service is related to the perceived (immediate) benefit by people and is generally low for preventive services and high for acute curative care. Patients seeking care have to make a more or less informed choice between these different categories, especially if they imply different kinds of providers. Patients and families[8] usually make such choices on a very pragmatic and eclectic basis, with physical and financial access as strong determinants of their choices, along with the reputation of a provider or a facility regarding the present health problem. Socio-cultural barriers or constraints can also exist; for instance the decision-

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[8] The choice for health seeking is not always individual. For instance, in certain communities, the decision to send somebody to the hospital is made by a group of senior men in the household. Social influences thus also co-determine the actual behaviour of the individual patient.

making power of women in relation to health decision-making in the household is a well-known variable.

In pluralistic health systems, health seeking behaviour is diversified and complex, often involving self-referral and discontinuation of treatment (quite distant from the health planner's logic, where every health facility has a catchment area, and where patients are referred between facilities).

In an ideal situation, needs, demand and supply overlap as much as possible. Most interventions in HSs deal with the adjustment of supply and carefully assessing the needs. Influencing demand has not always received that much attention. As much as providers can be steered in their behaviour, so can people seeking health care. Examples of mechanisms to influence the demand for health services and health seeking behaviour are the development of financial incentives (or barriers), voucher schemes, but also awareness campaigns about health risks or information about provider characteristics.

TRUST IN THE HEALTH SYSTEM

The trust that people have in their HS as a whole and in health providers is a central element in the HS. Trust is a major determinant in people's decisions to make use of health services available in the neighbourhood. Trust is a complex and layered issue that is shaped by trust both at personal and institutional level. At personal level, trust is influenced by technical competence, openness, concern and reliability; at institutional level, service management and regulations are important, such as the qualification of staff, quality control mechanisms, ethical codes, and functioning of the service (Gilson 2003).

In our vision, offering care that is a flexible and dynamic response to people's felt needs is a crucial step in building a capital of trust. Ensuring quality of the services is a consequent step to maintain trust. Offering an adequate package of care cannot do without a sustained and genuine relationship of dialogue between professionals and

individual users and communities. The offer of accessible, acceptable and effective curative care is paramount because it constitutes the needed springboard to make people aware of - and accept - the need to use preventive services, even if the demand for the latter may initially be limited. A relationship of trust also constitutes the necessary foundation for people to understand and accept that 'not everything is possible' and there is need to manage the scarce resources in a rational and efficient way.

Context

A view on the context can focus on the actors in that context (agency) and on the structures. We will discuss the actors in the HS in a separate chapter and now focus on the structural and situational factors that shape and influence the HS.

HSs are overall shaped and influenced by wider societal change and are social institutions that reflect the society in which they are embedded. Interaction with the environment involves reaction and adaptation to social, economic, technological, cultural, political, regulatory and environmental developments and transitions over time. Every country has a HS that reflects its own and unique planning decisions and historical developments (path-dependency) (Riley 2008). There is a constant need for adaptation to new developments and transitions, such as disease burden, new technologies, changing expectations of patients and providers, increased information (through media and information communication and technology) and changing roles of the state in the health and social sectors.

The policy context of the HS can be analysed at different levels, which are intricately interwoven with power configurations and dynamics between international, national and local actors. National policies in low income countries are heavily influenced by the global (financial, economic) regime and policy context. Scanning the global context would entail tracking changes in the global aid environment, global health agenda setting, and the role of major donors,

international organisations and global civil society. Even at local level, the influence of global and national actors interferes with that of the local stewards, politicians and other stakeholders. The national context also encompasses the national political system/regime, the political administration, the regulatory system and national civil society. Coordination mechanisms, such as inter-sectoral coordination between ministries, donor coordination or pooling mechanisms and national civil society networks, need to be taken into account. One also needs to consider the administrative decentralisation and/or health sector reforms, because they directly affect the distribution of responsibilities and resources within the HS. Within the policy context, the ministry of finance is a key actor, through its decisive influence on national resource allocation and expenditure. In most countries, the national civil service administration is another central player, responsible for the staffing of the public health system.

Also other sectors, such as education, sanitation and water supply, social services, etc, have an important influence on the outcomes and goals of the system. This is the explicit recognition of the role of other determinants of health in the goals and effects of the HS.

Leadership & Governance

'Governance' has received increasing attention but many interpretations circulate. We define governance as entailing policy guidance to the whole HS, coordination between actors and regulation of different functions, levels and actors in the system, an optimal allocation of resources and accountability towards all stakeholders. This is in line with the stewardship function as proposed by the WHO.

For Reich, the term governance refers to the changed nature of the state (Reich 2002). The state is considered no longer to be the sole actor shaping health policy and the delivery of health services. In practice, the state's power is undercut by forces at multiple levels. From above, the state is constrained by agreements with international

organisations and donors. In many low income countries, the role of the state in the delivery of health services diminished compared to private for-profit and not-for-profit health service delivery. The state has also reshaped itself through decentralisation processes, devolving responsibility for the delivery of health services to local government structures.

A variety of players, including market and civil society actors, have an influence on governance. We assign a central role to state actors, as state intervention is needed to ensure equity, efficiency and sustainability of the HS. Furthermore, protecting citizens from ill health and its social and financial consequences is an important legitimisation of government. The changed nature of the state has given rise to a system of multi-level governance, wherein responsibility for governing is shared between different state actors, at central level (Ministry level) and local level (district health management team and local government). Both levels need to possess the necessary competences to steer both public, private and not-for-profit sectors.

Tools to measure certain aspects of governance have been developed. For determination of governance in the health sector, the WHO identifies two types of indicators for measuring governance: rules-based indicators assessing the capability in place and outcome-based indicators assessing the performance, based on the experience of relevant stakeholders. They propose a number of core indicators and a composite governance policy index (World Health Organisation 2008b).

POLICY GUIDANCE

The increase in stakeholders at all levels and in different functions in many HSs demands a strong capacity in the ministry of health, its decentralised structures and local governments to take leadership and to steer pluralistic and fragmented HSs into a satisfactory balance. **Effective governance** entails making explicit how trade-offs and changes are negotiated and what the guiding values and principles in the health system are. It requires strategic vision, technical knowledge

and information, political and negotiation skills, and the consideration of values & principles, but also the participation and involvement of multiple stakeholders and transparent processes. In reality, most reform is designed and implemented in a gradual and incremental way, with small-scale change.

COORDINATION AND REGULATION

Regulation is a major instrument for governing the health sector (Hanson *et al.* 2009). We conceptualise regulation as going beyond rules, laws, guidelines and their enforcement, also including professional and ethical rules and norms, and any kind of incentives as regulatory mechanisms (Mills *et al.* 2006). The most basic classification of regulation mechanisms is that of sticks, carrots and sermons, referring to command and control, incentives and persuasion (Kegels 1999). At national level, ministries design the laws and regulations to which actors in the health sector should comply. The enforcement of regulation is often decentralised to district level.

In the present day pluralistic and fragmented health landscape, the need for coordination ('soft power') becomes another important instrument for governing the health sector. State actors, at both central and peripheral levels, need to take up leadership of coordination mechanisms, e.g. inter-sectoral coordination, optimising health service delivery through coordination between public, private for-profit and not-for-profit sectors. Coordination implies to have an overview of all important stakeholders and to involve them in decision-making and implementation when needed. Most coordination at national level will take place when new policies are being developed. At the level of the local health system - the 'district' in many (low income) countries - there is an important coordinating role for the teams heading that system. District management teams indeed have to handle the complex task of organising the health services and the health care on their territory in an efficient and effective manner, in line with national health policies but also taking into account the specific needs and demand coming from the local

communities. In that respect the 'district' is the structure where top-down and bottom-up planning (should) meet and be translated in an optimal balance. It is the task of district teams to streamline the different policies coming from above - not in the least the policies and activities coming from powerful vertical programmes - and also, at the same time, integrate in their planning those elements shaped by the specific context of the local setting.

ACCOUNTABILITY

Accountability refers to the responsibility and ability of one group to explain their actions to another (Hyder *et al.* 2007). The HS should be accountable to the population, i.e. to be answerable for its actions and the consequences of its actions. Accountability plays at different levels, from the individual provider towards the patient and from the ministry of health towards the overall population. At that most central level, accountability is greatly determined by the institutions that are in place and that are shaped by the overall context. It is influenced by the level of democracy, the presence of free press, the transparency about information and procedures, the involvement of civil society and population representatives, the level of corruption. The level of transparency and rule of law affects the opportunities for efficient use of resources, but also the general trust of people in the state and in the HS.

At operational facility level, various mechanisms for accountability have been created, with different degrees of success (Rifkin 2001). A recurrent problem in ensuring the accountability between health facilities and their users is the difference in power and the information asymmetry, which hinders the capacity of populations to have effective mechanisms for monitoring, participation and claiming their rights. Institutional arrangements with a third party, for instance a health insurance organisation, can increase the accountability of providers, depending on the model of organisation (Criel *et al.* 2005).

Financing

Financing involves the acquisition, the pooling and the allocation of financial resources, in such a way that it contributes to goals and outcomes. In essence, health financing needs to ensure access to needed services while protecting people against the more severe financial consequences of paying for care (World Health Organisation 2008b). Important values and principles at stake are equity, efficiency, accountability and sustainability.

The Commission on Macroeconomics and Health estimates the cost of a core package of activities at around US$40 per person per year, although analysis of HS performance show that a number of countries are able to perform well with less means (Riley 2008). National Health Accounts describe sources and allocation of funds at country level. Mechanisms of **funding** health care are tax-revenue, insurance premiums, user fees or grants. Sources of funding can be public (national government, bilateral or multilateral donors) or private (households, for-profit or non-profit organisations, employers). The 2001 Abuja Declaration set a target of 15% of overall government expenditure to be allocated to health. For many LICs it is less than 4% at the moment. **Pooling** of funds means that prepaid money is distributed in such a way that it allows risks to be shared. Both tax-systems and insurance mechanisms are pooling systems. The third function of health financing is to allocate **resources** to other elements in the health system. This function is sometimes referred to as 'strategic purchasing'. It includes decisions of which health care services are funded and how to steer the delivery of these services. Since health financing always involves rationing, the decisions on priority-setting and allocation of resources have great implications, especially when the total amount of resources is small (Palmer *et al.* 2004; Roberts *et al.* 2004a). There is thus a very important link between **governance and financing**. The organisation of financing greatly influences the (financial) **access** to services. For instance, abolishing user fees in the public sector can contribute to increased

access, if mechanisms to ensure enough resources and to organise other factors of access are in place (Meessen *et al.* 2009). Regardless of this process, the role of market mechanisms, both formal and informal, has been increasing in many countries. The government has an important role to correct market failures in the HS and to redistribute resources among the population so that access to health care is available to all, according to their needs (social justice).

The way in which different health services are financed and **how providers are paid** influences directly what type of services are being delivered in which way. The main mechanisms for payment are either input-based (estimations based on history, on standards, on population needs, etc) or output-based (estimation based on production, on targets, etc) and many mixes of input or output mechanisms exist in practice. Traditionally, the allocation to public health facilities has been calculated on the historically and population-based estimation of inputs needed. In the private market, the default mechanism is a fee for service mechanism, creating strong incentives to maximise the provision of these services. The boundaries between sectors and mechanisms of payment have become more blurred. There is increasing attention for measuring the performance and outputs of health care facilities and other organisations in HSs. Experiments with performance-based financing lead to a partial shift to output-based financing (Meessen *et al.* 2007).

Assessment methods. Various indicators can be used to assess resource mobilisation, pooling and funding of health care (World Health Organisation 2008b). We mention total health expenditure and government health expenditure as indicators for respectively the overall availability of funds and the government's commitment. Whether these are sufficient should be related to the estimates of finances necessary to ensure access to a package of services which is determined by the country itself, but could also be benchmarked with other countries with similar levels of GDP per head. The ratio of household out-of-pocket payment for health to total health

expenditures indicates the direct cost of health for households. In countries with widespread health insurance, coverage (specifically poor/vulnerable groups) and packages of care that are covered need to be assessed. Other indicators give information on allocation of resources (e.g. expenditures on wages, on priority problems, by level of government) or on the capacity of financial management. The most widely used tool to monitor funding and spending in HSs are national health accounts (World Health Organisation 2010).

OUR PERSPECTIVES

The thinking on how health care should be financed in order to contribute to HS has evolved over time. There have been longstanding global debates about Bismarck and Beveridge systems, about contracting and the role of the private sector, about user fees and about the role of international donors. In this paper we highlight the important issues according to us, acknowledging the different opinions which exist on many of those.

The prime responsibility for revenue collection is at national level, because this is linked with government accountability to the population. There is, however, a strong plea for global social responsibility and a longstanding commitment of the international community to contribute to the health financing of the basic package for those countries that are too poor to collect this amount themselves (Ooms *et al.* 2009). This plea has implications for the way one looks at sustainable financing.

Funding mechanisms should ensure access to needed services and provide financial protection to citizens. This means that health services should be affordable, payment not being an obstacle. For many poor people this means that health services should be 'free at the point of delivery'. This implies a preference for prepayment and pooling, by taxation, health insurance or a combination. Mechanisms to raise funds should contribute to equity and thus usually involve progressive collection mechanisms. These principles make user-fees the least desirable options, since they are regressive, limit access to care

and provide no financial risk protection. If user fees exist, there should be arrangements for the protection of the poor. We believe that in most contexts, the delivery of health care in publicly oriented health care organisations is crucial to ensure access. Allocation of funds should steer the organisation of care and the behaviour of providers towards this public orientation. Whichever combination of mechanisms is chosen to pay health service organisations or individual providers, we take the following principles to be paramount: payment mechanisms should contribute to social justice, to continuity of care for patients but also to a responsible use of health services, minimise administration cost, optimise sustainability of the system and allow for mechanisms of control.

Human Resources

Since most health services imply interpersonal contact, human resources are crucial to the HS. The term "Human Resources" (HR) is defined as to include all actors that are involved in health, including lay people, community actors and expert patients. We elaborated on the role of the population in another chapter. The "health workforce" is defined more narrowly as all people engaged in actions whose primary intent is to enhance health. This means primarily (para) professionals.

The health workforce can only meaningfully contribute to the performance of the HS, if health workers are available, competent and performing up to standards (Van Dormael *et al.* 2005).

Availability. Health workers need to be available where needed in terms of the right absolute number of personnel, geographical distribution and skill-mix. The availability is determined by training capacity, recruitment policies and posting/distribution strategies. In practice, a comprehensive health workforce policy integrates planning and organisation of training, recruitment, remuneration and deployment. The HR policy needs to be adjusted to the evolving models of health care delivery (integration of disease control, task-

shifting, involvement of non-professionals), workloads (utilisation of services, burden of disease) and the evolution of the workforce (attraction and attrition) (Marchal et al. 2003;Narasimhan et al. 2004).

Competence. Effective health workers are competent in various domains. They master the technical knowledge and skills required to provide care of high quality, but also interpersonal skills and display a patient-centred and professional attitude. To ensure a competent health workforce, basic (para-)medical education should be complemented by (continuous) training and education. The process of socialisation is essential to the development of professionals. Competence can be stimulated by certification and accreditation procedures (Unger *et al.* 2004). Under certain conditions, professional associations can contribute to appropriate provider behaviour.

An effective health workforce requires not only personnel that is competent and well distributed in terms of numbers and skill mix, but also personnel that **performs up to standards**. This performance is not to be reduced to productivity (e.g. volume of patients treated, volume of deliveries), but also covers quality of services provided in terms of responsiveness, etc. (see criteria of quality of care).

Motivation and commitment are important determinants of health worker performance. Both are influenced by intrinsic personal drivers and external factors, such as management practices, (organisational) culture and societal values.

These three elements will lead to a well-performing workforce only if the work environment is enabling, a core task of management (Buttiens et al. 2004). Health service managers also need to deal with the tensions likely to arise as a result of competing priorities. In settings with severe shortages of health personnel, for instance, striving for sufficient numbers of health workers may compromise their competence levels.

HR management practices, such as remuneration modes and hierarchical command-and-control mechanisms and the strength of professional ethics affect the behaviour of health workers. Sound personnel administration systems are best combined with

commitment eliciting HR management practices. In practice, bundles of practices that combine "carrots, sticks and sermons", respectively referring to incentives (financial or non-financial), control and sanctions (through the institutional hierarchy or through legal systems) and values and ethics (such as professional codes or adherence to aspirational mission statements) work best. In general, health care provider behaviour is also influenced by the relation with the patients and the population.

Assessment methods. In most countries, the available information on health workers is scarce and unreliable. It mostly covers the availability (health worker density) and distribution of health workers by occupation/specialisation, region, place of work and sex. In some countries, also the annual number of graduates of health professions educational institutions is collected – by level and field of education.

OUR PERSPECTIVES

Recognising the different drivers of human behaviour, management processes of HR should put in place balanced bundles of incentives, bureaucratic mechanisms (rules and procedures) and professional drivers (Kegels 1999). Some (can) have an immediate effect, such as financial incentives, others a longer-term effect, such as career prospects depending on good performance. Incentive structures can be a mix of fixed remunerations with an (incentive-based) variable part on top of it. How this incentive-based part is arranged needs careful consideration, with specific attention for system-wide effects. The balance in this mix is prone to tensions (Marchal *et al.* 2010; Meessen *et al.* 2007).

In many HSs, there is a wide array of health service organisations each with different incentive structures, such as disease control programmes, public health services, donor-supported projects, etc. This diversity leads to big differences across sub-systems and between rural and urban areas. It is one of the functions of governance to regulate incentives, so as to reduce imbalances.

Infrastructure and supplies

This element comprises the 'hardware' and includes the infrastructure (construction and maintenance) and the supply of pharmaceuticals, technologies and goods. By technologies, we understand medical technology such as the development of new drugs and diagnostics, but also other technologies that benefit the HS such as information and communication technology.

INFRASTRUCTURE

Developing the infrastructure of a HS means assuring that there are enough health facilities, within proper reach of the population. They should be well-equipped and well-maintained. If physical access is problematic, this means either building new facilities or improving the roads or means of transport, which will require collaboration with other sectors. A usual target for physical access is a primary care facility within 5 km or one hour's walk. For the first referral level, a hospital that offers surgery, obstetric surgery, internal medicine and paediatrics, a common target is one hospital per 100 000 people - but this is only a very rough rule of thumb. In order to plan the availability of health services in a particular area, a coverage plan should be developed. This coverage plan should also consider the private facilities in the area and the health seeking patterns of people and, if needed, involve negotiation with the populations as important stakeholders.

SUPPLY OF DRUGS

We will focus on the supply of drugs, because drugs are a crucial commodity in the HS and to ensure appropriate supply and use of those is a major challenge to many HSs. However, what is said about drugs applies also to other medical supplies and technologies that are needed in the HS. HS challenges with drugs can be classified among five groups: poor availability and supply; poor quality; poor financial access to drugs and poor prescription/use. Since drugs are

commodities with a generally high demand, it is a product that is mainly produced and distributed via the market sector, in which for-profit companies have a strong dominance. However, there are strong market failures, such as the oligopolies of big pharmaceutical companies and the strong information asymmetry between client and pharmacist and others. If we want to ensure access to quality drugs for all people in the HS, we need strong regulation to channel and control market forces. In order to ensure this, the following functions are important: developing national policies, standards, guidelines and regulations; affordability of drugs; quality assurance; logistic systems and support for rational use (Laing *et al.* 2001).

National policies address the list of essential medicines, where drugs should be available in the HS, guidelines about the prescription of medicines. Rules and regulations for procurement and distribution need to be developed and enforced. Since many drugs are sold in the PFP-sector, regulation should extend to those pharmacies, clinics and drug outlets. In order to steer provider behaviour, other incentives such as education and training and financial rewards have been tried, but the limited success of most initiatives illustrate the difficulty.

The availability of medicines depends on the procurement and distribution system. Although in theory, a central supply system with an aggregation of orders at different levels results in efficiency gains, the reality shows that there are many potential weak links at different levels that can weaken the functioning of the total chain, such as stock management, haphazard ordering systems and slow distribution. Although a wide variety of supply chains leads to fragmentation and lack of overview, a limited number of parallel channels for supply is likely to guarantee continuous supply of drugs better that one single system. There are often other supply systems, e.g. for particular programmes or subsectors, that may function better or that may be used as a fallback. Besides such centralised systems, a great share of drugs is distributed via private wholesale firms, who supply many different customers. Besides being expensive, the origin and quality of their drugs is not always reliable if regulation and control is deficient.

Ensuring financial access entails adequate information on prices, the capacity to follow (or fight) international trade agreements and capacity to set and negotiate prices at national level in the case of large procurement orders. This capacity influences the availability and access to medicines in the public sector. In the commercial sector the prices vary enormously.

To ensure the quality of drugs, most countries have drug regulatory authorities, who control the registration and quality of nationally produced and imported drugs. The two major problems with quality are counterfeit and substandard drugs. To ensure quality throughout the whole supply chain, one needs to identify reliable producers, procurers and suppliers. The WHO has set up a pre-qualification system to identify producers, but the list has been limited to drugs for malaria, tuberculosis and HIV/AIDS. To identify reliable suppliers among private-for-profit providers, franchise chains and like mechanisms are sometimes developed.

The first steps in rationalising drug use are the development of an essential drug list and the development of treatment guidelines. Pre-service and in-service training of providers for rational drugs use is necessary, but not sufficient. At local and provider levels, systems of control, support and supervision should be built in to enforce and stimulate provider behaviour to rational prescription. One can think of audits, drug monitoring committees and regular meetings between the pharmaceutical and medical staff. On the demand side, awareness can be increased, with the help of consumer organisations and public education about the existence and risks of the irrational use of drugs.

These functions are strongly interlinked and measures to improve the situation will need to involve actions in all fields. For instance, the set-up of a revolving drug fund starts from the need to ensure availability of drugs. Such a revolving mechanism is only affordable and thus sustainable if it is combined with rational prescription. To work well, it requires a functioning supply system (Unger *et al.* 1990).

There are few indicators to assess whether HSs perform well in ensuring proper infrastructure and supplies. An example of an indicator for pharmaceutical access is the percentage of facilities that have all tracer medicines and commodities in stock (at the day of visit, over the last three months) and the ratio of median local medicine price to international reference price (median price ratio) for a core list of drugs (World Health Organisation 2008b).

Information & Knowledge

This element is the 'software' of the HS. It includes the information that is collected in different ways for monitoring and evaluation and the knowledge that feeds into decision-making at different levels in the HS. Knowledge and information is needed for monitoring, evaluation and research; clinical decision-making; organisational management and planning; analysis of health trends; and communication. It relates to individual patient-provider interaction, health facility level and population level decision making.

Health information comes from different data sources. Most well-known are the routine data collection and reporting systems usually operated in health facilities (often called health information systems). Other sources are population surveys, census, civil registration, (sentinel) surveillance systems. Also action/operational research and individual patient records are sources of information for planners. From the other side, there are guidelines, protocols, etc., that feed decision making at other levels in the system. These are iterative processes which are supposed to feed into each other. These methods of collection serve different purposes.

What should be measured and provided is a balance between comprehensiveness and pragmatism, functionality and workload. All information systems should be reliable, authoritative, useable, understandable and comparative. The Health Metrics Network identifies key components and standards of a country health information system (World Health Organisation 2008c).

In our view, the priority of routine information systems should be their potential to contribute to sound decision making, limiting the collection to those data that are necessary for that purpose and be kept as simple as possible. Additional information should be collected via other ways, such as surveys, research etc. Data needed for disease-specific programmes, general health services and for different authorities (donors, government) are as much as possible integrated into one system of collecting and reporting (Unger *et al.* 1992; Unger *et al.* 2004).

The **processing** of knowledge and information is greatly helped by developments in technology. New communication and information technology has great potential to ease the processing and accessibility and use of information, both at system level and at individual patient record level. Electronic patient card systems can be stored and transferred to a referral centre; the use of a database enables stratification of patients according to certain characteristics, which allows to develop, for instance, a defaulters tracer and retrieval system. New technology has also great potential for service delivery itself, for instance with telemedicine or reminders to patients about their medication scheme, but should be used with caution, for instance with regard to privacy and accuracy of information (Kahn *et al.* 2010). The collection and processing of data and information are the first steps in creating knowledge and understanding that can lead to decisions and actions. The know-do or implementation gap, describing the gap between knowledge and action or between plans/policies and practice, is not unique to HSs and is described in many other organisations and domains of life. In large organisations with multiple layers such as HSs, knowledge, planning and implementation (practice) are located with different persons and the diffusion between layers, bottom-up as well as top-down, is often problematic. Knowledge needs to be shared in all directions, between people at operational level, mid-level managers and policy-makers, but also horizontally, with other people at similar levels in and outside the

system. Research and practice are an ongoing activities and both processes need to continuously feed each other (Parkhurst *et al.* 2010). Networks and communities of practice with people from different levels and from different organisations (research, policy, management and the field) and contexts can stimulate this exchange of knowledge and the barriers to implementation.

The steps between the generation of knowledge and implementation so that the intervention reaches all those in need (universal coverage) has many steps. To enable all processes to take place (usually at the same time), there need to be the possibility for research of all sorts, pilot projects, communication and sharing of results, and looking at system constraints that impede further implementation (Mangham *et al.* 2010).

Health Systems Strengthening

HSS means making existing HS stronger, but what does stronger mean? Any change in a complex system means a change in equilibriums between the elements that cannot be fully predicted. Changes can thus lead to gains at one side of the equilibrium, e.g. in efficiency, effectiveness or equity, and losses at the other side. HS Strengthening aims to change equilibriums in a manner that the gains outweigh the losses, for instance in increasing the total effectiveness, efficiency or equity.

Strengthening HS involves two major questions: what needs to be done and how to do it? The major part of this book deals with 'what', explaining the essential components of a HS and their dimensions. For each component, a number of capacities or functions can be listed that ensure its functioning. There are ample publications about the strengthening of individual components of HS focusing on these specific capacities (for instance how to strengthen the health workforce information system or the drug quality monitoring system). Here, we focus on the process of HSS and give some suggestions for how HSS can be done.

We view this process as a continuous development with three phases: problem analysis, stakeholder analysis and coordination of the interaction and adaptation. Although the context and path-dependency of each individual HS make developing and applying blueprints for comprehensive HSS interventions impossible, we suggest a number of principles that can guide decision-making and action for HSS.

Strengthening an existing HS starts from a root cause analysis of problems, for which our framework can be a tool. Notwithstanding the unique situation of every HS, recurrent problems can be identified. Problems can sometimes be reduced to a lack of resources or organisational problems but are also often of a more structural

nature, linked with choices in other sectors and choices at political or societal level. Resource problems can be differentiated in inadequate funding, inefficient use or unbalanced allocation. Organisational problems deal with problems of implementation and are often related to the availability, the organisation and/or the allocation of resources. Structural issues are of a more wicked nature, such as fixed wage ceilings in the public sector, or the relative neglect of particular HS functions because of low political commitment. Often, however, problems have entwined roots at structural, funding and organisational level. A thorough analysis of causes and linkages between problems that is as objective and transparent as possible will facilitate the process of change, because it can form the basis for a dialogue among stakeholders towards a common ground for action.

The analysis of the problems and the identification of priorities are partly technocratic processes, but also strongly coloured by the underlying values of the actors involved. In general, all HSS interventions require the action of agents. All stakeholder organisations have their particular set of goals, values and behaviour and operating processes, which they will try to align and to adjust to their operational context (Sicotte *et al.* 1998). The next step is therefore to make a stakeholder analysis. This involves a mapping of actors in the HS, an analysis of the power and interests of important actors in relation to the issues at stake and an analysis of the relations between different actors. The changes evoked by any HSS intervention often affect the existing power relations or the distribution of resources between actors. Apart from this, many interventions require adaptations in organisational structure and/or behaviour. This often leads to tensions between actors and resistance to change. In such cases, it may not be possible to adjudicate between the solutions preferred by each actor, but the process of setting priorities may be made as fair as possible. A stakeholder analysis could thus lead to a process of discussion, negotiation and participative decision making.

The steering of this process is part of governance and leadership, which encompasses the coordination, the interaction and negotiation

between actors; the creation of mechanisms for priority-setting; balancing of different interests; and steering actors so that they align towards the overall goals and values, allocating responsibility at the most appropriate level. This itself requires a capacity of governance within the ministry of health and decentralised health authorities.

This brings us to the first of five principles that we propose to guide decision-making and action in HSS.

a. The most important capacities of HS need attention first: the governance function, the health workforce component and the service delivery component. Strengthening governance capacity is the core priority within HSS.

b. Strengthening the overall system capacity requires the coordination of efforts based on a coherent policy, managerial and administrative vision (governance) and on a long-term view, clearly linked with goals and values.

c. Strengthening governance is a long-term effort, necessitating continuity in time of processes and the creation of structures that can ensure the institutionalisation of processes.

d. In order to make all actors in a HS responsible for overarching goals, alignment and coordination should be improved through dialogue in which underlying values are made explicit, in addition to other steering mechanisms such as bureaucratic control and financial incentives.

e. HSS entails a continuous interaction with and adaptation to context and transformations in time. Gradual change may be preferred, in order to assure stability of policies and consistency in implementation. The process of HSS should ensure that mechanisms are in place to learn and adapt.

The different uses of the Health Systems framework

The use of the HS framework is quite straightforward when applying it on a national level, but it can be used in more selective ways. One can load the framework with specific values and principles so that it becomes normative; one can focus on different levels in the HS or on specific programs or problems. At the end of this part, three cases are briefly described, where the use of the framework is illustrated.

A normative perspective

At several places in the above text, we have made our values and perspectives explicit. We can use the generic version of the HS framework and 'charge' it with those values and perspectives on how a HS should look like. In this way, the framework becomes normative.
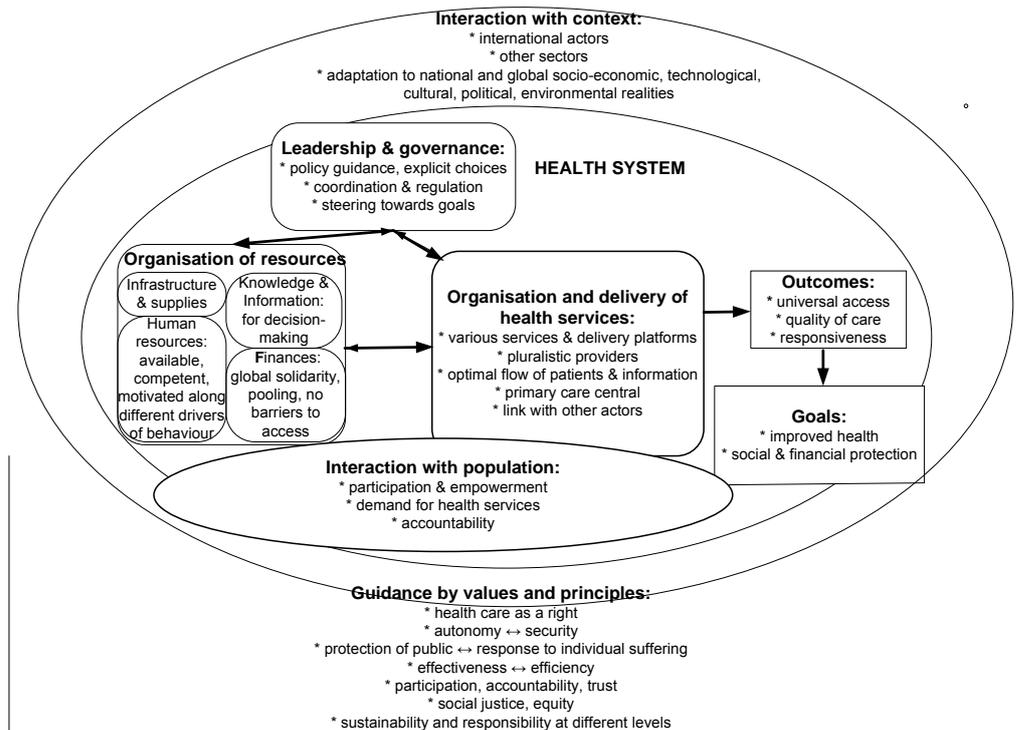
Figure 8. Application of the Health System Framework to the authors' normative vision on Health Systems

Analysing different levels of the Health System

When analyzing a HS, one can look at different levels: the patient-provider interactions; the organisation of individual health facilities; the local networks of health facilities; or a larger scale, up till the national level. These levels are linked and it is therefore important to describe the interactions between them, as well as the degree and type of decentralisation.

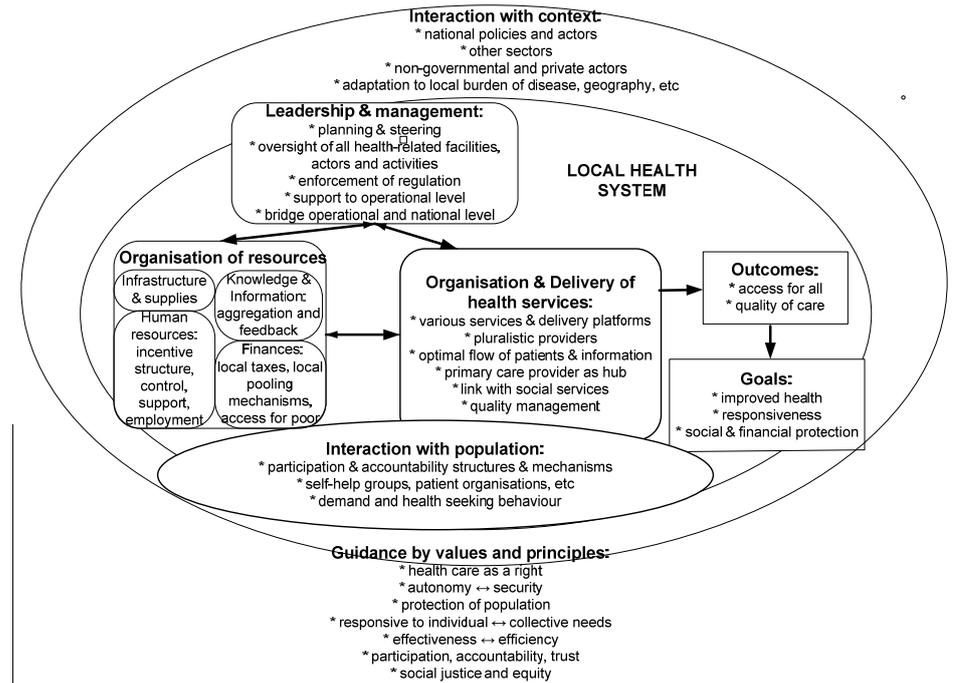For a **local health system**, it could be done as follows:

Figure 9. Application of the Health System Framework to a local health system

Governance at this level is a combination of leadership and management. It involves coordination of various actors who play overlapping and complementary roles, for example general health services, disease control programmes, private health facilities and non-governmental organisations. A major task of the governing authority is to steer these actors in such a way that all people in the area have access to services of good quality, so that all actors maximise their contribution to wider health system outcomes and goals. In many health systems, curative services and pharmaceuticals are paid out-of-pocket, especially in the private sub-system, but also increasingly in public facilities, with (part of) the revenue being a direct financial incentive for the provider. Activities that are part of DCPs are often free at the point of delivery and the personnel of such programs is

often more incentivised by their salaries or bonuses, combined with sticks and sermons. This diversity of incentive mechanisms for providers and accessibility of services for users leads to imbalances at the supply side (highly variable motivations among health workers and skewed delivery of services) and the demand side (health seeking behaviour). Differences are often especially big across sub-systems and between rural and urban areas, leading to fragmentation, at the cost of efficiency and equity. It is a major task and challenge for the governing authority to correct these imbalances. This means the design of regulation and incentive mechanisms that act upon the different drivers of human behaviour. The oversight function for all health-related facilities, actors and activities is quite crucial. This function is usually carried out by district health management teams or alike organisations (Segall 2003). The mandate for coordination is with public health authorities but other providers and actors should be involved. Too often, the district health team focuses on the management and support of public health facilities, and less or not at all on the regulation and coordination of the other providers. In order to improve the broader leadership function as explained above, the mandate, capacity and resources of this team need strengthening.

We can also give an example of how the framework can be applied at the level of a **single health facility**, e.g. a hospital.
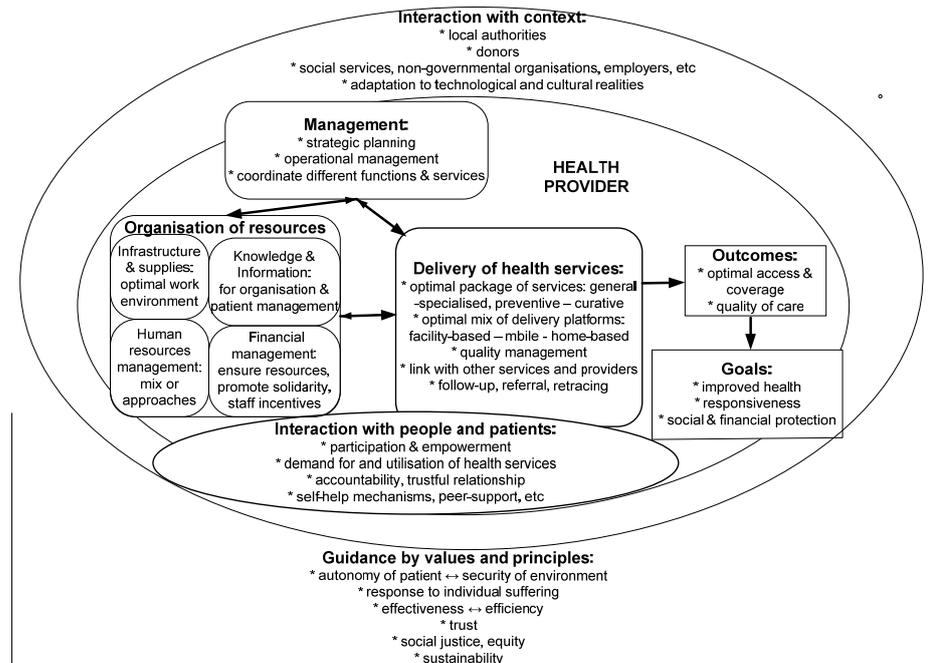
Figure 10. Application of the Health System Framework to a single health facility

Important functions at this level are those directly related to delivery of health services and can be summarized as management of the service organisation. Most important functions are acquisition and allocation of resources, including adequate supplies and maintenance of infrastructure; management of staff in terms of time and competencies and in terms of incentive and motivation systems, including the creation of optimal working conditions. Information systems are important in order to keep an oversight of each individual patient with regards to follow-up, referral and retracing. At the level of governance it is important to develop the dialogue and collaboration with the population, with lay organisations, and with other services/organisations (e.g. social workers, schools, sanitation services.

Mapping actors and their influences using the framework

So far, we have focused on the analysis of functions and their relations within the system, indicating that the balances between those functions make up the functioning of the system as a whole. In this way, the framework helps to clarify and simplify the understanding of HS. However, another dimension of the complex character is that HSs are composed of social agents (people and their organisations). Actions by one actor often provoke reactions by other actors, leading to reactions, and so on. This adds to the relative unpredictability of processes in HSs.

An analysis of a HS needs therefore to be complemented with an analysis of its actors. Here too, the framework can assist during the mapping phase. In order to get a view on all important actors (stakeholders), they can be classified following the different functions and sub-functions at the different levels in the HS. In the second phase, the actions and reactions upon certain issues of interest (a policy or any event occurring or being planned) of specific stakeholders can, pro- or retrospectively or in real time, be studied in more detail.

The following actors are some of the most important ones in most HSs. Government actors are - at the central level - the MOH with all its units and departments, medical stores, inspectorates, and drug registration authorities, among others. At the local level: the - often called - district health teams, public health services (hospitals and health centres) and specific disease control services (if not integrated into the former ones). Non-for-profit actors in the health system are, for instance, professional and patient organisations, NGO hospitals and pressure groups. For-profit actors are pharmaceutical companies, private health insurers, private health providers, etc.

Actors from other sectors have important influence on final HS outcomes. Education, sanitation and water supply and social services are some of the more important ones, especially when looking at the

other determinants of health (nowadays labelled 'social determinants').

Case studies analysed with the HS framework

Three cases are described where the framework was used retrospectively or prospectively. Two of these were presented at the Geneva Health Forum 2010 (Hôpitaux Universitaires de Genève 2010).

CASE 1. THE DEVELOPMENT OF QUALITY FIRST LINE CARE AND UNIVERSAL ACCESS IN THAILAND (PONGSUPAP 2010)

The framework is used to analyse retrospectively how the Thai government has developed its policy to reach universal access to quality care in the country.[9] The Thai HS had developed as an extensive network of public sector hospitals at district level throughout the country. From the early nineties on, this gradually changed. Actors in the ministry of health managed to develop strategies and interventions in different parts of the HS in a relatively short time span: to develop and scale-up a model for quality first line health services (service delivery); to develop a discipline of family medicine (human resources); and to develop a system for pooling and for funding health facilities that would enable financial access to the whole population (health financing). The movement started with pilot projects to develop delivery models for qualitative care at the first line. These projects proved successful and the model was gradually diffused to wider geographic areas at district level. A strategy was developed that included operational guidelines about health service organisation and the involvement of the population. At national level, family medicine was introduced as a medical specialisation which created a

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[9] The aim of this case study is to illustrate the application of the use of the framework in analyzing processes and reforms in a HS. The authors present their personal impression of the developments in Thailand as they have experienced them from inside and nearby (Pongsupap 2010).

new cadre of motivated human resources to supply the newly developed delivery system. It took several years before the enthusiasm for this new type of first line care was also shared by the population and by policy makers. This momentum came in 2001, when universal coverage of health care became an election theme. The economic growth in Thailand enabled the government to raise enough public funds to invest in the HS. The national universal coverage scheme was introduced together with a gatekeeper system and a central role for the first line. This led to a nation-wide increase of family practices according to the above model, resulting in universal access to quality of care.

The coherence of a number of interventions in different domains of the HS was supported by the bridging between bureaucrats, researchers and policy makers in the HS. The favourable economic and political context created the opportunities and political support for the reforms.
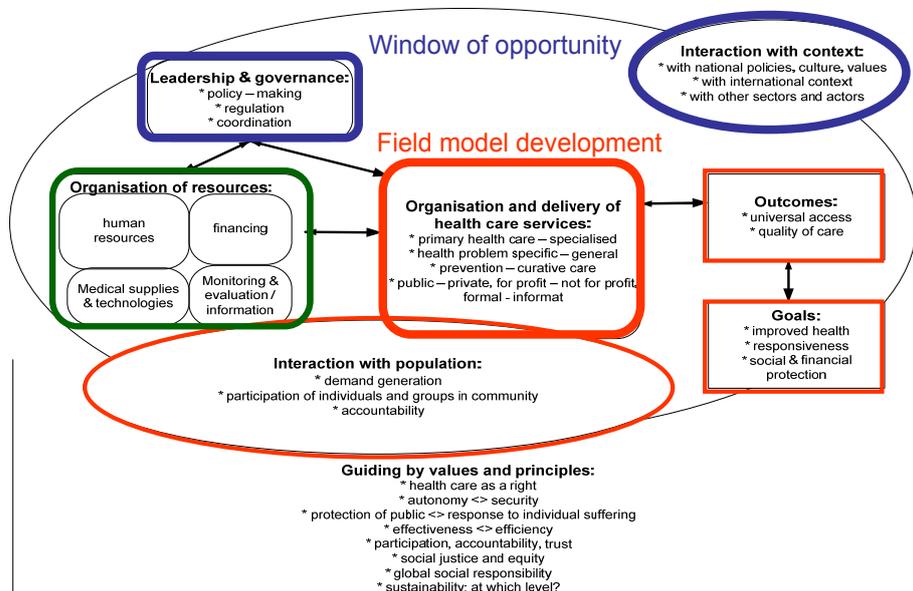

Figure 11. The elements of the HS that were involved in the development of quality first line care and universal access in Thailand (Pongsupap 2010)

Until 1990, there were only three medical faculties in the whole
Democratic Republic of Congo. From then on, the government has
started an economic liberalisation policy, extending to the health and
education sector, without substantial influence of the Ministries of
Health and Education in regulation, coordination or financing. The
effect is an increase in private medical faculties, which focus on the
attraction of students but often lack teaching facilities. In Katanga
province (2,5 million people), there are three universities, one of
which has six decentralised branches at other locations. The number
of graduates has increased exponentially and so has the number of
doctors working in health facilities. Graduates who are not hired by
the government often start a private practice and those have
subsequently increased. To cover staff cost, health facilities have raised
their prices, both in public and private facilities. An evaluation of the
medical care shows an increase in medical prescriptions, often without
a rational basis. This development can be framed in a HS perspective
as follows. A policy of liberating the market for medical education can
increase the number of human resources and of health care facilities.
However, if the aspect of quality control is neglected, then the
competences of human resources and thus of health care delivery are
not guaranteed. If the growth of facilities is not guided by a system of
regulating quality and of access, then the increase of supply will not
guarantee any increase in access to qualitative and affordable care, and
may even lead to crowding out of public facilities and to increasingly
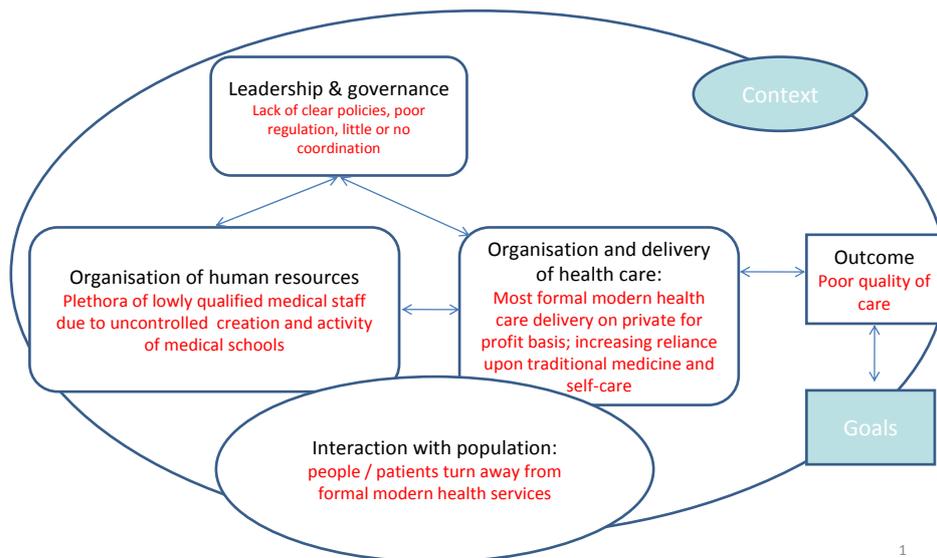induced demand (Chenge *et al.* 2010a).

Figure 12. An illustration of the consequences of uncontrolled creation of medical schools in a province in the Democratic Republic of Congo (Chenge et al 2010b)

CASE 3. PREDICTING HEALTH SYSTEM EFFECTS OF A FINANCIAL POLICY REFORM FOR KENYAN HEALTH SERVICES (BOUSSERY 2010)

In 2004, the Kenyan MOH heavily reduced user fees in public first line health facilities to improve accessibility. This resulted in a modestly increased utilisation, but as a consequence of the reduced income, health services have faced increasing difficulties to remain functioning. A pilot project with direct funding of the first line health services, called the Health Facility Fund, was started in 2005 to improve this situation. It comprised of direct allocation of funds to individual facilities, on the basis of workload and facility type. The funds were managed by a health facility committee, consisting of people from the community and those in charge of the facility. A first evaluation of this pilot showed an overall positive effect on HS outcomes but also a number of negative results (Opwora *et al.* 2010). Based on this evaluation and on our personal assessment, we propose

to improve the above strategy by adding two additional components: the total abolition of user fees at first line health services and a change in salary structure of staff using a mixed input/output base. In order to simulate the success of such a new policy, we use the HS framework to study its effects on the different parts of the system (Boussery 2010).[10]

The increase in resources will increase the possibilities for financial management inside the health facilities, provided that the capacity for financial management is developed. This can potentially create better working conditions and environment, for instance by hiring additional supportive staff and improving maintenance. A change in the remuneration structure induces the staff to work towards the targets established. Both targets and allocation should aim at a mix of curative and preventive activities. The involvement of representatives of the population in the facility management committee should increase accountability towards the population but also lead to a dialogue about the match between the felt needs and supply of services. The abolition of user fees and the compensation of the loss in income by donors or government is a shift towards increasing pooling of more resources thus leading to more equity between regions and health facilities and increased financial access for the population. This chain of effects is highly interdependent and will only work in a context in which there is adequate management capacity at all levels, trust between actors and an ensured flow of funds.

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[10] This case is based on the dissertation of a master student in the ITM. The analysis and the policy proposal are the personal interpretation of the author (Boussery 2010).
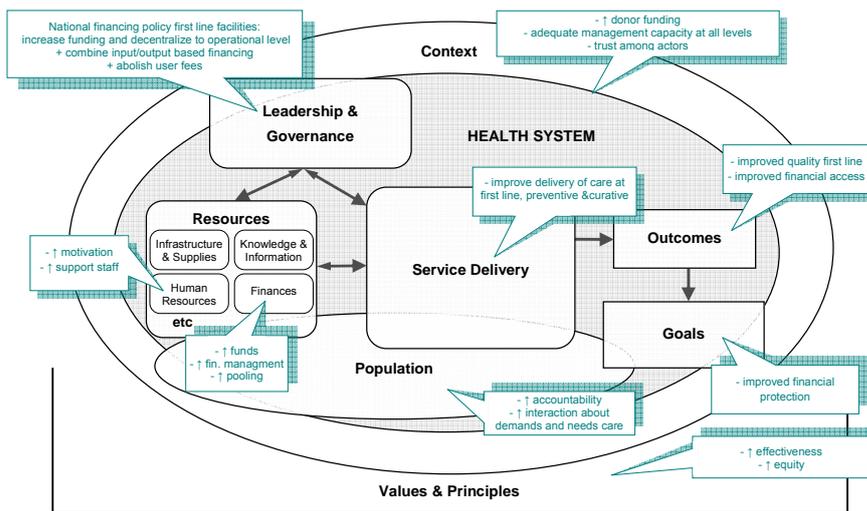
Figure 13. A model to predict the effects of a proposed financing policy for first line services (Boussery 2010)

Annex 1. Overview of different frameworks for HS

Many frameworks have been developed to look at HSs. Some are means to describe or analyse existing situations, others give guidelines where to go and are more prescriptive. Based on the overview of (Shakarishvili *et al.* 2009) and our own literature review, we list a number of illustrative and/or dominant frameworks, mostly in chronological order.

Comprehensive frameworks for national level

Many of these frameworks help to understand and improve financing and regulatory mechanisms.

- Actors framework. A rudimentary framework with four sets of actors (health care provider, population to be served, third party payer, government regulator) and a description of types of relationships between them (Evans 1981). (Green 1992) developed a framework that is based on a similar idea.

- (Kleczkowski *et al.* 1984) introduce a complicated model which focuses on health services. It describes many interrelated parts, but does not link with outcomes.

- (Roemer 1993) defines a HS as "the combination of resources, organisation, financing and management that culminate in the delivery of health services to the population". He describes a HS in five components: resource production, organisation of programs, economic support, management, and delivery of services. He also offers a typology of HSs, based on the extent to which governments intervene in the free market of private health services.

- (Frenk 1994) describes a HS as a set of relationships among five different actors (providers, population, state as collective mediator, organisations generating resources, other sectors contributing to health). These relationships lead to typologies in health care modalities. In a following article (Frenk 1995), he describes four levels of reform in HSs: systemic, programmatic, instrumental and organisational reform.

- Londono and Frenk (1997) conceptualise the HS as relationships between populations and institutions. HSs must perform four basic functions: financing, service delivery, modulation, and articulation. Modulation involves establishing, implementing, and monitoring fair and transparent rules and regulations, involving also strategic planning and guidance. Articulation reflects a continuum of functions that lie between financing and service delivery, and is distinct from policy formulation. It involves the organisation and management of transactions between the population, financing agents, and providers. They propose a new organisational model to carry out these functions.

- (Mills *et al.* 2006) discuss early attempts of typology and classification of HSs. They conceptualise HSs in terms of four key functions (regulation, financing, resource allocation, service provision) and four key actors. Their framework depicts the interplay between these four functions and the major stakeholders involved: government or professional bodies responsible for regulation; the population (including patients); financing agents responsible for collecting and allocating funds; and service providers. They further note that regulation involves government control over individuals and organisations in order to address market failures or to achieve specific performance objectives (e.g. efficiency, equity, quality). In terms of resource allocation, their discussion focuses largely on the role of financing agents to contract with providers and the various payment mechanisms used, rather than how these serve as incentives to influence

provider behaviour. Finally, in service provision, they outline the various public and private providers involved.

- The performance framework (Murray *et al.* 2000; World Health Organisation 2000) describes a HS as 'includes all actors, institutions and resources whose primary intent is to improve population health in ways that are responsive to the populations served, and seeks to ensure a more equitable distribution of wealth across populations'. Functions of HSs include improving population health and protection against the financial costs. (World Bank 2007) supports a similar view, defining HSs in terms of functionality, defined by health service inputs (resource management); service provision (public and private); health financing (revenue collection, risk pooling, and strategic purchasing); and stewardship (oversight).

- The 'reforms/control knob' framework (Roberts *et al.* 2004b) describes relations between the structural HS components and their policy actions (control knobs) connected to the goals the system desires to achieve. Any change of control knob will affect access to or the supply and demand of health services, by influencing the behaviour of the people in their need and demand for health services; the behaviour of providers in the quantity and quality of the services they supply and how efficiently; and the costs and prices of health services. Every HS sets goals, influenced by the social values. Control knobs can be adjusted towards those goals, constrained and affected by the politics and political institutions of that country.

- The building blocks framework (World Health Organisation 2007) and systems thinking framework (World Health Organisation 2009). The former presents six building blocks as the HS's main elements and processes. The systems thinking document proposes to look at the interactions between the blocks. It is more a way to approach HSS interventions than a real framework as such. For

each intervention, one is facilitated to make a conceptualisation that takes all the building blocks into account.

- The framework that is used in the Health Systems in Transition country profiles (Mossialos *et al.* 2007) allows a very detailed description of HSs. It is appropriate to describe HSs that are in a relatively advanced state of development and differentiation. Another framework with a slightly more focused scope is that of the OECD that describes in detail the mechanisms for health care delivery and financing and financial access (Paris *et al.* 2010).

Frameworks for sub-systems

A HS analysis can focus on different elements, resulting in frameworks for subsystems. Each element of the HS can be described as an (operational) sub-system in itself; interactions between actors of different elements can be analysed; and health systems can be looked at from different levels. We list a few examples of such sub-system frameworks to show the possible variety of focus.

- There are several frameworks that focus on the relationship between demand, supply and intermediary agencies (Cassels 1995; Hurst 1991) and on financing systems (Kutzin 2001). They often classify along the relative importance of insurance schemes, the amount of tax-funding and direct out-of-pocket payment.

- There are frameworks that focus on health care delivery or parts of it. Peters *et al.* have developed a framework to look at interventions to improve health service delivery (Peters *et al.* 2010). Their framework is comprehensive and takes into account many elements of the HS, but it focuses on service delivery. The (World Health Organisation 2008a) has developed a comprehensive framework for primary health care that describes needed reforms in organisation and policy, at different levels.

- We mention two frameworks for the organisational level. The multipolar framework describes the goals, the processes, the context and values and culture of an organisation and how these processes are aligned (Sicotte *et al.* 1998). The organisational framework of Mintzberg looks more at the structure of an organisation and the internal coordination processes. (Unger *et al.* 2000) have applied it to the public structure of a national health system.

- There are a number of frameworks for integration of DCPs and HSs. (Criel *et al.* 2004) developed a simple framework that focuses on delivery of care; Atun has developed more comprehensive frameworks that also take into account the other elements of the HS (Atun *et al.* 2009; Atun *et al.* 2010). Some proposed frameworks are linked to certain types of disease, e.g. (World Health Organisation 2002) framework for chronic conditions.

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