PRIMARY HEALTH CARE SYSTEMS (PRIMASYS)

Case study from Uganda

Alliance for Health Policy and Systems Research

World Health Organization

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Abbreviations

GOBI-FFF	growth monitoring, oral rehydration, breast-feeding, immunization; female education, family spacing, food supplementation
HC	health centre
HMIS	Health Management Information System
HSD	health subdistrict
HSSIP	Health Sector Strategic and Investment Plan
HSSP	Health Sector Strategic Plan
MTEF	Medium-Term Expenditure Framework
NCD	noncommunicable disease
NDP	National Development Plan
NGO	nongovernmental organization
NHP	National Health Policy
PHC	primary health care
SWAp	sectorwide approach
UMDPC	Uganda Medical and Dental Practitioners Council

Background to PRIMASYS case studies

Health systems around the globe still fall short of providing accessible, good-quality, comprehensive and integrated care. As the global health community is setting ambitious goals of universal health coverage and health equity in line with the 2030 Agenda for Sustainable Development, there is increasing interest in access to and utilization of primary health care in low- and middle-income countries. A wide array of stakeholders, including development agencies, global health funders, policy planners and health system decision-makers, require a better understanding of primary health care systems in order to plan and support complex health system interventions. There is thus a need to fill the knowledge gaps concerning strategic information on front-line primary health care systems at national and subnational levels in low- and middle-income settings.

The Alliance for Health Policy and Systems Research, in collaboration with the Bill & Melinda Gates Foundation, is developing a set of 20 case studies of primary health care systems in selected low- and middle-income countries as part of an initiative entitled Primary Care Systems Profiles and Performance (PRIMASYS). PRIMASYS aims to advance the science of primary health care in low- and middle-income countries in order to support efforts to strengthen primary health care systems and improve the implementation, effectiveness and efficiency of primary health care interventions worldwide. The PRIMASYS case studies cover key aspects of primary health care systems, including policy development and implementation, financing, integration of primary health care into comprehensive health systems, scope, quality and coverage of care, governance and organization, and monitoring and evaluation of system performance.

The Alliance has developed full and abridged versions of the 20 PRIMASYS case studies. The abridged version provides an overview of the primary health care system, tailored to a primary audience of policy-makers and global health stakeholders interested in understanding the key entry points to strengthen primary health care systems. The comprehensive case study provides an in-depth assessment of the system for an audience of researchers and stakeholders who wish to gain deeper insight into the determinants and performance of primary health care systems in selected low- and middle-income countries. Furthermore, the case studies will serve as the basis for a multicountry analysis of primary health care systems, focusing on the implementation of policies and programmes, and the barriers to and facilitators of primary health care system reform. Evidence from the case studies and the multi-country analysis will in turn provide strategic evidence to enhance the performance and responsiveness of primary health care systems in low- and middle-income countries.

Executive summary

Understanding the different elements and facets of primary care systems is helpful for health system managers to appreciate the systemic structures and processes and how these interact. There are basic attributes of each system, including its history and reforms, that contribute to its present characteristics, and a good understanding of these may help health system managers in planning and decision-making related to the future of the system.

Primary health care (PHC) in Uganda dates back to the 1978 Alma-Ata Declaration and has undergone several reforms in a bid to meet its objectives while responding to local and global changes.

A primary care system is made up of several elements, which in turn encompass structures and processes that lead to certain outputs and eventually health system and health outcomes. A good balance between the structures and processes is vital for desirable outcomes. This case study aims to highlight elements of enquiry into the PHC system in Uganda – elements that not only explain much of its current status, but also highlight factors that authorities may modify to create a responsive and resilient system.

Several areas of enquiry were identified using document reviews and in-depth interviews. While these are presented under particular elements of the primary care system, they do overlap and interrelate.

The study revealed the importance of having national- and lower-level policies, guidelines and guidance that are not only clearly articulated but are revised regularly according to new insights and with clear statements on health equity and health rights, paying particular attention to marginalized groups. Furthermore, these policy and guidance statements need to be better implemented and disseminated at all levels, supported by appropriate monitoring and evaluation to avoid missed opportunities for guidance to be translated into action to improve service delivery.

Respondents who provided inputs to the study felt that the consultative process on many decisions and polices was still lacking in taking account of evidence of different kinds and in consulting as many concerned stakeholders as possible, despite the presence of structures designed for that purpose, for example the Health Policy Advisory Committee and several technical working groups. A call for better practices to strengthen decentralization and to have stronger institutions with the capacity and power to carry out their mandates was echoed widely, as was the need for health system structures to enable multisectoral engagement with other sectors and with non-State health actors.

Uganda needs a more efficient, fair and protective resource mobilization strategy that limits expenditure by households and individuals, especially at the point of seeking services, in order to avoid catastrophic spending. Furthermore, efforts to pool risk and resources in Uganda need to be strengthened and coupled with spending efficiency that prioritizes PHC. Much of the budgeting is still done using historical budgeting methods that hardly make use of information from the Health Management Information System (HMIS) and from research evidence, which leads to inappropriate allocation of the meagre funds available. This calls for evidence-informed budget allocation integrated with priorities. Lastly, respondents called for standardized pricing and protection of consumers during purchase of health goods and services.

The health authorities in Uganda need to better align public and private providers to enable planning and complementary distribution of services, which will facilitate equitable PHC delivery in the country. This calls for setting up a mechanism or structure for the registration of health care workers in the private sector and improving stewardship and regulation of informal alternative care providers. Furthermore, there is a need for better harmonization

of pre- and in-service training and continuing professional development for all cadres in the PHC system.

The service organization of PHC in Uganda largely adopts a curative model, with a number of respondents observing that many of the basic tenets of PHC originally revolved around preventive medicine and health promotion, and calling for reform of the PHC system towards a preventive and health promotional model of care. Furthermore, there was a call for integration of vertical programmes to produce a stronger, comprehensive health system and to avoid the inefficient allocation of human and financial resources resulting from parallel vertical programmes. In addition, there is a need for improved technical efficiency, more cost-effective use of resources, stronger accountability structures and improved systems for continuity of care and referral, which are generally lacking at the moment. Respondents also noted that since community health workers are a vital component of the PHC system, institutional mechanisms for supportive supervision of those workers should be put in place.

To strengthen planning and implementation, institutions that have been given different mandates and responsibilities need to be empowered with the authority to match their responsibilities, especially at the local or lower levels of administration and service delivery.

Regulation in the health sector, including the PHC sector, is generally weak and needs strengthening. There is a need to set up systems and structures for regulation of the informal sector, as these are currently completely absent, and to streamline those in the formal sector, where they are present but where implementation is weak due to lack of resources, poor coordination among a number of agencies having overlapping mandates, confusing legislature and almost absent punitive action for wrongdoing.

Stronger and more efficient health monitoring and information systems are necessary for better PHC delivery. These should aim to provide informational continuity through organized collection of users' medical information and ensuring availability of that information to the primary care teams. Other requirements include training of personnel and encouraging lower-level facilities to analyse and use data they have collected before handing it over to higher levels. In addition, the system needs to devise means of collecting data from the private sector and from those who do not use the formal health system.

Uganda's PHC system is lacking in equity. Although there are facilities within 3–5 kilometres of 72% of the population, some of these are barely functional. Attention should be paid to equity needs in sparsely populated areas, those with difficult terrain and those in post-conflict areas, which experience greater levels of inequity.

Ultimately, the system should be responsive and patient centred and should promote engagement with its users and other stakeholders. Indicators should be developed for those attributes in order to ensure provision of quality and safe services and to ensure that the intended outcomes are indeed realized.

These elements help to explain Uganda's current PHC status, and its successes and gaps, highlighting points of learning for a stronger, more resilient and more responsive system.

1. Introduction

1.1 Primary care systems

Although health system scholars have done a significant amount of work researching primary health care (PHC) systems, a number of knowledge gaps persist. There is still a general lack of understanding of the systemic factors and processes that explain the current structure of the primary care system, how these interact with other elements of the system, and how cause and effect operate in different contexts *(1)*. There are basic attributes of each system, including its history and reforms, that contribute to its present characteristics, and a good understanding of these may help health system managers in planning and decision-making related to the future of the system *(1)*.

One of the expectations of a primary care system is that – or should be that – it is tailored according to the health profile of the general population it serves to ensure that it meets its needs in a responsive manner *(2)*. In addition, the system should undergo regular reviews to inform reforms that reflect changes in the population it serves *(2)*. Often, however, this does not happen or is not carried out in an optimal way, resulting in a system that is not aligned with the needs of its population and misses opportunities to improve health outcomes and strengthen the health system in general *(1, 2)*.

1.2 Primary health care in Uganda

Uganda, a low-income country situated in East Africa, has a population of 39.03 million people, 79.5% of whom reside in rural[1] areas (Table 1) *(3, 4)*. The country's population is generally young, with more than half aged below 18 years *(5)*. In addition, at a growth rate of 3.4%, the fifth highest in the world, the population is fast growing, having doubled between 1980 and 2002, and tripled by 2015 *(3, 4)*.

Table 1. Basic population and health indicators in Uganda

Indicator	Value	Year	Source of information
Total population of country	39 032 383	2015	United Nations Population Division, 2015 *(4)*
Distribution of population (rural/urban)	0.79/0.21	2014	Uganda National Population and Housing Census, 2014 *(5)*
Life expectancy at birth (years)	63.3	2014	Uganda National Population and Housing Census, 2014 *(5)*
Infant mortality rate	43.8 per 1000 live births	2013	World Health Organization, 2014 *(6)*
Under-5 mortality rate	66.1 per 1000 live births	2013	World Health Organization, 2014 *(6)*
Maternal mortality rate	360 per 100 000	2013	World Health Organization, 2014 *(6)*
Immunization coverage under 1 year – DPT3	78%	2012	WHO/UNICEF estimate, 2014 *(6)*
Income or wealth inequality (Gini coefficient)	44.3	2013	World Bank, 2013 *(3)*
Total health expenditure as proportion of GDP	7.2%	2014	National Health Accounts, 2014 *(7)*
PHC expenditure as % of total health expenditure	66%	2012	National Health Accounts, 2014 *(7)*
Out-of-pocket payments as proportion of total expenditure on health	41%	2014	National Health Accounts, 2014 *(7)*

1 Every district in Uganda has areas that are designated as rural or urban, and these do not necessarily follow population density. The 2002 and 2014 census reports defined urban areas to include only gazetted urban centres, which include the capital city, municipalities, town councils and town boards.

The Ugandan population is increasingly affected by a double burden of disease *(8)*. The burden is still heavily made up of infectious diseases, with the five leading causes of mortality being HIV/AIDS (17%), malaria (12%), lower respiratory infections (7%), tuberculosis (5%), and meningitis (4%). However, there is a growing prevalence of noncommunicable diseases (NCDs) – the sixth and seventh leading causes of mortality are cardiovascular diseases and cancers respectively, and NCDs are estimated to account for over a quarter (27%) of all deaths in the country *(8)*. Although PHC in the country has mostly been tailored to communicable diseases, it is evolving to ensure that the noncommunicable burden is also addressed.

2. Timeline

Policies and programmes to support PHC in Uganda have evolved over the years in an effort to respond to domestic needs and to align with the global health agenda. Table 2 gives an overview of relevant policies and programmes concerning PHC in Uganda since the Alma-Ata Declaration on PHC in 1978, when the concept was introduced to the country.

Table 2. Historical overview of relevant policies and programmes concerning PHC in Uganda

Year	Reform or programme	Comments
1978	Alma-Ata Declaration	PHC concept introduced and adopted in Uganda *(9)*.
1983	Two programmes important to PHC introduced: (a) Control of Diarrheal Diseases; (b) UNICEF GOBI-FFF	GOBI-FFF (growth monitoring, oral rehydration, breast-feeding, immunization; female education, family spacing, food supplementation) was part of the selective PHC vertical programmes that were introduced with the aim of preventing most health and nutrition problems *(10)*.
1986	Fundamental change in regime	This was marked by the end of the guerrilla war that had begun in the late 1970s, ushering in the government administration that has remained to date.
1986	Expanded Programme for Immunization	Expanded Programme for Immunization relaunched in Uganda.
1987	Major restructuring of the health system in Uganda	This followed the release of the findings and recommendations of the Health Policy Review Commission. Many of the PHC structures and protocols in place today were recommended at that time *(11)*.
1987	Harare Declaration on Strengthening District Health Systems Based on Primary Health Care	This introduced the concept of the health subdistrict, which Uganda adopted as part of its current governance and service delivery structure *(12)*.
1992	Health Management Information System (HMIS) introduced	The current HMIS was introduced in Uganda to provide information for planning, decision-making and evaluation *(13)*.
1992	Medium-Term Expenditure Framework (MTEF) introduced	This was a major guide for policy and planning for the sector at that time *(14)*.
1993	Uganda National Drug Policy	In line with the policy, the National Medical Stores and the National Drug Authority were introduced to maintain good standards of health for Ugandans, through ensuring availability, accessibility and affordability at all times of essential drugs that are of appropriate quality, safety and efficacy, and by promoting their rational use.
1993	User fees introduced Essential health package concept introduced	The introduction of user fees was triggered by the economic decline that occurred globally. This led to the preventive aspects of health being financed by the government while curative services were financed individually, thus introduction of user fees *(15)*. In the same year the World Bank report on *Investing in health* was released, calling for the introduction of essential health packages *(16)*.
1995	Decentralization	At this time, the current Constitution of the Republic of Uganda was promulgated. One of the resulting reforms was that of decentralization, which puts districts at the core of service provision *(17)*.
1996	Public-Private Partnership for Health	The concept led to integration of the private sector within the health system, and there were resumed subsidies for the private not-for-profit sector to be able to provide services, including PHC services.
1997	Poverty Eradication Action Plan	This built on the MTEF and acted as a guide for policy formulation and planning in the sector. It was introduced in response to the high poverty levels and poor health indicators in the 1990s.[2]
1997	Local Governments Act	The introduction of this Act of Parliament gave more administrative authority to the local/district governments, directly affecting PHC administration, finance and service delivery.[3]

Continues…

2 Public-Private Partnership Act, 2015, Uganda.

3 Local Governments Act, 2015, Uganda.

Continued from previous page

Year	Reform or programme	Comments
1998	Poverty Action Fund	The Poverty Action Fund was introduced by the Government of Uganda in response to the need to draw more attention to finance services that directly benefit the poor. The intention was direct reallocation of funds to benefit the poorer parts of the population.
1999	National Health Policy I (NHP I)	The policy highlighted PHC as the centre of provision of health services in the country. At about this time a concept paper on the health subdistricts of Uganda was released, giving guidance for governance and provision of services in the districts.
2000	Sectorwide approach (SWAp)	This was introduced in response to widespread dissatisfaction with fragmented donor-sponsored projects and prescriptive adjustment lending. The SWAp was intended to provide a more coherent way to articulate and manage government-led sectoral policies and expenditure frameworks and build local institutional capacity, and to enable more effective relationships between governments and donor agencies.
2000	Health Sector Strategic Plan I (HSSP I)	This was drawn out of the NHP I, and gave guidance on the activation and implementation of health policy.
March 2001	User fees policy abolished	This was an unexpected turn of events during the presidential campaigns and was passed as a presidential directive while the debate on these was still ongoing.
2000–2005	Global Health Initiatives	There was a significant increase in Global Health Initiatives in the sector, resulting in an increase in funding for vertical programmes, especially malaria, tuberculosis and HIV/AIDS. At that time there was an increase in poor accountability and corruption, which significantly affected some of these initiatives, compromising their operations and objectives.
2010	National Development Plan (NDP) I National Health Policy (NHP) II Health Sector Strategic and Investment Plan (HSSIP)	The NDP I emphasized investment in the promotion of people's health and nutrition, which constitute a fundamental human right for all citizens. It laid a foundation for the development of the NHP II, the theme of which was promotion of people's health to enhance socioeconomic development *(18)*.
2012	Universal health coverage concept introduced	The relationship between the concept of universal health coverage and PHC initially caused debate; the concept has more recently been viewed as a mechanism to strengthen PHC.
2015	National Development Plan (NDP) II	The theme for the second NDP is "Strengthening Uganda's competitiveness for sustainable wealth creation, employment and inclusive growth". In the plan, in order to accelerate wealth creation and employment while enhancing competitiveness, the country will prioritize investment in developing strong human capital, the components of which are health, nutrition education and skills development *(19)*.
2016	Community Health Extension Workers Strategy	The strategy was formulated to realign the roles, responsibilities and training of village health workers to improve community ownership and participation in health-related decision-making *(20)*.

The primary care system in Uganda is the first point of contact with the health system for majority of the population, and therefore its effectiveness, efficiency and responsiveness are directly related to the level of health of the population. In Uganda, primary care services are provided through both public and private institutions *(21)*. The government dominates PHC provision, providing about 66% of health service delivery outputs *(22)*.

A primary care system is made up of several elements, which in turn encompass structures and processes that lead to certain outputs and eventually health system and health outcomes. A good balance between the structures and processes is vital to realize the desired outcomes *(23)*, while recognizing that each system has a unique set of elements that shape it.

As part of a wider case study, this research aims to summarize key aspects of the structures, processes and outcomes of Uganda's primary care system that reflect its performance, and to elaborate specific pathways that have contributed to notable outcomes in its primary care systems. It is hoped that this study and research will also promote learning among relevant stakeholders in order to motivate policy change for a more responsive and resilient system, and will help to draw lessons that can be shared with systems in similar settings.

3. Methods

To meet the objectives of this study, a case study design employing qualitative methods was used. The study was set in the health sector of Uganda, and used both document reviews and key informant interviews to collect data.

Documents reviewed included government and other reports, policy documents, published literature and international reports. These were sampled purposively according to their relevance to the data being sought, and were identified with the help of the key informants. Thirty-one key informants with varied backgrounds and expertise were invited, and responses were received from 23 (74.2%) of these. The key informants were identified through purposive sampling according to their expertise and involvement, or because of their extensive knowledge and experience of the PHC sector and Uganda's health system in general. The profiles of these key informants are shown in Annex 1.

In-depth interviews were then carried out with the key informants, typically lasting for between one and two hours. The interviews were guided by an interview guide that had open-ended questions. The interviews were audio-recorded with the permission of the interviewees, and were transcribed immediately.

The study was carried out in two phases. Phase 1 was a phase of preliminary enquiry, in which basic information was gathered on the health and health systems profile of Uganda. Discussions with key informants and document reviews in this phase yielded basic information on how primary care services were organized and on the history and context of PHC reforms in Uganda. The data from phase 1 were analysed using narrative synthesis and collation. These data contributed to the identification of additional questions around pathways of change specifically relevant to Uganda that were then explored in phase 2, which used a combination of qualitative and quantitative methodologies for data collection. Thematic synthesis of qualitative data was carried out and key structures, processes, and outcomes were measured.

4. Elements of inquiry into primary health care in Uganda

Respondents and document reviews revealed a number of elements of enquiry, the majority of which were fixed elements. They are presented here under the different categories of structural, process and outcome elements. Note that results from phase 1 are not presented here as they have already been presented elsewhere. Table 3 is a summary of the elements of enquiry for PHC in Uganda that this study identified.

Table 3. Summary of the elements of enquiry for primary health care in Uganda

Thematic category	Health system category	Elements of enquiry
Structural elements	Governance	National- and lower-level policies, guidelines and guidance: • clear statements on health equity and health rights • commendable policy statements and guidance but with poor implementation • monitoring and evaluation of policies • guideline dissemination • evidence-informed decision-making
		Decentralization of decisions for health care management and services
		Stronger institutions (as opposed to individuals) for health system decision-making
		Health system structures to enable multisectoral engagement with other sectors
		Engaging and managing non-State health system actors
	Finance and funds flow	Resource mobilization that is more efficient, fair and protective
		Mechanisms to pool risk and resources for health
		Spending efficiency to prioritize PHC
		Evidence-informed budget allocation integrated with priorities
		Standardized prices and protection of consumers during purchase of health goods and services
	Human resources for health	Align public and private providers to enable planning and complementary distribution
		Stewardship and regulation of informal alternative care providers
		Pre- and in-service training and continuing professional development for all cadres in the PHC system
	Service organization	A preventative and health promotional model of care in preference to a curative model
		Integrated vertical programmes to lead to a stronger comprehensive health system
		Technical efficiency: steps taken to streamline and reduce utilization of resources and costs of providing care, without compromising outcomes
		Stronger accountability structures in the system
		Continuity of care and referral systems
		Institutional mechanisms for supportive supervision of community health workers

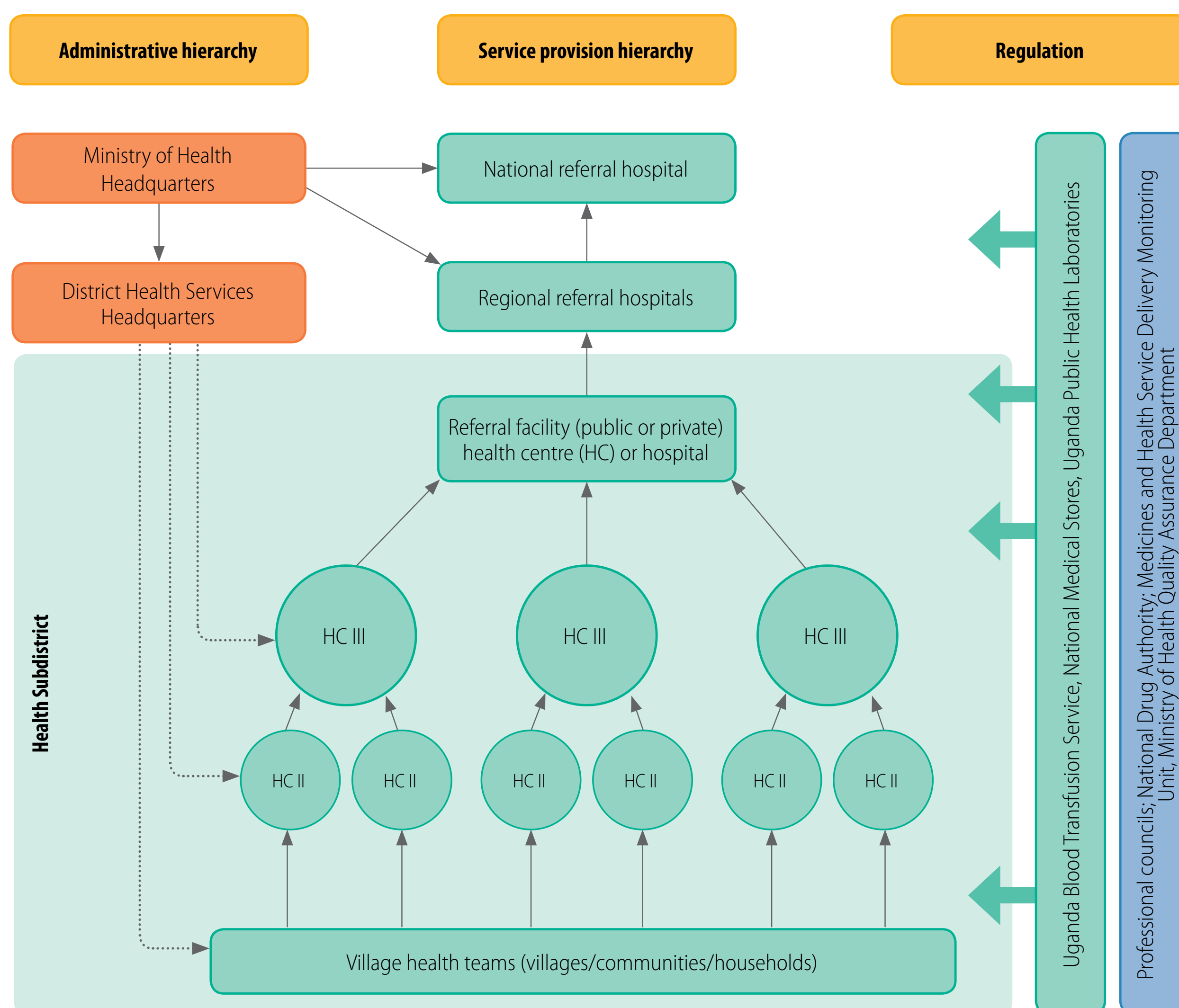
Thematic category	Health system category	Elements of enquiry
Process elements	Planning and implementation	Institutions with responsibilities need the power and authority to match
	Regulatory processes	Informal sector regulation: set up systems and structures for this
		Formal sector regulation: stronger and more adequate regulation systems: • resources to enable efficient regulation • coordination of regulatory bodies • confusing legislation • punitive action
	Monitoring and information systems	Informational continuity: existence of provisions for organized collection of users' medical information available to the primary care team
Outcome elements	Equitable access	Equitable distribution with more attention to marginalized regions
	Appropriate and responsive services	A system that is patient centred and provides for engagement with stakeholders
	Quality and safety of care	A well resourced and strengthened quality and safety improvement initiative

5. Structural elements

5.1 Governance

The administrative head of the health system in Uganda is the Ministry of Health, governing both the public and private sectors *(21, 24)*. The main administrative levels for the health system are at the national (central government) and at the district (and city) levels (local governments) *(21, 24)*. The district systems are under the leadership of the District Directorate of Health Services and are present in each of Uganda's current 112 districts and one city *(25)*. Figure 1 is a representation of these administrative levels aligned with the service delivery and regulatory arrangements within the health system. The ministry manages and supervises activities at the national, regional and district headquarters, while the district directorate manages the health subdistrict (HSD), which is made up of all health centres and village health teams *(25)*.

Figure 1. Representation of the health care system of Uganda showing the administrative, service delivery and regulatory arrangements



Although health service delivery is aligned with administrative levels, the regional-level facilities have no direct administrative level to match them and therefore report directly to the Ministry of Health. The HSD is the primary provider of PHC in Uganda *(25)*.

PHC is delivered through a National Minimum Health Care Package with the help of a hierarchy of health facilities in the HSD *(18, 22, 24)*. The creation of the HSD in 1999 aimed at enhancing the effectiveness and efficiency of planning, provision and monitoring of health services at levels nearest to the population (in a hierarchical system) *(26)*. It is based on several principles, including integrated and better coordination and linkages between various types and levels of health care, and improving community involvement *(26)*. At its creation, the HSD was meant to be based on constituencies comprising the subcounty as the basic unit *(26)*. However, because of limited resources at the subcounty level, it was deemed only administratively viable to create these HSDs at the county level until such a time as the country's economic circumstances changed *(26)*. This has however compromised the efficiency of service delivery by the fact that most counties are very large, with populations of up to 400 000, whereas the HSD was meant to serve populations of up to 100 000 people *(25, 26)*.

At the national level are the national referral hospitals and regional referral hospitals *(18, 22, 25)*. In addition to these are semi-autonomous institutions that operate at the national level but support PHC service delivery, including the Uganda Blood Transfusion Services, the National Medical Stores, and the Uganda Public Health Laboratories *(18, 22, 25)*.

Regulation of services in the health system in Uganda is carried out by several bodies including the professional councils, which monitor and exercise general supervision over the several different professional cadres; the National Drug Authority, which controls the manufacture, importation, distribution and use of drugs in the country; and the Medicines and Health Services Delivery Monitoring Unit, established by a presidential directive in 2009 to improve health services delivery in the country through monitoring the management of essential medicines and other health services delivery accountabilities *(21, 27, 28)*.

5.1.1 National- and lower-level policies, guidelines and guidance

It is important that the health system has policy statements that are not only clear but also revised regularly according to new insights. Uganda has a National Health Policy (NHP) that is usually revised every 10 years *(18, 22, 24)*. Its current NHP II was enacted in 2010 as an update of NHP I, which was enacted in 1999 *(18, 24)*. These policies are made in line with the National Development Plan (NDP), which is a five-yearly document that aims to address structural bottlenecks in the economy to accelerate socioeconomic transformation *(29)*. The current NDP II was released in 2015 and aims to give guidance for all sectors in a bid to propel the country towards middle-income status by 2020 through strengthening the country's competitiveness for sustainable wealth creation, employment and inclusive growth *(30)*. Respondents in this study applauded the presence of this and other guidance. However, they noted that guidance should not only be in place, it should also have clear statements on health equity and health rights, with greater attention paid to particular marginalized groups. Such groups, said respondents, may be marginalized due to their geographical location or their ethnic and cultural characteristics, amongst other factors. Often the policies are sweeping statements that do not spell out such details.

Respondents also noted that Uganda had many commendable policy statements and guidance documents, though their implementation was poor.

> Strategies in Uganda are excellent. All strategies on paper are very good. The implementation is very frequently a problem. (Development partner)

In addition, there hardly seemed to be any monitoring and evaluation of policies *(31)*. Respondents noted that changes to policies were mostly externally

influenced, with no in-country efforts to carry out regular monitoring and evaluation of policies to ensure fidelity and check consequences to inform reforms. This meant that policies once enacted might go on indefinitely with no checks to ensure they are meeting the intended needs and are benefiting the population.

Guideline dissemination. Respondents noted that there was a multitude of guidelines but often these were only known at the centre of the health system or headquarters and higher levels of governance. Providers at the lower levels, where they should be applied, are often not conversant with them, and even when they are, there is no monitoring to ensure they are being used appropriately. The guidance is then not translated into improved service delivery.

Evidence-informed decision-making. It was noted that although there was an increasing effort to practice evidence-informed policy- and decision-making, it was still far from optimal. Respondents felt that the consultative process on many decisions and polices failed to take account of a range of different types of evidence or to consult as many concerned stakeholders as possible. While the Health Policy Advisory Committee and several technical working groups are tasked with giving guidance during policy discussions and involving as many stakeholders as possible in providing inputs, it was still felt that such organizations were failing to adequately involve lower-level stakeholders *(32)*. Furthermore, the incorporation of information, data and evidence, both local and global, was noted to be generally poor and in need of much improvement.

5.1.2 Decentralization of decision-making for health care management and services

Uganda has a decentralized political system but it is not optimally implemented *(17)*. Decentralization, which was one of several reforms introduced by the current Constitution of the Republic of Uganda (promulgated in 1995), put districts at the core of service provision *(9, 17)*. However, there is a general feeling that the decentralization system and process in Uganda is not operating at its best. A study assessing the decentralized health and education services in Uganda as one of two country case studies found that decentralizing service delivery offers benefits, but these benefits have not always materialized for many reasons *(1)*. The authors found that local officials do recognize local demands and needs but have limited authority to regulate services. They further noted that officials at the lower levels were more aware of local preferences than officials at the higher levels. Furthermore, they found that corruption was usually less pronounced at local levels than at higher levels, and consequently the lack of delegation of power and authority from the centre resulted in greater leakage of funds and other resources than would be the case under a properly decentralized system. Respondents in the study agreed with these study findings, noting that it was not enough to pass authority to lower-level actors without ensuring that they have the capacity to handle that authority and make good use of it. They further observed that several units of the health system to which power was decentralized were technically and administratively weak and thus unable to execute their duties fully.

The aim of decentralization is to make the system more responsive to local problems through encouraging local autonomy and ownership, better execution, improved efficiency and accountability, and local participation. The health system in Uganda will realize better outcomes if it is able to enable and build capacity for true decentralization.

5.1.3 Stronger institutions for health system decision-making

Uganda is negatively affected by widespread corruption and system inefficiencies. According to Transparency International, Uganda has the highest levels of corruption among the five countries of the East African Community *(33)*. With a score of 25/100 on the Corruption Perceptions Index, it is also one of the most corrupt countries globally, ranked 151st out of 176 countries *(33)*. Furthermore, the health sector

has been cited as one of the most vulnerable sectors, alongside the judiciary and education sectors *(33)*.

Several reasons are cited for this poor state of affairs. One reason, which was cited in source documents and also by respondents in this study, is the fact that institutions and systems are generally weak in terms of authority and power and are often undermined by influential individuals. Systems and institutions should be governed by laws, policies, rules, regulations, guidelines and corrective or disciplinary procedures, which are all elements of good governance. However, this objective is often lost when leaders, including public representatives and bureaucrats, ignore the set regulations and apply their own rules. While strong individuals are needed for effective leadership and guidance, it is important for the proper, sustainable functioning of structures, systems and institutions that corruption and favouritism are avoided. There has been very little political will demonstrated to correct the entanglement of individual and systemic agendas and other corruption practices that have negative impacts on the delivery of PHC.

5.1.4 Health system structures to enable multisectoral engagement with other sectors

To be able to deliver effective and efficient PHC in Uganda there is a need for coordination and engagement with sectors and institutions outside the health system. Such sectors can support the health system through action related to the social and environmental determinants of health. These sectors include education, water and sanitation, gender, finance and agriculture. However, the structures in place to aid engagement are poor and generally weak, and in many instances even non-existent. This results in missed opportunities to improve service delivery and impact the planning, implementation and shared outcomes that could result from better coordination and engagement.

5.1.5 Engaging and managing non-State health system actors

Often PHC in Uganda is provided by non-State actors, especially in the hard-to-reach areas and in post-conflict areas such as the northern part of the country. There are a number of non-State actors, including the church, nongovernment organizations (NGOs) and development partners. However, engagement among these actors is generally ad hoc and does not follow any particular replicable process. This makes managing this group of providers difficult, resulting in duplication of services and unchecked malpractices, among other consequences. There is a need for the government and the health system in particular to improve its capacity to manage partnerships and agreements with non-State actors and institutions in order to ensure that they are of benefit to the country and its population.

5.2 Financing and fund flow

5.2.1 Resource mobilization that is more efficient, fair and protective

There is a need for more efficient resource mobilization to ensure that the expenditure by households and individuals, especially at the point of seeking services, is reduced and catastrophic spending is avoided.

Financing for PHC in Uganda comes from government or public and from private sources. Private sources have consistently contributed a larger proportion (76%) of the funding for health, including PHC. The private sources include households (out-of-pocket funds), private firms and not-for-profit organizations *(7, 21)*. Out-of-pocket funds contribute about 55% of all private health expenditure and 41% of total health expenditure, proportions that have not changed much despite the abolition of user fees in public facilities since 2001. In fact, the incidence of catastrophic spending for the poor increased after the policy was put in place *(2)*. The current incidence of catastrophic expenditure is estimated at 38% with a 5% initial threshold, which represents over 2 million households. The catastrophic headcount ratio decreases to 22.8% at the 10% initial threshold *(34)*.

Funds for PHC in the public sector come from one of two sources, including the government's contribution, which is about 23.9% of total health expenditure (the government's contribution to the health sector as a whole is 9.6%, which falls short of the 15% that the government committed to as part of the Abuja Declaration on HIV/AIDS, Tuberculosis and Other Related Infectious Diseases) *(7, 14, 35)*. The majority of the government contribution is from central government funds mainly drawn from taxation. It is noteworthy that the funds from taxation in the country are mostly drawn from the formal sector rather than the larger informal sector, for which regulation and follow-up remain weak. This places a great burden on the formal sector, and inadequate amounts are collected to satisfy central government needs. Funding from the centre, on which most PHC activities depend, is therefore unreliable or late, or even not dispatched as budgeted because of shortfalls at the centre. This repeatedly compromises the availability of health goods and services for PHC.

5.2.2 Mechanisms to pool risk and resources for health

Health care resources for PHC in Uganda are managed by several actors and institutions, including public managers – the Ministry of Health, other line ministries, district health services and parastatals – managing about 30%, and private managers – private health insurance agencies, facility-based NGOs, private firms and households – handling about 70% of the funding in the sector *(36)*. Although public resources in Uganda do have some degree of cross-subsidy, there is inadequate deliberate pooling of risk and funds due to the large proportion of out-of-pocket expenditure and the absence of efforts to integrate the different financing mechanisms. Small highly fragmented risk pools exist in the form of community-based health insurance, voluntary private prepayment schemes and health maintenance organizations. The sector has been endeavouring to introduce a national health insurance scheme for over a decade but has been met with several challenges. One of these challenges is how to involve the informal sector, which makes up the greater part of the workforce but largely lies outside official systems. Respondents felt that there was a need for stronger efforts to ensure the presence of a mechanism to pool risk and resources to avoid catastrophic spending for particular groups of the population.

5.2.3 Spending efficiency to prioritize PHC

Two things are immediately evident when considering the expenditure of PHC monies in Uganda – the majority of the budget remains at the centre, and the curative budget still overwhelms the preventive budget. A greater part of the budget is spent on drugs while vital preventive and health promotional elements have increasingly been deprioritized. For example, health inspectors and health visitors involved in preventive health activities were a common cadre at the start of PHC but these have been increasingly phased out. Many argue that their roles may be replaced by community health workers, but it is important to note that community health workers may not be as qualified or motivated as the health workers who held those positions, nor is their work as focused on general preventive medicine – many of them are part of vertical programmes attached to given diseases or activities.

Considering the health care budget, there is relatively greater expenditure at the higher levels than on the lower units, reflecting a budget that gives priority to administration and secondary health care rather than implementation at the levels of primary care.

> Look at the money that stays at the headquarters then look into the money that goes into the units. It already begins to tell you PHC is not going to get an adequate portion. When you look at the money going to the units, you look at PHC and again it is undermined at that level. Not only has it been undermined at the broad allocation level because the resources were not sufficient, it was also undermined within the health sector itself and continues to be undermined within the health units themselves. (Senior health planner)

5.2.4 Evidence-informed budget allocation integrated with priorities

Much of the budgeting is still done using historical budgets and does not make use of the information available from data derived from the HMIS or from research evidence. Respondents noted that although the situation is improving, it is still far from optimal, with inappropriate allocation of the meagre funds available, contributing to frequent stock-outs of necessary items while others repeatedly expire on shelves and in stores. Respondents called for better budgeting practices that use available information for planning to avoid wastage and inappropriate allocation of funds.

5.2.5 Standardized prices and protection of consumers during purchase of health goods and services

The PHC system in Uganda has no standardized pricing. Consultation with a general practitioner may range from free (in a public hospital) to between US$ 2 and US$ 20 in the private sector. This applies to all services in health care – there is a wide variation in pricing with no clear direction or guidance on how the prices are determined. Furthermore, there is no mechanism to protect consumers (or providers) from the consequences of this situation. The respondents were well aware of the pros and cons of price controls but noted there needed to be some minimal amount of regulation, which is completely absent in the PHC system in Uganda.

5.3 Human resources for health

PHC in Uganda is provided by health workers, who can be categorized as follows: medical doctors and dental surgeons, nurses and midwives, pharmacists, and allied health professionals *(21)*. Within these categories are finer delineations according to level of education and years of experience. There are about 8300 health workers registered by the different health professional councils for the categories of doctors and dentists, nurses and midwives, and pharmacists *(22)*. The number of registered allied health workers, including clinical officers and laboratory technicians, is estimated at 26 685 *(22)*. The number of physicians per 1000 population is 0.03 while that of nurses is 0.46 *(22)*.

In addition to these formally medically trained health workers are a team of community health workers, also referred to as members of village health teams. They give significant support to PHC, especially in rural areas, where the proportion of skilled health workers is lower *(37)*. There are currently 179 175 known members of village health teams in Uganda, making a density of 5.17 village health team members per 1000 population *(37)*.

5.3.1 Align public and private providers to enable planning and complementary distribution

The government is the largest employer of health workers for PHC, employing 42% of these *(38)*. Of the rest employed in the private sector, 7% of the total health workers are in private not-for-profit institutions while an estimated 51% are in private for-profit institutions *(38)*. However, these estimates are far from accurate, for several reasons. There is no mechanism or structure in place for the health system to register health care workers in the private sector. Furthermore, those working in the private sector are very loosely organized under an umbrella association, with which members have no obligation to register *(38)*. There is also duality of employment, with many health workers employed in both the public and private sectors, making it difficult to ascertain the numbers of health care workers for regulatory purposes. Appropriate, responsive decision-making on human resources for health is not possible when the system is unable to determine the present distribution or movement of almost half of health care workers.

Although the actual distribution of the health workforce is difficult to ascertain, it is estimated that the majority of lower-level and informal cadres work in rural areas *(21)*, where monitoring and regulation is more difficult than in urban areas. There is a need

to put in place structures for the collection of full information on both public and private health providers to enable improved alignment of health services and better use of resources.

5.3.2 Stewardship and regulation of informal alternative care providers

The PHC system in Uganda is generally weak in providing stewardship for and regulating the non-formal practitioners, including complementary medicine practitioners, traditional healers, traditional birth attendants, herbalists and bonesetters. Loose associations exist for those groups, but not all members subscribe to them and they do not have any stewardship or regulatory obligations. The work of the professional councils, although spelled out clearly, does not include a mandate of leadership over those groups of practitioners. There have been attempts through the Uganda National Chemotherapeutics Research Institute under the Ministry of Health to guide and regulate some of these groups, for example the herbalists, but without great success. This lack of stewardship has led to several cases of malpractice and confusion arising from provision of misinformation to consumers, who may eventually present to the formal medical sector but quite late, occasionally leading to fatal health outcomes. The malpractitioners escape discipline as they are not registered anywhere and there is no law or guidance that one can claim they did not follow. Respondents felt that for better PHC delivery and better health outcomes this informal group – which is very active and influential among the population – needs to be better aligned with the values of PHC and given stewardship accordingly, as they are often the first line of treatment or contact with the health system.

5.3.3 Pre- and in-service training and continuing professional development for all cadres in the PHC system

The respondents in this study expressed the need to harmonize the providers of pre-service training for PHC in Uganda. Pre-service training for health workers in the country is carried out in any one of the 110 health worker training institutions, including 10 universities, 51 nursing and midwifery training institutions and 49 allied health training institutions *(21)*. Since 2008, by an Act of Parliament, accreditation and supervision of pre-service training for all health workers is primarily under the Ministry of Education and Sports through the National Council of Higher Education *(39)*. This had initially been under the Ministry of Health, which now only contributes to the regulation of health workers' training through its professional councils. It also contributes to curriculum development, supervision, training and accreditation of new institutions to ensure that the training is adequate and the resulting trained health workers are competent. Respondents felt that these roles are not adequately assigned, noting that there was minimal input from the end-user sectors of these trainees, and then only by invitation.

> The Health Ministry will have its human resource policy and its human resource projections. [The Ministry of] Education does not look at those. Education has its own policy of availing education to as many as you can because they have a policy on skilling Ugandans. But now those are not favourable to health because health wants quality and particular numbers. You can have conflicting policies which impact on quality training. (Respondent)

> So now you look at the capacity for Ministry of Education, who is the commissioner for higher education? It is a teacher. Who is the commissioner for this, it is someone qualified with a degree in human resource administration. They are the ones now regulating and setting standards and managing … training. Are we getting the right kind of nurses we talk about? Hardly. (Respondent)

> So, through a gentleman's agreement the National Council of Higher Education invites the four councils as an example to participate in reviewing the curriculum, visiting the institutions. … So the councils are invited on a gentleman's agreement. The act clearly says they [only] consult them. If

> they go and inspect a particular medical or dental school and they find that they don't have the teachers, they are not running the programme well. They cannot shut it. They have no power to shut it. It is [the Ministry of] Education to do that. So, that is a big problem. (Respondent)

The mandate for continuing medical education or professional development is given to the Uganda Medical and Dental Practitioners Council (UMDPC), which is under the Ministry of Health *(28)*. The service is provided through third-party agencies. Until recently there was no mechanism to assess how much continuing professional development or continuing medical education an individual should undertake. Recently the UMDPC set revised guidelines and will not renew annual practising licences without evidence of a certain level of continuing medical education in the previous year. This is yet to be applied to the other professional bodies.

Respondents emphasized that training and keeping staff up to date and professional is essential for a responsive PHC system, and called for structures and activities that ensured this.

5.4 Service organization

5.4.1 Preventative and health promotional model of care (versus a curative model)

Many basic tenets of PHC originally revolved around preventive medicine and health promotion, involving all cadres of PHC teams, including health inspectors and health education officers *(11, 40)*. Currently the model is more curative oriented, and prevention is left to NGOs and other service providers.

> The way we have structured and the way we have deployed the health care model. It is curative and policy and administrative heavy. (Respondent)

For stronger PHC, it was emphasized that the preventive component of the model required strengthening and allocation of human and financial resources needed to reflect that. One respondent said that it seemed as though the government only waited to help its citizens when they were ill.

5.4.2 Integrated vertical programmes to lead to a stronger comprehensive health system

Vertical programming in Uganda has distorted the health system *(10)* and led to misallocation of human and financial resources, as similar work is duplicated under different programmes or projects supported by different partners. This is not in accordance with the Paris Declaration on Aid Effectiveness, to which Uganda subscribed in 2005 *(41)*. There is need to integrate vertical programmes into the current PHC and general health system to avoid such distortions, thus strengthening the overall health system. Progress is being made in this regard, though the integration process is slow and inconsistent. The government has committed to the integration process – for example, the Ministry of Finance has now stipulated that it will run only one account for all health programmes. Programmes that were originally vertical and aligned to particular diseases, such as those for HIV/AIDS, malaria and tuberculosis, are having to repackage themselves for integration. However, development partners among others still support particular programmes as they see fit, citing reasons such as corruption in the central system.

5.4.3 Technical efficiency: steps taken to streamline utilization of resources and reduce costs of providing care, without compromising outcomes

Respondents in this study felt that the financial, human and other resources available to the PHC system were too meagre to allow it to carry out its functions optimally. However, they felt that even the meagre resources were still not managed efficiently, resulting in wastage of resources arising from duplication of services, rampant corruption, poor planning and a failure to adjust to changing situations, including disease burdens and population figures. Respondents called for the health system to streamline its organization operations to ensure that services are delivered at reasonable cost without compromising outcomes and without unnecessary waste.

5.4.4 Stronger accountability structures in the system

The accountability structures in the system are generally weak or absent, and there is a lack of accountability from one level to the next. While some structures are in place, including annual appraisals by immediate superiors, these activities are either done only as a routine and do not result in any action using the information they generate, or not done at all. This has led to a carefree attitude within the system with rampant cases of absenteeism, corruption, under-the-table fees and other malpractices, compromising service organization and delivery. The respondents decried what they called half-hearted and disorganized attempts at restoring accountability at both individual and institutional levels. They noted that without this accountability, PHC will continue to be substandard and unable to meet the needs of the population appropriately. They noted that the structures are in place but only need to be strengthened and made active.

5.4.5 Continuity of care and referral systems

Continuity of care exists in theory but is virtually absent in structure and function. The gatekeeping function of lower-level facilities is largely non-operational, putting severe stress on the health system. Patients with conditions easily managed by PHC facilities seek services from the national referral hospital that is meant to provide specialized and superspecialized care. Furthermore, where referral has been attempted there are no reliable supportive systems such as ambulances or communication systems to ensure informational follow-up. Hence a patient may be delivered to a hospital by private ambulance and the hospital is not ready or equipped for them, but had no chance to relay this message prior to the patient's arrival. This has led to unnecessary loss of lives. Services are overwhelmed in some centres while resources are wasted in others. PHC needs support within its structures and from higher levels to be able to function optimally. Therefore referral and ambulatory systems, and other structures for continuity of care, need to be augmented and strengthened.

5.4.6 Institutional mechanisms for supportive supervision of community health workers

The paucity of health workers in rural and other hard-to-reach areas, coupled with poor health-seeking behaviour in the general population, has meant that the PHC system relies heavily on community health workers *(37)*. In fact the Ministry of Health is currently reviewing its policy on village health teams and heading towards a model of community health extension workers *(20)*. This initiative has been welcomed, though some respondents were apprehensive, citing the fact that the system does not have the capacity to give the necessary support and supervision these workers need. They compared it to similar extension workers in other sectors and health cadres under past PHC systems that have been phased out for different reasons. They noted that for the Community Health Extension Workers Strategy to succeed, there needs to be serious investment in supporting and supervising them, and ensuring they stay up to date in their professional development and are linked to appropriate referral structures.

6. Process elements

6.1 Planning and implementation

Planning in the health sector involves multiple stakeholders over several levels of administration *(21)*. While much the planning happens at higher levels of administration, at district and national levels, input is ensured from lower levels of the system through consultation. For example, all facilities under a given district may be asked to submit plans and budgets in contribution to the consolidated district plan. Through the hierarchies, village health teams will submit their plans to the HC (health centre) level II units, which will incorporate those into their own plans before submitting them upwards to HC level III, and so on up to the district level *(12, 42)*. The district will submit its plan to the Ministry of Health, which will develop a consolidated sector plan and budget *(42)*. This planning is guided by several policy documents, including the National Development Plan (NDP), National Health Policy (NHP) and Health Sector Strategic and Investment Plan (HSSIP) *(18, 19, 24, 42)*. These documents have evolved through several editions over the years, changing to align with the PHC and other needs of the growing population *(18, 19, 24, 30, 42)*. In addition, the HMIS, which maintains a comprehensive source of health and management information, provides input to the planning process *(31, 43)*.

The PHC system attempts to involve users in planning and providing feedback through the health unit management committees that are present at all facilities. Users may also engage with village health teams that are readily accessible, especially in the rural areas *(44)*.

6.1.1 System to measure and respond to the disease burden in the population

The PHC structure in Uganda has a system to measure and respond to the disease burden of the population of the country. There is a rapid response team based in the Ministry of Health's Department of Clinical Services, which continuously monitors the disease burden and trends in the country, responding to any epidemics *(45)*. This rapid response team is triggered by the Emergency Operations Centre, which was established in 2014, building on the work of the former Department of Surveillance. The Emergency Operations Centre is tasked with collecting data on different indicators daily. In line with this, it receives data from all districts through district surveillance officers. It is well equipped and is very effective in meeting its objectives. The Emergency Operations Centre continues to release a weekly bulletin giving disease and information concerning epidemics, if any, in the country.

6.1.2 Equipment and pharmaceuticals at the point of care

At the point of care, equipment supplies are determined by the level of the facility and therefore what services are expected of it, and the human resources available at such a level *(46)*. Many of the facilities are well equipped, though there are a number of facilities at which the infrastructure exists but equipment is lacking. Where equipment has been availed maintenance is often a challenge due to a number of reasons, including lack of capacity, skills and financial resources. Based on the World Health Organization's equipment guidelines, facilities in Uganda carry an average of 73% of the equipment recommended for their level of care *(46)*. Referral and district hospitals of the PHC structure carry an average of 86% while HC IV units and HC III units stock an average of 77% of the recommended equipment. The range however is wide, from 50% to 100%, and HC II units show lower levels of equipment availability (an average of 55%), spanning 31% to 81% of the recommended supplies for PHC facilities.

With regard to pharmaceuticals, most facilities stock at least 50% of the pharmaceuticals recommended

for their level of care by Uganda's Essential Medicines List, but there is a wide range of medication availability across and within facility types *(46)*. Referral and district hospitals carry an average of 79% of their recommended pharmaceuticals, whereas health centres average 64% of the medications. HC IIIs show one of the broadest spectrums in pharmaceutical availability, ranging from 23% to 100%.

While new facilities are being constructed and equipped during the implementation of the Health Sector Development Plan, priority is being given to consolidation of existing facilities to enable them to function effectively *(19)*. Part of this consolidation of facilities includes upgrading them to higher levels, functionalizing HC IIIs in all subcounties and piloting the establishment of community hospitals. In addition, the sector is building capacity and mobilizing resources for operation and maintenance of medical equipment and infrastructure.

6.1.3 Referral systems

For PHC implementation, Uganda has a clear referral system for the public sector, although this is very poorly implemented *(21)*. The lower-level health centres are required to act as "gatekeepers" to the system, with clear mandates regarding which conditions they handle and when to refer patients to the next level that offers the required service *(25)*. This procedure however is not routinely followed, and patients with conditions that could be handled at lower levels self-refer to hospitals at the district, regional and even national levels *(21)*.

Where referral is done according to the sector protocol, challenges arise. There is a very loosely organized ambulance system in the public sector. Ambulances are attached to hospitals and many of these are provided by development partners. Several ambulances are also present with clear markings but with no ambulance equipment or services in them. There are also no trained human resources in the country to carry out ambulance services. Only recently, in 2014, has a department to address this issue been formed in the Ministry of Health, but there is no policy or guidelines under which it is operating *(47)*. In addition, because there is no established service, there are no lines of communication, with the result that when ambulances have attempted to transfer a patient to the nearest hospital in the case of an emergency, the hospitals are often caught unawares and may not be ready for them. Furthermore, there are no established procedures to track those referred once they leave a given point of contact within the system. It is common for many referred patients not to make it to the centre for referral in the designated time or at all, but there is no system to track this or their outcome. Referral in the private sector is even more informal and ad hoc, with no particular protocol or guidelines.

6.1.4 Comprehensiveness of PHC services

Comprehensive services are defined as "the provision, either directly or indirectly, of a full range of services to meet most patients' health care needs" *(48)*. Comprehensiveness of services relates both to scope of services offered and to a whole-person clinical approach. Despite a system plagued with inefficiencies, there is provision of comprehensive PHC services. Anecdotal evidence from stakeholders in the sector points to the fact that all the services expected of a PHC system, with the tenets as defined by the Alma-Ata Declaration, are available to the general public.

6.1.5 Institutions with responsibilities need the power and authority to match

The Constitution of Uganda, promulgated in 1995, introduced a decentralized system. However, as mentioned earlier, the implementation of the policy has not been optimal, with many decisions and services still directed from the centre. Institutions at the more local levels have responsibilities but no power or capacity to carry these out. Even this lack of power is uneven at those levels, with some districts more advantaged than others in different ways. For example, some districts are much older and have been able to establish sources of local revenue to supplement their budgets from the centre, while

other are very "young" and fully dependent on resources from the centre, which are not always timely or adequate. This frequently affects the delivery of services, including PHC services. It is important for the government to address the need for local authorities to have the power and capacity to run their health systems and be responsive to their localized needs.

6.1.6 Responsive system that is patient centred and provides for engagement with stakeholders

There are institutional structures and mechanisms in place that should provide for the citizens' and other stakeholders' feedback and input in the PHC system. For example, at the level of the health facilities are the health unit management committees, which include persons from the community, following which – from the grass roots upwards – are political representatives from the village level at administrative local councils, then Members of Parliament representing citizens' interests. In addition, at all health units the Patient's Charter has been introduced providing information on what should be expected at the unit.

However, these mechanisms to reach out to citizens are not as functional as they ought to be for a number of reasons. The citizens for whom these mechanisms are set up are not empowered enough to make use of them, and they have poor knowledge of their rights and the related procedures. In addition, the structures themselves are numerous, with overlapping mandates. Moreover, there is a lack of redress in instances where authorities are not accountable or responsive to citizens and other stakeholders. This has caused a loss of trust in the system, with many stakeholders feeling that the system is not centred around their needs. There is relatively more responsiveness in the private sector.

Because of the poor state of responsiveness, especially in the public sector, several civil society organizations are involved in lobbying for the rights of users to be respected and empowering the public with information to help them demand their rights. In addition, civil society organizations are involved with other actors in the PHC system to forge ways of improvement.

6.2 Regulatory processes

There are processes and entities in place to regulate activities and structures geared towards PHC, as passed into law by acts of Parliament.

The UMDPC regulates the practice of doctors and dentists in the country *(28)*. It is mandated with monitoring, general supervision and control, and maintenance of professional medical and dental education standards, and enforcing ethics and supervising practice at all levels *(28)*. In addition, it licenses and gives accreditation to facilities to provide health care services in both the public and private sectors. The Nurses and Midwives Council and the Allied Health Professionals Council perform the same functions for their respective cadres. The Allied Health Professionals Council also regulates laboratory standards in facilities *(49)*.

There is a gap in regulating non-formal medicine practitioners, who include complementary medicine practitioners, traditional healers, traditional birth attendants, bonesetters and others. They have loose associations that bring them together but not all members subscribe to them and they do not have any regulatory obligations. The work of the councils, although spelled out clearly, is compromised by their lack of capacity in comparison to the workload, and they have limited financial and human resources. Furthermore, they are expected to execute their work through the local or district governments, which presents a conflict of interest. The local governments execute PHC activities, including recruiting health workers, and should therefore not be part of the regulatory structures.

The National Drug Authority is mandated with "ensuring the availability, at all times, of essential, efficacious and cost-effective drugs to the entire population of Uganda as a means of providing satisfactory health care and safeguarding the appropriate use of drugs". Over the past two decades, the capacity of the National Drug Authority has been

improved and it has engaged in several partnerships, especially with development partners. However, complementary medicine products, such as herbal medicines and food or mineral supplements, are still poorly regulated. The Natural Chemotherapeutics Research Institute is mandated with undertaking research into natural products used by traditional medicine practitioners in the country with a view to assessing the therapeutic claims of efficacy and the safety of complementary medicine products in the management of human diseases. Actual regulation of these products falls under the mandate of the National Drug Authority, though it is inadequately enforced. The Uganda National Bureau of Standards also regulates products coming into or produced in the country, and may be involved in regulation of some of the aforementioned products, especially those sold openly in grocery stores, for example food and mineral supplements.

The Quality Assurance Department of the Ministry of Health is tasked with ensuring that guidelines and standards are developed, disseminated and used; supervision is undertaken and strengthened at all levels of the health sector; and internal quality assurance capacity is built at all levels, including hospitals *(50)*. However, this department is generally understaffed, which presents a challenge in carrying out its mandate. Due to these challenges, the Medicines and Health Services Delivery Monitoring Unit was formed by a presidential directive to improve health services delivery in the country, through monitoring the management of essential medicines and health services delivery accountabilities. This is a well resourced unit and has been able to carry out its activities successfully, though it has been noted that some of its activities duplicate those carried out by other government departments. It has also grown increasingly unpopular with health workers because of what is seen as overzealousness in the execution of its work, and a lack of attention to health system issues that may occasionally lead to compromised practice.

There are other entities that regulate specific areas in the sector. For example, the Atomic Energy Council regulates use of radiation facilities in hospitals.

The Ministry of Education and Sports regulates the quality and standards of health professional education for the different cadres of PHC in Uganda. It specifically does this through the National Council of Higher Education in consultation with the professional councils. Stakeholders in the health sector feel that their involvement is inadequate and have repeatedly called for review of the Act that moved this responsibility from the health sector to the education sector.

The interests of health consumers in Uganda are very poorly protected. The Ministry of Health has put in place health unit management committees at each health facility. In addition, political leaders at all levels, from the village to Parliament, have been elected to represent the views of citizens and seek accountability on their behalf. While these structures are in place, they are inadequately implemented or enforced, with the result that consumer feedback is not heard and accountability is lacking. Civil society and nongovernmental organizations have often stepped in to fill this gap. The Uganda National Health Consumers' Organization, for example, aims to act as a formal voice for consumers of health-related products and services in Uganda. It has become very active and involved in policy and decision-making since its establishment in 1999, though it is still not in a regulatory position. It is also plagued with limited resources and is unable to follow up every case concerning health consumers.

6.2.1 Informal sector regulation: set up systems and structures

There are clear laws and guidelines for regulation of the formal sector, that is, providers and other entities. However, as pointed out earlier, the informal sector remains largely unregulated with no clear body having the mandate to carry out regulation.

> So we have found a lot of people who did not study medicine coming. So that has been a very big challenge because we have not been able to regulate that because it is not a [UMDPC] mandate. It is a public perception that medical

> council is in charge of health services which is not true. The act tells you to regulate medical and dental … not the informal providers. … So those people have managed to dissuade people from tropical medicine and it has given us trouble. We tried to curtail them and they reported in law and actually they defeated us in court. We didn't have a mandate on them. (Respondent)

> We have a big gap when it comes to the area of herbs, food supplements, and what is referred to as complementary medicine. (Respondent)

With a population that uses herbs and food supplements very frequently, it is dangerous that these are not regulated. Some supplements may be regulated as drugs through the National Drug Authority, especially the imported ones, but most do not get to be assessed for benefit, quality and safety. And so instances of poor-quality and dangerous products occur regularly, with no corrective action taken. Authorities do seem to realize this but it is not clear why no system has yet been set up for regulation of the sector.

6.2.2 Formal sector regulation: stronger and more adequate regulation systems

Resources to enable efficient regulation. Despite the health system having clear guidelines for regulation of health workers, services, facilities, medical commodities and more in the health sector, the practice is poorly executed. This is because the bodies meant to do this are very underresourced and are not able to carry out their mandate fully. For example, there are very few inspectors, and inspection can only be carried out a few times a year and in a few places.

> [For] formal sector western-based medicine you have regulation … [but] the capacity of the councils is limited compared to the amount of work they have. They are very poorly funded. (Respondent)

> Because we have been having some weaknesses … we have not been having regular inspectors. (Respondent)

> We do quarterly inspections. … It has not been adequate because we didn't have the inspectors. You find that if we go quarterly in a region still we don't finish the facilities. So you will not complete. There are some facilities you find you have never touched in the process. (Respondent)

Coordination of regulatory bodies. In addition to this underresourcing, there are several bodies with different regulation mandates. However, their work is often overlapping, causing confusion when there are attempts to undertake proper regulation. Amongst the regulators in the PHC system are the professional councils, the Ministry of Health's Quality Assurance Department, the National Drug Authority, and the Health Monitoring Unit situated in the President's Office. Others include the Uganda National Bureau of Standards, the Atomic Energy Council, the Ministry of Education and Sports, the health unit management committees at each health facility, and civil society and nongovernmental organizations such as the Uganda National Health Consumers' Organization.

All of these players try to regulate the activities and decisions in the PHC system and sometimes overlap and clash in their work. For example, the UMDPC may license a facility for operation, which will then be closed by the Atomic Energy Council or the Health Monitoring Unit. Some of the actors have no set guidelines and regulate using ad hoc checklists, which results in inconsistency and confusion. Those with more resources end up overriding the decisions of those less resourced.

There is a need to streamline the regulation system and structures so that all players are able to meet their objectives without duplicating activities.

Confusing legislation. Where systems and guidance have been provided for regulation, the legislation is also often confusing and needs streamlining.

Infrastructure is available to regulate medicinal products but there is also a limitation in terms of the mandate in the legislation because it is not only medicines, there are other medicinal products which

are not clearly spelt out in the legislation and these have to be refined. (Respondent)

Punitive action. Where regulation is attempted the punitive action for poor practice is not strong or serious enough to deter offenders, nor does it seem to be handed out consistently and uniformly.

> The provisions are there in the legislation. Somebody commits an offence you pay not more than 2 million [Uganda shillings] or jail not more than five years. They are not really deterrent because it is dependent upon the judge. If it says not more than 2 million, he can give 20 000 Uganda shillings as a fine and it has happened in real life for some counterfeiting case. So they are not deterrent. (Respondent)

> The regulatory structures and activities have to be strengthened and streamlined in order to enable more efficient, safe and quality PHC delivery.

6.3 Health monitoring and information systems

6.3.1 Background to HMIS

Uganda has developed a Health Management Information System (HMIS), an integrated reporting system used to collect relevant and functional information on a routine basis to monitor the HSSP indicators *(13, 31, 51)*. This in turn supports planning, decision-making, and monitoring and evaluation of the health care delivery system *(42)*. The HMIS has been gradually improved to HMIS-2 and is now generally trusted to provide reliable information *(13)*. The system also has internal checks from the health subdistrict to the Ministry of Health and an internal audit, which ensures that the quality of the data provided is acceptable *(51)*. The data collected are used to inform planning and budgeting *(31, 42)*.

6.3.2 Informational continuity: provisions for collection and availability of user medical information

There has been a major drive to set up and improve the collection of health information to help in planning and decision-making. Structures set up include the HMIS and the District Health Information System. There are also several surveys, especially diseases surveys, that collect routine information. Despite improvements in the structures, there are significant gaps in the collection of information, and in the analysis and utilization of the information collected.

Several of the persons collecting the data are not well versed in the International Classification of Diseases on which the system is built, compromising the reliability of the data collected. In addition, various levels of analysis are supposed to take place at the health facility, at the district level, and at the Ministry of Health to process these data into information that can be used to make decisions at all these levels. However, when collected, many of the data are not analysed at the health unit level for utilization there, but are instead sent to higher levels for aggregation. Furthermore, the data are collected only from users attending the facilities – there is no mechanism to capture data about the many people who are not using the facilities or their conditions.

There is a need to build and improve the system into a comprehensive framework with mechanisms to collect all information from the community, supported by trained personnel to collect reliable data and carry out appropriate analyses at the different levels to support decision-making.

> What am not happy about are the International Classification of Diseases [categories]. Many people are not aware of them. So that when you make a diagnosis, the people who make diagnoses don't know how to classify diseases. … That now takes me to the information. If you just now take in trash, [then] trash will be the one now coming out. (Respondent)

> I think the reliability [of the data], I will say if you are looking for people who are coming to receive care or who have received care in formal systems of government, and especially faith-based institutions, there the data is fairly reliable. But if you go to the rest of the private sector I will say not very reliable because somehow the private sector, even major hospitals, have not really linked themselves to the system. (Respondent)

7. Outcome elements

7.1 Equitable access

7.1.1 Equitable distribution with more attention to marginalized regions

PHC in Uganda is generally provided by lower-level centres – HC II, III and IV. Over the last few years the government has endeavoured to ensure the construction of centres to keep pace with the growth of the population and changes in its distribution. Currently, the country has attained a level of 72% of the population living within 5 kilometres of a health centre that provides PHC *(52)*. Anecdotal evidence points to this distance having further been reduced to 3 kilometres. However, there is still inequitable distribution of PHC centres, for several reasons. For example, distribution is often inequitable in areas where populations are scattered and where the terrain is difficult, for example in mountainous areas and islands, and in the Karamoja area where the population is sparsely distributed.

7.1.2 Continuing challenges to equitable access

While facilities are structurally present and in good proportion in several locations, many are not optimally functional. For example, one respondent noted that less than 50% of lower-level health centres were able to provide emergency obstetric care services. These challenging locations present difficulties for providers, and PHC is often provided as outreach services, as a consequence of which users cannot access the system as and when they want or need to, leading to service inequity. The challenges noted here are felt more at the lower levels and in rural areas, where the problems encountered are often not as well publicized as at the higher levels.

Other reasons cited for inequity in access to PHC include historical challenges at regional level. For example, the northern region of the country was involved in a protracted war leading to the breakdown of services, which are only now being rebuilt and therefore tend to lag behind the rest of the country. Other sources of or reasons for inequity cited include leadership management challenges, cultural norms and newly demarcated administrative areas.

> You have districts which are well managed which will try to get as much from the centre as possible and manage it … and districts which are poorly managed. … I'll give you a case in point, the ministry has been using the district league tables to look at outputs of districts and try to rank them … the only region that we see consistently [low] is Karamoja, which has structural issues, and the districts that would stay in the bottom 10 of the league table, it is because of their strong cultural norms … so you find they stay in the bottom and you can tell why … and you tend to have patterns of new districts being in the bottom. (Respondent)

One of the tenets of PHC is providing a service that is accessible and equitable to all persons at all times. Without endeavouring to close the equity gap, the PHC system in Uganda will have lost one of the very values that underscores it.

7.2 Quality and safety: challenges and opportunities

The quality of services in the PHC system has been criticized in several forums as being below acceptable levels. A recent quality improvement framework and strategic study reported a number of weaknesses in the system, including low awareness at all levels of the system of safety problems and of waste and how these two are inherently connected; lack of realization as to how the quality of the system has an impact on resources; inadequate skills among quality specialists and managers to improve the situation; insufficient evidence to back claims of widespread harmful care; lack of use of data such as those

generated by the HMIS to define problems or track progress; and, where resources have been availed to help improve quality and safety, a concentration of those resources in disease-specific areas, and a resultant failure to target the whole system. In the last instance, dependence on tied aid and volatile donor funding is a contributory factor.

Similar sentiments were echoed by respondents in this case study, who called for a better-resourced and strengthened Quality Assurance Department. They acknowledged, however, the framework and Health Sector Development Plan the Ministry of Health had developed for the period 2015/2016–2019/2020, several areas of which stand out as being beneficial to the revival of PHC. For example, in addition to prioritizing the Community Health Extension Workers Strategy, the sector intends to strengthen the management and use of health information from all sources in order to better guide decision-making. For example, the document notes that data synthesis and analysis are weak points at all levels of the health system. The plan is to ensure that appropriate analytical approaches are applied, with the level of automation of the data analysis increasing from national to community levels. The sector also intends to improve access through increasing the availability, affordability and acceptability of services provided. This will be monitored from the perspective of improvements attained in physical, financial and sociocultural access to services.

Furthermore, in partnership with the Belgian Technical Cooperation, the Ministry of Health is involved in an institutional capacity-building project that targets the Rwenzori and West Nile regions of the country and the National Health Management and Development Centre. Other target areas that could see the strengthening of PHC are improving accountability at PHC level through constituency (HSD) health assemblies and ensuring the functionalization of HC IIIs in all subcounties. There is also a proposed national health insurance scheme to pool monies used to purchase services from the health sector.

However, stakeholders have expressed concern that the implementation of this sector strategic and development plan will be compromised unless more resources and well trained personnel become available, and the government commits more funds towards the quality improvement initiative rather than depending on donor funds. They also noted that there had to be some way of measuring achievements in the quality sphere and called for a set of indicators for this purpose.

8. Conclusion

Understanding the elements that shape primary care in the Ugandan health system is vital for reforms and planning that are relevant to the population. These structural, process and outcome elements have been presented here, building on earlier work that described and gave a narrative of the profile of the Ugandan primary care system. This should form a basis for further learning and action, including among health managers prioritizing cost-effective solutions that will see a stronger and more responsive primary care system. The lessons are not only relevant for the Ugandan health authorities but also for managers of systems in similar settings.

Annex 1. Profiles of key informants interviewed for this case study

No.	M/F	Main constituency represented	Descriptor/area of expertise
PMS01	F	Ministry of Health	Public Health Expert and Policy Analyst
PMS02	M	Ministry of Finance and Economic Development	Senior Advisor to Government on Economy
PMS03	M	Makerere University	Associate Professor, Health Systems and Policy
PMS04	M	Ministry of Health	Assistant Commissioner, Clinical Services
PMS05	M	Ministry of Health	Senior Health Planner
PMS06	F	Uganda Health Care Federation	Private Sector Expert
PMS07	F	National Drug Authority	Pharmacist and Drug Inspection Expert
PMS08	M	Ministry of Health, Uganda Medical and Dental Practitioners Council	Human Resources for Health
PMS09	M	Makerere University	Public Health Specialist
PMS10	M	IntraHealth International – Strengthening Human Resources for Health Project	Monitoring and Evaluation
PMS11	F	USAID	Development Partner, Child Health Specialist
PMS12	M	USAID	Development Partner, Health Systems Expert
PMS13	M	World Bank	Health Specialist
PMS14	M	Health Service Commission	Human Resources for Health Expert
PMS15	M	Belgian Technical Cooperation	Development Partner, Health Technical Advisor
PMS16	M	(private not-for-profit) Medical Bureau	Executive Director
PMS17	M	IntraHealth International	Human Resources for Health Expert
PMS18	F	USAID	Development Partner, MCNH Expert
PMS19	F	USAID	Development Partner, Public Health Expert
PMS20	F	World Health Organization, country office	Health Systems Expert
PMS21	F	Uganda National Health Consumers' Organization	Civil Society, Consumer Rights and Protection
PMS22	M	Uganda Medical Association, African Centre for Global Health and Social Transformation	Health Policy Expert
PMS23	F	Ministry of Health	Quality Assurance

Annex 2. Sample of databases and documents used for this case study

No.	Databases/government documents	Institution
Databases		
1	World Bank open data	World Bank
2	Global Health Observatory	World Health Organization
3	African Health Observatory	World Health Organization, Africa
4	World population prospects, 2015 revision	United Nations, Department of Economic and Social Affairs, Population Division
5	World health statistics 2016	World Health Organization
6	Integrated Management Information System	Uganda Bureau of Statistics
7	Knowledge management portal	Ministry of Health, Uganda
8	Uganda household surveys	Uganda Bureau of Statistics
9	National Population and Housing Census 2014	Uganda Bureau of Statistics
10	Institute for Health Metrics and Evaluation	Institute for Health Metrics and Evaluation
11	National Health Accounts 1990–2014	Ministry of Health, Uganda
12	Annual health sector performance report 2015	Ministry of Health, Uganda
Documents		
13	Several government laws, acts, bills, e.g. Constitution of Uganda, Uganda Health Service Commission Act 2001	Government of Uganda
14	National Health Policy 1 and 2	Ministry of Health
15	National strategy documents, e.g. HSSIP, Community Health Extension Workers Strategy for Uganda, May 2016	Ministry of Health
16	National Development Plan 1 and 2	National Planning Authority
17	Annual health sector performance reports	Ministry of Health
18	Several national guidelines, e.g. guidelines to the local government planning process, guidelines for recruitment of health workers	Ministry of Health, other sectors and departments of government
19	National census reports	Uganda Bureau of Statistics
20	Uganda health system assessment report	Ministry of Health
21	Uganda Hospital and Health Centre IV Census Survey 2014	Ministry of Health
22	International reports, e.g. Bamako Initiative statement	International bodies
23	National reports e.g. health subdistricts in Uganda 1999, health systems reforms in Uganda	Uganda Government and sectors
24	Peer-reviewed published literature	

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