PRIMARY HEALTH CARE SYSTEMS (PRIMASYS)

Comprehensive case study from Ghana

Alliance for Health Policy and Systems Research

World Health Organization

PRIMARY HEALTH CARE SYSTEMS (PRIMASYS)

Comprehensive case study from Ghana

Erasmus E.A. Agongo, Patrick Agana-Nsiire, Nana K.A. Enyimayew,
Moses Komla Adibo, Emmanuel Nonaka Mensah

Faculty of Public Health,
Ghana College of Physicians and Surgeons
P.O. Box 429

WHO/HIS/HSR/17.41

Suggested citation. Primary health care systems (PRIMASYS): comprehensive case study from Ghana. Geneva: World Health Organization; 2017. Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at http://apps.who.int/iris.

Editing and design by Inís Communication – www.iniscommunication.com

Contents

Figures

Tables

Abbreviations

ACSD	Accelerated Child Survival and Development
BMC	budget and management centre
CHPS	Community-based Health Planning and Services
CMA	Common Management Arrangement
DANIDA	Danish International Development Agency
DHIMS	District Health Information Management System
DHMT	district health management team
EPI	Expanded Programme for Immunization
ERP	Economic Recovery Programme
GDP	gross domestic product
GHS	Ghana Health Service
GOBI-FFF	growth monitoring, oral rehydration, breastfeeding, immunization; female education, family spacing, food supplementation
GPRS I	Ghana Poverty Reduction Strategy
GPRS II	Growth and Poverty Reduction Strategy
GSGDA	Ghana Shared Growth and Development Agenda
HIPC	highly indebted poor country
HSMTDP	Health Sector Medium-Term Development Plan
IMCI	Integrated Management of Childhood Illness
JICA	Japan International Cooperation Agency
KOICA	Korea International Cooperation Agency
MDG	Millennium Development Goal
MMDAs	metropolitan, municipal and district assemblies
NGO	nongovernmental organization
NHIS	National Health Insurance Scheme
PHC	primary health care
RHMT	regional health management team
SWAp	sectorwide approach
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

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.

1. Introduction to Ghana primary health care study

The inability of most low- and middle-income countries to achieve the health Millennium Development Goals (MDGs) is attributed largely to weak health systems that are not able to provide good-quality, accessible, comprehensive and integrated care *(1)*. The 2008 World Health Organization (WHO) *World health report* reaffirmed the importance of primary health care (PHC) systems in improving the health of individuals, households and populations, and proposed four areas for reforms: universal coverage, service delivery, leadership and public policy *(2)*. Other authorities *(3, 4)* have described PHC as the foundation of health systems, as it ensures that all people stay as healthy as possible and obtain care when needed. The Primary Health Care Performance Initiative describes a working PHC system as:

> When primary health care works, people and families are connected with trusted health workers and supportive systems throughout their lives, and have access to comprehensive services ranging from family planning and routine immunizations to treatment of illness and management of chronic conditions. Health systems built on strong primary health care are more resilient, efficient and equitable. Primary health care meets the vast majority of communities' diverse health needs, and ultimately, saves lives.

Many low- and middle-income countries, including Ghana, were not able to achieve most of the health MDGs. With the adoption of the Sustainable Development Goals and the quest for universal health coverage, there is increased interest in understanding the PHC systems in these countries to inform policy reforms and effective planning and implementation of programmes. Given the dearth of research into health policies and systems, more so for primary care systems, the Primary Health Care Performance Initiative *(4)* is supporting the strengthening of PHC systems in four interconnected areas: performance measurement, generating and sharing knowledge, promoting country-level improvement, and engaging partners to build momentum for PHC as a national and global priority. The Primary Health Care Performance Initiative results chain framework for PHC describes the gap between inputs and outcomes, and the lack of knowledge on how inputs are converted to outcomes, as the "black box". The PRIMASYS case studies aim to shine light into this black box.

Ghana was one of the countries selected for the study, and the Faculty of Public Health of the Ghana College of Physicians and Surgeons, in partnership with the PRIMASYS project team, conducted the Ghana PRIMASYS study to provide better understanding of PHC in Ghana in order to support health system reform and programme implementation in Ghana and to contribute to cross-country analysis and learning about PHC systems in low- and middle-income countries.

2. Objectives and methods

2.1 Specific objectives

The specific objectives of the Ghana case study were as follows:

- To produce a summary of the key aspects of the structures, processes and outcomes of Ghana's PHC system;
- to explore the specific pathways that have contributed to notable successes or failures in the country's primary care system;
- to promote learning among policy-makers and other relevant stakeholders in the primary care system in order to motivate reforms and improve implementation of programmes.

2.2 Methods

The study was conducted using the PRIMASYS conceptual framework *(1)* and approach, which provides uniformity in developing the cross-country case studies. The overall approach was guided by the health systems assessment principles of relevance, trustworthiness and coherence *(5)*. The study was conducted in two phases, using mixed methods in obtaining both quantitative and qualitative information, including information on both the fixed and flexible elements of primary care systems. The research was guided by the following five broad questions, which were further broken into subquestions to provide question guides and data-gathering templates.

- How has PHC evolved in Ghana?
- What has been the PHC performance?
- What were the mechanisms and success factors for any good performance?
- What were the mechanisms and underlying factors for any failures?
- What lessons could be learned from the past and present to inform the future improvements in PHC system reforms and implementation in Ghana and elsewhere?

2.3 Phase I.A: in-depth interviews of key informants and first phase of secondary data collection

In the first stages, ethical and administrative clearances were obtained; preliminary consultations were carried out with key public officials; a literature review was undertaken; and potential key informants and stakeholders were mapped out by thematic area. The tools for secondary data collection, in-depth interviews, focus group discussions and stakeholder consultations were prepared. The criteria used for selection informants included past and present work experience in the required health and knowledge domain areas. Informants were contacted by email, telephone or personally, or a combination of these means, and briefed on the study. They were informed of their preliminary selection for the study as key informants, and asked if they were willing to participate. If they were agreeable, they were sent the study information sheet in advance of the interview.

The in-depth interviews were conducted, starting with those informants who had long work experience and knowledge in the various domain areas, depending on their availability for interview. At the end of each interview, the interviewee was asked to provide any data sources or other key informants who could provide further information, and these were included in the list of potential interviewees and later contacted for possible participation. This "snowball" approach was continued to gather key informants in the various domain areas until saturation point was reached. Key informants interviewed included past and present health policy-makers, health managers, experts in the domain areas, and experienced representatives of key stakeholders. A total of 34 key informants were interviewed the end of the first phase. Annex 1 provides summary profiles of the key informants.

2.4 Phase I.B: secondary data review and triangulation

Secondary data reviews were conducted alongside the interviews to validate the information from the interviews and to collect additional statistical data. The main databases and sources reviewed included web-based databases; paper-based and electronic documents on policies, laws, and programmes; and published and unpublished research reports. A list of sources is provided in Annex 2. The interview and the secondary review data were analysed using triangulation and a list of thematic areas and key issues was compiled at the end of the first phase for further exploration during the second phase of the study (Box 1).

2.5 Phase II.A: stakeholder consultations, data analysis and reporting

The second phase began with an update of the list of preliminary stakeholders, and their categorization into the key domain areas and the levels of the health system matrix. The plan was to sample three regions, representing each of the three ecological zones (northern, middle and southern) of the country, for the regional and lower-level stakeholders. Northern, Ashanti and Greater Accra regions were initially selected for the regional consultation, but it was realized that Upper West, Upper East and Eastern regions has done extensive work that needed to inform the study. Therefore, Upper West region was added to the study to make four regions, while some consultation was undertaken with Upper East and Eastern regions.

Key stakeholders were mapped out with the regional directors of health services or their representatives, and the researchers met the stakeholders either as a collective group or individually. Groups met included regional health management teams, regional coordinating council representatives, one district health management team, district coordinators, some of the senior officers of the district assemblies, decentralized departments and agencies, subdistrict

Box 1. List of issues by thematic area explored during the second phase of the study

I. Governance

- Leadership at all levels
- District health management team and district hospital relationship
- District hospital and subdistrict linkage
- Health sector devolution

II. Health financing

- Multiple routes and irregular transfers of funds
- Challenges with the implementation of the National Health Insurance Scheme

III. Human resources

- Inequities in human resource distribution
- Concerns on quality of training
- Human resource information system weaknesses
- Human resource performance management and productivity

IV. Health service organization

- Stakeholders' understanding of the country's PHC system and Community-based Health Planning and Services
- Service integration issues

V. Planning and implementation

- Multiple planning and programming
- Implementation issues
- Promising initiatives not taken to scale, and often abandoned for newer ones

VI. Regulatory processes

- Coordination of the regulatory agencies
- Issues of coverage and enforcement

VII. Information, monitoring and evaluation

- Analysis and use of routine information system
- Effectiveness of the monitoring and evaluation system

health teams, a Community-based Health Planning and Services (CHPS) zone team, and some community health committee members. Other stakeholders met were traditional and opinion leaders, health nongovernmental organization (NGO) representatives and private health service providers.

At the national level, consultation was done in some cases through forums in which several stakeholders were represented. Those met included the Ministry of Health and Ghana Health Service (GHS) national directors and senior managers, district and regional directors of health services, Faculty of Family Medicine, Local Government Service, some regulatory bodies and development partners. A detailed list of regional and national stakeholders interviewed is provided in Annex 3.

The consultation culminated in a meeting attended by the Health Sector Working Group, senior-level officers of the local and donor partners, and representatives of the Ministry of Health and its agencies. At the meeting, the Minister of Health formally requested completion of the study and of the report presenting the results.

2.6 Phase II.B: secondary data review, analysis and report writing

The information from each consultation was compiled, categorized and triangulated according to the PHC domain areas and levels. Areas of consensus, recommendations and disagreements were mapped out, and areas of disagreement further explored with other stakeholders and through secondary data review. An abridged eight-page report was developed targeting policy-makers, development partners and global stakeholders, and a full report was compiled for researchers, programme managers and those interested in the subject area. The draft report was finalized following a further consultation meeting with the Ghana Health Sector Working Group to capture their final inputs.

The project was to be have been completed by 15 April 2017, but the first draft of the report was only submitted to the sponsor at the end of October 2017, due to various challenges encountered. For example, ethical clearance could not be obtained before the end of February 2017 due to the workload and schedule of the Ethics Review Committee; there were delays in the disbursement of funds to commence the preliminary activities; administrative problems were faced scheduling the large numbers of key informant and stakeholder meetings; and organizational restructuring took place in government followed the accession to office of a new political party at the start of 2017. Despite these challenges the research team was able to have in-depth discussions with stakeholders, and the information obtained is provided in the following sections of the report.

3. Overview of PHC in Ghana

This section first gives an overview of the demographic, macroeconomic and health profiles of the country, with an emphasis on the trends and their relevance to PHC systems. It then tabulates key indicators and sources of information. Annex 4 presents further information on key demographic, macroeconomic and health indicators of relevance to PHC *(6–8)*.

3.1 Demographic profile

Ghana is located north of the Guinea coast of West Africa, with Burkina Faso, Togo and Côte D'Ivoire bordering it on the north, east and west respectively. It has an area of 238 537 square kilometres. A map of Ghana is presented in Annex 4.

Ghana was the former British colony called the Gold Coast. It attained independence on 6 March 1957, and became a republic on 1 July 1960. After nearly a decade of relative stability and prosperity following independence, a military takeover of government on 24 February 1966 ushered the country into a turbulent period of political history, with a series of military coups and governments interspersed with constitutional civilian governments for more than three decades. A new Constitution in 1992 laid the foundation for the Fourth Republic, characterized by a multiparty democratic political system with a four-year cycle of government commencing in 1993. Ghana has since seen six peaceful elections and three changes of government from different political parties over a 24-year period.

The country has 10 administrative regions and a local government system comprising 216 administrative and political districts categorized into metropolitan, municipal and district assemblies (MMDAs) with limited legislative functions. Ecologically the country may be divided into three ecological zones: northern savannah, middle forest and coastal savannah belts with marked differences in climatic, demographic and socioeconomic features. The 2016 projected population was about 28.3 million, increasing from 6.7 million in 1960 to 24.7 million by the 2010 population census. The population growth rate has been relatively stable since 1960. It was 2.4% between 1960 and 1970, rising to 2.6% for the period 1970–1984 and 2.7% for the period 1984–2000, before dropping to 2.5% for the period 2000–2010. The growth rate estimate for 2016 is 2.3%.

The total fertility rate *(6)* declined from 6.4 births per woman in 1988 to 5.2 in 1993 and 4.4 in 1998 and 2003, dropping to 4.0 in 2008 and rising again to 4.2 in 2014. The fertility rate has thus apparently stabilized in the last three decades. There is marked variation in fertility by region, urban–rural location, and educational and socioeconomic status. The three northern regions (Northern, Upper East and Upper West) have the highest total fertility rates of 6.6, 4.9 and 5.2 births per woman respectively, compared to 2.8 in Greater Accra region, with the rest of the regions ranging between 3.6 and 4.8. The urban total fertility rate is 3.4, compared to 5.1 in rural areas. Those without education have a total fertility rate of 6.2, compared to 2.6 for those with secondary education and above. By wealth quintile, the total fertility rate is 6.3 and 2.8 for the lowest and highest quintiles respectively. Annex 4 provides further data on the total fertility rate by region.

The male–female ratio has shifted from a male-to-female majority to the reverse – from 102.2:100 in 1960 to 95.2:100 in 2010. The life expectancy at birth has progressively increased from 38 years to 61 years in 2015, with a transition towards an ageing population *(9, 10)*. The total dependency ratio of 73 is therefore a huge burden for the working population, and there is a large population of unskilled and unemployed youths *(11)*.

The population density increased from 29 persons per square kilometre in 1960 to 103 in 2010, with very wide regional variations, ranging from 35 and

38 in Northern and Upper West regions respectively to 1236 in Greater Accra region. The populations aged below 5, 15 and 25 years constitute 13.8%, 38.5% and 58.5% of the population respectively, giving a youthful population structure. However, the proportion aged 65 years and above is increasing at a faster rate than in developed countries, as is the case for most African countries *(9)*. Urbanization is increasing, with the urban population rising from 23% in 1960 to 51% in 2010, with a 2015 projection of 54%, driven by an annual urban growth rate of 3.4%. Ghana has a multiethnic and multireligious society with several dialects spoken, although English is the official language. The literacy rate is 72.3% (80.8% for males and 65.3% for females) *(12)*.

The country adopted its first population policy in 1969, with the goal of reducing the total fertility rate to 1.7 by the year 2000, and established the Ghana National Family Planning Programme under the Ministry of Finance and Economic Planning the following year as the coordinating body *(13)*. However, after two decades of implementation, there was little decline in fertility. This was attributed to several factors, including lack of a comprehensive national strategy for policy implementation; poor coordination among agencies; weak political commitment; low public awareness of population pressures and the health risks of high fertility; and the lack of popular involvement in the development of the policy and programmes. A National Population Council was established in 1992 and enacted into law in 1994 by Act 485 as the highest advisory and coordination body on population issues. The policy was also revised in 1994 with the incorporation of some amendments reflecting the recommendations from various international conferences on population issues in Cairo, Copenhagen and Beijing.

In summary, the high fertility rate and youthful population, with an increasing trend towards an ageing population, calls for PHC to prioritize reproductive, maternal, newborn, child and adolescent health services, as well as health services for the elderly population, adopting a life course approach. These service need to be tailored to the needs of rural as well as urban populations, taking account of such overarching demographic and social factors as rural–urban migration, the breakdown of traditional support systems, and the cultural diversity of the population. Account also needs to be taken of the potential for infrastructural developments in housing, roads and sanitation in order to combat deficits in those areas.

3.2 Macroeconomic profile

Ghana's economy has gone through tumultuous development since gaining independence in 1957, and continues to reel in response to global and domestic forces, despite the lower middle-income country status it attained with the rebasing of the economy in 2010 in line with its per capita gross domestic product (GDP) of US$ 1387.9. The industrialization effort undertaken post-independence was short-lived following the decline in output of cocoa and other primary export commodities, the falling international prices of those commodities, and the skyrocketing prices of imports. The international petroleum and economic crises in the 1970s and early 1980s worsened the situation and created economic hardships for the population. By 1981, cocoa output had reduced to 45% of the 1965 peak. The outputs of gold, diamonds, and food staples such as rice and maize had also fallen to a third of the mid-1960s values. The critical physical infrastructure had markedly deteriorated, and the human resource base was strained by the migration abroad of over 2 million Ghanaians *(14)*. This economic downturn has been given as one of the reasons behind the succession of coups at the time, adding to the instability of the situation. In 1983, while the revolutionary government was putting measures in place to address the numerous challenges, severe drought, accompanied by outbreaks of bushfires, destroyed agricultural production across the country. The situation was worsened by the return of more than 1 million Ghanaians who had been expelled from Nigeria in 1983. The military government at the time had to turn to the International Monetary Fund and the World Bank for a bailout involving an

Economic Recovery Programme (ERP) and structural adjustments (ERP I, 1983–1986; and ERP II, 1987–1989) *(14)*.

The austerity economic recovery programme, and a series of structural adjustments the military revolutionary government adopted in 1983 under the guidance of the Bretton Woods institutions, helped to reverse the economic woes. Economic growth averaged 5% annually between 1984 and 1989, and the annual inflation rate was brought down from three digits to 25%. However the economy remained fragile despite an increase in the growth rate, which had been maintained above 4% (albeit fluctuating), to a record 14% in 2011. The heavy dependence on primary products, with volatile international prices, high inflation and huge expenditure deficits, have not enabled Ghana to do away with the World Bank and International Monetary Fund structural adjustments.

These negative macroeconomic trends have had several adverse impacts on PHC development in Ghana. Structural adjustment has resulted in reduced government expenditure for health and social services, increased cost of imports of health equipment and commodities, and an overall increase in health-providing services. The large informal sector in the economy, with lower tax revenues compared to other low- and middle-income countries, has resulted in limited fiscal space in the economy, with decreases in the government PHC budget and releases to sector ministries. The slow growth of the agricultural sector of the economy, accompanied by high staple food prices, especially for the lower wealth quintiles, has resulted in inadequate food intake and poor nutritional status *(15–17)*. Depreciation of the national currency and the high inflationary trends of prices for goods and services have affected national budget provisions, resulting in high unemployment and reducing household expenditure on PHC services. High wealth differentials between the northern and southern parts of the country, and between rural and urban settings, has affected agricultural production, and drawn attention to the need to ensure provision of PHC services for migrants in urban slums.

3.3 Health profile

3.3.1 Health status of Ghanaians

Ghana has made significant progress in the reduction of under-5 and maternal mortality, but did not achieve the related targets for MDGs 4 and 5. Under-5 child mortality declined from 155 to 60 deaths per 1000 live births between 1988 and 2015, representing a reduction of about 60%. The maternal mortality ratio declined from 634 to 319 per 100 000 live births between 1990 and 2015, representing about a 50% reduction but still short of the MDG target. Neonatal deaths account for almost half of the under-5 mortality rate. There is, however, marked differences in health status by geographical area, urban–rural location, and socioeconomic status. The regions in the northern ecological zones (Northern, Upper East and Upper West regions) tend to have the least favourable indicators, with Northern region recording the highest under-5 child mortality rate of 111 deaths per 1000 live births, compared to the lowest rate of 47 deaths per 1000 live births for Greater Accra region. The urban and rural rates reported were 64 and 75 per 1000 live births respectively, while the rates for the lowest and highest wealth quintiles were 92 and 64 deaths per 1000 live births respectively.

3.3.2 Burden of disease

The country is in epidemiological transition, with a double burden of both communicable and noncommunicable diseases. The top causes of death, in order of proportion of deaths, in 1990 were malaria, lower respiratory infections, diarrhoeal diseases, measles and neonatal sepsis, all of them communicable diseases *(18)*. In 2015, the top five causes of death were lower respiratory infections, cerebrovascular diseases, ischaemic heart disease, malaria and HIV/AIDS. Neonatal sepsis, diabetes, meningitis, neonatal preterm birth and tuberculosis made up the remainder of the top 10 causes of

death. In terms of causes of disability, the top five were lower back and neck pain, iron deficiency anaemia, depressive disorders, sense organ diseases and skin diseases. Malaria, migraine, schistosomiasis, anxiety disorders and diabetes made up the rest of the top 10 causes of disability *(19)*.

Malaria is endemic in the country, with different endemicity levels in different ecological zones *(20)*. The northern savannah ecological zone has the highest prevalence, at 44%, followed by the rain forest zone (28%) and the coastal savannah (14%). There is also an urban–rural variation in prevalence (13% and 39%, respectively) *(20)*. The Ghana Urban Malaria Study in 2012 identified poverty, living in rural areas, and living in urban agricultural areas as factors for increased risk of malaria transmission *(21)*.

Neglected tropical diseases *(22)*, and threats and frequent outbreaks of epidemic-prone diseases such as cholera, yellow fever, other haemorrhagic fevers, zoonoses and epidemic meningococcal disease, are major challenges to PHC, as these diseases siphon resources from PHC and add to the high workload of the workforce.

Malnutrition continues to be a major public health problem *(7)*, especially among children and women. Stunting in children aged under 5 years declined from 35% in 1998 to 19% in 2014, but given the long-term effects, this is still unacceptable. Anaemia prevalence among children and women is persistently high, with both above 60%. Whilst undernutrition is still a significant public health problem, obesity is emerging as a public health issue, especially in the middle and southern parts of the country, with prevalence of overweight and obesity at 40% in women and 17% in men.

There is also a rising burden of noncommunicable diseases *(7, 19)*, such as cardiovascular disorders, cancers and road traffic accidents. The prevalence of hypertension in men and women aged 15–49 years is 12.9%, with the middle and southern regions all above 10%, and the three northern regions less than 8%. Greater Accra has the highest prevalence, at 17%. The prevalence of overweight or obesity and hypertension is higher in urban areas and among the wealthy *(18, 19)*.

3.3.3 Health delivery system

Ghana has a pluralistic health system, comprising allopathic public and private sectors and the traditional and alternative medicine sector, each participating in financing, resource creation and service delivery, with the Ministry of Health performing the overall stewardship role. It is a three-tier system, comprising district (primary), regional (secondary) and national (tertiary) levels. District health services are further organized into three levels: CHPS zone (community), subdistrict (health centres, clinics) and district (district hospital and district health directorate). The GHS, the agency responsible for PHC, has a deconcentrated structure comprising 10 national divisions, 10 regional entities, and 216 district health directorates.

The health delivery system portrays the historical evolution of medical and health services from precolonial, colonial and post-independence to the present day. The vertical health services delivery system of the 1960s and 1970s was reformed from the late 1980s into an integrated system of national, regional and district health services providing clinical, public health and maternity services. The flagship CHPS policy and strategy adopted in 2000 covers about 62% of the demarcated CHPS zones, and has given a great boost to PHC. Strong strategic public health programmes have also emerged with a significant positive impact on the eradication, elimination and control of some public health problems in the country. The creation of a multiplicity of agencies and health programmes that operate vertically and in silos without the necessary horizontal linkages weakens PHC delivery. The hospital service is also a priority for politicians in their efforts to satisfy their constituents' demands.

There is a policy guiding referrals between the different levels, but it is currently not functioning well because all levels provide primary care, while some

primary and secondary hospitals provide higher-level services, as these services attract higher tariffs from the National Health Insurance Scheme (NHIS).

3.3.4 Health sector performance

Access to and utilization of services have improved significantly over the years through the construction of hospitals, health centres and clinics, and the implementation of the CHPS and NHIS policies. Outpatient attendance per capita increased from 0.49 in 2002, peaked at 1.17 in 2012, and started declining again to 1.08 in 2015 *(23–25)*. Northern region continues to be the worst-performing region by this indicator, with an attendance per capita rate of 0.79 in 2012. For reproductive services, first attendance at antenatal care is almost universal, increasing from 82% in 1988 to 97% in 2014, with no significant differences by region, urban–rural location or socioeconomic status. Deliveries in health facilities increased from 42% in 1988 to 73% in 2014, with the educated, the wealthy and those living in urban areas more likely to deliver in a health facility *(6)*. Northern region stands out again, with persistent low coverage of around 35%, despite being one of the regions with the highest antenatal coverage (98%). This can be attributed to the vastness of the region, with numerous small settlements and a poor road network and transport facilities. However, antenatal care services are delivered in health facilities as well as through outreach programmes.

Access to immunization is almost universal, with national Penta-3 coverage at 97% with no significant variation by region, urban–rural location or wealth quintile. However, there are large numbers of missed children in the big cities, where the population living in informal settlements is more difficult to reach through current strategies, including the CHPS strategy. The tuberculosis notification rate increased from 56.6 per 100 000 population to 64 in 2009, declining to 57.6 in 2014, with consistent low case detection in Northern region (26.3). However, the tuberculosis treatment success rate has consistently improved from 70% in 2003 to 87.1% in 2013.

Table 1 presents key demographic, macroeconomic and health indicators for Ghana.

Table 1. Key demographic, macroeconomic and health indicators, Ghana

Indicator	Results	Source	Remarks
Total population of country, 2016 estimate	28 308 301	Census *(6)*	2010 census population: 24 658 823, growth rate: 2.5% 1960 census population: 6 726 815
Sex ratio (male/female)	49.1/50.9	United Nations *(8)*	
Population growth rate (2010–2015)	2.4%		2010 census growth rate was 2.5%
Population density (people/sq. km), 2016 estimate	123.2	United Nations *(8)*	
Distribution of population (rural/urban)	46%/54%	United Nations *(8)*	Ghana Statistical Service Population and Housing Census reported 49.1%/50.9% *(6)*
Total fertility rate	4.2	Ghana Demographic and Health Survey *(7)*	Declined from 6.4 in 1988 to 4.2 in 2014 with marked regional and rural–urban variations
Life expectancy at birth (2010–2015) (male/female) in years	61 (62/60)	United Nations *(8)*	African Region lower middle-income countries: 58 years World lower middle-income countries: 66 years
Top five main causes of death (ICD-10 classification)	Lower respiratory infections Cerebrovascular diseases Ischaemic heart disease Malaria HIV/AIDS	Ghana health data *(19)*	

Indicator	Results	Source	Remarks
Neonatal mortality rate per 1000 live births (2014)	29	Ghana Demographic and Health Survey *(7)*	Slow reduction from 41 in 1988, and contributing 74% of infant deaths and 48% of under-5 deaths
Infant mortality rate per 1000 live births (2014)	41	Ghana Demographic and Health Survey *(7)*	Constitutes 68% of all under-5 deaths
Under-5 mortality rate per 1000 live births (2014)	60	Ghana Demographic and Health Survey *(7)*	Declined from 155 in 1988 but could not achieve MDG 3 target of 41
Maternal mortality ratio per 100 000 live births (2015)	319	Maternal Mortality Estimation Inter-agency Group *(26)*	2007 Ghana Maternal Health Survey reported 350 MDG 5 target was 185
% coverage of fully immunized under 1 year (including pneumococcal and rotavirus) (2014)	77%	Ghana Demographic and Health Survey *(7)*	Increased from 50.5% in 1998 to 69% in 2003 and 79% in 2008
Income or wealth inequality (Gini coefficient) (2013)	0.409	Ghana Living Standards Survey *(17)*	Worsened from 0.373 in 1992 to 0.388 (1998), 0.406 (2006)
GDP per capita (US$) GDP per capita PPP adjusted (international $) for 2014	1441.61 4101.93	International Monetary Fund *(27)*	
Total health expenditure as proportion of GDP (2014)	3.6%	United Nations *(8)*	The recently completed but unpublished 2015 National Health Accounts reported 5.96
Total public expenditure on health as % of GDP (2014)	2%	WHO *(28)*	The recently completed but unpublished 2015 National Health Accounts reported 0.9
General government expenditure on health as % of total government expenditure (2013)	10.6%	African Health Observatory *(29)*	Met the Abuja Declaration target of 15% in 2005, 2007 and 2009: highly indebted poor country (HIPC) funds were available to health sector
General government expenditure on health as % of total expenditure on health (2013)	60.6%	African Health Observatory *(29)*	Peaked at 74.4 in 2011 and started declining
% total public sector expenditure on PHC	47%	Primary Health Care Performance Initiative *(30)*	Range 2–56% for some 28 low- and middle-income countries
PHC expenditure as % of total health expenditure	60%	WHO *(28)*	
Per capita total expenditure on health (2014 in US$)	58	WHO *(28)*	National Health Accounts figures are 88.4, 80 and 81 for 2013, 2014 and 2015 respectively, but still below US$ 97 average for low- and middle-income countries in African Region
Out-of-pocket payments as % of total expenditure on health (2014)	26.8%	WHO *(28)*	Fluctuating but likely to increase as unofficial co-payments are common due to long delays in NHIS reimbursements to providers
Voluntary health insurance as proportion of total expenditure on health	9%	Ghana 2015 National Health Accounts	
Private health insurance expenditure as share of total health expenditure	1%	WHO *(28)*	
Proportion of households experiencing catastrophic health expenditure	1.5%	WHO and World Bank *(31)*	% of households spending 25% of total household expenditure on health

4. Timeline of development of PHC in Ghana

Ghana has a long history of primary care development dating back to the pre-independence period. This section is presented in five parts. The first three parts present an overview of the timeline of the key milestones, discussed in three phases: the pre-independence era, the 20 years' post-independence period, and the period following the Alma-Ata International Conference on Primary Health Care. This is followed by a detailed timeline of the milestones of PHC, and a summary of the PHC reforms and programmes implemented, the barriers encountered, and the enabling factors.

4.1 Pre-independence era

Contemporary medical practice was first introduced to coast-dwelling inhabitants of present day Ghana with the arrival of the Europeans in the 15th century. Only at the turn of the 19th century was medical care slowly extended inland through a poll tax. The first important reforms to health services during this period occurred during the 1920s under the Governorship of Gordon Guggisberg. Under his 1920–1930 plan for the socioeconomic transformation of the Gold Coast, the number of hospitals increased from 6 to 34, dispensaries from 3 to 32 and medical officers from 3 to 52. He introduced child health services and the use of mobile clinics to extend services to the northern parts of the country. The Guggisberg plan came to an abrupt end with his transfer out of the colony in 1928.

A further period of health expansion occurred when the colony was granted limited self-rule in 1951. Implementation of a five-year plan led to a rapid expansion of services to rural communities, supported by the establishment of a centralized Medical Field Unit for disease control, setting the foundation for a number of WHO-supported disease eradication and control programmes, including for malaria, yaws, cerebrospinal meningitis, plague and onchocerciasis.

4.2 Independence until Alma-Ata: 1957–1978

The developmental efforts of the country were stepped up with the attainment of independence in 1957, but the first successful military-cum-police coup d'état in 1966 was followed by several further coups and the establishment of military governments, with a second period of constitutional rule intervening between 1969 and 1972. This period was associated with macroeconomic instability due to falling prices of export commodities and other financial challenges.

Immediately after independence, the socioeconomic vision of creating "a Ghana free from poverty, ignorance and disease" was reflected in a number of developments in the health sector, including free provision of health services in public health facilities; further expansion of medical services through the construction and expansion of hospitals, health centres and health posts; and human resources development through the establishment of schools for nursing, midwifery, pharmacy and medical practice, in addition to the training and recruitment of medical doctors from abroad. The Medical Field Unit increased disease control activities using locally trained staff in paramilitary style of campaign, resulting in successful control of yaws, trypanosomiasis and onchocerciasis. However, the malaria eradication effort was abandoned in 1967 due to logistical constraints and modification of the end goal by the international community.

However, several key events continued to shape the course of PHC development. Probably the first significant event that influenced the health sector after the 1966 military coup was the reorganization of the inherited colonial Ministry of Health in 1967 with the creation of new divisions for health promotion, disease control and nutrition; reassignment of nutrition from the Ministry of Agriculture to the

Ministry of Health; and decentralization of the Medical Field Unit into regional disease control units. The succeeding governments continued with the extension of medical services to rural areas, including the use of mobile clinics. Christian religious missions also established hospitals and mobile clinics, extended the use of trained traditional birth attendants and village health workers, and carried out food demonstrations for primary care, in addition to their evangelization activities.

During this period three antecedent projects paved the way for the drafting of the country's first PHC strategic paper in 1977 and its finalization in 1978. The first was the WHO-supported Basic Health Services Project (1967–1971), implemented in Brong-Ahafo region, which demonstrated the feasibility of increasing access to basic health services through the use of middle-level and auxiliary health personnel such as medical assistants (or physician assistants) and community health nurses. The second was the United States Agency for International Development (USAID)-funded Danfa Comprehensive Rural Health and Family Planning Project (1970–1979) *(32)*, implemented by the University of Ghana Medical School in partnership with the University of California, Los Angeles. The project was designed as a research, service and training initiative delivering effective health and family planning services in rural settings. The third was the Brong-Ahafo Rural Integrated Development Project (1975–1979), implemented with support from WHO and the United Nations Children's Fund (UNICEF), which tested methods of community engagement through self-help programmes for health service delivery and integrated community development. Other landmark projects for PHC were the establishment of the Kintampo Rural Health Training School (College of Health and Well-being) in 1969 for training medical assistants, nutrition and disease control technical officers, and field technicians for rural areas, and a second medical school in 1975.

This period ended with the adoption of two important PHC policies in 1978. The first was the establishment of the national Expanded Programme for Immunization (EPI) with six antigens (BCG, polio, DPT and measles antigens), when the immunization coverage at the time was less than 5%; and the second was the adoption of the PHC policy based on the comprehensive approach (see Annex 5 for further information).

4.3 Post-Alma-Ata period: 1979 to date

This period is further divided into the following: a brief return to democratic constitutional rule (1979–1981), a period of revolutionary military rule and economic recovery reforms (1982–1992), and return to democratic constitutional rule (1993 to date).

4.3.1 Return to democratic constitutional rule, 1979–1981

The beginning of this period was politically turbulent, with several military coup d'états, but finally democratic elections ushered in the Third Republic in September 1979. Implementation of the PHC policy started in one district of each of the then nine regions in 1979, but shortly suffered three major setbacks. The first was the slow inflows of promised external support, partly prompted by the heated debate at that time on a comprehensive versus a selective PHC approach. The second was the Medical School's sudden recall of the district medical officers of health appointed to lead the district health management teams (DHMTs) for the school's Master of Public Health programme, thereby creating a leadership vacuum in the DHMTs. The third was the worsening economic hardships and mass exodus of health professionals from the country *(33)*, resulting in a revolutionary military takeover of government again on 31 December 1981.

4.3.2 Political and socioeconomic developments, 1982–1992

Two major policies of the revolutionary military government that seized power in December 1981 had significant influence on the development of the PHC system. These were the Economic Recovery Programme (ERP) and the subsequent structural

adjustment programmes adopted in 1983, and the promulgation of the Local Government Law, 1988.

When the government's initial efforts towards grass-roots mobilization and empowerment to salvage the ailing economy were not yielding the desired results, it turned to the World Bank and the International Monetary Fund, which implemented ERP I from 1983 to 1986 and ERP II from 1987 to 1989. The conditionalities under these programmes, which included retrenchment of non-essential workers and the introduction of free market-based principles into the health sector, further negatively impacted the health sector, which was already seriously constrained by the lack of resources and the mass exodus of health professionals abroad, as described in a Work Bank report *(34)*. The nominal user fees introduced by the Hospital Fees Act in 1971 were increased in 1983, followed by a further marked increment in 1985 *(35)*, resulting in a pronounced reduction in outpatient attendance in both rural and urban areas *(36, 37)*. While in many of the urban areas the attendance recovered, in the rural areas it remained low. Despite the introduction of the Programme of Actions to Mitigate the Social Costs of Adjustment in 1987, the impact of the structural adjustment programme remained most severe for the poor and the vulnerable, as the relief measures were not reaching them.

One important positive ingredient of the ERP was its adoption and prioritization of PHC and public health services, including nutrition and safe water provision. This gave health sector players the opportunity to introduce initiatives and innovations without much political hindrance. The decision to allow public health facilities to retain user fees for partial cost recovery was also positive in promoting local initiatives, as resources were available to address local problems immediately without waiting for action at central level. This was a strong motivation for primary care providers. Some health service providers, especially the Christian religious missions, started experimenting with various community health financing schemes to increase the rural population's financial access to PHC services.

The Local Government Law devolved political, administrative, limited legislative and financial power to 110 MMDAs. It provided for the establishment of district-level legislative assemblies comprising appointed and elected members, and also created substructures with representation up to the community level. The district medical office of health was introduced as one of the decentralized departments under the district assemblies. This had the advantage of bringing decision-making on health issues closer to the people, but with the potential threat of fragmentation of the health system if not well managed.

4.3.3 Implementation of the PHC strategy and health reforms, 1982–1992

During this period, comprehensive PHC implementation had slowed down for the reasons given in the previous section, including the growing lack of resources and the impact of the ERP and structural adjustment programmes. A review *(38)* of the implementation of the PHC strategy in 1984 found slow progress in attacking the health problems: EPI coverage was less than 10%, more than 6% of children were severely malnourished, the fertility rate among the population remained high, maternal health was poor, and there was a high burden of malaria, diarrhoea and other diseases, together with poor supervision and management systems.

There was then increasing donor interest in the selective PHC approach, with support for some of the eight PHC components in the form of projects or programmes. Significant among these were UNICEF's GOBI-FFF strategy (growth monitoring, oral rehydration, breastfeeding, immunization; female education, family spacing, food supplementation) and several initiatives, such as the Bamako Initiative for cost recovery and community financing of care, a baby-friendly hospital initiative for promoting breastfeeding and young child nutrition, and a safe motherhood initiative to combat the unacceptably high maternal mortality ratio. The Bamako Initiative was piloted in a few regions but did not progress far, as it was in conflict with the government service fees

exemption policy for indigents and children aged under 5. The national Traditional Birth Attendants Programme also lost momentum when it was established that traditional birth attendants could not significantly impact maternal mortality.

In the midst of this diversion one of the architects of the country's PHC strategy took office as the Director of Medical Services in the Ministry of Health in 1986, rekindling interest in the comprehensive approach. Young and energetic medical officers with public health expertise were sponsored with the support of development partners in Master of Public Health courses in various schools abroad. Some of them came to replace the non-public health trained regional medical officers of health, and others became district medical officers of health, thus providing effective leadership for the constituted regional health management teams (RHMTs) and DHMTs. They were further empowered by the Strengthening of District Health Systems initiative, a team-based, management capacity-building programme, started in 1987 and later instituted as the District Health System Operations Programme in the early 1990s. Furthermore, to address the high cost of overseas Master of Public Health courses for district medical officers of health, the Ministry of Health, with financial support from some development partners, collaborated with the University of Ghana to establish the School of Public Health in 1994. This has helped to increase the turnout of many health professionals with Master of Public Health degrees who are working in various areas of the health sector, including the NGO sector.

This immediately exposed the inability of the weakly coordinated central level to support an integrated decentralized health system based on the comprehensive PHC approach. This necessitated some reforms to integrate the technical divisions at the national level into one Technical Coordination and Research Division to promote integrated guidance and support to regions and districts. This was, however, short lived, as major reforms in the 1990s followed a different model.

However, these initiatives and reforms improved the sector performance significantly. The EPI continues to be the most pioneering and successful health programme in the country. The percentage of children aged 12–23 months fully immunized increased from less than 10% in 1984 to 47% in 1988 (according to the first Ghana Demographic and Health Survey conducted in 1988). The programme adopted global strategies and targets *(39)* for the eradication of poliomyelitis and elimination of measles and neonatal tetanus in 1988. It was able to introduce two new vaccines in one year in 2012, and is now administering 12 childhood vaccines. For maternal services, first attendance antenatal coverage was 82%, but facility-based deliveries and those serviced by skilled birth attendants remained low at 42% and 40% respectively. The reported use of modern contraceptives among married women was also low at 5%, with a high total fertility rate of 6.4. The under-5 child mortality rate in the five years preceding the survey was as high as 155 per 1000 live births.

When the first case of AIDS was reported in the country in 1985 the health sector responded immediately with the establishment of a technical committee, which was eventually transformed into a national control programme. The programme is leading the technical component of the national HIV/AIDS response, which is under a superministerial body, the Ghana AIDS Commission.

4.3.4 PHC delivery following the return to democratic constitutional rule, 1993 to date

The country drafted a new Constitution in 1992 *(40)* that provided for a unitary, democratic, multiparty, parliamentary system of government with a four-year cycle, with the vision of pursuing policies that would ultimately lead to the "establishment of a just and free society", where every Ghanaian would have the opportunity to live long, productive, and meaningful lives.

There are at least four constitutional provisions of significance to the health sector and PHC, including

every citizen's right to good health care, the establishment of a national health service, a devolved local government system, and the requirement of each incoming president of the republic to present to Parliament a coordinated programme of economic and social policies.

Since returning to Constitutional rule in 1993, the country has had six elections and changes of government, with power switching between two political parties. One political party ruled from 7 January1993 to 2000 and again from 2009 to 2016, while the other was in power from 2001 to 2008, returning to power in January 2017.

Whilst the political environment has been relatively stable, that cannot be said of the macroeconomic situation. The Bretton Woods institutions had to bail out the government through the HIPC initiative in 2002, providing some resources for social services, including for the health sector to support some aspects of PHC. The discovery and extraction of oil has the potential to increase government expenditure on health, including PHC, but this has yet to be realized. The attainment of lower middle-income status during this period has had more negative than positive consequences on PHC services, since donor support has been dwindling, and government expenditure on health is not matching lower middle-income country status.

In 1995 the ruling government launched a 25-year programme of socioeconomic transformation – Ghana Vision 2020 – with the goal of propelling the country into middle-income status. In the First Medium-Term Development Plan of this programme, PHC, public health service delivery and the broad determinants of health, including fertility management, safe water and sanitation management, featured prominently *(41)*.

The health sector responded to this with the development of a Medium-Term Health Strategy, which built on the 1978 PHC strategy and the lessons learned from its implementation. It not only reaffirmed the District Health System as the bedrock of the National Health System but also aimed to make PHC universally accessible. The strategy thus established the framework for the subsequent development of three succeeding five-year programmes of work, for 1997–2001, 2002–2006 and 2007–2011 *(42–44)*. These paved the way for major health sector reforms involving all the six building blocks of health systems.

The governance system was reformed with the passage of the Ghana Health Service and Teaching Hospital Act of 1996 (Act 525), in compliance with the Constitution, bringing to realization the medical fraternity's long-term effort to move the technical health service functions out of the civil service bureaucracy. The GHS was established with the appointment of the Director-General and the constitution of its Governing Council in 2000 by Act 525, and made responsible for primary and secondary health services in the country.

Another major governance and financing reform was the adoption of a sectorwide approach (SWAp), which has been defined as *(45)*:

> a sustained partnership, led by national authorities, to achieve improvements in peoples' health through a common financing and management arrangement to achieve agreed sectoral milestones and targets. SWAp is a strategy to overcome some of the deficiencies of projects. The ultimate goal of SWAp is to promote the equitable, sustainable and efficient use of all available national and external resources.

The Common Management Arrangements (CMA) for the five-year programmes of work (CMA I, II and III) *(46–48)* provide guidance for the implementation of the corresponding programmes in terms of the following: institutional and coordination arrangements; management, planning and budgeting, financing, procurement, accounting and controls; and performance monitoring and evaluation systems.

The budget and management centre (BMC) concept, which involves the decentralization of management

to management units, and the establishment of district health administrations, district hospitals and subdistricts as BMCs, was introduced in 1996. BMC certification criteria were developed and all management units in the sector were assessed. Those that met the criteria were accorded full BMC status and were qualified to manage accounts for donor pooled funds made available to them. Those that failed to meet the criteria were temporarily given "BMC of record" status, whereby they were able to take decisions on the funds allocated to them but were managed by supervising BMCs.

The main focus of the approach was to have a national-led health sector programme of work and implementation framework agreeable to development partners, who would then put their resources into a donor pooled account, from which funds would be disbursed to BMCs based on the approved annual programme of work. The donor pool bank accounts were opened at Ministry of Health for the pooled funds for subsequent allocation to the BMCs.

There was also a programme for the construction of DHMT offices and district medical officer of health bungalows to provide a conducive working environment for the district managers. Unfortunately no efforts were made in this direction after 2000; meanwhile, the number of DHMTs has almost doubled from 110 to 216 currently. It is not surprising therefore that inadequate work conditions is a common complaint from the districts.

In the human resources area, five of the seven strategies in the 1997 projected and costed Human Resources for Health Policy and Strategy were geared at improving the training, availability and management of the health workforce for PHC, and the reorientation of secondary services to support PHC *(49)*. The implementation of the next two human resource plans (2002–2006 and 2007–2011) increased the supply of various categories of health personnel, including those for PHC *(50, 51)*. The major challenges are now to ensure the equitable distribution and retention of the health workforce, especially in rural areas and at the PHC level, and to improve their performance and productivity.

With regard to health financing, in addition to mobilization of additional resources from government and development partners, greater efforts have been made to ensure exemption for vulnerable segments of the population from paying fees at public health facilities. In 1997, following a presidential address, the exemptions were extended, following which further ministerial pronouncements extended exemptions to indigents and victims of snake and dog bites, Buruli ulcer, and guinea-worm disease. However, the implementation of the policy has faced numerous challenges, including difficulties in identifying some of the target groups, inadequate and slow reimbursement procedures, and mismanagement by service providers. Consequently, faith-based service providers, and later some DHMTs and MMDAs, especially those in rural areas, have initiated various forms of community health financing schemes with support from some development partners. The Ministry of Health also started a pilot in one region. It became a heated political campaign issue in the 2000 presidential and parliamentary elections, with the debate continuing after the change of government in 2001.

In the service delivery area, projects were developed for the construction of health centres in underserved areas across the country with donor support. For example, the Danish International Development Agency (DANIDA), through health system strengthening support programmes, constructed health centres across Upper West region, greatly increasing the provision of PHC facilities.

A novel community project with a quasi-experimental design, the Navrongo Community Health and Family Planning Project *(52)*, implemented from 1994 to 1998, resulted in increased access to PHC and a significant reduction in child mortality, representing a landmark achievement *(52, 53)*.Together with a follow-up replication in Nkwanta district in Volta region, the project provided the ingredients for the CHPS Policy and Strategy adopted in 2000 *(54–56)*.

These projects demonstrated the importance of the systems approach and the mobilization of both the health sector and communities for effective PHC.

The Integrated Management of Childhood Illness (IMCI) approach was introduced in 1999 but its scale-up was slow, so that by 2003 only 33 of the then 110 districts in the country were covered. Even then not all of the three key components of the strategy (leadership commitment, logistics support and capacity-building of service providers) were adhered to in most places. It has, however, expanded in scope to include newborn care and community-level care, and relevant programmes have again been implemented with the support of development partners, especially UNICEF, without being driven by the health sector nationwide.

The First Health Sector Five-Year Programme of Work review report documented significant achievements *(57)*. It met its target of increasing the health sector recurrent budget allocation to district health services from 22% in 1996 to at least 40%, with an allocation of 42% achieved in 2001. Towards the end of the period the pool was operating at its best, and decentralization to the districts was much appreciated by district and regional health managers. The health impact, however, was mixed, and the 2003 Demographic and Health Survey report showed worsening under-5 mortality in most regions, except Upper East region.

The Second Health Sector Five-Year Programme of Work, 2002–2006 *(43)*, was implemented in parallel with the HIPC initiative and the Ghana Poverty Reduction Strategy 2003–2005 (GPRS I) *(58)*, which focused on poverty reduction, while the Growth and Poverty Reduction Strategy 2006–2009 (GPRS II) *(59)* focused on creating wealth, accelerating poverty reduction and protecting the vulnerable. Both programmes provided HIPC resources for health services. The health GPRS response strategies *(60, 61)* picked the following key areas of the Programme of Work as priorities: bridging equity gaps in access to quality health services, ensuring sustainable financing arrangements that protect the poor, and enhancing efficiency in service delivery. The CHPS and exemption policy implementation, and the Second and Third Human Resources for Health Policies and Strategies (2002–2006 and 2007–2011), all benefited from HIPC resource mobilization. The strong drive of the then Regional Directors of Health Services Group led to establishment of several nursing schools, re-establishment of auxiliary general nursing training, and development of CHPS infrastructure and equipment provision for CHPS scale-up during this period. Politicians and community members embraced CHPS and several successes were achieved, especially in the rural northern part of the country. Some major challenges *(62)* were poor community mobilization in most areas; weak capacity of the subdistricts to supervise and provide technical support; lack of alignment of vertical programmes; inadequate CHPS infrastructure and equipment; and the absence of dedicated funding for CHPS-level operations (a problem that has persisted to date).

Several other service delivery strategies were implemented during this period. These include the UNICEF-supported Accelerated Child Survival and Development (ACSD) programme *(63)* in Upper East region and part of Northern region from 2002 to 2005, the success of which informed the adoption of the high-impact, rapid delivery approach, a modified form of the ACSD approach. The IMCI strategy was also expanded to include newborn care to ensure integrated management of childhood and newborn illnesses, with the support of UNICEF in some of its project districts in Upper East and Northern regions. Following a review conducted in 2005 service coverage improved, though the impact did not reflect in national indicators because of the piecemeal approach, with many districts still left uncovered. In some areas only one or two of the three components of the strategy were being implemented, as a consequence of which the full intended effect of the programme was not realized.

The National Health Insurance Scheme (NHIS) *(64, 65)*, by an act of Parliament in 2003, consolidated the then existing community health mutual schemes

into autonomous district health mutual schemes as a social insurance programme to provide universal access to quality health services and financial protection against catastrophic illness. The HIPC relief funds were also allocated in 2003 to the four most deprived regions (as reported by the third Ghana Living Standards Survey) to allow fee exemptions for deliveries in health facilities, the implementation of which faced similar challenges to the other exemption initiatives.

A new national health policy document with the theme "Creating wealth through health" was developed in 2006 to replace the Medium-Term Health Strategy. This policy was also anchored in PHC, with coverage expanded to include lifestyle and the environmental, sociocultural and economic determinants of health, and positioned health as an investment for socioeconomic development that could contribute to the government agenda of achieving middle-income status of at least US$ 1000 per capita income by 2015. The Regenerative Health and Nutrition Programme, which aimed to address the broad determinants of health, including lifestyle, nutrition and environmental factors, was the flagship programme of this policy. Placing it in the Ministry of Health gave it a high profile but it undermined its effective implementation, as implementers were more or less spectators. After an initial awareness creation campaign and some public enthusiasm it died down, as the Ministry of Health had no capacity to sustain it and funds were not released to implementers to continue the campaign. It is still relevant today, with the increasing prevalence of noncommunicable diseases.

The Third Health Sector Five-Year Programme of Work was developed from the revised policy in line with GPRS II (2006–2009). There was continued support for the CHPS, NHIS and the exemptions, but introduction of free maternal services implemented through free registration with the NHIS for pregnant women to cover health care during pregnancy and delivery in 2008 was unique to GPRS II.

The new government that came to power in 2009 presented its development programme as the Ghana Shared Growth and Development Agenda (GSGDA), with GSGDA I implemented during 2010–2013 and GSGDA II during 2014–2017 *(66, 67)*. GSGDA II had a focus on massive infrastructural transformation, reforming the NHIS and expanding CHPS implementation through a presidential special initiative supported by 10% deductions from the salaries of political appointees, and MMDAs were directed to construct at least two CHPS compounds per year. The CHPS policy was revised and relaunched in 2016, with model plans of CHPS compounds to guide all CHPS compound construction.

The health sector responded by developing its first Health Sector Medium-Term Development Plan (HSMTDP I) in 2009. HSMTDP I (2010–2013) *(68)* was followed by HSMTDP II (2014–2017) *(69)*. These prioritized achievement of the MDGs, human resources development and universal health coverage. This period saw much more focus on the development and review of policy documents and technical guidelines, supported by legislation, though several projects were started but not taken forward.

The Ghana 2010 MDG report revealed that the country was not on track to achieve MDG 5, and it was among 10 countries selected by the United Nations system to implement the MDG Acceleration Framework. Though the country MDG Acceleration Framework and action plan was approved in 2011, its implementation only started in 2013 due to delayed funding. After two years of implementation, a follow-up review identified inadequate and fragmented funding, exacerbating several implementation challenges. Though the plan was revised for further implementation in 2015, the country still failed to achieve MDG 5. Many stakeholders held the view that the programming was too vertical and top down. The budget lines were already predetermined and were not flexible enough for local levels to use the funds to address critical problems. For instance, some areas needed only to provide accommodation for a midwife to increase access to skilled attendance

during delivery, but using the funds for that purpose was not permitted by the guidelines. During the process it was recognized that the maternal care challenges, and effective strategies and plans to overcome them, were well known and documented, and only required well coordinated planning and implementation.

Otherwise, development partners continued to sponsor projects in some regions and districts, most of them focusing on PHC, especially reproductive, maternal, newborn, child and adolescent health. Examples include the projects supported by the Japan International Cooperation Agency (JICA) and Korea International Cooperation Agency (KOICA) (of the Republic of Korea) in Upper West and Volta regions respectively, and the Millennium Villages Project for telemedicine in some communities in three districts. Some of these have been success stories and are being considered for national scale-up. However, the telemedicine projects implemented jointly by the National Information Technology Agency and the Ministry of Health achieved little success, due to the lack of involvement of key stakeholders and the lack of regard for the existing administrative and service delivery structures.

One piece of legislation of much relevance to PHC was the amendment of the Local Government Act No. 656, 2003 *(70)*, which removed the district medical officers of health from the decentralized departments under the MMDAs. This was later reversed by Legislative Instrument No. 1961 in 2009. A presidential committee, chaired by the president and supported by a secretariat, was set up to accelerate decentralization of government in the relevant sectors, including health and education, which had resisted the process for a long time. Previous efforts to introduce legislation to restructure the health sector to correct the anomalies of Act No. 525 and to combat fragmentation in the sector had been abandoned, and giving up the district health services was seen as the line of least resistance. This again did not materialize before the change in government, stalling the process. The importance has been recognized, however, of putting checks and balances in place to ensure adequate provision of resources for integrated, quality PHC service development and delivery, with the necessary technical backing and support. Restructuring of the current fragmented system is essential to promote harmonized resourcing and technical support to address the current poorly resourced and inadequately coordinated delivery of PHC.

The 2003 NHIS Act was replaced with Act No. 852 of 2012, which consolidated the autonomous district health mutual schemes into a centralized national scheme with deconcentrated regional and district offices. A capitation payment system was introduced as a pilot in one region, along with biometric registration of members and centralized electronic claims processing and payment systems. A review of the scheme was undertaken by a presidential committee. These initiatives aimed to accelerate reform of the NHIS towards cost containment, efficiency and sustainability. The biometric registration system has improved portability but presented problems to rural residents, who often have to travel long distances to the registration centres. The electronic claims system has benefited the large service providers, but most PHC providers still have to rely on paper submissions and have to travel to the four zonal centres to ensure correct entries.

In conclusion, it can be stated that the country has had rich experience of both successful and failed policies, programmes and initiatives in the various domains of PHC. Those experiences are helping to shape the course towards the achievement of universal coverage. The detailed timelines of the key developments relevant to PHC and summaries of the various initiatives are presented in Annex 5.

5. Governance

The Constitution of Ghana's Fourth Republic *(40)* provided for a unitary democratic government system comprising the executive, legislature and judiciary branches with separation of powers, and a decentralized local government system *(71)* consisting of 216 MMDAs, with 10 regional coordinating councils coordinating the functions of the MMDAs. The Ministry of Health provides the overall stewardship of the health sector for the assurance of the right to safe and quality care without discrimination.

5.1 National-level PHC governance

The PHC governance system is within the framework of the overall national governance and health sector-specific system. Established institutions for public finance, procurement and audit systems, labour and employment, social protection, transparency and accountability, and a very vibrant media as the fourth realm of the State, provide the accountability and regulatory framework for all sectors, including health. For example, the Public Accounts Committee of Parliament every year summons public officers to respond to serious audit queries in full glare of the public on national television.

The Ministry of Health, through relevant laws *(72)*, has established various institutions, and along with partners has jointly developed the CMAs to provide the framework, mechanisms and processes for stakeholder engagement in policy dialogue and implementation of programmes of work. The CMAs, which are regularly updated *(46–48, 73, 74)*, describe mechanisms for coordination and dialogue, planning and budgeting, performance monitoring, financial disbursement and management, procurement and logistics, and audit at all levels. The key stakeholders at each level include MMDAs, regional coordinating councils, health-related ministries, departments and agencies, the private sector, development partners, civil society, NGOs in health, communities and households.

At the Ministry of Health level dialogue mechanisms include Interagency Leadership Committee quarterly meetings, Health Sector Working Group monthly meetings, twice-a-year business meetings and an annual health summit. These engagements have helped to align all stakeholders with sector policies and strategies, and have eased development partner buy-in to the sector medium-term plans and programmes. The major challenge is the continuing tendency of the different entities to operate in silos, hampering PHC integration.

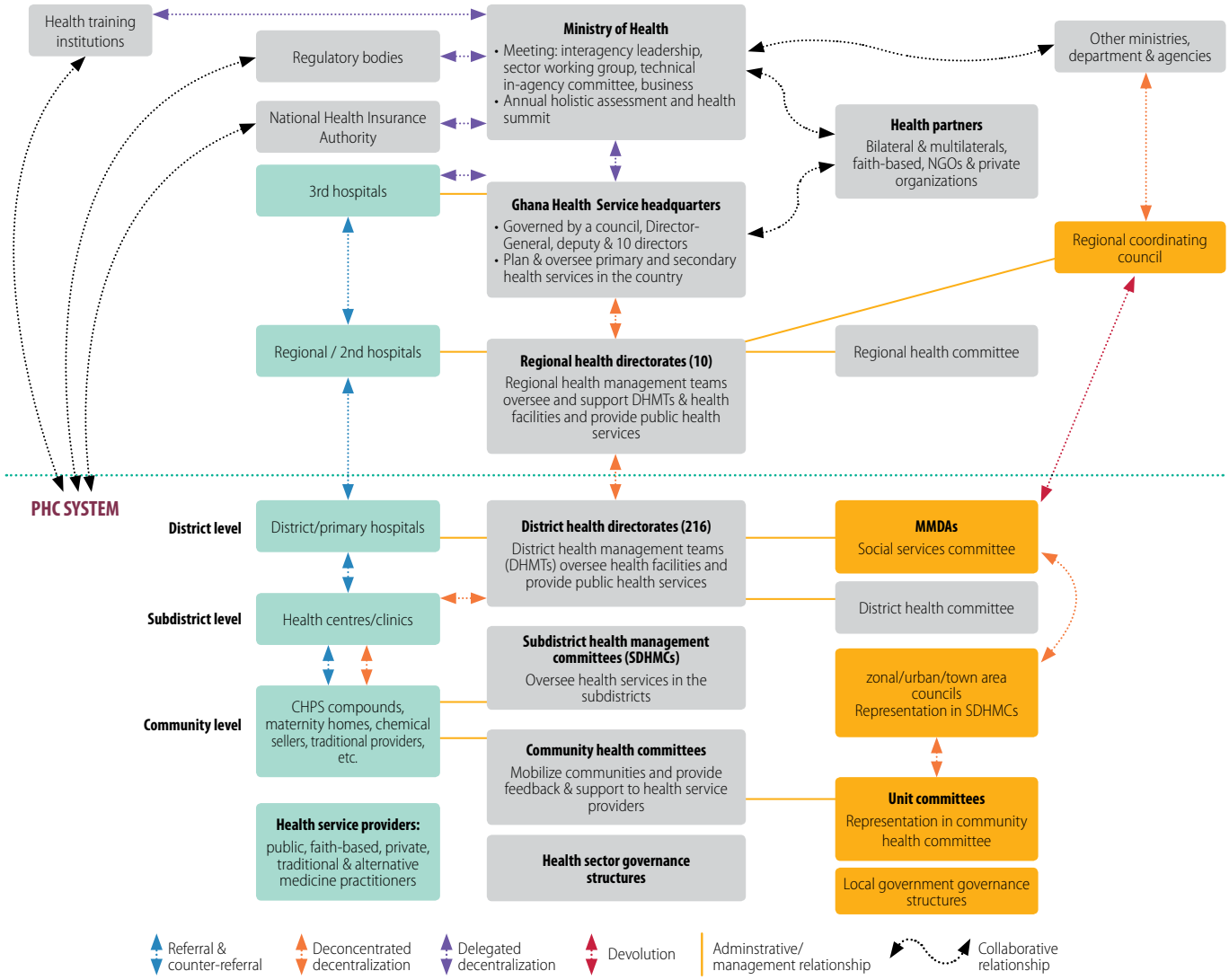
The GHS, which has the mandate for governance of the PHC system in addition to implementation of national policies and the CMAs, provides operational policies and guidelines on the engagement of stakeholders at all levels. At the GHS headquarters level, dialogue mechanisms include weekly meetings of directors and divisional heads, meetings of various interagency coordinating committees established for approved thematic areas or disease programmes, programme review meetings and thrice-a-year senior management meetings. Important interagency coordinating committees are those for EPI, HIV/AIDS, malaria, tuberculosis, newborn care and CHPS. Many development partners, including the Coalition of NGOs in Health, the Christian Health Association of Ghana, the Society of Private Medical and Dental Practitioners, and the Ghana Registered Midwives Association, participate actively in these committees, and their deliberations provide guidance to lower levels as well as informing policy at the Health Sector Working Group meetings. The concerns at this level are the tendency to establish more vertical programmes, which are good for visibility and resource mobilization but draw competent staff from the PHC system to national level, and their tendency to operate vertically weakens and fragments the PHC system. For example, the Department of Disease

Control of the Public Health Division reported at least eight programmes for communicable diseases alone. The national EPI is one of the few programmes highly commended for its full integration into the general system.

5.2 Regional-level PHC governance

At regional level the regional health directorate, comprising the office of the regional director and clinical, public health and support departments, constitutes the regional health management team (RHMT) responsible for policy dissemination, stakeholder dialogue, capacity-building, coordination of planning and implementation of programmes in the region. Governance mechanisms include weekly and monthly RHMT meetings, monitoring and technical support visits to districts, participation in regional coordinating councils and regional heads of ministries, departments and agencies meetings, and quarterly and annual sector performance review meetings with districts and other stakeholders. RHMTs hold regular meetings, conduct integrated support visits and sometimes technical support visits to districts, and undertake quarterly and annual performance reviews. Some also coordinate district peer reviews, rewarding good performance and identifying weaker ones for tailored technical support. However, technical supervision of

Figure 1. Ghana PHC governance and health service delivery structure



districts, especially district hospitals, is weak due to lack of clarity of roles between the regional clinical care departments and the regional hospitals. The regional hospitals, which receive referrals from the districts, are better placed as clinical supervisors, but the regional clinical care departments are tasked with that role despite their lack of adequate technical capacity, especially as some of the heads are juniors or are non-clinicians. This area needs to be given further attention by the GHS.

The RHMT also participates in regional coordinating council activities, and engages health-related departments and agencies in the Veterinary Division of the Ministry of Food and Agriculture on zoonoses and disease outbreaks, the Ghana Education Service on school health, the National Disaster Management Organization on disaster and health emergencies, the Department of Children on child health and nutrition, and the National Population Council on population issues. There are concerns, however, at the inadequate technical and resource support that RHMTs receive from national level in order to achieve the integrated action that is needed at lower levels. The RHMTs also assert that other ministries, departments and agencies are not prepared to contribute funding to intersectoral activities. In fact, the performance of the RHMTs is well regarded by most stakeholders, though some regional coordinating councils state that RHMTs do not always submit reports, or submit them late.

The regional health committee is another important statutory advisory body comprising representatives of relevant stakeholders. It plays a role in bringing community views to the attention of the GHS, lobbying for health programmes and solving problems, especially where communities are involved. Most of them are not functioning because each incoming GHS Council with a change in government has to reconstitute the regional health committees, but this is often not done, and RHMTs have to work with them informally or expand their mandate to include these stakeholders.

5.3 District-level health service governance

The PHC system in the districts follows the three-tier District Health System, comprising districts, subdistricts and CHPS zones (or communities). The district level is a replica of the regional level, with district health directorates, district health management teams (DHMTs) and district health committees, and the district health committees suffering the same fate as the regional health committees. Most districts have functional DHMTs, hold regular weekly or monthly meetings, and organize quarterly and annual performance reviews with the involvement of stakeholders, as at the regional level. Most of the district directors of health services are now non-physicians, as public health physicians have lost interest in the position because the salary scale of the professional grades is better than that for district directors of health services. On the other hand, other health professionals find the salary scale of the district directors of health services very attractive. In situations where the district director of health services is at a lower grade than the medical superintendent of the hospital, or is a non-physician, collaboration tends to be weaker and sometimes open conflict occurs. This is worsened by the fact that district hospitals report directly to the region without passing through the district director of health services. Clinical supervision of subdistricts suffers as the district director of health services often lacks the capacity to carry out that role. In an attempt to address this problem the Director-General directs the medical superintendent to hold quarterly meetings with all service providers within the district to discuss referrals, and to provide supervision and support, but there is no funding for this activity, so it depends on the discretion of the hospital management to use its internally generated revenue.

The health sector collaboration with the MMDAs and other departments and agencies is improving, though it remains variable, depending on the active participation of the district director of health

services in MMDA activities and networking with the key officers of the district assembly, assembly members and opinion leaders. The main areas in which MMDAs support PHC are provision of health infrastructure and funding to support the EPI and other programmes. For example, in Upper East and West regions, where collaboration has been very strong, the districts assemblies have contributed to a large proportion of CHPS infrastructure compared to Greater Accra region.

The subdistrict health teams provide variable packages of basic clinical outpatient, public health and maternity services, and provide supervision and support at the community level, depending on the staffing and available facilities. Most have no linkages with MMDA substructures. The subdistrict level is the weakest in the whole PHC system.

The community level forms the basis of health service organization, and service delivery is through the CHPS strategy *(55, 56)*. This strategy involves the demarcation of subdistricts into CHPS zones aligned as much as possible with the lowest units of election management (electoral areas), where community health teams, comprising health workers and community volunteers, deliver integrated primary care services with community health committees playing an oversight and supportive role. Other players include community health committees, unit and area committees of MMDAs, and other service providers (including traditional healers and herbalists, private providers, and chemical sellers). Community-level PHC services vary widely across the regions and districts, with special project areas reporting strong systems and impressive PHC good practices, as in the JICA-supported Upper West region Maternal and Child Health and Nutrition Improvement Project *(75)* and the Upper East region Ghana Essential Health Intervention Programme *(76)*. Results from the focus group discussions with community health nurses in each of the 10 regions corroborated the finding from the stakeholder discussions that collaboration with community health committees and community health volunteers is about average, whilst interactions with chemical sellers and pharmacies, traditional healers and herbalists, and unit or area councils are weak. Upper West and East regions have strong collaboration with stakeholders generally, and for Greater Accra region there is strong linkage with the orthodox private sector. The focus group discussion results are displayed in Annex 6.

6. Health financing

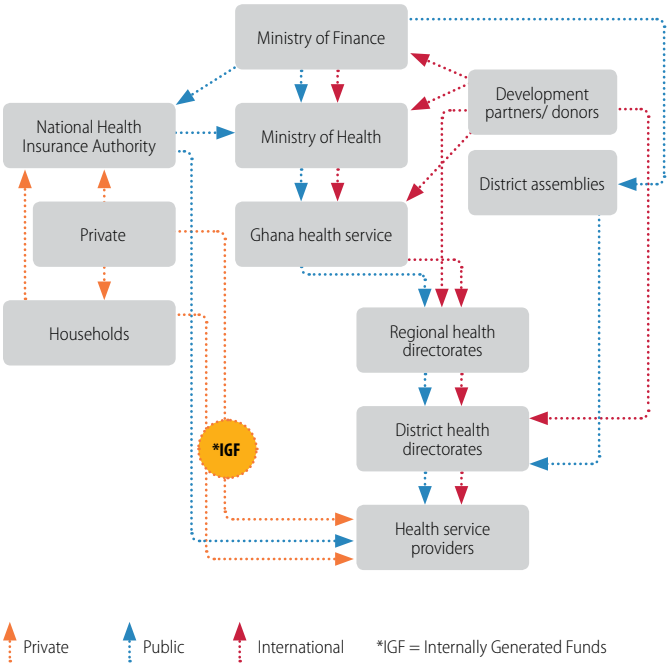
Health financing, a cardinal health system function and a component of the strategy for implementation of the Ouagadougou Declaration on Primary Health Care and Health Systems in Africa, is key to establishing sustainable PHC systems that ensure equitable access to quality, efficient and affordable services. This requires adequate and dependable revenue generation and pooling strategies, as well as effective purchasing and provider payment mechanisms that promote access to and cost containment for quality care *(77)*.The PHC expenditure classification has three main categories: compensation (salaries and wages), goods and services, and investment. The financing system mirrors the national financing architecture, which comprises a myriad of multiple financing sources and routes, as illustrated in Figure 2.

The funding sources are broadly classified under public, private and international funds *(78, 79)*. The public funds are derived from the Government Consolidated Fund disbursed to the health sector, the 2.5% National Health Insurance levy of value-added tax earmarked for the National Health Insurance Authority, and health-related expenditure in other sectors, including the MMDAs. The international funds are a combination of grants, donations, and concessionary and commercial loans from bilateral and multilateral organizations, NGOs, foundations and other benefactors from abroad. Private funds are from households and private employers' health expenditure on their workforce, and accrue to service providers as internally generated funds from out-of-pocket payments or reimbursements through the NHIS or private health insurance, which only constitutes less than 1% of health insurance in the country.

6.1 Financing mechanisms

The health sector has had about two decades of strong health sector partnership development. Donors supported the first SWAp, 1997–2001, with the CMA guiding the partnership, which was

Figure 2. Flow of PHC funds in Ghana health system



renewed upon completion of each medium-term programme. The current programme is guided by the fourth revision of the CMA document *(73)*. The partnership has embedded some of the principles of the Paris Declaration on Aid Effectiveness and the follow-up Accra Agenda for Action, but has not be able to bring all partners to complete harmonization, though different models have been agreed upon from separate projects, using earmarked funds and sector budget and multidonor budget support. The various sources of funding pass through several PHC financing agents, including the Ministry of Finance, Ministry of Health, GHS, NHIS, donors, MMDAs, the private sector, NGOs and households. Some of these agents have separate planning and budget implementation and reporting systems. Apart from the NHIS, which uses the strategic purchaser provider model, the funding sources use an input financing approach, though some projects have implemented, on a limited basis, results-based mechanisms, which are yet to yield useful lessons.

The Ministry of Finance collects all government revenue into the consolidated funds, and disburses it with multidonor budget support, sector budget support and some earmarked funds from donors. The health sector and its agencies utilize the funds based on the approved budget, the relevant legal instruments and the availability of funds. The Ministry of Finance retains and manages the compensation (public payroll budget) and most of the capital investment budgets directly, and only makes quarterly releases to the ministries, departments and agencies, including the NHIS and MMDAs, though in reality the releases are sometimes not full or delays occur due to fiscal constraints. The NHIS has become the main financier of clinical services in the country, especially at the PHC level, as further discussed in section 6.3. The funding mechanisms for the other sources are discussed below.

The Ministry of Health, on receipt of the funds from the various sources, retains any budget needed for procurement of equipment, vaccines and other programme logistics, and disburses the rest through the GHS to the districts, and for counterpart funding of some of the programmes. The GHS, on receipt of the funds from the Ministry of Health and the directly earmarked funds from donors, may also decide to centralize some of expenditure on procurement of logistics and training. The funding that reaches the district level through the regions is mainly for operational activities and minor procurement. Particularly for the programmes, most of the expenditure is centralized, and any funds disbursed to lower levels is designated for standardized activities with time frames for execution, without much flexibility for local managers. Some regions and districts are privileged to have direct support for projects from time to time from some donors, NGOs and other benefactors. Although the projects with earmarked support try to address important health areas, the interests of the funding sources are paramount, hence sometimes districts may be receiving substantial support whilst others receive nothing.

Some MMDAs, through their district common fund releases from the Ministry of Finance, provide PHC infrastructure, but the delayed release of funding due to fiscal constraints means that such projects take several years to be completed. Even then many MMDAs, especially those in metropolitan and urban areas, give less priority to health. The districts in Upper East region are to be commended for contributing to more than 50% of the CHPS infrastructure in the region.

The uncoordinated multiple sources and routes for transfer of funds, the fact that the central level contributes most of the budget for lower-level activities, the unpredictability of fund releases, and the rigid expenditure conditions present a challenging situation to lower-level managers in planning and implementation of programmes. They have no control over their investment and compensation planning and the associated budgets. Many of the investment projects are implemented without the consultation of health managers, are politically determined, and do not address local needs. Managers can only make requests for their staff needs but they cannot fill vacancies created by retirement, vacations, or outposting of their staff. The variability and unpredictability of funding flows, and the different conditions for managing the funds, distort the implementation of plans, and do not yield the synergies essential for optimal results. Government releases of funds to the regions and districts for goods and services have drastically reduce in the last three years, and the lower levels depend mainly on their internally generated funds from the NHIS, out-of-pocket payments, and funds from programmes and projects. Funding for programmes and projects that benefit all districts mainly contribute to the EPI, malaria, HIV/AIDS and tuberculosis control programmes, the World Bank Maternal and Child Health and Nutrition Improvement Project, and some bilateral donor support projects. These programmes finance some operations and logistics as well as some health system strengthening activities and transport provision, but contribution relative to need is like a drop of water in the ocean.

6.2 National Health Insurance Scheme (NHIS)

The NHIS is a pro-poor scheme financed from the National Health Insurance levy of 2.5% value added tax, 2.5% deduction from the social security contributions of workers registered with the country's social security body, premiums, allocations from consolidated funds, and interest from investment *(80–82)*. About two thirds of the population are in the exemption categories, with the following annual ranges: pregnant women (5.5–8.5%), children aged under 18 years (40–46%), and those aged 70 years and above (3.8–5.5%). The benefit package is generous and covers about 95% of health conditions in the country. Of the health facilities credentialed by the scheme to provide services to clients in 2013, 54% were governmental, 40% were private for profit, 5% were faith-based and 1% were quasi-governmental. A combination of fee-for-service and Ghana diagnosis-related group fee schedules are the main payment mechanisms.

The introduction of biometric registration and electronic claims systems improved the operation of schemes, though there are concerns about difficulties in the registration and renewal processes, especially for rural residents, because of the small number of centres located in the urban areas. The smaller PHC facilities cannot afford the electronic claims systems and still use manual submission schemes that are laborious and more expensive, as they have to travel every month to ensure that their claims are properly registered at the four zonal centres established across the country.

The scheme started facing fiscal challenges in 2012, when service providers' claims for services rendered exceeded the annual income, resulting in increasing delays in the imbursement of providers, averaging more than nine months instead of the agreed three months. These delays have a greater effect on the rural PHC providers, as 90–95% of their outpatient attendants are NHIS card bearers, and they are not in a position to adopt the coping measures used in urban areas. Hence they tend to pass clients to the bigger health facilities, though at least the medicines and other commodities can be provided.

Apart from the reimbursement delays, service providers also complained of low tariffs, as they were not reviewed to take account of the high inflation rate in the economy. Consequently, service providers have not been able to stock adequate supplies because of their own indebtedness to their suppliers, and have therefore adopted various coping mechanisms, including unofficial co-payments, clients given prescriptions to buy from external sources, and opting out of the NHIS altogether.

From the scheme's inception, it had been projected that it could not be sustainable after 2009 unless additional funding sources were identified. In addition, various reviews and monitoring systems have revealed many problems with the scheme management, including high administrative costs, moral hazards, management inefficiencies and corrupt practices by both providers and scheme personnel. A presidential committee set up to review the scheme in 2016 recommended a number of reforms, including prioritization of PHC services in the benefits package *(83)*. A capitation payment method piloted in one region from 2012 to contribute to cost containment was programmed for scale-up nationally, but was slow in taking of before the 2016 general elections brought a different political party into government. Subsequently, the decision was made to suspend the capitation and review the whole scheme. It is hoped the review by the new government will take place soon to avoid a decline in confidence in the scheme, which would be difficult to re-establish.

6.3 PHC expenditure

Data on the main sources of health funding, as contained in the National Health Accounts reports (Table 2), show an increasing trend in public and private spending and a decreasing trend in international funds. It is also significant that the public and private expenditure categories fluctuate inversely, implying that when government

expenditure decreases the private sector fills the health care gap. International funding is still substantial but attainment of lower middle-income status with the rebasing of the economy in 2010 is changing the international funding dynamics, with most of the bilateral donors moving from grants to commercial loans. Global funding initiatives such as Gavi, the Vaccine Alliance and the Global Fund to Fight AIDS, Tuberculosis and Malaria are also implementing transition programmes to eventually stop their support in the coming years *(78)*.

Table 2. Trends in main sources of health sector funding, Ghana, 2005–2015 (%)

Source of funds	2005	2010	2012	2013	2014	2015
Public	30	69	58	57	67	52
Private	17	13	35	35	18	39
International	53	19	8	9	15	9
Total	100	100	100	100	100	100

Source: Ghana National Health Accounts reports, 2005, 2010, 2012–2015.

Ghana total health expenditure as a percentage of GDP is 3.6% *(84)*, and the public contribution of 2% is lower than the average for low- and middle-income countries of about 6%, although the unpublished 2013 to 2015 National Health Accounts indicate that the proportion is increasing, reaching 5.9% in 2015. The total expenditure on health per capita is also increasing, with the 2015 National Health Accounts reporting US$ 81 per capita, approaching the average of US$ 97 per capita for low- and middle-income countries. Government health expenditure as a proportion of total government expenditure is 10.6%, below the Abuja target of 15%, while the proportion of public PHC expenditure of 47% is above the 2009 High-Level Task Force on International Innovative Financing for Health Systems minimum target of 44% *(30)*. PHC expenditure as a percentage of total health expenditure *(28)* is estimated at 60%, but this should be interpreted with caution, as it includes district hospitals expenditure, which constitutes a significant cost component. These statistics indicate that the country is not spending enough on health as a proportion of GDP, although priority is given to PHC. There is also concern about the decreasing trend in the proportion of public expenditure on district health services from 45% in 2013 to 28% in 2015, almost at the 1996 figure of 26% (see Annex 7).

The fiscal space of the economy, the amount of tax revenue collected, the ability of the health sector to lobby for increased health budgets, and the priority given to health and PHC on the government agenda are factors that determine the amount of government health expenditure. Schieber et al., in their report on health financing in Ghana *(84)*, observe that the government places high priority on health but limited fiscal space was a major challenge for any substantial increase in spending on health. Despite the stressed economy, prioritization of PHC and prudent public expenditure can release more public resources for improving PHC. The increasing attention given to specialized care, as shown by the construction of more tertiary hospitals in Accra and Kumasi and the upgrading of regional hospitals into tertiary institutions, along with the increasing specialization of health professionals, has the potential to siphon resources from PHC. The current situation where expenditure on PHC goods and services relies mainly on the NHIS, international and private funds is a cause for concern, especially if the NHIS is not reformed to address both curative and public health services and support health system strengthening. The result will be a shifting of PHC expenditure to the private sector.

6.4 Private sector funding

WHO reported that public and private expenditure accounted for 60% and 40% of Ghana's total PHC expenditure, respectively *(28)*. Out-of-pocket expenditure is still over 30% (above the WHO recommendation of 15–20%). Private health spending largely depends on the social and economic policies of government, their effect on wealth distribution, and households' willingness and ability to spend on health. The out-of-pocket component was generally high (above 30%) before the introduction of the NHIS, when it started to

decline, reaching a low of 16% in 2011, but it started rising again to reach 36% in 2015, according to the National Health Accounts of that year. This is attributed to the introduction of informal payments by service providers due to low NHIS tariffs and long delays in reimbursement to service providers.

6.5 Conclusions and recommendations

New resources are necessary in the health sector to address the resource inadequacies, but it is more critical to address inefficiencies in the use of available resources. Proper management of resources requires evidenced-based planning, alignment of resources to priorities, cost-effective interventions, effective implementation and efficient monitoring and accountability systems. Gains in allocative and technical efficiency can be maximized if there is financial integration at all levels of the financing architecture.

7. Human resources for health

The human resources for health contribution to the attainment of health sector goals depends on a number of factors, including appropriate policies, production and deployment of the appropriate categories and skills mix of motivated health workers to match health needs, and their acceptability to the population *(85, 86)*. Team-based service delivery with vertical and horizontal integration processes are particularly important at the PHC level in order to meet the health needs of households and communities *(1)*.

The Ghanaian health sector has a broad catalogue of strategic and operational human resource policies, some of which have proved successful, others that have had mixed results, and others that have failed to achieve their aims *(49, 51, 87–90)*. The next strategic plan and a number of operational policies are currently under review, including policies on pre-service training, in-service training, employee handbooks, staff promotions, employee assistance, retirement planning, leave policy and conditions of service for some professional categories.

7.1 Health workforce production

Successive human resource production policies have been implemented over the years to produce different grades of both multipurpose and specialized health workers for the PHC sector *(50, 51, 68, 88, 91, 92)*. Pre-service training of health workers is a shared responsibility between the Ministry of Health and the Ministry of Education, working together with the private sector *(51)*. The Ministry of Health has 118 health training institutions spread across the country that are providing 30 health-related programmes. These are complemented by other public and private health institutions. The Nursing and Midwifery Council, for example, has approved 14 different nursing and midwifery training programmes, comprising four basic and seven post-basic professional courses, two auxiliary courses and one post-basic auxiliary course. In 2017 the Nursing and Midwifery Council registered 103 training institutions that are providing a total of 175 programmes. The College of Health and Well-being (formerly the Kintampo Rural Health Training School) trains a large share of the 14 different categories of allied health professional workers and their counterpart auxiliaries, and the rest are trained in other training institutions. In addition, five public medical schools and two new private medical schools have an annual output of over 400 medical doctors, which will soon increase as the new private schools start producing graduates. Several public and private universities and the Ghana College of Physicians and Surgeons are also training public health and family health physician specialists to provide leadership at the PHC level.

Ghana has a firm base for the production of the requisite workforce for the health sector, especially for PHC (Table 3). The ratio of essential health workers to population doubled from 1.07 per 1000 population in 2005 to 2.14 per 1000 population in 2015. There were 0.19 doctors per 1000 population and 1.83 nurses and midwives per 1000 population. A total of 5347 medical doctors and 69 121 nurses and midwives were registered in 2015, with an estimated 30% of doctors and 21% of nurses working in the private sector, though not fully employed *(93)*. The total supply of health workers estimated for 2016 was over 14 000, and this is projected to increase annually *(93)* (see Annex 8).

Apart from the formal sector health workforce described above, traditional and alternative medical practitioners and informal community health workers such as volunteers play important roles in PHC and public health programmes in the country. Traditional medical practitioners continue to be the first point of call for a number of people, especially in the rural areas. The contribution of community volunteers to the eradication of guinea-worm disease in the country is acknowledged by all stakeholders.

Their continued relevance in the implementation of community-based health programmes, including CHPS and disease surveillance, is also well recognized and promoted. However, their contribution is not well documented and relevant data are scarce.

Major success factors have included the development of effective human resource production policies based on lessons learned from implementation support by development partners, and liberalization of education and training in the country. The current human resources policy is under review, and priority is being given to production of those professionals for whom supply is lacking, such as midwives and mental health workers, or for whom there is a high demand for services *(69)*.

Despite the successes, some stakeholders are beginning to question the quality of some of the graduates that are being turned out. Comments from informants included: "Education is being watered down a bit", "The quality of products is coming down", "Universities training professionals are not willing to sit with us to have our input to the training to suit our purposes". Factors identified as contributing to this situation included inadequate teaching and learning materials, few clinical training sites, and shortage of committed, high-quality tutors to match the increased numbers for training. For example, the average tutor–student ratio of 1:25 in the nursing training institutions reported in the human resources projection report *(93)* compares poorly with the Nursing and Midwifery Council requirement of a 1:15 ratio.

7.2 In-service training

The first in-service training policy was developed in 1997, and revised in 2005. The revised policy document with implementation guidelines *(88)* has the objective of ensuring that all health workers receive at least one quality in-service training relevant to their functions every three years. Structured in-service training, remedial training, and induction or orientation are identified as the main types of in-service training programmes in the policy. The policy recommends such approaches as structured in-service training courses, fellowships, post-basic and postgraduate training, attachments, study tours, on-the-job training and distance learning or education. Criteria are outlined for the provision of study leave for post-basic and postgraduate training, with or without sponsorship and with or without pay.

Regional in-service training units with training coordinators have been established. Upper West and Eastern regions are the only regions without in-service training centres. The Health Learning Centre established in Kumasi to produce in-service training learning materials is underfunded and underutilized, as policy-makers and managers prefer engaging the private sector to produce materials that could easily be produced in house. The implementation of this policy has also encountered a number of challenges. There is poor coordination of in-service training plans, implementation of training is inadequate, and information systems are of low quality. The majority view is that funds for in-service training have not diminished but that most of the funding comes from vertical programmes and goes to poorly planned and coordinated remedial

Table 3. Basic information on Ghana's human resources for health

Parameter	Results	Remarks
Number of physicians per 1000 population	0.19	
Number of nurses per 1000 population (plus midwives/minus midwives)	1.83/1.57	Significant proportion are unemployed
Number of community health workers per 1000 population (community health nurses only)	0.64	Volunteer community health workers and temporary youth employment workers not included

Source: Ministry of Health *(93)*.

training. With proper planning and organization the same resources could be used to cover more health workers and more topics. Budget management centres are not complying with the requirement to prepare and submit annual in-service training plans for collation at each level, jeopardizing their effective coordination, monitoring and evaluation, and implementation by the Human Resources Development Division of the GHS and the regional in-service training centres. The implementation of in-service training plans is therefore uncoordinated, reporting is poor, and programmes are often not evaluated.

The health workers themselves push for post-basic and postgraduate training to upgrade themselves for promotion to higher salary grades, but this can result in more competent and ambitious workers moving out of the PHC system to the secondary and tertiary levels. Vertical health programmes use an ad hoc approach to train some selected health workers in topics relevant to their respective programmes. Structured in-service training courses, induction of new employees, and orientation of officers who are given new roles and responsibilities are not being carried out as prescribed by policy. Structured in-service training courses provide opportunities for all cadres of the workforce to continuously update their competencies, especially as some workers might not be captured by ad hoc training programmes, but there is a lack of funding for these courses. This is partly compensated for by including some in-service training topics in programme and general performance reviews. For example, DHMTs organize quarterly review meetings for subdistrict health teams, health management teams and community health officers, and use these forums to upgrade their knowledge and skills. Hospitals also organize similar meetings for the various departments and units. However, not all staff participate in these reviews. It has been observed that community health nurses are given training on the CHPS strategy but enrolled nurses and midwives are not even introduced to the basic principles of the strategy.

Peer reviews and on-the-job training under supervision are other possible approaches, but they are not regularly carried out across regions, districts and institutions. In some regions district and hospital peer review activities are regularly conducted for shared learning using the best performers in the different health system components. This good practice needs to be replicated at the subdistrict and CHPS zone levels. Supervision has tended to consist of monitoring visits looking for faults rather than supporting teams and carrying out on-the-job training. As one community health officer stated: "We need the subdistrict teams to come and support us but not always looking for faults to reprimand us."

Another important in-service training approach is study tours. For example, Ashanti and Eastern regions and Nkwanta district in Volta region, by leading their DHMTs on study tours to Upper East and West regions, were able to build the capacity of a critical mass of team members to rapidly scale up the implementation of CHPS in their respective jurisdictions. Unfortunately, other health managers, citing lack of the necessary funding, are not following their example.

7.3 Human resources management and productivity

Human resources performance depends not only on the knowledge and competencies that the workers bring to the workplace but also on conditions of service and the workplace environment, including the management policies and procedures from recruitment through to disengagement, the conducive and social physical environment, and the availability of the appropriate tools and other resources with which to work.

The human resources for health in the public sector have been increasing in the past decade, with doctor and nurse to population ratios of 1:8934 and 1:739 respectively in 2015. There is however persistent inequitable distribution. Whilst the country has made great strides in workforce production it has a number of inequity-related challenges *(94, 95)*, especially

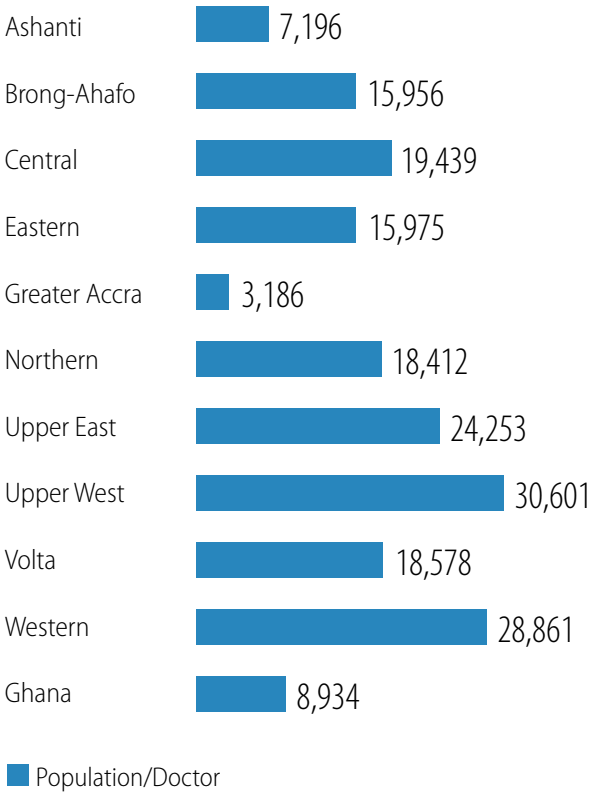
in deprived regions and rural areas, particularly regarding the PHC workforce. Figure 3 depicts the doctor to population distribution by region in 2015 (see also Annex 8).

The PHC system workers who are in peripheral locations express several concerns about delays in their promotions, unfairness in postings, retention for long periods in rural areas, failure to repost them to urban centres, career progression issues, lack of recognition of their contribution, constant rebukes when they make errors, and difficulties in getting the benefits that are due them.

The implementation of strategies to improve retention of human resources has been partially successful in keeping workers in the country, but has proved less effective in ensuring equitable distribution, especially in the PHC system. The additional duty hours allowance that was intended to compensate for workers who had to spend longer hours at the workplace due to health worker shortages has been poorly managed. It turned out to be a salary enhancement for all workers as those on shifts were also benefiting, and it thus resulted in the ballooning of the wage budget. Following negotiations it was replaced with the health sector salary scale, which was enhanced to make it comparable to other civil service workers in 2006. This generally improved retention of the health workforce in the country, but still failed to address employment in deprived or rural areas, as it was based on professional categories and qualifications.

Government efforts to rationalize public sector salaries resulted in the development of the current single spine salary structure *(89)*, which again did not discriminate in favour of those working in deprived and rural areas. It has also failed to link pay to productivity. A staffing structure that assigns senior and more qualified staff to the centre and those with lower grades to deprived and rural areas offers little incentive to work in the periphery, and increases the desire of experienced workers to move from the PHC levels to higher levels, depriving PHC systems of experienced staff. Car loan and car hire purchase

Figure 3. Population per doctor by region, Ghana, 2015



Source: Ministry of Health *(25)*.

schemes have been tried but they did not attract workers to the periphery, as the beneficiaries were few compared to the numbers of staff involved, and after all those in the urban areas were also receiving the same benefits.

A rural incentive package was tried briefly in 2005 but was short lived because it was not well planned or implemented. Some deprived regions and districts have been making various attempts to attract and retain health workers but most of them have been frustrated by resource constraints. Even the current dispensation for staff from the three deprived northern regions to qualify for promotion after a short length of service is not having any impact, because promotions are delayed for several years.

Various recruitment policies have been tried. At one point regions were given quotas and asked to advertise job vacancies in their regions, carry

out interviews and submit qualified workers to be engaged centrally. This failed to work as qualified workers are unwilling to apply for posts in certain regions as they are able to obtain posts in the government systems in the teaching hospitals and the urban areas. In many instances staffing rules are not adhered to, or the high standards set by the new staffing norms *(90)* enable the management of institutions with higher political leverage to engage numbers of highly qualified staff beyond the quotas they are allocated. At times staff are engaged and distributed en bloc, but often those staffing decisions are not enforced, or those with some influence are able to get their postings reversed. This is a matter of concern for district and regional health managers as they are given responsibilities but without the necessary resources and support from policy-makers to implement their mandated tasks. The Ministry of Health together with the Fair Wages Commission have produced conditions of service *(90)* for some categories of health professionals, including medical doctors, nurses, midwives and the allied health professionals, but again these conditions do not in any way provide specific incentives for workers in the periphery.

Many stakeholders observed that the teaching hospitals and urban centres have strong attractions, in comparison to which rural incentives become insignificant. Apart from the usual better physical and social facilities, there are opportunities for workers to earn additional income that outweigh what might be provided through rural incentives, and to attend part-time courses to earn higher qualifications and increase their promotion prospects. In fact, "moonlighting" is reported by many stakeholders to be prevalent among health professionals in the public institutions in the metropolitan and urban centres, with some of them even owning their own private health facilities.

Thus, despite the increased workforce in the public sector, PHC systems still continue to suffer from shortage of numbers and a lack of the skills mix required to provide the full complement of services. Unemployed graduates frequently picket the Ministry of Health agitating for employment, but unless appropriate distribution strategies are adopted, their engagement will not necessarily benefit the PHC system. In fact it might increase the allocation of resources for salaries and reduce the resources available for PHC logistics and operations.

7.4 Conclusions and recommendations

The problem of maldistribution of human resource for health is not peculiar to Ghana – the same problem faces most developing and even some developed countries. It is important to realize, however, that the adoption of appropriate policies can ensure that rural populations have adequate numbers of health workers to provide the essential services for achieving universal coverage. Poor human resources information systems, ineffective performance management and lack of commitment of leaders to implement policies at all levels are major challenges to equitable workforce distribution and low productivity. The revisions to the Ghana human resources policy should give priority to health worker distribution and retention at the district and rural levels.

8. Planning and implementation

8.1 Primary health care policies

Planning and implementation of PHC services in Ghana are guided by general health sector and PHC-specific policies that reflect the health problems and disease burden of the country. The PHC strategy adopted in 1978 is still the thrust of national health policy. As stated in the Medium-Term Health Strategy towards Vision 2020 policy document: "The health service in Ghana will be reorganized in such a way that services provided at the community, subdistrict and district levels adequately meet the basic needs of the majority of Ghanaians." Services at these levels would constitute the primary health services delivered in the context of a District Health System. The objective of this reorganization was to ensure universal access to primary health services. The successor to the Medium-Term Health Strategy – National Health Policy: Creating Wealth through Health *(96)* – was adopted in 2006. It retained the focus on PHC but placed more emphasis on the broader determinants of health, such as lifestyle, nutrition and environment. The CHPS policy and strategy *(97, 98)* specifically provide for comprehensive operationalization of PHC at the community level. Several specific policies under the various health system building blocks provide the standards, packages of services, medium-term strategic plans and guidelines for implementation (see Annex 9).

Most stakeholders expressed the view that there are too many policy documents that have been inadequately implemented, due to the following factors: inadequate dissemination *(99)*, non-inclusive policy development processes for the buy-in of implementers, conflicting policies, and inadequate resources for implementation *(97, 100)*. PHC providers have difficulties in referring to several documents during planning and implementation, and call for a more user-friendly consolidation and simplification of information.

The tendency has also been observed for initiatives to be instigated but then abandoned, even when they have proven to be successful. Example cited included the Strengthening of District Health Systems initiative, the District Health System Operations Programme, the Leadership Development Programme, and the high-impact, rapid delivery approach.

8.2 PHC planning and budgeting processes

There is a strong planning and budgeting culture in the public sector that has evolved over the years commencing with the introduction of the Medium-Term Expenditure Framework in 1998, and continuing with the adoption of a programme-based budgeting approach in 2014. There are, however, concerns about the short interval between the issuance of guidelines and the deadline for submission of plans, which makes it difficult for the planning process to be sufficiently vigorous and analytical. The uncoordinated and parallel planning of the vertical programmes, including donor-supported projects, can increase the workload of those engaged in the health system and interfere with implementation at PHC level.

8.3 Service delivery and performance

The PHC service providers may be classified as public, private non-profit, and private self-financing, with the public sector providing the bulk of the services *(24, 25)*. At each level of the District Health System the public sector has multidisciplinary teams of professional, auxiliary and support workers who provide comprehensive and integrated promotive, preventive, curative and rehabilitative services, with appropriate task shifting as required. These teams also coordinate the activities of the various providers, with varying levels of success.

At the community level one or more trained health workers with a team of volunteers provide integrated

basic PHC services through static clinics at CHPS compounds, outreach services and house-to-house visits for health promotion and defaulter tracing. However, the teams tend to prioritize services that are in the NHIS package where they generate some revenue, with the other services suffering as a result.

At the subdistrict level, subdistrict health teams comprising physician assistants, midwives, clinical and community health nurses, and allied health officers offer a more comprehensive package of primary clinical, public health and maternity services in health centres or polyclinics, and also technical support to the staff at the CHPS zones. Some subdistricts have no health centres, and some of the health centres are not appropriately equipped and staffed to provide the full complement of services; as a consequence many clients are passed on to the hospitals, causing congestion *(101)*.

The district (primary) hospitals are staffed to provide the full range of primary health services, general outpatient and inpatient care, maternity services with comprehensive essential maternal and newborn care, emergency care, diagnostic services, general surgery, primary health services, and dental and eye care. Some districts have no district hospitals, and, as at subdistrict level, some of the district hospitals lack the facilities and staffing for the delivery of the full range of services *(101)*. Some hospitals do not have 24-hour physician coverage to attend to obstetric and surgical emergencies. In 2015, 6.7% (29 out of 431) of public hospitals had functional emergency teams, while 47.8% had mental health service units; 21 of the 216 districts were without a mental health unit *(25)*. E-health and telemedicine, after some initial pilot projects, have been adopted for scale-up in phases across the country to increase access to quality PHC, but modalities for these services to be covered by the NHIS are yet to be worked out.

There is also a referral policy that guides the referral of patients both between and within facilities *(102)*. The policy requires patients to first report at a primary care facility, and outlines the processes for referral and counter-referral between and within levels, with appropriate feedback at each transition of care. The guidance is compromised, however, because providers compete for NHIS clients to generate more revenue by introducing services that are not supposed to be delivered at that level according to the policy. There is also a transport policy that recognizes transport as an important medical tool to increase access to quality PHC services through outreach, supervision, emergency visits, referrals and logistical distribution; however, lack of transport has become a serious constraint across the country, especially in the rural areas. The National Ambulance Service has stations in 60% of the 216 districts, with 60% average vehicle availability, mainly serving the urban areas. The National Ambulance Service faces several challenges, including an inadequate and ageing vehicle fleet with high costs of maintenance, poor roads that endanger low-clearance vehicles, and inadequate funding with frequent shortages of fuel, as a consequence of which those needing ambulance services are sometimes asked to fuel the vehicles, when the service is supposed to be free. Furthermore, there is limited collaboration between the National Ambulance Service and the other service providers to minimize the delays in handling referred emergencies. Some communities adopt their own innovative community emergency transport systems, such as arrangements with transport unions or community-owned and managed tricycle vehicles that can ply the poor rural terrain.

Mental health services have always been integrated into the general PHC system, though lack of personnel and inadequate resources have been major challenges. The creation of the Mental Health Service offers the opportunity for more resources to be allocated to the subsector, but it may lead to further disintegration of the health system as the service is under a different agency. It is hoped that the Mental Health Service and the GHS will collaborate to ensure that the necessary funds and logistics for mental health are made available at the PHC level.

The distribution of the faith-based providers, the majority of which are under the Christian Health

Association of Ghana, has evolved from the geographical spread of the various religions. Their distribution is therefore variable, though they are present in all regions. The private self-financing providers, such as private maternity homes, diagnostic centres, clinics, hospitals and pharmacies, are located mainly in the urban areas, mostly in the two largest cities of Accra and Kumasi, hence their contribution to PHC in rural areas is minimal. Private "chemical sellers" who dispense over-the-counter medicines are widely distributed. Traditional medical practitioners continue to play a key role in primary care, though problems in coordinating and regulating the diverse groups make it difficult to determine their contribution. However, they no doubt provide significant care in the rural areas where health facilities are less accessible, including for some chronic conditions such as hypertension and psychiatric illnesses. Legislation on traditional medicine has provided for a Department of Traditional Medicine under the Ministry of Health, which has developed a traditional and alternative medicine policy, strategic plan, and a pharmacopeia for medicinal herbal products that have proven effective in treating or managing some disease conditions such as asthma, stroke, hypertension, and some cancers, including prostrate and uterine cancer. A pilot has been introduced on integration of herbal medicine into orthodox medicine, with the establishment of herbal clinics within some public hospitals manned by medical herbalists trained up to degree level in one of the public universities.

The findings from the various monitoring mechanisms point to poor compliance with guidelines, especially clinical guidelines. For example, use of the partograph in labour wards, rational use of medicines, and conduct of maternal death audits are unsatisfactory in most institutions. Growth monitoring of children aged under 5 years and cold chain management at some institutions have also been identified as weak. However, the 2014 Ghana Demographic and Health Survey reported that 79% of women and 82% of men interviewed said they had received good service from their most recent visit to a clinic or hospital.

In conclusion, there are well developed PHC policies and programmes, and there has been an improvement in the health workforce situation, but PHC performance is still stagnating. For instance, antenatal care coverage (at least four visits) declined from 72% in 2012 to 63% in 2015, and skilled attendance at delivery and Penta-5 vaccine coverage have remained at around 55% and 85–88% respectively *(25)*. Poor integration of programmes, unsynchronized development of the various elements of PHC, weak performance management systems, low workforce productivity, and inefficiency are some of the factors contributing to this situation *(103)*.

9. Regulatory processes

Quality and safety in PHC may be achieved through a combination of regulation and internal quality assurance and improvement mechanisms. This section examines the regulatory processes overseen by relevant regulatory bodies, and also provides information on internal quality and safety processes.

9.1 Regulation

A number of regulatory bodies are responsible for regulating the health sector and enforcing the relevant laws. The Ghana Standards Authority carries out standardization, inspection, testing, calibration and certification of all products and equipment, and ensures they meet International Organization for Standardization and national standards. In recent years, with the free market, there has been a proliferation of substandard equipment, and the Ghana Standards Authority has been educating providers and encouraging them to regularly recalibrate their equipment, though high recalibration fees discourages most providers. The public sector uses more rigorous procurement processes to weed out suppliers of substandard equipment, though a number of institutions in the private sector have purchased low-cost equipment. The public sector at PHC level depends on bulk national procurement and distribution, but due to shortages some facilities procure equipment from the open market.

The Public Health Act has provisions for disease surveillance and control, quarantine, vector control, tobacco control, vaccination, environmental sanitation, clinical trials, and a patient charter. It also established the Food and Drugs Authority *(104)*. The WHO Framework Convention on Tobacco Control and the International Health Regulations have also been adopted as part of the Public Health Act. The Food and Drugs Authority is responsible for inspecting health product manufacturing facilities; conducting testing and registration; and monitoring and regulating food, medicines, other health products and cosmetics. The Food and Drugs Authority, the GHS and the Pharmacy Council have put in place a pharmacovigilance system to ensure the safety of drugs and medicines, including monitoring adverse drug reactions and adverse effects following immunization. The assessment of Ghana performance in the IHR core capacity areas in 2015 showed a need to further strengthen the points of entry, increase the capacity to manage chemical events, and build capability and preparedness for public health emergencies.

The Health Facilities Regulatory Agency was established by the Health Institutions and Facilities Act No. 829 of 2011 *(105)*. It replaced the Private Hospitals and Maternity Homes Board and has the expanded mandate of inspecting, registering and regulating both public and private orthodox health service delivery providers, though it has less than 10 staff and is housed in temporary premises. It delegates the inspection function to the regional health directorates of the GHS who, after inspection, submit the reports to the agency for final decision. The Health Facilities Regulatory Agency needs strengthening and expansion, at least to the regions, to enable it to be accessible and effective in enforcing quality standards across public and private providers in the future. From 2011 to 2015 the proportion of registered health facilities increased from 19% to 22%. They are mainly private facilities *(25)*. Monitoring after registration is almost non-existent, except where cases are reported in the media or by the public.

The National Accreditation Board inspects, accredits and monitors all tertiary education and training institutions. Certificates awarded by non-accredited institutions are not recognized in the country *(106)*. As at August 2017, 196 tertiary institutions were accredited, including 19 Ministry of Health and nine private nursing training institutions. Other facilities

are upgrading to tertiary status and striving to meet the standards set for accreditation.

The training and practice of allopathic health professionals are regulated by five professional regulatory bodies *(107)*: the Medical and Dental Council, Nursing and Midwifery Council, Pharmacy Council, Allied Health Professions Council and Ghana Psychology Council. The various professional regulatory councils register and regulate the training institutions (public and private), and monitor the professional practice of the respective professionals to ensure the highest standards of training and practice. The Medical and Dental Council, Nursing and Midwifery Council and Pharmacy Council have well established systems, including professional examinations before registration and registration renewal with prescribed continuous professional development course credits. The Medical and Dental Council regulates the training and practice of medical doctors, dentists and physician assistants from its national office and transacts some of its operations online, and is developing e-tools for real-time monitoring of trainees and those in practice. The Medical and Dental Council has observed, through its regular monitoring, falling standards of training and practices, and has instituted measures that have led to a reduction in the intake of medical students over the past few years. The Pharmacy Council, which regulates the training and practice of pharmacists and pharmacy technicians, also conducts regular training for over-the-counter chemical sellers to improve their services to the public.

The Allied Health Professions Council and Ghana Psychology Council were established in the last three years and have no permanent national offices, but they have started establishing systems for their operations, applying lessons from those councils that are already established. The mandate of the Allied Health Professions Council covers the 15 professional groups that fall outside the domain of the Medical and Dental Council, Nursing and Midwifery Council and Pharmacy Council.

The Traditional Medicine Practice Council, established in 2010, has the arduous task of regulating the very diverse groups of traditional and alternative medicine practitioners, along with their facilities and products. It works in close collaboration with the Food and Drugs Authority. Its impact is yet to be felt due to a number of challenges, including the lack of standardized manufacturing practices and adulteration of products with orthodox medicines, slow progress on the development and production of herbal products, uncontrolled advertising, lack of trust and issues of intellectual property.

The main challenges facing the regulatory bodies are inadequate funding, porous borders enabling unauthorized imports of commodities, inadequate capacity for post-registration monitoring and enforcement, and weak collaboration between the regulatory bodies and other stakeholders. It is therefore not surprising that those that generate substantial revenue through their operations are able to expand without being unduly concerned by issues of compliance.

There is a general feeling that the regulatory bodies are beginning to intensify their operations, and there are frequent media reports of seizure and destruction of substandard, fake and expired products, and sanctions have been applied to some health facilities and professionals for malpractice, either through the courts or through outside settlements and payment of compensation. Much, however, still need to be done, and there is a need for coordinating mechanisms to bring efficiency to the operations of the regulatory bodies and reduce transaction costs for their clients.

9.2 Quality and safety

Ghana's efforts to increase access to PHC has always been pursued in conjunction with the quality improvement objective, as reflected in the national health policies, the five-year programmes of work and the more recent health sector medium-term development plans. This objective has been pursued through broad-based quality assurance

and improvement initiatives as well as prioritizing quality pre-service and in-service training of the health workforce, adoption and provision of quality standards and cost-effective interventions, adequate supply of quality health equipment and commodities, and a conducive work environment. The essential drugs list with therapeutic guidelines was first published in 1988, and has since been regularly updated. The seventh edition was published in 2015, with expanded content and title changed to *Standard treatment guidelines*.

The quality of equipment and commodities is assured through central-level procurement from dependable sources. They then pass through regional medical stores and are distributed to the public health service providers. This system has unfortunately been disrupted to a large extent with the destruction of the Central Medical Stores by fire in 2015. A supply master plan is being implemented to reform the system, including development of a framework procurement mechanism by which credible suppliers are selected and certified through a central procurement process. Regions and service providers then procure directly from the approved list of suppliers. It is too early to assess the effectiveness of this system. No system is foolproof, however, and the procurement of substandard condoms was reported by the Food and Drugs Authority in the national newspapers on 16 April 2013.

Several quality assurance programmes and initiatives have been undertaken by various players in the health sector in the past three decades *(108, 109)*. The Ministry of Health published the *Directory of policies, standards, guidelines and protocols* in 2006, which provided a list of the relevant documents produced by the sector *(110)*. The Quality Assurance Department under the Institutional Care Division of the GHS has played a leading role in organizing quality-related conferences, developing the first Quality Assurance Strategic Plan, 2007–2011, and updating the *Directory of policies, standards, guidelines and protocols* for the second edition in 2009 *(111)*. The Ministry of Health developed and launched a National Health Care Quality Strategy document with an implementation plan spanning the period 2017 to 2021, to provide guidance to all health stakeholders in the health sector in the quest for universal access to quality health services, including PHC services.

A mapping of quality health care interventions in Ghana reported 489 interventions since 1988 *(112)*. About 30% of them were protocols and guidelines, 22% were policies and strategies, 15% related to health information, 14% were development and staff training manuals, 8% were regulations and 3% concerned health services organization. The authors concluded that Ghana had made significant efforts in developing guidelines and policies and conducting in-service training, and to some extent in the areas of supervision, monitoring and evaluation. They noted, however, that less effort had been made in developing processes and systems, and in involving communities and service users.

These finding are supported by the findings from the stakeholder consultations for this study. There is a need to address the challenges identified, including the considerable gap between available knowledge materials and their dissemination and use, negative staff attitudes, poorly functioning emergency systems, and inefficient institutional and management systems.

10. Information and monitoring systems

Effective information systems generate timely relevant information for decision-making at all levels of the health system, including PHC. The monitoring systems track the resource generation and conversion processes, with feedback mechanisms for necessary adjustments to ensure the achievement of the desired results. Such a system depends heavily on the information system, and in turn feeds back into the information system. The information and monitoring systems form key components of the accountability system.

10.1 PHC information system

PHC information is an integral part of the national health information system and may be classified into four components: service delivery, financial, human resources and logistics. These exist as a mixture of paper- and electronic-based stand-alone systems, and are complemented by periodic surveys and research on pertinent issues *(113)*.

An integrated Internet-based electronic District Health Information Management System (DHIMS2) replaced the routinely summarized paper-based service delivery subsystem in 2012. The data are accessible in real time to service providers, managers and policy-makers at all levels by authorization. As at the end of 2016 more than 90% (6828) of health service delivery facilities (public and private) in the country were on the platform. The service data completeness, timeliness and data quality have improved significantly through regular capacity-building, technical support and feedback, except that the human resources, financial and logistics summary data are rarely registered, making the information incomplete. It is the main source of service delivery data for the health sector, and feeds into the annual performance reviews and holistic assessments. However, many stakeholders acknowledge that its potential is underutilized at all levels. The GHS has started training district teams in the analysis of the data to provide information but the impact is yet to be seen. If relevant data are entered into all the modules, the 25 Primary Health Care Performance Initiative indicators could be generated *(114)*. The interest and commitment of the heads of DHMTs and health facilities and the insistence of higher-level managers is critical to improving the completeness and use of the database.

One limitation of the database is that it does not capture individual client data to support client management, hence the need for electronic medical records that can be linked to it. Most health facilities still use paper-based medical records systems, except for a few GHS and Christian Health Association of Ghana hospitals, which have systems primarily for electronic submission of their insurance claims to the National Health Insurance Authority. The GHS hospitals are using iHost, developed from an open-source electronic medical records system that is compliant with the National Health Insurance Authority electronic claims software, while the Christian Health Association of Ghana hospitals use the Hospital Administration Management System, a locally developed software. These software systems are, however, yet to be configured to automatically feed into the DHIMS database to avoid the current situation whereby the data summaries are entered manually into DHIMS2 with the risk of entry errors. The GHS is also piloting online and offline versions of e-tracker software, a transactional case-based data software for capturing the data at service delivery points that can be automatically uploaded on the DHIMS2 platform when online. There is need for the Ministry of Health and GHS to work with key stakeholders to provide policy direction for the adoption of appropriate electronic systems that serve the purpose of client management, and can automatically feed into the DHIMS2 and the National Health Insurance Authority electronic claims systems.

There exists a national Integrated Disease Surveillance and Response system *(115)*, comprising facility-based surveillance linking to all levels of the health system, including a community-based surveillance component using community-based surveillance volunteers. It evolved from a primary focus on 23 communicable diseases to 45 conditions covering both communicable and noncommunicable conditions. The results of the assessment of the core competencies for surveillance and response provided under the International Health Regulations were 80% and 88% respectively. There are however some weaknesses, especially from the district to the community levels *(116)*. This also evidenced by the protracted annual cholera outbreaks in recent years in the country. The facility-based reporting is regular but is poorly supported by follow-up actions. The community-based surveillance system, which played a key role in the eradication of guinea-worm disease in Ghana, has become less effective, with most volunteers not reporting, and there is no monitoring of their performance. This is attributed to several factors, including low prioritization of the Integrated Disease Surveillance and Response system at district and institutional levels, lack of technical capacity, inadequate logistics, and lack of regular in-service training.

The country has a good record of periodically conducting surveys to provide relevant data for planning and performance in the social sector, including the health sector. Population and household surveys *(6)* have taken place at 10-year intervals since the 1960s, supplemented by six Demographic and Health Surveys *(7)* since 1988, Multiple Indicator Cluster Surveys *(20)*, six rounds of Ghana Living Standards Surveys *(15–17)*, periodic EPI cluster surveys, in-depth reviews and commissioned research works *(21)*. The findings from these have informed the development of programmes over the years, and have also contributed to the statistics provided in this report. Most of the surveys are carried out by local professionals, with some technical assistance from abroad, which has helped to build local capacity. The Research Division of the GHS and the three research centres, together with the universities and other research institutions, have the capacity to conduct quality research to inform policy and programme implementation; however, government funding for research is almost non-existent. There are several examples of primary-level research contributions to policy and programme implementation, including CHPS policy, vitamin A supplementation, and changes in antimalarial and yaws drugs policies. Attempts to build research capacities in the regions and districts have achieved partial success. Three zonal research centres have been established, and some regions have established research units. The major challenge is inadequate funding. Most funding for such enterprise has come from foreign donors; however, development support is dwindling, and the health sector is not fulfilling its own target of spending at least 1% its budget on research.

10.2 PHC monitoring system

The PHC monitoring system is an important component of the health sector monitoring and evaluation system. The health sector medium-term development plans and the various technical strategic plans have monitoring and evaluation frameworks *(117)* with performance indicators and targets that are regularly monitored through the DHIMS2 database, the various reporting systems, monitoring visits, peer reviews and periodic review meetings at all levels. The national level uses a broad range of sectorwide indicators to monitor sector plans and programmes, and programme-specific indicators assess programme performance at the various levels. Some of these indicators are obtained from the DHIMS2 database and management reports. The others are derived from the Demographic and Health Surveys, Multiple Indicator Cluster Surveys, Ghana Living Standards Surveys and special studies.

As part of the CMAs with health partners, annual reviews start at the facility level through the district and regional levels to the agency level, and the reports feed into a holistic assessment of the sector. This culminates in the annual health summit, a forum

gathering a broad representation of stakeholders to review the sector performance, agree on actions to be taken, and sign an aide-memoire as a commitment to undertake certain actions during the next period. The Ministry of Health together with the Health Sector Working Group also conducts joint monitoring visits to the regions twice a year.

The Ministry of Health and GHS have monitoring and evaluation frameworks *(117, 118)* that use a set of sectorwide indicators to monitor performance at all levels of the PHC system. The Policy, Planning, Monitoring and Evaluation Division of the GHS analyses the data in the DHIMS2 and presents regional performance in a league table. This is given to the regions as feedback and shared with other stakeholders. This is expected to be replicated at the regional and district levels. While the Policy, Planning, Monitoring and Evaluation Division consistently carries out this task each month, similar feedback does not take place from regions to districts and from districts to subdistricts. Reasons given are lack of capacity, high workload, inadequate logistics and low prioritization of information management. The frustration expressed by the district information officer in Sissala East district during the stakeholder meeting illustrates the point: "I have been working here for the past eight years and I have been using my own laptop. … What they care is me submitting reports, and when you make a mistake or do not meet the deadline they say you are not performing."

The well funded programmes, such as those for malaria, tuberculosis and HIV/AIDS, conduct regular monitoring and technical support visits and sometime data validation exercises to the lower levels, whilst the poorly funded programmes hardly carry out regional visits. As one regional-level health manager stated: "Diseases ascribed as programmes have funding and those without funding are classified as neglected diseases." Integrated monitoring would ensure that the poorly funded areas would be accommodated. The poorly funded programmes are not given priority by the senior officers, who often send their subordinates to deal with issues. The regions complained about the poor calibre of the officers who come to monitor their work. Monitoring visits from regions to districts are relatively well organized and regular, but again the problems identified are often not addressed and are continually reported in subsequent visits. The lack of a structured system for implementing the recommendations of monitoring visits is seen as a key failing at all levels.

The main thrust of PHC monitoring is from the districts to the subdistricts and from the subdistricts to the CHPS zones, and monitoring community feedback. Monitoring in many of the districts is irregular and of poor quality due to a number of factors, including lack of motivation and prioritization, lack of the required competencies, and inadequate transport and other logistics. The transport problem is acknowledged at national level and efforts are being made to address it, but any solution requires huge financial outlay. The hire vehicle purchase mechanism, which enabled some health facilities to procure vehicles and pay by instalment, has broken down due to central-level mismanagement. Generally the PHC information and monitoring systems have the appropriate framework for supporting achievement of the PHC goals, but the areas of good practice are not scaled up due to leadership failings and inadequate resources. However, in overall comparison with other sectors, the health sector is highly commended for its relatively robust and inclusive monitoring and evaluation system (see Annex 10 for further information).

11. Way forward and policy considerations

Ghana has implemented PHC policies, programmes and processes that have contributed to improvement in the population's health status, though MDGs 4 and 5 were not achieved. Other African countries have achieved successes through the adaptation of some of the country's innovative strategies, further proof that the system can deliver with the appropriate policies and reforms and a well-coordinated implementation mechanism. The country's deconcentrated and integrated health delivery system, a robust sector stakeholder engagement, especially with development partners, and the implementation of the two flagship programmes – CHPS and NHIS – provide the foundation for an effective and efficient PHC delivery system that can achieve the Sustainable Development Goal health targets and move the country towards universal health coverage. The following way forward and recommendations are presented, by domain area.

11.1 Health financing

The serious financial challenges facing the NHIS are leading to a loss of confidence in the flagship scheme, hence the need to urgently act on the NHIS review report and reform the scheme to ensure its sustainability *(119)*. These reforms should prioritize and promote the delivery of comprehensive and integrated PHC services. Second, the health sector financing strategy and implementation plan have the relevant components for improving the financing of PHC services, and the implementation plan should be pursued with greater vigour.

11.2 Human resources

First, the Ministry of Health and GHS should provide the regions and districts with the necessary backing to equitably distribute the public health workforce based on the gap analysis. Second, the employment of new health workers should be based on vacancies to be filled, giving priority to the lower levels. The lower salary scales of the workforce at the PHC level will enable larger numbers to be employed, with fewer senior-level employees as supervisors, leading to budget savings. The strategy to decentralize the human resources budget should be fast-tracked to avoid abuse of the appointment and deployment system. Third, the regions should be strengthened as centres for training and continuous capacity-building, leading the development of new PHC initiatives, catalysing scale-up of proven effective initiatives, and providing technical backstopping for district health services. For this purpose the two remaining regions should be provided with in-service training centres, and all of the regions resourced with the necessary infrastructure, transport and capacity-building of competent pool facilitators in the various disciplines. This will go a long way to increasing access to in-service training and reduce the cost of conducting training in hotels and using many facilitators from outside the regions. Finally, the Ministry of Health and GHS should adopt a comprehensive human resources information system linked to the DHIMS2 database for both the public and private sectors. This should be followed up with revamping of the Ghana health workforce observatory, taking into consideration the factors that brought about the failure of the previous attempts.

11.3 Planning and implementation

The CHPS policy, the implementation guidelines and a business plan have been developed; the Ministry of Health, GHS and development partners should now work with the MMDAs and other stakeholders to accelerate implementation, prioritizing the deprived and rural areas as a matter of urgency. Second, the districts should be supported to conduct infrastructure and equipment gap analysis for the development of comprehensive district health development plans for achieving universal health coverage, of sufficient quality to encourage the participation of all stakeholders. The harmonization and synthesis of these plans should inform the

next health sector medium-term development plan. Priority should be given to the construction, rehabilitation and equipping of CHPS compounds, health centres and hospitals in underserviced and rural areas to increase access to comprehensive integrated PHC services. This should be followed by the development of integrated district annual work plans, with the involvement of all key stakeholders. Third, the huge documentation on best practices from various projects should be widely disseminated, and regional and district health managers should show initiative by adapting and scaling up some of these in their districts to improve access to PHC services. All managers at all levels should support the recently introduced framework procurement system for health logistics. The necessary funds should be released to improve the logistics information management system, including the scale-up of the logistics early warning system.

11.4 Governance and leadership

Competent leadership is required to drive the implementation of the several proven effective interventions and initiatives that are currently being patchily implemented. First and foremost, the leadership challenges identified at the various levels should be addressed by various strategies, including competency-based selection methods rather than a focus on paper qualifications; planned leadership succession planning; and continuous, practically oriented, onsite and offsite team-based leadership and management development programmes with special attention to DHMTs, subdistrict health teams and health facility management teams. These should be facilitated by experienced resource persons tailored to local needs and circumstances. Facilitative supervision and mentorship should be promoted, scaled up and institutionalized at all levels.

Next, a cautious approach is needed regarding the government decentralization policy, as the current deconcentrated structures have the ingredients for the MMDAs and communities to play their roles and make health service providers accountable to them. If this is not happening it is not because of failure to provide the resources directly, but because of the lack of the capacity of MMDAs to hold such officers to account, and to follow the established channels for sanctions to be applied if necessary. This lack of capacity was acknowledged by stakeholders at all levels. What is urgently required is for the MMDAs to take the lead to revamp and strengthen the governance structures at district, subdistrict and CHPS zone levels and use them as instruments of accountability to MMDAs and communities, for which purpose they were created. The Ministry of Health and GHS should engage the MMDAs more on these matters, as well as on matters related to PHC in general, in order to enhance lower-level empowerment and ownership on health issues. In that regard, there is a need to review the membership and lifespan of these structures to ensure they are adapted to local needs and that they continue to performance effectively even when there is a change of government.

The third area of governance reform is at the national level. This is the most difficult area in which to engage, but it is critical to the long-term development of a robust, integrated, comprehensive PHC system as a foundation of the National Health System. It impacts all the elements of PHC, and should therefore be discussed rationally with an avoidance of personal positions and "turf wars". The health sector has grown top heavy with the proliferation of agencies and vertical programmes after the initial reforms in the 1980s and 1990s that were aimed at establishing a slim but robust central level to provide strategic direction, and expanded and strong regional and district systems for accelerated programme implementation. The current situation has negatively impacted PHC delivery, as shown by information obtained from records, key informants and stakeholders. There is a tendency for the central level to draw experienced workers from the periphery to fill the numerous vacancies created by the many agencies; to increase the central-level retention and management of resources; and to develop incoherent and sometimes conflicting policies emanating from the different agencies. The "90% policy-making and

10% implementation" phenomenon observed and expressed by many stakeholders at all levels is one of the consequences of this approach, as more and more resources are spent maintaining the huge structures and large workforce centrally in the name of development of policies and guidelines, and less and less resources are allocated to lower-level implementation. It is therefore recommended, as part of the PHC policy reforms, that the central level should be restructured in light of these challenges. The restructuring should ensure the establishment of a technical agency that can provide a well coordinated technical direction and support to the regions and districts, and at the same time provide evidenced-based advice to policy-makers in a timely fashion. It should take into account the direction of the sector decentralization and realignment of the numerous regulatory agencies for effectiveness and efficiency.

11.5 Health information and monitoring systems

The health sector should study the IBM report and recommendations *(120)* on developing an electronic health information architecture to guide the adoption of a comprehensive system that satisfies both public and private stakeholders, and provides relevant and timely information for decision-making at all levels.

References

1. Report of the Expert Consultation on Primary Care Systems Profiles and Performance. Alliance for Health Policy and Systems Research, Bill & Melinda Gates Foundation, World Health Organization; 2015.
2. World health report. Geneva: World Health Organization; 2008.
3. Pettigrew L, De Maeseneer J, Anderson M, Essuman A, Kidd M, Haines A. Primary health care and the Sustainable Development Goals. Lancet. 2015;386(10009):2119–21.
4. Primary Health Care Performance Initiative. Briefing document for Measurement and Accountability for Health Summit, June 2015.
5. Bennett S, Peters DH. Assessing national health systems: why and how. Health Systems and Reform. 2015;1(1):9–17.
6. Ghana Population and Housing Census, 2010. Ghana Statistical Service; 2010.
7. Ghana Demographic and Health Survey, 2014. Ghana Statistical Service, Ghana Health Service, ICF International; 2015.
8. World statistics pocketbook: 2016 edition. United Nations, Department of Economic and Social Affairs, Statistics Division; 2016 (https://unstats.un.org/unsd/publications/pocketbook/files/world-stats-pocketbook-2016.pdf, accessed 15 January 2018).
9. National Ageing Policy: ageing with security and dignity. Government of Ghana, Ministry of Employment and Social Welfare; 2010.
10. Kwankye SO. Growing old in Ghana: health and economic implications. Postgraduate Medical Journal of Ghana. 2013;2:2.
11. National Youth Policy of Ghana. Theme: towards an empowered youth, impacting positively on national development. Government of Ghana, Ministry of Youth and Sports; 2011.
12. Africa statistical yearbook, 2016. African Development Bank, African Union Commission, Economic Commission for Africa; 2017.
13. Managing Ghana's population: an overview. Accra, Ghana: National Population Council Secretariat.
14. Government of the Republic of Ghana. National Programme for Economic Development (revised). Accra, Ghana: Ghana Publishing Corporation, Assembly Press; 1987.
15. Ghana Living Standards Survey: report of the fourth round (GLSS4). Accra: Ghana Statistical Services; 2000.
16. Ghana Living Standards Survey: report of the fifth round (GLSS5). Accra: Ghana Statistical Services; 2005.
17. Ghana Living Standards Survey: report of the sixth round (GLSS6). Accra: Ghana Statistical Services; 2014.
18. Global burden of disease profile: Ghana. Institute for Health Metrics and Evaluation; 2010 (http://www.healthdata.org/sites/default/files/files/country_profiles/GBD/ihme_gbd_country_report_ghana.pdf, accessed 16 January 2018).
19. Ghana health data. Institute for Health Metrics and Evaluation (http://www.healthdata.org/Ghana, accessed 16 January 2018).
20. Ghana Multiple Indicator Cluster Survey: final report. United Nations Children's Fund; 2011.
21. Report of the Ghana Urban Malaria Study. JSI Research & Training Institute, Inc.; 2013 (http://www.jsi.com/Independent/Docs/GhanaUrbanMalariaStudy.pdf, accessed 16 January 2018).
22. Ghana Neglected Tropical Diseases Programme: Master Plan – Five-Year Strategic Plan, 2013–2017. Ghana Health Service, Public Health Division; 2013.
23. The health of the nation: reflections on the first Five Year Health Sector Programme of Work 1997–2001. Accra: Government of Ghana, Ministry of Health; 2001.
24. 2014 holistic assessment report. Accra: Government of Ghana, Ministry of Health; 2014.
25. 2015 holistic assessment draft report. Accra: Government of Ghana, Ministry of Health; 2015.
26. United Nations Maternal Mortality Estimation Inter-agency Group. Trends in maternal mortality 1990–2015. WHO, UNICEF, UNFPA, World Bank Group and United Nations Population Division; 2015.
27. World economic outlook database: Ghana. International Monetary Fund (https://knoema.com/IMFWEO2017Oct/imf-world-economic-outlook-weo-database-october-2017?country=1000620-ghana, accessed 16 January 2018).
28. Public financing for health in Africa: from Abuja to the SDGs. WHO/HIS/HGF/Tech.Report/16.2. Geneva: World Health Organization; 2016.

29. Atlas of African health statistics 2016: health situation analysis of the African Region. African Health Observatory; 2016 (http://apps.who.int/iris/bitstream/10665/206547/1/9789290232919.pdf, accessed 16 January 2018).

30. Indicator library. Primary Health Care Performance Initiative (https://phcperformanceinitiative.org/content/indicator-library, accessed 16 January 2018).

31. Tracking universal health coverage: first global monitoring report. World Health Organization and World Bank; 2015 (http://apps.who.int/iris/bitstream/10665/174536/1/9789241564977_eng.pdf, accessed 16 January 2018).

32. The Danfa Comprehensive Rural Health and Family Planning Project, Ghana: final report. University of Ghana Medical School and University of California, Los Angeles; 1979.

33. Ghana Medium Term Health Strategy. Accra: Government of Ghana, Ministry of Health; 1996.

34. Adjustments in Africa: reforms, results, and the road ahead. Washington (DC): World Bank; 1994.

35. Hospitals Fees Regulations, 1985: Legislative Instrument 1313. Accra: Government of Ghana, Ministry of Health; 1985.

36. Waddington C, Enyimayew KA. A price to pay, part 1: the impact of user charges in Ashanti-Akim district, Ghana. International Journal of Health Planning and Management. 1989;4:17–47.

37. Waddington C, Enyimayew KA. A price to pay, part 2: the impact of user charges in the Volta region of Ghana. International Journal of Health Planning and Management. 1990;5:287–312.

38. Primary Health Care Module 2: situation analysis, Ghana. Accra: Government of Ghana, Ministry of Health; 1990.

39. National Policy Guidelines on Immunization in Ghana. Accra: Government of Ghana, Ministry of Health; 2016.

40. Constitution of the Republic of Ghana. Republic of Ghana; 1992.

41. Ghana Vision 2020: the First Medium-Term Development Plan 1997–2000. Republic of Ghana; 1997.

42. Health Sector Five-Year Programme of Work, 1997–2001. Accra: Government of Ghana, Ministry of Health; 1996.

43. Second Health Sector Five-Year Programme of Work: partnership for health – bridging the inequalities gap, 2002–2006. Accra: Government of Ghana, Ministry of Health; 2002.

44. Third Health Sector Five-Year Programme of Work, 2007–2011. Accra: Government of Ghana, Ministry of Health; 2007.

45. Addai E, Gaere L. Capacity-building and systems development for sector-wide approaches (SWAps): the experience of the Ghana health sector. 2001.

46. Common Management Arrangements for implementation of the Medium-Term Programme of Work, 1997–2001. Accra: Government of Ghana, Ministry of Health; 1996.

47. Common Management Arrangements (CMA II) for the implementation of the Second Health Sector Five-Year Programme of Work, 2002–2006. Accra: Government of Ghana, Ministry of Health; 2002.

48. Common Management Arrangements (CMA III) for the implementation of the Third Health Sector Five-Year Programme of Work, 2007–2011. Accra: Government of Ghana, Ministry of Health; 2006.

49. Human resources development implications and plans, 1997–2001. Accra: Government of Ghana, Ministry of Health, Human Resources Development Division; 1997.

50. Human resource policies and strategic document for human resource for health, 2002–2006. Accra: Government of Ghana, Ministry of Health.

51. Human resource policies and strategies for the health sector, 2007–2011. Accra: Government of Ghana, Ministry of Health.

52. The Navrongo Community Health and Family Planning Project: lessons learned 1994–1998. Navrongo Health Research Centre; 1999.

53. Phillips JF, Bawah AA, Binka FN. Accelerating reproductive and child health programme impact with community-based services: the Navrongo experiment in Ghana. Bulletin of the World Health Organization. 2006;84:949–55.

54. Community-based Health Planning and Services handbook. Accra: Government of Ghana, Ministry of Health; 1999.

55. Community-based Health Planning and Services (CHPS): the strategy for bridging the equity gaps in access to quality health services. Accra: Government of Ghana, Ministry of Health; 2002.

56. Community-based Health Planning and Services (CHPS): the operational policy. Ghana Health Service; 2005.

57. The health of the nation: reflections on the First Five-Year Health Sector Programme of Work 1997–2001. Accra: Government of Ghana, Ministry of Health; 2001.

58. Ghana Poverty Reduction Strategy. Ghana: National Development Planning Commission; 2003.
59. Growth and Poverty Reduction Strategy (GPRS II), 2006–2009. Ghana: National Development Planning Commission; 2005.
60. Ghana Poverty Reduction Strategy: a framework for action in the Ghana Health Service. Ghana Health Service; 2003.
61. Health sector response to Ghana Poverty Reduction Strategy (GPRS). Ministry of Health, Ghana Health Service; 2004.
62. In-depth review of the Community-based Health Planning and Services (CHPS) programme. Accra: Government of Ghana, Ministry of Health; 2009.
63. Accelerated Child Survival and Development: Ghana report. United Nations Children's Fund; 2008.
64. National Health Insurance Act No. 650. Accra: Government of Ghana, Ministry of Health; 2003.
65. National Health Insurance Regulation No. LI 1809. Accra: Government of Ghana, Ministry of Health; 2004.
66. The medium-term development framework: Ghana Shared Growth and Development Agenda (GSGDA) 2010–2013. Accra: Government of Ghana, National Development Planning Commission; 2010.
67. The medium-term development framework: Ghana Shared Growth and Development Agenda (GSGDA) II, 2014–2017, Vol. I: policy framework. Accra: Government of Ghana, National Development Planning Commission; 2014.
68. The Health Sector Medium-Term Development Plan 2010–2013. Accra: Government of Ghana, Ministry of Health; 2009.
69. The Health Sector Medium-Term Development Plan 2014–2017. Accra: Government of Ghana, Ministry of Health; 2013.
70. Local Government Act No. 656, 2003. Republic of Ghana; 2003.
71. Local Government Act No. 462, 1993. Republic of Ghana; 1993.
72. Ghana Health Service and Teaching Hospitals Act No. 525, 1996. Republic of Ghana; 1996.
73. Common Management Arrangements for implementation of the Health Sector Medium-Term Development Plan, 2014–2017. Accra: Government of Ghana, Ministry of Health; 2014.
74. Common Management Arrangements for implementation of the Health Sector Medium-Term Development Plan. Accra: Government of Ghana, Ministry of Health; 2010.
75. Collection of good practices: the Upper West experience in improving maternal and neonatal health services. Ghana Health Service and Japan International Cooperation Agency; 2016.
76. Awoonor-Williams JK, Sory EK, Nyonator FK, Phillips JF, Wang C, Schmitt ML. Lessons learned from scaling up a community-based health program in the Upper East region of northern Ghana. Global Health: Science and Practice. 2013;1(1):117–33.
77. Gottret P, Schieber G. Health financing revisited: a practitioner's guide. Washington (DC): World Bank; 2006.
78. National Health Accounts, 2012 and 2015. Accra: Government of Ghana, Ministry of Health.
79. Ghana Health Financing Strategy. Accra: Government of Ghana, Ministry of Health; 2013.
80. Health sector holistic assessment report, 2016. Accra: Government of Ghana, Ministry of Health; 2016.
81. 2012 annual report. National Health Insurance Authority; 2012.
82. 2013 annual report. National Health Insurance Authority; 2013.
83. Proposed redesign and restructuring of the National Health Insurance Scheme: final draft of main report. Presidential NHIS Committee; 2016.
84. Schieber G, Cashin C, Saleh K, Lavado R. Health financing in Ghana. Washington (DC): World Bank; 2012.
85. Global Health Workforce Alliance. A universal truth: no health without a workforce. Report of Third Global Forum on Human Resources for Health, Recife, Brazil. Geneva: World Health Organization; 2014 (http://www.who.int/workforcealliance/knowledge/resources/hrhreport2013/en/, accessed 18 January 2018).
86. Global Strategy on Human Resources for Health: Workforce 2030. Geneva: World Health Organization; 2016.
87. National Policy on Human Resources for Health. Accra: Government of Ghana, Ministry of health; 2012.
88. A manual on in-service training policy and guidelines for implementation. Accra: Ghana Health Service; 2006.
89. Oppong S, Dickson E, Asumeng M. Implementation of single spine pay policy in public sector of Ghana: analysis and recommendations from organizational development perspective, Prihvaćeno za tisak. 25 November 2015.

90. Staffing norms for the health sector: volume I. Accra: Government of Ghana, Ministry of Health; 2015.
91. Policies and principles for development of human resources for health: 1997–2001. Accra: Government of Ghana, Ministry of Health; 1997.
92. Human resources for health: strategies and implementation plans. Accra: Government of Ghana, Ministry of Health; 2013.
93. Acquah S. Human resources for health projections for the Ghana health sector. Accra: Government of Ghana, Ministry of Health; 2016.
94. Medium-Term Health Strategy towards Vision 2020. Accra: Government of Ghana, Ministry of Health; 1999.
95. Annual report 2015. Accra: Ghana Health Service; 2015.
96. National Health Policy: Creating Wealth through Health. Accra: Government of Ghana, Ministry of Health; 2006.
97. National Community-Based Health Planning and Services Policy, 2016 revised edition. Accra: Government of Ghana, Ministry of Health; 2016.
98. Community-Based Health Planning and Services: implementation guidelines, 2016 revised edition. Accra: Government of Ghana, Ministry of Health; 2016.
99. Private Health Sector Development Policy, 2nd edition. Accra: Government of Ghana, Ministry of Health; 2013.
100. Private Health Sector Policy. Accra: Government of Ghana, Ministry of Health; 2003.
101. National assessment for emergency obstetric and newborn care report. Accra: Government of Ghana, Ministry of Health; 2011.
102. Referral policy and guidelines. Accra: Government of Ghana, Ministry of Health; 2012.
103. Health service provision in Ghana: assessing facility capacity and costs of care. Seattle: Institute for Health Metrics and Evaluation; 2015.
104. Public Health Act No. 851, 2012. Accra: Government of Ghana, Ministry of Health; 2012.
105. Health Institutions and Facilities Act No. 829, 2011. Accra: Government of Ghana, Ministry of Health; 2011.
106. National Accreditation Board Act No. 744, 2007. Government of Ghana; 2007.
107. Health Professionals Act No. 857, 2013. Accra: Government of Ghana, Ministry of Health; 2013.
108. Haran D, Dovlo D, Offei A. The quality of care in hospitals and health centres in Eastern Region, Ghana: a view from the patients. Research report, Eastern region, Ghana; 1994.
109. Conceptualization of quality of care in the Upper West region: an update. Health Sector Support Programme, Upper West region; 1998.
110. Directory of policies, standards, guidelines and protocols: first edition. Accra: Government of Ghana, Ministry of Health; 2006.
111. Directory of policies, standards, guidelines and protocols: second edition. Accra: Government of Ghana, Ministry of Health; 2009.
112. Escribano-Ferrer B, Cluzeau F, Cutler D, Akufo C, Chalkidou K. Quality of health care in Ghana: mapping of interventions and the way forward. Ghana Medical Journal. 2016;50(4):238–47.
113. Medical records policy. Accra: Government of Ghana, Ministry of Health; 2008.
114. PHC vital signs indicators. Primary Health Care Performance Initiative (https://www.phcperformanceinitiative.org/sub-saharan-africa/ghana, accessed 19 January 2018).
115. Technical guidelines: Integrated Disease Surveillance and Response Ghana, 2nd edition. Accra: Government of Ghana, Ministry of Health; 2011.
116. Issah K, Nartey K, Amoah R, Bachan EG, Aleeba J, Yeetey E et al. Assessment of the usefulness of integrated disease surveillance and response on suspected Ebola cases in the Brong-Ahafo region, Ghana. Infectious Diseases of Poverty. 2015;4:17.
117. Ghana Health Sector Monitoring and Evaluation Framework, 2014–2017. Accra: Government of Ghana, Ministry of Health; 2014.
118. Ghana Health Service Monitoring and Evaluation Plan, 2014–2017. Accra: Ghana Health Service; 2013.
119. Restructuring of the National Health Insurance Scheme: final draft of main report. Presidential NHIS Technical Review Committee; 2016.
120. Eradication of mother to child transmission (EMTCT) of HIV in Ghana: final report. Ghana Health Service, Yale University, IBM.

Annex 1. Summary profiles of key informants

No.	Name and position	Main area of expertise	Further remarks
1.	Dr Moses Komila Adibo Senior Consultant, Allies in Health and Development	Health development and evolution of PHC in Ghana Governance and leadership Health service organization Health planning and administration Health sector reforms	One of the original drafters of Ghana's first PHC strategy in 1978 and led its implementation Served in a number of managerial positions in the Ministry of Health; Deputy Minister of Health 1998–2000
2.	Dr Emmanuel Nonaka Mensah Director-General of GHS, 2000–2003 (retired)	Health system development in the country Traditional and alternative medicine	One of Ghana's representatives at Alma-Ata PHC Conference, 1978 Served in a number of managerial positions in the Ministry of Health First Director-General of GHS
3.	Dr Kofi Ahmed Lecturer, Mount Crest University College	Health programme development and implementation Health service organization Epidemiology and disease control Human resources development Health regulations	Epidemiologist; was key player in the health sector reforms in the late 1980s and 1990s
4.	George Amofah Consultant to local and international organizations	Health service organization Health programme development and implementation Epidemiology and disease control	Served as medical officer at various levels, and as Deputy Director-General of GHS
5.	Dr Samuel Akortey Akor Lecturer, Mount Crest University College	Health human resource sand systems development NHIS Private health training institutions	Former Executive Secretary of NHIS Former Director in Ministry of Health Lecturer and administrator in health training institutions, including Kwame Nkrumah University of Science and Technology Medical School
6.	Dr Alex Koshie Nazzer World Bank	Health developments in Ghana Development projects	Was principal investigator of the Navrongo Community Health/Family Planning Project
7.	Dr Chris Atim Executive Director of Africa Health Economists and Policy Association International consultant, providing technical assistance for NHIS in Ghana and Nigeria	Health financing in Ghana and elsewhere in Africa Community-based health financing Health economics	Was leader of the presidential committee to review NHIS Technical team leader piloting public-private partnership network
8.	Dr McDamien Dedzo Systems for Health (S4H)	Human resources Health service organization and District Health System Work with development partners	Former Director of Human Resources, GHS Worked with Ministry of Health and GHS in five regions
9.	Robert Kurugu Ajene Educationist and administrator (retired)	School health Governance and leadership Local government	Former Regional Health Committee chair, Upper East region
10.	Ms Alice Vorleto Municipal Director of Health Services, Kintampo North Municipal Assembly, Brong-Ahafo region	District Health System Planning and implementation	Public health nurse

Continues…

Continued from previous page

No.	Name and position	Main area of expertise	Further remarks
11.	Dr Buabeng-Frimpong Head, Centre for Health Information Management	Planning and implementation ICT	Former medical superintendent, Kwahu East district, Eastern region
12.	Dr Yaw Adusei-Poku Director, Tema General Hospital, Greater Accra region	Human resource for health Service organization Planning and implementation Health professionals associations	Former President of Ghana Medical Association
13.	Dr Andrews Ayim Municipal Director of Health Services, Keta Municipal Assembly, Volta region, and Chair of District Directors of Health Services Group	All elements of the PHC system	
14.	Dr Emmanuel Ankrah Odame Director, of Policy, Planning, Monitoring and Evaluation Division, Ministry of Health	Policies, planning, monitoring and evaluation systems	
15.	Dr Kaba Akoriyea Director, Institutional Division, GHS	Policies, planning, and implementation of clinical services Leadership and governance	
16.	Dr Koku Awoonor Director, Policy, Planning, Monitoring and Evaluation Division, GHS	Health governance and leadership Policies, planning, and implementation	Former District Director and Regional Director Has done extensive work on CHPS
17.	Dr Kyei-Faried Head, Disease Control Department, Public Health Division, GHS	Planning and implementation Health programmes Leadership and governance	
18.	Dr Anthony Ofosu Deputy Director, Information, Mentoring and Evaluation Department, Policy, Planning, Monitoring and Evaluation Division, GHS	Information, monitoring and evaluation ICT and telemedicine	
19.	Mr Dan Osei Deputy Director, Budget, Ministry of Health	Planning and budgeting National Health Accounts	Health financing, budget responsibilities in GHS
20.	Dr Sagoe Consultant, Ministry of Health	Human resources and health system development Quality assurance	Former Chief Executive, Tamale Teaching Hospital, and Human Resources Director in GHS
21.	Mr Seth D. Acquah Human resources consultant	Human resource for health Health sector reforms	Former Deputy Director, GHS
22.	Mr Alhaji Saed S. Al-Hussein Private consultant	Human resources development in Ghana	Former Deputy Director for training, GHS
23.	Dr Asabri Deputy Director, Human Resources Division, Ministry of Health	Human resources policies and strategies	
24.	Dr Margaret Chibere Director, Human Resources Development Division, GHS	Human resource operational policies (training and management)	Nurse by professional training
25.	Mr Isaac Azindow Principal, Kintampo Health Training College (retired)	Middle-level health training professionals	

No.	Name and position	Main area of expertise	Further remarks
26.	Dr Yao Yeboah Director of Development and Planning, Pentecost University, and Vice-Chair, Christian Health Association of Ghana	Faith-based health services in Ghana Training of health professionals in private institutions	Worked with Christian Health Association of Ghana in various capacities in development and health
27.	Gabriel Gbiel Benarkuu National Chair, Ghana Coalition of NGOs in Health	Nongovernmental, community-based, and civil society organizations in the health sector	
28.	Epsona Ayamga Private service provider, Asankunde Clinic, Bolgatanga, Upper East region Municipal Health Committee Chair	Health sector and local government and private sectors Health regulation NHIS	Former Physician Assistant, Ministry of Health Former Municipal Chief Executive, Bolgatanga Municipal Assembly
29.	Dr Odoi-Agyarko Clinical Director and Consulting Physician, RHI Medical Centre, Amanokrom-Akuapem Member of Institutional Ethical Review Board of Noguchi Memorial Institute for Medical Research	NGOs in health Private medical practice	Fellow of Ghana College of Physicians and Surgeons Examiner, School of Public Health, University of Ghana
30.	Dr Kofi Issah Regional Director of Health Services, Upper East region	Policies, planning and implementation Health programmes Health service organization	Regional Directors Group
31.	Dr John Eleeza Deputy Director, Public Health, Greater Accra region	Public health administration	Has worked in Volta and Central regions
32.	Dr T.S. Letsa Regional Director of Health Services, Brong-Ahafo region	Public health administration	Regional Directors Group

Annex 2. Databases and sources of data used in the study

No.	Database
1.	Ghana Demographic and Health Surveys
2.	Ghana Living Standards Surveys
3.	Multiple Indicator Cluster Surveys
4.	WHO databases and reports
5.	World Bank databases and reports
6.	Ghana District Health Information Management System database
7.	Health sector laws, regulations and policy documents
8.	Health sector strategic plans and annual programmes of work
9.	Health sector technical guidelines
10.	National financial laws, regulations and reports
11.	Ghana National Health Accounts
12.	Health sector annual holistic assessment reports
13.	National special studies and research
14.	Scientific published literature
15.	Ministry of Health and agencies annual reports and audited accounts
16.	Performance Monitoring and Accountability 2020
17.	Ghana health profile: http://www.worldlifeexpectancy.com/country-health-profile/Ghana
18.	Global Health Data Exchange: http://ghdx.healthdata.org/
19.	Institute for Health Metrics and Evaluation: http://www.healthdata.org/Ghana
20.	Allied Health Professions Council: http://www.ahpcghana.org/
21.	Food and Drugs Authority: http://www.moh.gov.gh/foods-and-drug-authority/
22.	Medical and Dental Council: http://mdcghana.org/
23.	Nursing and Midwifery Council of Ghana: http://www.nmcgh.org/
24.	Pharmacy Council: http://www.moh.gov.gh/pharmacy-council-ghana/
25.	National Development Planning Commission: http://www.ndpc.gov.gh
26.	National Health Insurance Scheme: http://nhis.gov.gh/
27.	Ghana Health Service: http://www.ghsmail.org/
28.	World Bank Health: http//www.worldbank.org/health
29.	Ghana Statistical Service: http://www.statsghana.gov.gh/
30.	Ministry of Health: http://www.moh.gov.gh/
31.	Global Health Observatory: http://www.who.int/gho/en/
32.	Primary Health Care Performance Initiative: https://phcperformanceinitiative.org/content/indicator-library

Annex 3. Summary profiles of key regional and national stakeholders who participated in the consultations

No.	Descriptor	Main constituency represented	Level of health system active
Northern zone			
1.	Dr Windfred Ofosu Regional Director of Health Services, Upper West region	Regional Directors of Health Services Group	Regional
2.	Ahaji Abu Yahaya Contractor, Regional Health Committee Chair	Community and religious sectors	Community and regional
3.	Mr George Yaw Segnitome Principal, Nursing Training College, Wa, Upper West region	Trainers of professional and auxiliary nurses	Public health training
4.	Naa Bob Loggah Traditional leader, retired educationist, environmental advocate, Upper West region, Health Training School Board Chair	Education, health, nutrition and the environment sectors	Traditional leadership
5.	Madam Faith Loggah Retired nurse, clinical trainer, examiner, and administrator, Wa, Upper West region	Nursing training and administration	Nurse trainers and administrators
6.	Upper West Regional Coordinating Council: Madam Fati Koray Mr Abubakari Musah	Local government: Regional Coordinating Council	Regional
7.	Stakeholder meeting with Upper West RHMT: attendants, focus group discussion	Upper West region RHMT	Regional
8.	Dr Edward M. Kolbila Wechiau Polyclinic, Wa West district, Upper West region	Medical superintendents	District
9.	Sissala East district stakeholder consultation: DHMT, District NHIS Manager, hospital management, etc.	DHMT, district hospitals, NHIS	District
10.	Banu CHPS, Sissala East district, Upper West region: focus group discussions with two community health officers, Community Health Committee Chair and assembly member	Community health officers, community health committees, community health volunteers	CHPS level
11.	Focus group discussions: community health nurses and community health officers in Northern region	Community health nurses in Northern region	CHPS level
12.	Focus group discussions: community health nurses and community health officers in Upper East region	Community health nurses in Upper East region	CHPS level
13.	Focus group discussions: community health nurses and community health officers in Upper West region	Community Health nurses in Upper West region	CHPS level
14.	Evergreen Maternity Home, Sawla, Sawla-Tuna-Kalba district, Northern region Focus groups discussion with owners (Mr and Mrs Tambro) and staff	Private maternity homes	Community
Middle zone			
15.	Nana Effah Guakuro IV Chair of Municipal Health Committee, Kintampo, Brong-Ahafo region	Traditional leaders	Community

Continues…

Continued from previous page

No.	Descriptor	Main constituency represented	Level of health system active
16.	Mr Siegfried Kwame Addo Acting Municipal Coordinating Director, Kintampo North municipal district	District assemblies in middle sector	District
17.	Dr K. Boateng-Boakye Deputy Director, Policy, Planning, Monitoring and Evaluation Division, GHS; former District Director of Health Services, Ashanti region and Western region	District Directors of Health Services Group in middle sector	National
18.	Dr Seth Owusu-Agyei Director, Kintampo Health Research Centre	Health research centres	National
19.	Ashanti cross-section of stakeholders (RHMT, environmental health, Pharmacy Council, etc.): 65 attendants	RHMT and other stakeholders	Regional
20.	Kumasi Metropolitan Assembly: Mr Michael Atoagye, Metropolitan Coordinating Director Mr Robert Odei-Ntow, Metropolitan Human Resources Director	Metropolitan Assembly	Metropolitan
21.	Focus group discussions: community health nurses and community health officers in Ashanti region	Community health nurses in Ashanti region	CHPS level
22.	Focus group discussions: community health nurses and community health officers in Brong-Ahafo region	Community health nurses in Brong-Ahafo region	CHPS level
23.	Ejisu-Juabeng Municipal Assembly stakeholder meeting, Ashanti region: 15 attendants: DHMT, Municipal Coordinating Director of Assembly, Finance and Accounts Subcommittee, Chair of Assembly, etc.	District stakeholders	District
24.	Faculty of Public Health Membership Cohort, 11 residents	Public health professionals	District/institutional
Southern zone			
25.	Dr Emmanuel Kojo Tinkorang Regional Director of Health Services, Western region; worked in Brong-Ahafo region and Eastern region	Regional Directors of Health Services Group (southern sector)	Regional
26.	Dr Samuel Kwashie Regional Director of Health Services, Cape Coast, Central region Worked in Volta region	Regional Directors of Health Services Group (southern sector)	Regional
27.	Greater Accra regional stakeholder meeting: RHMT, DHMTs, private providers: 106 attendants	Greater Accra region stakeholders	Regional and district
28.	Stakeholder meeting with residents of Faculty of Public Health of Ghana College of Physicians and Surgeons: Nine attendants	A cross-section of stakeholders from governmental, quasi-governmental and private sectors	District and institutional levels
29.	Suhum community health officers and subdistrict health teams: 30 attendants	Community health officers and subdistrict health teams	Subdistrict /CHPS
30.	Focus group discussions: community health nurses and community health officers in Eastern region	Community health nurses in Eastern region	CHPS level
31.	Nsawam-Adoagyri Municipal Assembly stakeholder meeting, Eastern region: DHMT, subdistrict health teams, hospital management team, Municipal Chief Executive and other assembly officers, Health Committee Chair, etc.: 74 attendants	Key PHC stakeholders in districts	District to CHPS level
32.	Focus group discussions: community health nurses and community health officers in Central region	Community health nurses in Central region	CHPS level
33.	Focus group discussions: community health nurses and community health officers in Greater Accra region	Community health nurses in Greater Accra region	CHPS level

No.	Descriptor	Main constituency represented	Level of health system active
34.	Focus group discussions: community health nurses and community health officers in Volta region	Community health nurses in Volta region	CHPS level
35.	Focus group discussions: community health nurses and community health officers in Western region	Community health nurses in Western region	CHPS level
National level			
36.	Dr Seth Owusu-Agyei	Research community	National
37.	Dr Mrs Yirenki Acting Director, Traditional and Alternative Medicine Directorate, Ministry of Health	Traditional and Alternative Medicine Directorate	National
38.	Chief Imoro Azumah President, Ghana Physician Assistants Association	Physician assistants Non-physician private practitioners	National
39.	GHS senior managers from national and regional levels	GHS senior staff across country	National
40.	GHS Director-General and Deputy, national directors	GHS headquarters senior staff	National
41.	Dr Mawuli Gyakobo Family physician specialist Dr Kye Essuman Family physician specialist	Faculty of Family Physicians of Ghana College of Physicians and Surgeons	
42.	Dr Atikpui Registrar, Medical and Dental Council	Health regulatory agencies	National
43.	Director of Local Government Service, Policy, Planning, Monitoring and Evaluation Division	Local government services	National
44.	Health Sector Working Group: Minister of Health and Ministry of Health senior staff, development partners, teaching hospitals, private sector, Christian Health Association of Ghana, NHIS, training institutions, etc.	Senior management and technical experts of the health sector across all stakeholders	National

Annex 4. Country profile and key demographic and health indicators

Figure A4.1 Map of Ghana

Source: World Atlas.

Table A4.1 Demographic profile: total fertility rate by region

Region	1988	1993	1998	2003	2008	2014
Western	6.1	5.5	4.7	4.5	4.2	3.6
Central	6.6	5.6	4.8	5.0	5.4	4.7
Greater Accra	4.6	3.6	2.7	2.9	2.5	2.8
Volta	6.7	5.4	4.4	4.4	3.8	4.3
Eastern	5.7	5.1	4.4	4.3	3.6	4.2
Ashanti	5.9	5.6	4.5	4.1	3.6	4.2
Brong-Ahafo	6.9	5.5	5.4	4.8	4.1	4.8
Northern	6.8	7.4	7.0	7.0	6.8	6.6
Upper East	6.8	6.4	5.0	4.7	4.1	4.9
Upper West	6.8	6.0	6.1	5.5	5.0	5.2
National	6.4	5.5	4.6	4.4	4.0	4.2
Rural	6.6	6.4	5.4	5.6	4.9	5.2
Urban	5.1	4.0	3.0	3.1	3.1	3.4

Source: Demographic and Health Surveys 1988, 1993, 1998, 2003, 2008, 2014.

Table A4.2 Trends in selected health expenditure indicators, Ghana, 1995–2015

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total health expenditure as % of GDP	3.1	3.4	3.0	3.2	3.1	3.0	3.6	3.0	3.1	4.0	4.5	4.6	5.3	4.9	5.2	5.3	4.8	4.9	5.4	3.6	6.0
Public health expenditure as % of GDP	1.6	2.0	1.4	1.8	1.6	1.5	2.0	1.5	1.6	2.4	2.9	3.0	3.7	3.2	3.7	3.8	3.6	2.8	3.3	2.0	
Out-of-pocket expenditure as % of total health expenditure	30.5	26.5	33.7	28.6	30.5	31.8	27.2	32.3	31.9	25.6	22.8	22.5	19.5	22.2	18.9	18.4	16.1	32.2	30.4	26.8	36.0

Table A4.3 Trends in Ghana burden of disease: top five causes of death, 1990–2015

No.	1990	2005	2010	2015
1	Malaria	Malaria	Malaria	Lower respiratory infections
2	Lower respiratory infections	HIV/AIDS	HIV/AIDS	Cerebrovascular diseases
3	Diarrhoeal diseases	Lower respiratory infections	Lower respiratory infections	Ischaemic heart diseases
4	Measles	Cerebrovascular diseases	Neonatal sepsis	Malaria
5	Neonatal sepsis	Ischaemic heart diseases	Preterm birth complications	HIV/AIDS

Annex 5. Historical development of Ghana PHC system

Ghana's first PHC policy was adopted in 1978 and was implemented in all the nine regions in nine districts (one per region) in 1979. The objectives of the strategy were to achieve basic and primary health care for at least 80% of the population, and effectively tackle the disease problems that cause 90% of unnecessary deaths and disability in Ghanaians by 1990. The Ghana PHC organization is based on a three-tier District Health System structure comprising three levels of care: levels A, B and C. Level A represents the community level where communities are mobilized; village health workers and traditional birth attendants are trained to provide basic primary care with the support of village health committees under the supervision of level B health personnel. Level B is the subdistrict level, with a health centre staffed by a medical assistant, midwife, general and community health nurses, field technician and other support staff to provide integrated clinical, public health and maternity services, including outreach services, community mobilization and health promotion, and supervision of traditional birth attendants and village health workers. Level C is the district level, comprising the district hospital as the first-level referral health facility, responsible for supervising the health centres; and the district health administration, responsible for the overall planning and implementation of health programmes in the district. The district health administration is managed by the DHMT, comprising the district medical officer of health as leader of the district hospital, public health nurse, disease control officer, nutrition officer and medical superintendent, doctor, nursing officer and the hospital secretary in charge of the district hospital.

Table A5.1 Timeline of key developments relevant to the Ghana PHC system

Date	Events
1471	• Europeans arrive on Guinea Coast of West Africa
1471–1918	• Contemporary medicine introduced to serve Europeans • 1878: poll tax for health services for natives introduced
1918–1951	• Moderate increase in health facilities and health workers mainly through Governor Guggisberg's Development Plan 1918–1930
1951–1957	• Local political party rule under the granting of limited self-government, 1951–1957 • Rapid expansion of health services
1957	• Ghana gained independence from colonial rule • Rapid expansion of medical services, establishment of a medical school and training of mid-level health workers (midwives, qualified registered nurses, public health and community health nurses)
24 February 1966	• Government overthrown by first police-cum-military coup d'état and ruled by decrees under the National Liberation Council, followed by four other coups in 1972 (SMC I), 1978 (SMC II), 1979 (AFRC), and 1981 (PNDC)
1967	• First reforms of the colonial Health Department replaced Chief Medical Officer with Director of Medical Services as technical head of Ministry of Health, and created new divisions for health education and nutrition • Ministry of Health divisions decentralized with regional offices; the centralized Medical Field Unit was regionalized, all with separate budget lines under the supervision of regional medical officers
1967	• Basic Health Services Project with support from WHO, 1967–1971
1969	• October 1969: second Republican Constitution: return to democratic civilian rule under Busia lasted two years • Establishment of Kintampo Health Training School for training middle-level health workers for health centres and health posts • Development of first National Population Policy

Date	Events
1970s	• Local initiatives of Christian mission health institutions, including mobile clinics and training of village health workers to increase access to basic health services in remote areas
1970	• Danfa Comprehensive Rural Health and Family Planning Project, 1970–1979 • National Family Planning Programme established under Ministry of Finance
1972	• Military coup d'état: Supreme Military Council topples civilian government, 13 January 1972
1975	• Brong-Ahafo Rural Integrated Development Project, 1975–1979
1977	• PHC strategy for Ghana drafted
1978	• Internal coup within the SMC resulting in change of leadership and rule by Supreme Military Council II (SMC II) • Ghana PHC paper finalized; Ghana participated in the Alma-Ata PHC Conference in September 1978, adopted as the country's PHC strategy • National Expanded Programme for Immunization (EPI) established with six antigens for childhood immunization
1979	• 4 June 1979: AFRC military coup overthrows SMC II: ruled for only three months, prepared the third Republican Constitution and held general elections • September 1979: return to third constitutional civilian rule under Dr Liman • PHC strategy implementation started in one district in each of the nine regions
31 December 1981	• Military overthrow of the third republican government and the launch of a revolutionary government that embarked on grass-roots mobilization, probity and accountability for national renewal and development
1983–1989	• Economic Recovery Programmes (ERPs) and structural adjustments: ERP I (1983–1986) and ERP II (1987–1989), which included staff redeployment • User fees introduced and substantially increased in 1985 as structural adjustment programmes, resulting in decreased service utilization
1980s	• Selective PHC-dominated implementation of Bamako Initiative: essential drugs list, GOBI-FFF, Safe Motherhood Initiative, National Traditional Birth Attendants Programme
1987–1992	• Strengthening of District Health System initiative for building management capacity of DHMTs • Conduct of the first Ghana Demographic and Health Survey, subsequently repeated every five years (1987/1988, 1993, 1998, 2003, 2008 and 2014)
1988	• District Assembly Decree on Decentralization of Governance to Districts (PNDC Law No. 207), establishing 110 MMDAs • Hospitals Administration Law (PNDC Law No. 209 of 1988) providing for the establishment of teaching hospital boards and management committees for other public hospitals
1992	• Fourth Republican Constitution promulgated after a national referendum and multiparty elections conducted
1993	• 7 January 1993: return to constitutional rule under the Fourth Republic • Local Government Act No. 462 passed, legitimizing PNDC Law No. 207 under the constitutional rule
1994	• Navrongo Community Health and Family Planning Project, 1994–1998, the findings of which led to adoption of CHPS policy • Establishment of School of Public Health in University of Ghana with collaboration of health sector to train leaders for DHMTs
1995	• First economic and social development programme: Ghana Vision 2020, with aspiration for Ghana to attain middle-income status within 25 years, 1997–2020 • First national medium-term development document with strong focus on PHC and Ghana Vision 2020
1996	• Medium-Term Health Strategy developed with focus on PHC, based on the District Health System • Ghana Health Services and Teaching Hospitals Act No. 525 passed to separate service delivery function from the Ministry of Health; a long-term effort by the medical fraternity to move health service delivery out of the civil service bureaucratic system • Management and budgeting decentralized to health facility and district levels, creating them as budget and management centres with limited autonomy in the management of their resources • The Government of Ghana introduced the Public Financial Management Reform Programme to improve public sector financial management
1997–1998	• Medium-Term Expenditure Framework, a subcomponent of the Public Financial Management Reform Programme, was launched by the Ministry of Finance • First Health Sector Five-Year Programme of Work, 1997–2001, developed with the adoption of a sectorwide approach (SWAp I), and Common Management Arrangements (CMA I) instituted

Continues…

Continued from previous page

Date	Events
1999	• CHPS strategy dissemination conference held for consensus building on its adoption • WHO/UNICEF IMCI strategy adopted and implemented as a pilot in some districts
2000	• CHPS policy adopted and implementation started, reviewed in 2009 and 2014 • Ghana Health Service established • General elections conducted and the major opposition party elected to govern
7 January 2001	• New government takes over
2002–2005	• Ghana declared a highly indebted poor country (HIPC) in 2002 • Ghana Poverty Reduction Strategy 2003–2005 (GPRS I) developed, prioritizing social policy programmes, including PHC
2002–2006	• Implementation of second Programme of Work 2002–2006 under SWAp II and CMA II, and the health sector response to GPRS I • Policy on new community health nurse training schools and increased intake implemented
2002–2005	• UNICEF-supported Accelerated Child Survival Development (ACSD) project implemented in Upper East and Northern regions 2002–2004, which informed the adoption of the expanded strategy, including the maternal health high-impact, rapid delivery strategy
2003	• NHIS Act No. 650 passed, and establishment of the NHIS
2007–2011	• Government Growth and Poverty Reduction Strategy (GPRS II), 2006–2009 • Third Health Sector Five-Year Programme of Work, SWAp III and CMA III, and the health response to GPRS II 2007–2011
2008	• Introduction of free maternal services implemented through registration with the NHIS for pregnant women to cover health care during pregnancy and delivery • General elections, with the major opposition party victorious
2010	• Ghana Shared Growth and Development Agenda (GSGDA I), 2010–2013 • Economy rebased and country attained lower middle-income status, 2010 • Health sector truncated the Five-Year Programme of Work III and developed Health Sector Medium-Term Development Plan (HSMTDP) 2010–2013 to conform to National Development Planning Commission requirements
2011	• Health Institutions and Facilities Act No. 829, replacing the Private Hospitals and Private Maternity Homes Board Act, and expanded to cover both public and private institutions and health facilities • Specialist Health Training and Plant Medicine Research Act No. 833
2012	• Ghana MDG Accelerated Framework developed with focus on addressing MDG 5 • Several health bills passed: Public Health Act No. 851, Mental Health Act of 2012 (replacing Mental Health Decree of 1972), and National Health Insurance Act No. 852 (replacing Act No. 650), consolidating the autonomous district schemes with a centralized system with regional and district offices • President's Committee on Decentralization working to speed up implementation
2013	• Health Professions Regulatory Bodies Act No. 857 of 2013 passed
2014	• GSGDA II, 2014–2017 • HSMTDP, 2014–2017; CMA IV
2016	• CHPS revised policy launched and CHPS made a presidential special initiative • President's NHIS Review Committee submitted report, though no decision was taken on it before the general election • Presidential and parliamentary elections conducted: major opposition political party wins
2017	• 7 January 2017: new government takes over

Table A5.2 Ghana PHC reforms and programmes: relative success and factors

Reforms/programmes	Successful or unsuccessful	Barriers	Enablers	Source of information
PHC governance reforms				
1920–1930. Governor Gordon Guggisberg's plan for socioeconomic transformation of Gold Coast colony (1920–1930), with expansion of health facilities and medical staff in hospitals, dispensaries, child health services, mobile clinics	Successful	• Drop in the international price of cocoa • Reassignment of the Governor to British Guiana	• Governor's vision and commitment to the plan • Reserves from good international cocoa prices	• Ghana Seven-Year Development Plan 1964–1970
1967–1981. First major reform of the colonial Health Department: Ministry of Health divisions with regional offices, health workforce training, regulation and expansion of rural health services	Successful	• International economic crisis of the late 1970s and national economic crises • Political instability • Mass exodus of health professionals abroad in search of greener pastures	• Core medical officers trained in public health • Support from international community and local Christian missions' health services	• Key informant interviews
1985–2000. Restructuring of regions and districts into RHMTs and DHMTs and creation of BMCs increased decision space	Successful	• Vertical programmes with vertical planning and generic activities and budgets without flexibility • Fragmentation of the sector into agencies	• Visionary political and technical leadership • Technical and financial support from development partners • Capacity-building of BMCs	• Key informant interviews
1997–2001. Donor mobilization and Ministry of Health-led health sector programmes of work and SWAp, CMAs, and creation of donor pool account	Partially successful	• Frequent changes of ministers for health • Government not satisfying its side of the bargain	• Transparent systems for partnership engagement • Top-level commitment • Development partners' commitment • Development of sector strategic plans • Capacity developed at all levels	• Addai E, Gaere L. Capacity-building and systems development for sector-wide approaches (2001)
1988 to date. Devolution of health sector to local government	Unsuccessful (still hangs in the balance since 1988)	• Started with deconcentrated model before government devolution policy • Conflict between act establishing GHS and Local Government Act • Lack of capacity of MMDAs • Most health professionals are against devolution • Fragmentation of the health sector at the central level	• Enactment of the appropriate legislation followed by political commitment • Development of local government capacity	

Continues…

Continued from previous page

Reforms/programmes	Successful or unsuccessful	Barriers	Enablers	Source of information
1996–2000. Creation of Ghana Health Service	Successful	• Earmarking of funds by some development partners • Vertical programmes with vertical planning and generic activities and budgets without flexibility • Fragmentation of the central level into agencies that tend to work in silos	• Top-level commitment • Lobby of health professionals, especially Ghana Medical Association • International trend at the time towards separation of policy and service delivery functions	
Human resources for health reforms and programmes				
National traditional birth attendants and village health workers programmes	Unsuccessful	• Poor supervision and regular support • Was too top down without room for local initiative • Health professionals' negative attitude towards community health workers	• Regular supervision and retraining • Regular replenishment of kits • Health programmes with community component	• Interviews
Human resources for health production strategies	Successful	• Low standard of tutors • Inadequate infrastructure and teaching and learning equipment and materials • Inadequate funding	• Large pool of qualified candidates seeking admission • Liberalizing training to the private sector • Policy-makers interest in creating employment	• Ministry of Health, 2011 • Acquah S. Human resources for health projections for the Ghana health sector (2016)
Implementation of in-service training policy developed in 2005 with a training information system	Unsuccessful	• Planning and conduct of training by divisions and programmes without recourse to the training units • Poor monitoring and evaluation of in-service training • Inadequate regular budget for training	• Sustained top leadership commitment • The existence of an in-service training policy • Continuous professional development requirements of regulatory agencies for renewal of licence to practice	
Strengthening of District Health Systems initiative	Successful	• Reliance on only donor earmarked funds • Centralized training, requiring a whole team to be away for a long time	• Strong regional and district leadership • District Health System Operations programme institutionalized at regional level with regional resource teams • Available national in-service training policy	
District Health System Operations Programme developed; Strengthening of District Health Systems workshops at the research centres at Navrongo and Kintampo, coordinated by GHS Human Resources Development Division	Unsuccessful	• High cost • DHMT and some facilitators had to leave their workplaces for long periods • Too much reliance on donors • Inadequate funding	• Donor financial support • Modules were developed for the course	
Leadership Development Programme training	Unsuccessful	• Poor record keeping	• Involvement of policy level	• Leadership Development Programme

Reforms/programmes	Successful or unsuccessful	Barriers	Enablers	Source of information
Human resources retention strategies to retain health professionals in the country, including salary scale enhancement, increased opportunities for postgraduate courses and acquiring personal means of transport	Successful	• Suspension of vehicle purchase tax relief and also the hire purchase vehicle scheme for health workers • Self-sponsorship policy for post-basic and postgraduate training	• Salary enhancement for health workers • Establishment of training facilities locally for most postgraduate courses	• Stakeholder discussions
Human resource distribution strategies deployed over the past two decades have not succeeded in adequately addressing the inequitable distribution of health personnel	Unsuccessful	• Lack of political will and sometimes political interference • Lack of commitment to implement the policies • Centralized human resources budget • Insufficient incentives to attract and retain staff in rural and deprived areas	• Appropriate incentives attached to posting to rural and deprived areas • Decentralized human resources budget • Policies for staff distribution exist	• Stakeholder discussions
Task shifting strategies to auxiliaries and middle-level professionals in clinical, nursing, paramedical services and public health services	Successful	• Professional protectionism by some professionals • Inadequate training and supervision	• Community acceptance of substituted health workers • Adequate skills transfer and supervision	• In-depth interviews and stakeholder consultations • Review reports
Health financing reforms and initiatives				
Free health services at point of use	Unsuccessful	• Inadequate funding • Weak monitoring and accountability systems under free services regime • Abuse of the system	• Adequate funding and its management • Strong monitoring and accountability system	
Introduction of user fees for health service delivery to recover 15% of recurrent cost and full recovery for drugs achieved objective but negative effect on financial access	Mixed: was able to generate internal funds to sustain services but the poor had no access	• Decreased financial access to services, especially for the poor • Catastrophic illness pushing some people into poverty	• Effective monitoring system	
Introduction of exemption of some categories from paying health service user fees	Unsuccessful	• Service providers had difficulties identifying some of the exempted groups • Service had no motivation to exempt since it reduced the internally generated funds	• Institutional leadership commitment • Effective monitoring system • Regular refunds for services delivered to the exempted groups	
Bamako Initiative	Unsuccessful	• Was in conflict with the government policy of exemptions for some categories from paying fees	• Unifying the management of the different sources of financing service	
2008. Free maternal services implemented through NHIS	Partially successful	• Poor distribution of health facilities • Attitudes and perceived hostility of staff • Delays in National Health Insurance Authority reimbursement of service providers	• Easily identifiable target group • Integration into the NHIS • High awareness	• Evaluation of the free maternal health care initiative in Ghana

Continues…

Continued from previous page

Reforms/programmes	Successful or unsuccessful	Barriers	Enablers	Source of information
Establishment of NHIS by Act No. 650 in 2003 (replaced by Act No. 852 in 2012)	Successful, though facing some challenges currently	• Lack of consensus among political parties on structure and payment mechanisms of the scheme • Low tariffs, delayed claim payments, unexplained cancellations of claims and an unmanageable increase in workload were cited	• Political commitment • Lessons from the implementation of experience from home-grown actors • Donor technical assistance and financial support • High acceptability by service providers and the people	
Introduction of capitation payment system by NHIS	Unsuccessful	• Poor management of the capitation pilot • Politicization of capitation • Inadequate education of all stakeholders on capitation • Delays in capitation grants payment	• Consensus building among political parties • Education and sensitization of all stakeholders • Effective monitoring system to ensure quality care • Properly calculated tariffs that will not short-change service providers	
Deployment of District Health Information Management System (DHIMS2) database	Successful	• Poor Internet access in some locations • Inadequate funding to procure the necessary equipment and to strengthen system	• National committed technical team • In-house capacity-building with some external technical assistance • National scale without piloting phase	
PHC service organization and delivery initiatives				
Extension of medical services to the northern territories through travelling clinic services from 1927 but stopped in 1933	Failure but revealed the magnitude of the disease burden and the high need for medical services	• Poor roads with high running and maintenance costs • Inadequate resources • Low educational level of the population	• Leadership commitment of the colonial governor • Increased resources from exports	
National Family Planning Programme under Ministry of Finance and Economic Planning		• Lack of popular involvement in policy and programme development • Lack of a comprehensive national strategy • Poor coordination among agencies • Cultural factors and lack of public awareness	• Ministries, departments and agencies, including Ministry of Health, had structures to implement programme	
1967–1971. Basic Health Services Project with support from WHO	Successful	• Military coup of January 1972	• Effective technical team leadership • WHO support	
1970–1979. Danfa Comprehensive Rural Health and Family Planning Project (service delivery, research and training); findings contributed to the PHC strategy	Successful	• Lack of transport • Unaffordability • Patients' refusal to accept referrals • Poor staff attitude towards clients • Sociocultural factors		• Danfa Comprehensive Rural Health and Family Planning Project, Ghana: final report

Reforms/programmes	Successful or unsuccessful	Barriers	Enablers	Source of information
1975–1979. Brong-Ahafo Rural Integrated Development Project: findings contributed to PHC strategy	Partially successful	• Community members did not own the project • Community clinic attendants demanded remuneration; others left and started practising illegally	• Regular training and close supervision	• In-depth interview with Dr Adibo and Dr Mensah, who were involved in the project implementation
1978. EPI started in 1978 with six antigens; now 12 antigens Contributed to the elimination of maternal and neonatal tetanus, and last polio case reported in 2010	Successful	• Limited electricity and cold chain facilities • Hard-to-reach populations due to geographical and cultural barriers • Inadequacy of resources • Misinformation and fear of side-effects	• Government commitment • Effective technical leadership at all levels • Integration into PHC • Effective cold chain and EPI logistics management • Strong monitoring and evaluation system	• In-depth interviews and stakeholder consultations • Programme reports and reviews
Ghana PHC implementation started in 1978 in nine districts of the nine regions	Successful but was stalled	• Recall of the district medical officers for Master of Public Health programme, leaving the DHMT without leaders • Inadequate resources • Comprehensive versus selective PHC debate	• Visionary national technical leadership and commitment • Effective district and regional leadership	
Navrongo Community Health and Family Planning Research Project, 1994–1998	Successful	• Acceptance of health workers • Communities' inability to provide suitable accommodation for health workers	• Effective community dialogue mobilization • Effective mobilization of health sector • Adequate resources	
2012–2015. Ghana MDG Accelerated Framework developed with focus on addressing MDG 5				
Guinea-Worm Eradication Programme established in 1989, reported last case in 2010, received guinea-worm free certification in 2014	Successful	• Complacency and loss of concentration in the middle of the eradication effort • Resource constraints	• Strong community volunteer system mobilization • Strong partnership with key stakeholders • Provision of safe water	• Ministry of Health Ghana Guinea-Worm Eradication Programme country report (2014)
CHPS adoption as policy, and implementation	Successful	• Lack of key stakeholders' understanding of the strategy • Poor community mobilization • Inadequate investment	• Effective regional and district leadership • Political commitment and action	• CHPS review report • Ministry of Health 2009 sector review
Integrated Disease Surveillance and Response initiative started in 2002 in three northern regions and then scaled up to rest of the country	Successful	• Weak community involvement • Weak laboratory support • Poor commitment of clinicians	• Effective mobilization, supervision and support for community volunteers • Regular training of surveillance staff and sensitization of all health staff	
2002–2005. UNICEF-supported Accelerated Child Survival and Development project in Upper East region and part of Northern region	Successful	• Conflicting national policies • Duplication and parallel activities of some vertical health programmes	• Effective district leadership and regional support • Community mobilization and engagement of other stakeholders	• Ghana ACSD report (2008)

Continues…

Continued from previous page

Reforms/programmes	Successful or unsuccessful	Barriers	Enablers	Source of information
High-impact, rapid delivery strategy evolved from the ACSD approach, and adopted in 2005 to accelerate the achievement of MDGs 4 and 5		• Implemented as a project with vertical planning, and without lower-level ownership • Engagement of other stakeholders (e.g. MMDAs, NGOs) was not sustained	• Additional earmarked resources from development partners • Promoted rigorous analysis and evidenced-based planning	• Ministry of Health/ GHS and development partners, November 2005
Adoption of IMCI strategy	Partially successful	• Funding challenge • Lack of regional or district capacity • Implementing IMCI as a vertical programme • Prescribing under IMCI was in conflict with NHIS payment mechanisms	• District ownership is key • Development of regional resource teams • Sustained involvement of key stakeholders	• Review of IMCI, 2005
Regenerative Health and Nutrition Programme started in 2006	Unsuccessful	• Implemented at Ministry of Health as vertical programme outside existing system	• Top leadership commitment • Effective engagement of implementing agencies, communities and the public	• Ministry of Health (2009) sector review • Ministry of Health (2011) sector review
GHS-JICA Upper West region Maternal and Child Health Projects: Phase I (2006–2009), Phase II (2010–2015)	Successful	• High patronage of the foreign implementing NGO	• Effective regional and district leadership • Timely resources flow	• Participatory planning • Regular follow-up of resources
Upper East region: Ghana Essential Health Intervention Programme			• Integrated development of health system building blocks • Catalytic funding is important	
Kwahu East district: GHS, Japanese Organization for International Cooperation in Family Planning, Planned Parenthood Association of Ghana, and District Assembly Joint Maternal Health and Family Planning Project, involving increased access to services in a rural deprived community through partnership in the construction of a health centre at Kotoso and network of four CHPS compounds and transport system, 2011–2014	Successful	• District assembly could not provide the necessary staff accommodation due to financial constraints • GHS could not provide some of the essential health staff for service delivery when the project was completed	• Effective partnership dialogue and co-management of the project	
MDG Acceleration Framework started in 2012	Unsuccessful	• Top-down approach • Delays in release of funds • Reliance on development partners for funding the plan		
Millennium Villages Project – Ministry of Health and National Information Technology Agency: telemedicine project involving Korle-Bu Teaching Hospital in Upper West region, and Zebilla district in Upper East region	Unsuccessful	• Poor conception of project without regard to existing administrative and service delivery organization		
Ministry of Health and UNDP-supported climate change project	Successful			

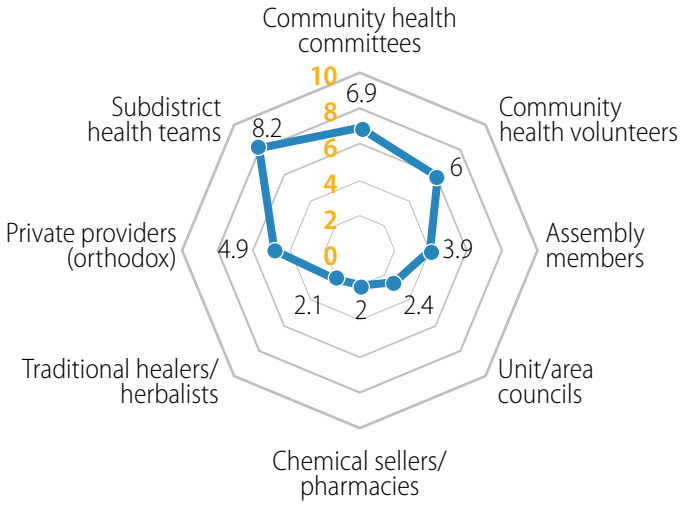
Annex 6. Governance and stakeholder collaboration

Table A6.1 Community health nurses' perspectives on stakeholder collaboration at the community level by region, Ghana

Stakeholder	Central	Brong-Ahafo	Western	Volta	Upper West	Greater Accra	Ashanti	Upper East	Northern	Eastern	Ghana
Community health committees	7	8	6	6	10	5	7	8	7	5	6.9
Community health volunteers	1	2	8	1	10	5	7	9	10	7	6.0
Assembly members	5	1	4	7	7	4	4	3	1	3	3.9
Unit/area councils	2	1	3	1	3	4	3	1	1	5	2.4
Chemical sellers/ pharmacies	1	2	1	1	4	6	1	2	1	1	2.0
Traditional healers/ herbalists	1	1	1	1	7	2	1	5	1	1	2.1
Private providers (orthodox)	8	5	1	1	9	9	1	8	6	1	4.9
Subdistrict health teams	8	9	8	6	10	10	5	9	7	10	8.2
Total	33	29	32	24	60	45	29	45	34	33	36.4
Average	4.1	3.6	4.0	3.0	7.5	5.6	3.6	5.6	4.3	4.1	4.6

Source: Focus group discussions with community health nurses, 23 May 2017.

Figure A6.1 Community health nurses' perspectives on key stakeholder collaboration at the community level



Source: Focus group discussions with community health nurses, 23 May 2017.

Figure A6.2 Community health nurses' perspectives on stakeholder collaboration at the community level by region, Ghana

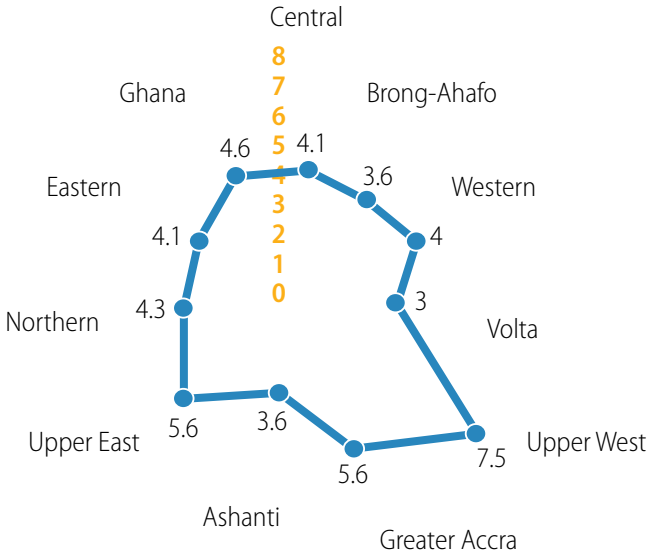


Table A6.2 Summary information on organizations providing PHC services in Ghana

Type of sector	Nature of facility	Mode of employment of providers	Range of PHC services provided	Remarks	Source of information
Public	Functional CHPS zones (4400/6000 demarcated 2016)	Ministry of Health and permanent	Integrated basic PHC covering: • Health, nutrition education and promotion • Treatment of minor ailments and injuries • Basic reproductive, maternal, newborn, child and adolescent health • Disease surveillance and control	• Highest and lowest regional coverage: Ashanti region 91%, Greater Accra region 30.7%	• 2016 health sector holistic assessment report • DHIMS2 database
Public	Ambulance stations, emergency medical technicians	Ministry of Health and permanent	• Prehospital care • Transport of referred patients or emergencies to health facilities	• About 60% (130) of the 216 districts have stations	• 2015 health sector holistic assessment report
Private for profit	Chemical shops	Self-employed and assisted by family members	• Sell over-the-counter medicines • Sell short-term family planning commodities	• Wide distribution including rural areas • Some sell drugs beyond their limit	• Stakeholder discussions
Private	Maternity homes (325)	Self-employed and temporary assistants	• Antenatal care, supervised delivery, postnatal care • Family planning services • Treatment of minor ailments	• Mostly located in urban areas	• 2015 health sector facts and figures • DHIMS2 database
Private	Pharmacy stores	Temporary or part-time staff	• Dispensing of prescribed and over-the-counter medicines and short-term family planning commodities	• Crowded in the big cities and large urban areas	• Stakeholder discussions
Private	Private medical herbal clinics	Self-employed	• Provide basic outpatient care using Ghana traditional medicine pharmacopeia	• Few and mainly located in two cities (Accra and Kumasi)	

Type of sector	Nature of facility	Mode of employment of providers	Range of PHC services provided	Remarks	Source of information
Public	Clinics	Ministry of Health and permanent	• General outpatient clinical services • Public health services • Maternity services		• DHIMS2 database
Faith based	Clinic	Ministry of Health and permanent	• Similar to public clinics but more limited public health services and most do not provide modern family planning for religious reasons		• DHIMS2 database
Private	Clinic		• Mainly outpatient clinical services	• Located mainly in urban areas	• DHIMS2 database
Public	Health centre	Ministry of Health and permanent	• Integrated general clinical services with basic laboratory services • Emergencies, including basic emergency obstetric and newborn care • Disease surveillance and control • Outreach and technical support for CHPS zones	• All 1145 subdistricts should have a health centre but those with hospitals and some deprived ones have a clinic or CHPS compound	• DHIMS2 database • Health sector 2015 facts and figures
Faith based	Health centres	Ministry of Health and permanent	• Similar to public health centres but more curative service focus	• Located mostly in rural areas	• DHIMS2 database
Public	Polyclinics	Ministry of Health and permanent	Expanded health centres plus the following: • Eye, dental and mental health outpatient care • Comprehensive emergency obstetric and newborn care • Basic radio-imaging services • Short stay inpatient care	• Located in districts without hospitals or large urban centres (30), excluding the two in some teaching hospitals	• DHIMS2 Database • Ministry of Health annual reports
Public	Government general hospitals	Ministry of Health and permanent	Expanded polyclinic services plus the following: • General inpatient care • Surgeries • Nutrition and dietetics • Mental health services • Rehabilitative services	• A few hospitals are piloting integrating herbal medical clinics run by four-year university-trained medical herbal graduates	• Holistic assessment reports • GHS annual reports
	Quasi-governmental hospitals (military, police, universities, mines, etc.)	Ministry of Health and permanent	• Similar to public hospitals but focus is on clinical services	• Provide services for the staff and their families but open to the general public • Some provide specialist services	• DHIMS2 database
Public	Teaching hospitals (4)	Ministry of Health and permanent	• Range of services similar to the other polyclinics except that they have no geographical coverage area	• No linkages with the other PHC service providers apart from receiving referrals	
Public	Psychiatric hospitals (3)	Ministry of Health and permanent	• Provide integrated general hospital services in addition to specialist services		
Private non-profit	Faith-based hospitals	Ministry of Health and permanent	• Similar to government general hospitals but their focus is on clinical services		• DHIMS2 database

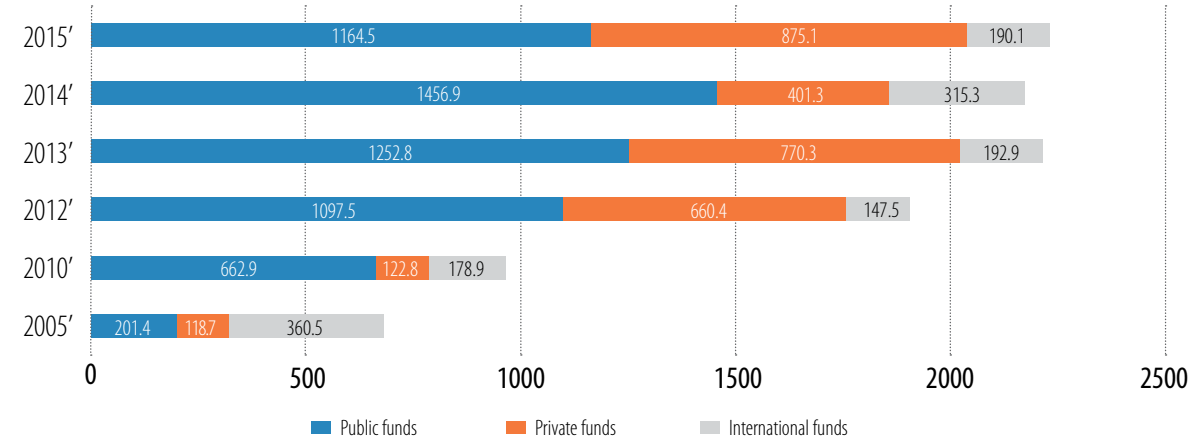
Continues…

Continued from previous page

Type of sector	Nature of facility	Mode of employment of providers	Range of PHC services provided	Remarks	Source of information
Public	District health directorate	Ministry of Health and permanent	• Disease surveillance and control • Health promotion and mass public health campaigns	• RHMTs provide support	• GHS reports
Public	Centre for Plant Medicine Research	Ministry of Health and permanent	• Similar to public hospitals but using both orthodox and herbal products and limited public health services	• Hospital section and herbal production research departments	• Ministry of Health reports
Private non-profit	NGOs in health (service delivery, nongovernmental, community-based, civil society organizations)	Temporary employees and volunteers, including public officers	• Mobilize and educate communities on the control of specific diseases (malaria, TB, HIV/AIDS, noncommunicable diseases, etc.), mental health, immunization, nutrition, water and sanitation • Treatment of minor ailments • Family planning services • Advocate and mobilize resources for PHC, and monitor for accountability	• Each NGO limits its operations to some services for certain communities • Most operate from the large urban centres	• Ghana Coalition of NGOs in Health reports
Private for profit	Traditional medical practitioners	Sole self-employed, family members or assistants	• Treat wide range of physical and mental conditions, including bone fractures and sprains, etc.	• A mixture of static and mobile practitioners	• Key informant interviews • Stakeholder discussions
Private for profit	Alternative medical practitioners clinics	Self-employed and few temporary assistants	• Provide diagnostic, preventive and curative services using traditional medicine from the East, including acupuncture, etc.	• Located mainly in large urban areas	• Key informant interviews • Stakeholder discussions

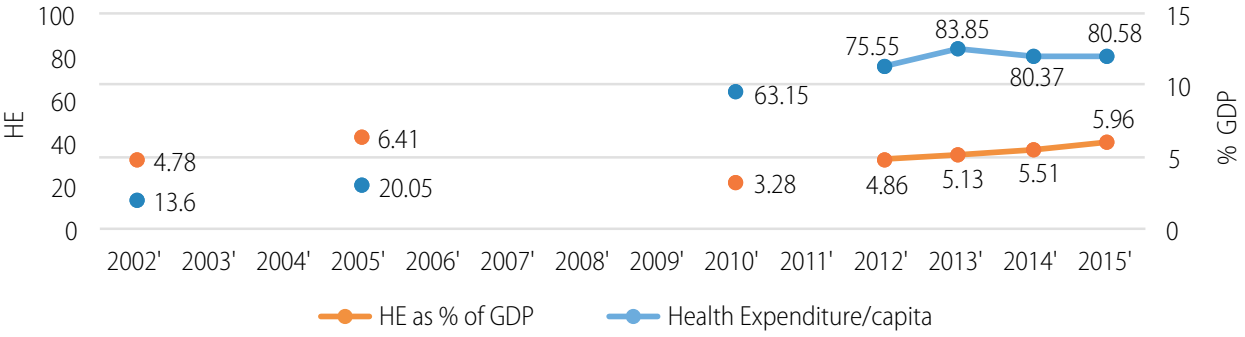
Annex 7. Financing

Figure A7.1 Sources and amounts of health sector expenditure, Ghana, 2005–2015 (US$ millions)



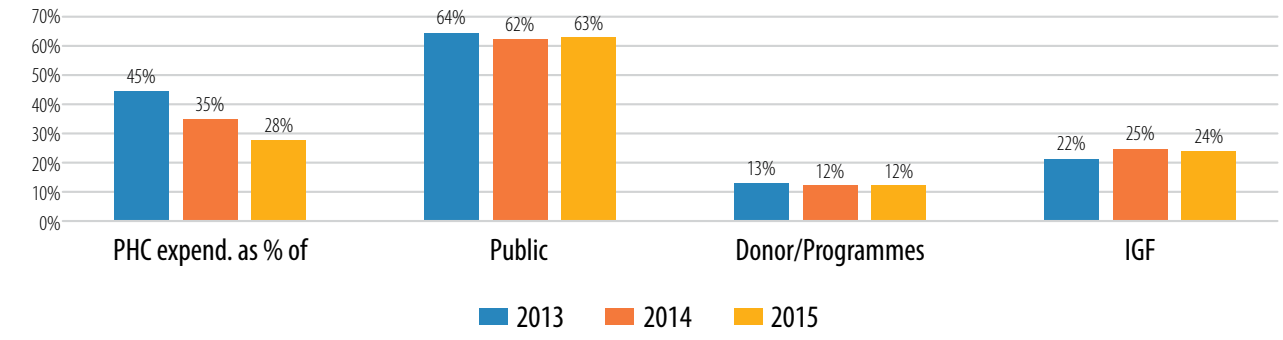
Source: Ministry of Health National Health Accounts: 2005, 2010, 2012, 2013-2015

Figure A7.2 Trends in Ghana total health expenditure per capita and total health expenditure as % of GDP



Data Source: Ghana 2015 National Health Accounts

Figure A7.3 Sources of Ghana PHC expenditure, 2013–2015



Source: Ministry of Health 2013, 2014 and 2015 audited accounts statements.

Annex 8. Human resources

Table A8.1 Density of key health workforce in Ghana, 2015

Occupations	2015	Public		Private		Health workers per 1000 population
		Number	%	Number	%	
Doctors	5 347	3 743	70	1 604	30	0.19
Professional nurses	18 677	15 875	85	2 802	15	0.67
Midwives	7 273	5 818	80	1 455	20	0.26
Auxiliary nurses	25 238	17 667	70	7 571	30	0.90
Pharmacists	2 670	1 869	70	801	30	0.10
Community health nurses	17 933	15 243	85	2 690	15	0.64
Biomedical scientists	2 003	1 602	80	401	20	0.07
Physician assistants	2 284	1 941	85	343	15	0.08
Public health officers	2 531	2 151	85	380	15	0.09
Total / average %	83 956	65 909	79%	18 047	21%	3.00

Source: Acquah S. Human resources for health projections for the Ghana health sector. Accra: Government of Ghana, Ministry of Health; 2016.

Table A8.2 Nurse–population ratio by region, Ghana, 2009–2015

Year	Ashanti	Brong-Ahafo	Central	Eastern	Greater Accra	Northern	Upper East	Upper West	Volta	Western	Ghana
2009	1:2100	1:1868	1:1400	1:1197	1:1158	1:1960	1:1138	1:1145	1:1264	1:1797	1:1494
2010	1:1994	1:1915	1:1607	1:1376	1:1043	1:2077	1:1158	1:1204	1:1434	1:1727	1:1516
2011	1:2023	1:1850	1:1700	1:1565	1:1192	1:1942	1:1161	1:1160	1:1570	1:1777	1:1599
2012	1:1699	1:1671	1:1412	1:1303	1:960	1:1791	1:1045	1:1036	1:1470	1:1448	1:1362
2013	1:1296	1:1245	1:1185	1:1041	1:826	1:1423	1:715	1:855	1:1135	1:1142	1:1084
2014	1:1088	1:1132	1:996	1:900	1:764	1:1255	1:669	1:813	1:925	1:1077	1:959
2015	1:798	1:827	1:778	1:712	1:642	1:946	1:449	1:536	1:706	1:892	1:739

Source: Ministry of Health: Health sector 2015 holistic assessment.

Annex 9. Policy and other documents guiding PHC planning and implementation

A. Broad policies

A.1 Medium-Term Health Strategy towards Vision 2020, 1999 revised edition

1. First Five-Year Programme of Work, 1997–2001
2. Second Five-Year Programme of Work, 2002–2006

A.2 National Health Policy: Creating Wealth through Health, 2006

1. Third Five-Year Programme of Work, 2007–2011
2. Health Sector Medium-Term Development Plan, 2010–2013
3. Health Sector Medium-Term Development Plan, 2014–2017

A.3 National Community-Based Health Planning and Services Policy, 2016 revised edition

1. Community-Based Health Planning and Services: implementation guidelines, 2016, revised edition

B. System support policies

B.1 Governance

1. Ghana Health Service and Teaching Hospitals Act No. 525, 1996
2. Mental Health Service Act No. 846, 2012
3. Local Government Act No. 462, 2003
4. Local Government Instrument L.I. 1961, 2009
5. Public Procurement Act No. 663, 2003
6. Internal Audit Act No. 658, 2003
7. Financial Management Act No. 921, 2016
8. Labour Act No. 651, 2003
9. Health Institutions and Facilities Act No. 829, 2011
10. Health Professions Regulatory Act No. 857, 2012
11. Public Health Act No. 852, 2012
12. Private Health Sector Development Policy, 2013, 2nd edition
13. Health Sector Gender Policy, 2009

B.2 Health financing

1. National Health Insurance Act, 2012
2. Health Financing Strategy, 2013

B.3 Human resources

1. Single Spine Salary Scale, Public Sector Pay Policy, 2007
2. National Policy on Human Resources for Health, 2012
3. In-Service Training Policy and Guidelines, 2006
4. Human Resources for Health Strategy and Implementation Plan, 2013

B.4 Health commodities and technologies

1. Health Sector ICT Policy
2. Transport Policy, 2003

B.5 Health information

1. Medical Records Policy
2. Standard Operating Procedures on Health Information Management II, 2nd edition, 2014
3. Ghana Health Sector Monitoring and Evaluation Framework, 2014

C. Service delivery policies

C.1 Service delivery: disease control programmes

1. National Malaria Control Programme Strategic Plan, 2014–2018
2. National Tuberculosis Control Programme
3. National AIDS Control Programme: Ghana National HIV and AIDS Strategic Plan, 2016–2020
4. Expanded Programme for Immunization: Country Multi-Year Plan, 2017–2019
5. National Policy Guidelines on Immunization in Ghana, 2016
6. National Neglected Tropical Diseases Control Programme: Five-Year Strategic Plan, 2013–2017
7. National Buruli Ulcer Control Programme Strategic Plan, 2014–2018
8. Technical Guidelines: Integrated Disease Surveillance and Response, 2nd edition, 2011
9. National Policy on Viral Hepatitis, 2014

C.2 Reproductive, maternal, newborn, child and adolescent health

1. National Reproductive Health Service Policy and Standards, 3rd edition
2. Adolescent Health Policy
3. Under-5 Child Health Policy, 2007–2015
4. Ghana National Newborn Health Strategy and Action Plan, 2014–2018
5. Ghana National Newborn and Child Health: Advocacy and Communication Strategy and Year One Work Plan, 2015–2019

C.3 Quality assurance

1. Referral Policy and Guidelines, 2012
2. National Health Care Quality Strategy, 2017–2021

3. Policy and Guidelines for Hospital Accidents and Emergency Services in Ghana, 2011
4. National Policy and Guidelines for Infection Prevention and Control in Health Care Settings, 2015

C.4 Health, nutrition and other policies

1. National Health Promotion Policy, 2005
2. National Blood Policy for the Health Sector, 2006
3. Occupational Health and Safety Policy and Guidelines for the Health Sector, 2010
4. Mental Health Policy
5. National Nutrition Policy, 2013–2017
6. Telemedicine Policy

Annex 10. PHC information and monitoring systems

Information system	Description	Strengths	Weaknesses	Remarks
Ghana DHIMS2 database	A routine web-based electronic database developed from the open-source DHIS2 Has modules for service delivery, financial, human resources and logistics data, quality validation tools, geographical position system, and can produce standard and customized reports and dashboards for users Over 6000 health service delivery facilities (public and private) in all the 216 districts are on the platform Developing in-house capacity to manage continuous improvement of the system	Real-time data are accessible to permissible stakeholders at all levels Generates standard and customized reports, including GPS system Tool for monitoring at all levels	Provides summary data, so not useful for management of cases Errors sometimes occur from the tallies and data entry, requiring validation checks	
DHIMS2 e-tracker system	Electronic, transactional, case-based, data-related records system piloted in 86 health facilities in four districts for maternal and child health and TB control services	Data can be used to improve case management and also uploaded into the DHIMS2 database in summary form Eliminated the tallying and data re-entry errors, with time savings	Requires computing equipment and good Internet connectivity at all service delivery points	Work continuing towards expanding scope of services and geographical coverage
Integrated Disease Surveillance and Response system	Strategy for strengthening surveillance, laboratory support and response capacities at all levels of the health system Evolved from primary focus on 23 communicable diseases to 45 priority diseases and conditions or events of public health importance Facility-based surveillance complemented by community-based surveillance through the use of volunteers			
Hospital medical records	Mixed paper and electronic record systems; different system in use Hospital Administration Management System software is locally developed, and provides a cost-effective solution with strong local support iHost is an open source electronic medical records system designed to support the operation of a medical facility, such as a hospital or medical centre; developed initially for NHIS submission but being expanded to electronic medical records system			

Information system	Description	Strengths	Weaknesses	Remarks
Ghana reproductive, maternal, newborn, child and adolescent health scorecard	Web-based online tool captures all information and automatically produces reports for accountability and action Tool builds on existing data sources, strategic and operational plans and outputs from the working sessions to gather baseline data, targets, 3–5 national priority indicators and 24 actionable regional and district indicators			
Financial information	Quarterly validation of accounts records and reporting reports; the financial records are essentially accounting records for audit purposes and are not useful for management decision-making Annual National Health Accounts conducted in 2002, 2005 and 2010, and then annually since 2012	Satisfy the statutory and CMA requirements Recent National Health Accounts give data on main diseases and health problems	Quarterly accounting reports are geared towards reporting upwards, rather than for local decision-making National Health Accounts data are not disaggregated to show the PHC component	
Human resource information systems	Integrated Personnel Payroll Database iHRIS piloted in one region but could not scale up due to financial constraints; even the pilot region is not using it		Integrated Personnel Payroll Database limited to public sector only	Issue is mainly lack of direction on the issue
Logistics Management Information System	A paper-based logistics management system with minimum and maximum stock levels for each level and type of health facility Electronic early warning system at some regional and other health facilities, but managers not putting it into effective use		Poor monitoring Most facilities report stock-outs	Blamed on delay in NHIS reimbursement for services rendered
Population-based surveys	Ghana has conducted six Demographic and Health Surveys and six Ghana Living Standards Surveys since 1988, as well as Multiple Indicator Cluster Surveys Important sources of information for planning and monitoring progress	Validate the routine data Provide information that is not generated routinely	Results give performance in the past 3–5 years and not the time of the survey	

Annex 11. Way forward: Ghana PHC priorities by type of respondent and level of the health system

No.	Priorities	Type of respondent	Health system level
1.	Implementing agencies should be efficient, operate within approved budget and meet their performance targets Development partners should minimize earmarking of their support and disclose any retained budget that is spent on behalf of the sector	Policy-makers	National
2.	Ministry of Health should clarify roles of agencies Ministry of Health should desist from taking over implementation roles of agencies Government should provide adequate resources for service delivery	Service delivery agencies	
3.	Government to adhere to mutually agreed health sector programme of work Government to commit more resources to health sector, especially at the PHC level Ministry of Health and its implementing agencies should be efficient and should meet agreed reporting deadlines and performance targets	Development partners and NGOs	
4.	Health sector should accelerate the decentralization process GHS should collaborate with the health regulatory agencies in the investigation and sanctioning of providers involved in malpractice Health sector managers should be transparent when dealing with local government	Local government and other ministries, departments and agencies	
5.	The public sector to engage the private sector more and support them with resources to contribute to the sector objectives	Private sector service delivery agencies	
6.	Health service delivery should be decentralized from the central level There is a need for leadership and management development and strengthening of the governance systems at all levels	Health and PHC experts	
7.	Infrastructure: more facilities, road networks NHIS to settle outstanding arrears and reimburse service providers promptly Regions should be involved in the siting of investment projects Equity in staff distribution and improvement of staff morale (e.g. rural incentives and further education)	Public sector health providers	Regional
8.	Health service providers should submit their progress reports in a timely manner to the regional coordinating councils	Regional coordinating councils and other regional ministries, departments and agencies	
9.	Public sector should engage the private sector more to contribute to policy dialogue	Private sector providers	
10.	NHIS to settle outstanding arrears and reimburse service providers promptly District health managers to be involved in the siting of health facilities The national level should ensure adequate and equitable resources for service delivery Should be equity in resource allocation, including human resources	Public health service providers	District
11.	GHS should realign subdistricts with electoral areas DHMTs should provide timely reports of health sector performance to MMDAs DHMTs should disclose the resources they use before requesting support from MMDAs Health should second nurses to schools for primary care and school health	MMDAs and decentralized ministries, departments and agencies	
12.	Health sector should assist providers with resources to contribute to improved health	Local NGOs and community-based and civil society organizations	
13.	NHIS to pay arrears and reimburse submitted claims promptly Regulatory agencies should simplify their processes, decentralize their operations and reduce the cost of registration and renewal	Private health providers	

No.	Priorities	Type of respondent	Health system level
14.	NHIS to settle outstanding arrears and reimburse service providers promptly Provide staff accommodation, improved infrastructure, equipment, transport and logistics for service delivery Improve road networks to improve access to communities Government to provide adequate and timely resources for service delivery	Public service providers	Subdistrict
15.	Regulatory agencies should simplify their processes, decentralize their operations and reduce the cost of registration and renewal	Private service providers	
16.	Provide suitable furnished accommodation, security, transport, equipment, logistics and funds for operations DHMTs and subdistrict health teams should provide facilitative supervision and regular technical support Provide opportunities for in-service training and career progression There is a need for community meetings to encourage community participation in health	Public sector service providers (community health officers)	Community
17.	Scale up functional CHPS and improve back-up support and referral system by strengthening health centres and hospitals	Public health service providers	
18.	NHIS to pay arrears and reimburse submitted claims promptly Regulatory agencies should simplify their processes, decentralize their operations and reduce the cost of registration and renewal	Private health service providers	
19.	Government to improve health infrastructure, such as hospitals, clinics, and CHPS compounds Service providers should ensure the availability of health logistics Government should improve the NHIS performance Health workers should attend to patients promptly and be courteous The NHIS to improve its performance by making the registration and renewal processes accessible and easy NHIS should reimburse providers regularly	Community leaders and members, civil society and community-based organizations	

This case study was developed by the Alliance for Health Policy and Systems Research, an international partnership hosted by the World Health Organization, as part of the Primary Health Care Systems (PRIMASYS) initiative. PRIMASYS is funded by the Bill & Melinda Gates Foundation, and 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.

World Health Organization

Avenue Appia 20
CH-1211 Genève 27
Switzerland
alliancehpsr@who.int
http://www.who.int/alliance-hpsr