

PRIMARY HEALTH CARE SYSTEMS (PRIMASYS)

Case study from Rwanda

Abridged Version

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Primary Health Care Systems (PRIMASYS)

Case study from Rwanda

Overview

Before the 1994 Genocide against the Tutsi, the Rwandan health system was characterized by a high degree of centralization and free provision of health services. During the genocide, most infrastructure was destroyed and many of the health staff were killed or fled the country. During the transitional period 1994–2003, efforts were deployed to rebuild basic health care and human resources, mainly through the rehabilitation and reconstruction of the health system, and filling the gaps in human resources. The Faculty of Medicine reopened very quickly, along with 12 nursing schools.

Between 2000 and 2003, a number of important reforms took place within the health system. One such reform was the establishment of the National AIDS Control Commission as an advocacy body to fight HIV/AIDS, including through resource mobilization and coordination of partners. Programmes on malaria, HIV/AIDS and tuberculosis were merged in the Centre for Treatment and Research on AIDS, Malaria, Tuberculosis and Other Epidemics (TRAC Plus), and resources were allocated to the prevention, treatment and control of those three major diseases. Another important innovation was the creation of the Central Procurement Agency for Essential Medicines in Rwanda (Central d'Achat des Medicaments Essentiels de Rwanda – CAMERWA), responsible for the procurement, storage and distribution of drugs and consumables for the

public sector. In 2003, community-based health insurance was institutionalized and a health insurance policy developed. The related law was enacted in 2007 (1).

Rwanda is among the few countries to have achieved universal health coverage due to its vision of inclusiveness, equity, and comprehensive and integrated quality service delivery, with a focus on primary health care (PHC). Rwanda's health sector has made tremendous progress in improving the health status of the population. These improvements are mirrored by the improvements in access to health care services and utilization of those services. According to Rwanda annual health statistics, the PHC utilization rate increased from 0.81 to 0.94 visits per inhabitant from 2009 to 2013 (2, 3).

According to data from the Integrated Household Living Conditions Survey 2013–2014, there was a significant increase in service utilization between 2005 and 2012, especially within the lowest socioeconomic category. The proportion of the population reporting an illness or accident who consulted a medical practitioner increased from 31% to 40%. This achievement is largely attributable to good governance and, on the demand side, to financial innovations, such as community-based health insurance and performance-based financing (4, 5).

Table 1 provides basic demographic and health data for Rwanda.

Table 1. Basic demographic and health data, Rwanda

Indicators	Results	Source of information
Total population of country	12 988 423	Rwanda Demographic and Health Survey, 2014–2015 (6)
Distribution of population (rural/urban)	67% / 33%	Rwanda Demographic and Health Survey, 2014–2015 (6)
Life expectancy at birth	64.5 years	Rwanda Demographic and Health Survey, 2014–2015 (6)
Infant mortality rate	31 per 1000 live births	UNICEF/WHO, countdown to 2015 report (2, 3)
Under-5 mortality rate	42 per 1000 live births	UNICEF/WHO, countdown to 2015 report (2, 3)
Maternal mortality rate	210 per 100 000 live births	Rwanda Demographic and Health Survey, 2014–2015 (6)
Immunization coverage under 1 year (including pneumococcal and rotavirus)	98%	UNICEF/WHO, countdown to 2015 report (2, 3)
Income or wealth inequality (Gini coefficient)	0.448	Statistical yearbook, Integrated Household Living Conditions Survey (4)
Total health expenditure as proportion of GDP	15.5% of GDP (2012–2013)	Health Financing Sustainability Policy, March 2015
PHC expenditure as % of total health expenditure	38.098%	World Bank, Global Health Expenditure database, 2014
% total public sector expenditure on health care	9.9%	World Bank, Global Health Expenditure database, 2014
Per capita public sector expenditure on PHC	US\$ 52 (2014)	World Bank, Global Health Expenditure database, 2014
Out-of-pocket payments as proportion of total expenditure on health	18%	UNICEF/WHO, countdown to 2015 report (2, 3)

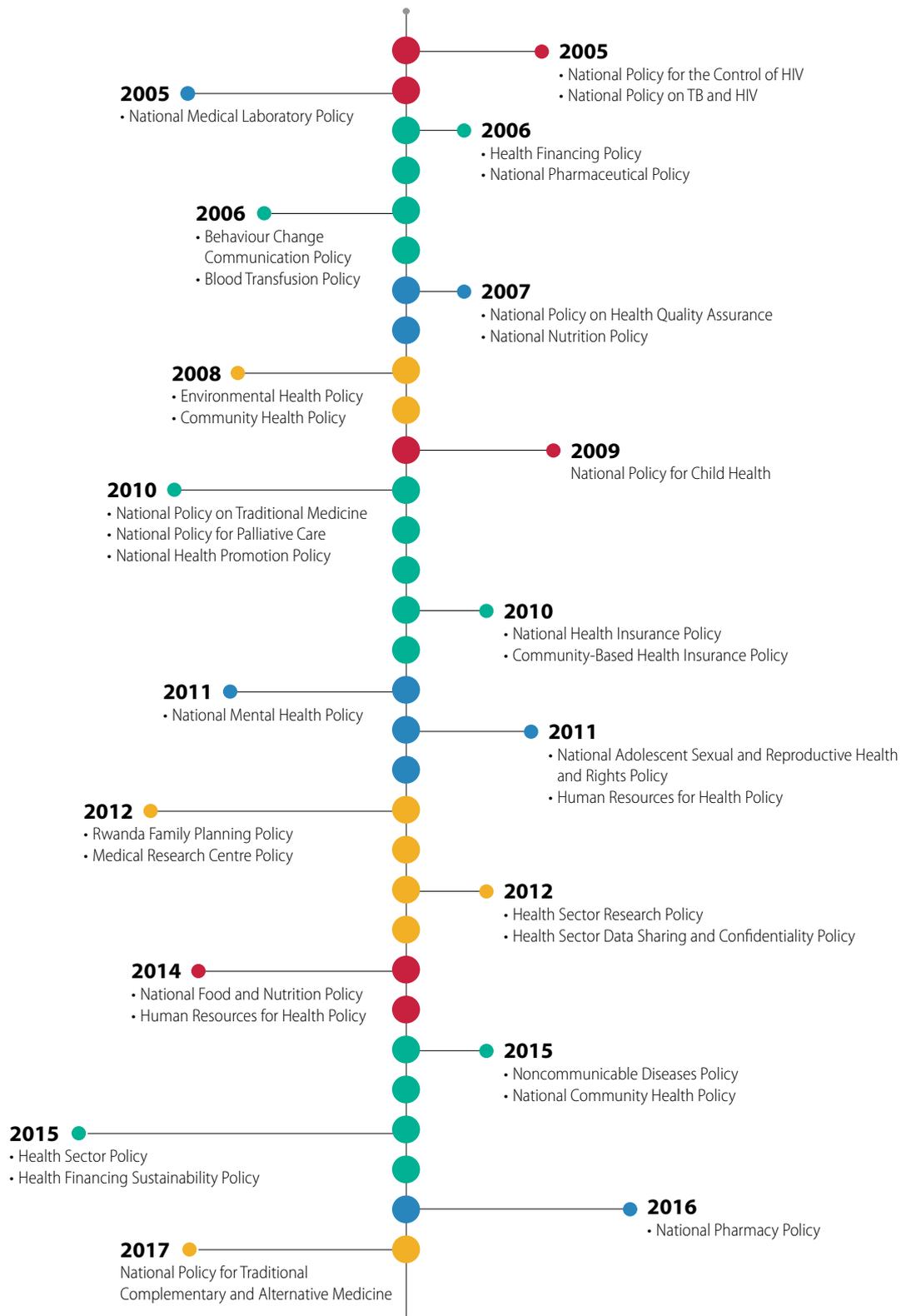
Other sources: World Health Organization (7); Bayarsaikhan and Musango (8).

Timeline

The Rwandan health system has seen an improved performance in recent years, based on quality of care

and decentralization of health care systems. Policies and programmes have been developed in an effort to respond to the population’s health care needs and to align the health system with the global health agenda (Figure 1).

Figure 1. Relevant policies on the PHC system in Rwanda, by date

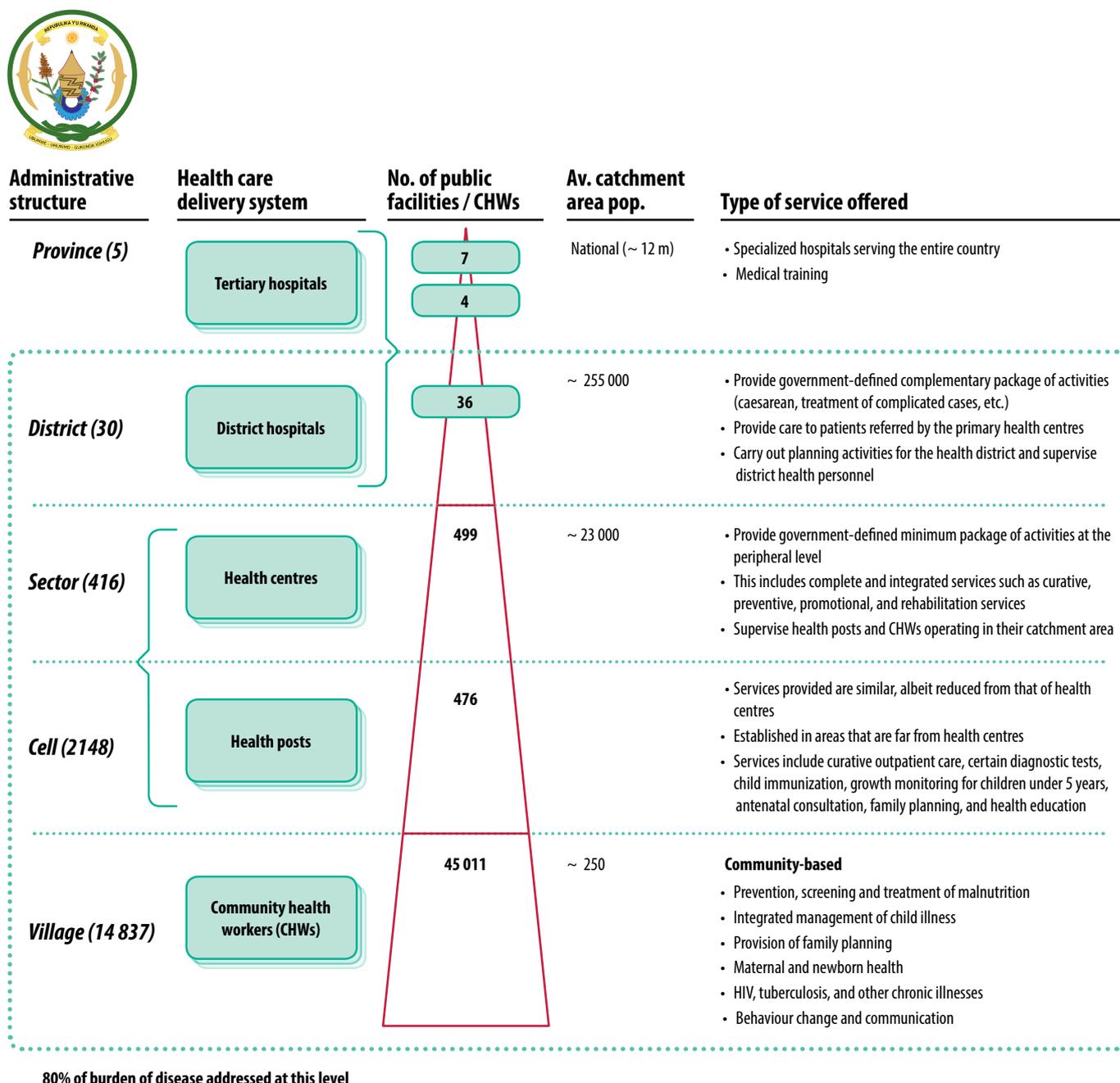


Governance and organizational structure of health system

The overall administrative head of the Rwanda health system is the Ministry of Health, which governs all health facilities, both public and private. In Rwanda, public health facilities represent 64% of the total number of non-private health facilities, with 28% run by faith-based organizations. Currently the system is organized in four levels (Figure 2) (9).

Central level. The Ministry of Health has the following core functions: (a) to develop, disseminate and coordinate the implementation of health policies, strategies and programmes; (b) to regulate the health sector; (c) to monitor and evaluate the implementation of policies, strategies and programmes of the health sector and related sectors; (d) to develop institutional and human resource capacities in the health sector; (e) to develop innovative health financing approaches for accessibility to quality health services; (f) to oversee the institutions under supervision; (g) to mobilize

Figure 2. Representation of the health care system of Rwanda



Source: Ministry of Health (10).

resources for the development of the health sector and related programmes; and (h) to develop medical cooperation and coordinate health sector development partners.

In order to oversee the implementation of policies, strategies and health-related programmes, the Rwanda Biomedical Centre was set up in 2011 with the following functions: (a) to coordinate and follow up the implementation of programmes aiming at improving health promotion, disease prevention, diagnosis, treatment and care for communicable and noncommunicable diseases; (b) to coordinate health care technology management and engineering of infrastructure for all public health facilities in Rwanda; (c) to prevent and control epidemic diseases and other public health emergencies in Rwanda through the implementation of an effective and efficient national epidemiological surveillance and response system; (d) to contribute to efficiency promotion and financial sustainability of the health sector through income-generating biomedical-related activities and research; and (e) to establish and strengthen collaboration with local, regional and international institutions having related missions.

National referral hospitals. There are five national referral and teaching hospitals whose mission is to provide tertiary care to the population. These are the King Faisal Hospital, Rwanda Military Hospital, Kigali University Teaching Hospital, Butare University Teaching Hospital and Ndera Neuropsychiatric Hospital.

Intermediary level. The referral and provincial hospitals form an intermediary level of referral hospitals at the province level. Three referral and four provincial hospitals are being gradually upgraded to decrease the pressure of demand for services in the national referral hospitals.

Peripheral level. This level is represented by an administrative office (district health unit), district hospital, and a network of health centres, health posts and community health workers. The district health unit is an administrative unit in charge of the provision of health services, and is responsible for planning, monitoring and supervision of the implementing agencies. It reports to the vice-mayor for social affairs.

In addition, Rwanda has a national blood transfusion service, a national medical procuring and storing service, national laboratories, and health professions councils for supervising and monitoring professional practices.

There are five national referral hospitals with functions including specialized health service provision, teaching in

medical and health sciences schools, and research. There are also three other referral hospitals at province level, four provincial hospitals and 36 district hospitals, 499 health centres at sector level, and around 45 516 community health workers serving the population at village level (10, 11).

Hierarchy of health service provision in Rwanda

The hierarchy of health service provision in Rwanda can be summarized as follows.

At village level (14 837 villages) the following services are offered in the community:

- prevention, screening and treatment of malnutrition;
- integrated management of child illness;
- provision of family planning;
- maternal and newborn health;
- HIV, tuberculosis and other major illnesses;
- behaviour change and communication.

At cell level (2148 cells) there are 406 health posts with the following package of services:

- PHC services including promotional, preventive and primary curative services;
- basic diagnostics with rapid testing;
- basic package of services for those areas that are far from health centres.

At sector level (416 sectors) there are 499 health centres providing the following services:

- government-defined minimum package of activities at the peripheral level;
- complete, integrated services, such as curative, preventive, promotional, and rehabilitation services;
- supervision of health posts and community health workers operating in their catchment area.

At district level (30 districts) there are 36 district hospitals, with the following services:

- government-defined complementary package of activities (for example caesarean section, treatment of complicated cases);
- provision of care to patients referred by the primary health centres;
- carrying out planning activities for the health district and supervision of district health personnel.

At province level (4 provinces) the facilities provide the following package:

- Gradually upgraded from secondary health care to specialized services to serve the population in the respective provinces. They provide the complementary package of activities and specialized care, including internal medicine, paediatrics, surgery, obstetrics and gynaecology.

Health financing

The Rwanda Vision 2020 considers health finance accessibility as a key priority of its strategic direction. The current Health Financing Sustainability Policy is aligned with the Health Sector Policy 2015 (10) and the second Economic Development and Poverty Reduction Strategy, which aims to develop a wide-ranging financing framework for health systems based on best practices in global health care financing. This framework is built on two main pillars: (a) on the supply side, the implementation of fiscal decentralization with increased transfers from central government to local governments and peripheral health facilities on the basis of needs and performance; (b) on the demand side, the establishment of a health insurance system including cross-subsidies from higher-income to lower-income populations (9, 12). These mechanisms have enabled achievement of a number of major health sector targets, including reduction of unmet needs, increased use of health care services, decreased incidence of catastrophic health expenditures and decreased inequality in access to health care services. Progress has been facilitated by political commitment and development of a legal framework that made health insurance compulsory for all Rwandans in 2016. Figure 3 presents a diagrammatic representation of the architecture of health financing in Rwanda.

Government spending on health has surpassed the 15% required under the Abuja Declaration, showing a high level of commitment to and support for health sector financing, within the limits of national resources. In the 2015/2016 fiscal year, the health sector accounted for 16.52% of total government spending (12).

Risk pooling has been greatly improved as a result of the extension of community-based health insurance schemes, which give the majority of the population access to health care services and drugs. Social and private health insurance schemes now cover approximately 80% of the population.

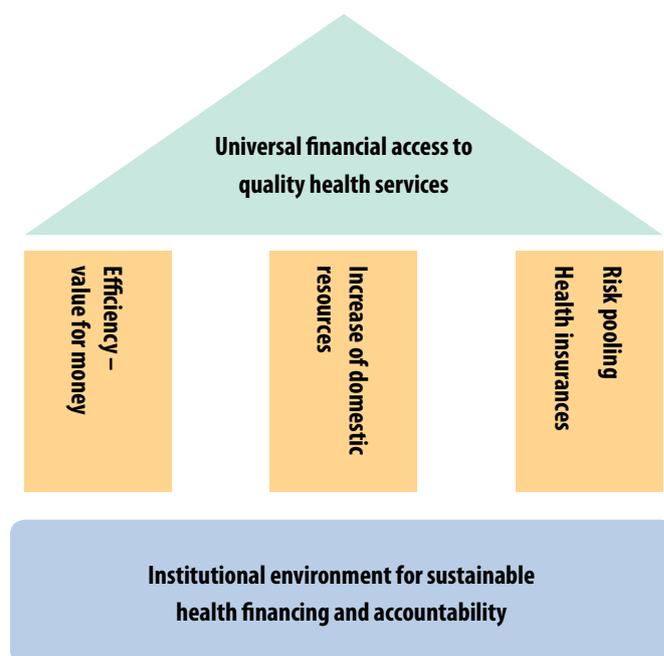
In 2015, Rwanda spent 11.2% of its gross domestic product (GDP) on the health sector, while total public sector expenditure on PHC was 9.9% in 2015. Health expenditure per capita was US\$ 44.6 in 2015, and out-of-pocket expenditure as a proportion of total expenditure on health was 8.8% in 2015 (13). Funds for PHC come from government contributions, development partners, health insurance contributions, social solidarity funding and cross-subsidizing among the community (9, 12).

Human resources for health

Human resources for health are viewed as the backbone of the Rwandan health system, as they consume the biggest share of the budget – 35% of the total expenditure on health in 2015 (13) – and are responsible for managing other resources and running the health service system, as well as being a critical factor for health service development.

Recently, Rwanda developed strategies and interventions to overcome shortages in human resources for health and to ensure the population has access to affordable quality health care. Between 2015 and 2017, the doctor–inhabitant ratio improved from 1:15 428 to 1:8592, while the nurse–inhabitant ratio improved from 1:1200 to 1:1070 (6, 14). As of 2017, Rwanda has 1407 medical doctors (367 specialists and 1040 general physicians) and 11 295 nurses. There are currently two medical schools and eight schools of nursing and midwifery (14). According to the Rwanda Demographic

Figure 3. Architecture of Rwanda health financing



Source: Government of Rwanda (13).

and Health Survey report, 18% of births countrywide were assisted by doctors, 70% by nurses or medical assistants, and 3% by midwives. Furthermore, 3% of births received no assistance and 7% were assisted by untrained persons (6).

Nevertheless, the shortage of human resources in the health sector is one of the biggest challenges facing the government. In order to fill the gaps, the government has invested significant resources in implementing pre-service training programmes and strengthening institutions (9, 12). The Government of Rwanda, in collaboration with development partners, has initiated a human resources for health project that includes a postgraduate training programme for ensuring quality health care for patients at provincial and national referral hospitals. A strategic plan (2016–2020) is being implemented with a focus on innovative models of health training, increasing health personnel productivity, strengthening the capacity of employment, improving data management for decision-making, and mobilizing the necessary sustainable financing.

Quality of health care services in Rwanda

Rwanda recognizes the right to quality health services in its national Constitution. Notable progress has been recorded in improving the health outcomes of the population, and health is among the main priorities of the country's political and development agenda and strategic development planning. Through the Ministry of Health, the Quality Assurance Department is responsible for coordinating quality-related programmes.

The quality of health care services in Rwanda is continuously and regularly monitored through accreditation, performance-based financing and integrated supportive supervision. Each year district mayors sign performance contracts with the President of Rwanda for all public sectors, including health-related indicators. District mayors, in turn, utilize performance-based contracts (*imihigo*) with health facilities to encourage fulfilment of standards, with subsidies and financing contingent on performance. Health performance targets include indicators for declining morbidity and mortality associated with prevention and curative care, as well as access to care. Performance against indicators is monitored with quarterly evaluations and through analysis of results in annual reports (10).

Regulation, monitoring and evaluation

The Government of Rwanda, through the Ministry of Health, ensures regulation of the health sector in collaboration with the health professions councils. Through the enactment of laws and the establishment of statutory professional bodies, the government ensures certification of health facilities, health professionals, health products and equipment. A number of codes and regulations have been put in place for health sector actors, for example the code for allied health, the code of ethics for the pharmacy profession, and codes for the nursing profession (13, 14).

The Ministry of Health requires that data management, validation and verification be conducted routinely after report submission. The routine data quality review is retrospectively conducted on all data submitted to the centralized Health Management Information System (HMIS) during the previous reporting period and any other reporting periods deemed necessary by the review team. The findings from the data validation and verification review must be submitted to the Ministry of Health within five working days after each review and discussed by the institution reviewed within two working days after the review.

The main source of data is the HMIS. Data are recorded in health centres and hospitals on patient files, collated in registers, and then compiled monthly and transmitted to the centralized HMIS server on the fifth day of the reporting month.

Other routine web-based information management solutions include the Integrated Disease Surveillance and Response system (which monitors a number of diseases, including HIV and tuberculosis), performance-based financing and data warehouse systems, and the Community Health Information System (SISCOM), which collects, stores, retrieves and disseminates critical programme and patient information related to care and treatment. Data-driven decision-making and policy formulation have increased the efficiency of health programme management and enhanced the government's capacity to monitor the quality of health care. Deployment of a centralized, web-based HMIS started in 2012 with the aim of simplifying data collection and improving the timeliness of reporting.

All government institutions at central and local levels use the collected data to inform planning and budgeting. However, all levels should ensure appropriate infrastructure, skilled personnel and accountability.

Routine health data are sent from health facilities and the community by data managers and community health workers. Reports are sent regularly (quarterly, monthly or weekly) or on a case-by-case basis through the web-based Rwandan HMIS. Figure 4 shows how information flows between the entities involved in data collection.

Way forward and policy considerations

To maintain the progress made in PHC service provision, Rwanda will continue to place emphasis in certain areas:

- promotion of community involvement in the health care system to reinforce community ownership, to encourage

- contributions and feedback on quality of health services, and to ensure the accountability of all involved actors;
- promotion of data use to inform policy and decision-making;
- increasing the domestic budget for PHC (in response to the decrease in external funding) by improvements in pooling finances and risk to ensure affordable care;
- encouraging development of e-health through the use of advanced technology and knowledge transformation to collect available data and success stories to inform future plans;
- provision of continuous support for human resources for health, and availing an adequate, skilled workforce by means of training and retention plans.

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