

Better Spending, Better Care

A Look at Haiti's Health Financing

Health Nutrition and Population Global Practice
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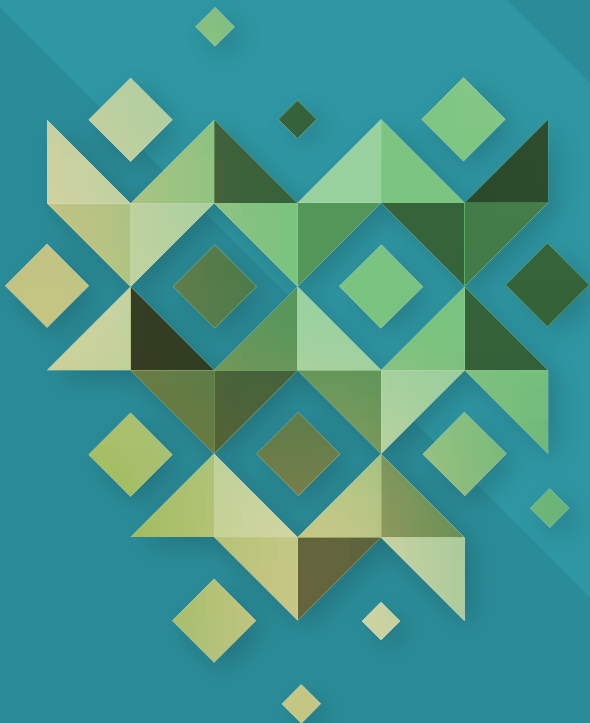


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ABBREVIATIONS

AIDS	Acquired immune deficiency syndrome
ALOS	Average length of stay
ANC	Antenatal care
ANOVA	Analysis of variance
ASC	<i>Agent de santé communautaire</i> (Community health worker)
BOR	Bed occupancy rate
BSC	Balanced Score Card
CAL	<i>Centre de santé avec lit</i> (Health center with bed)
CDAI	<i>Centre Départemental d'Approvisionnement en Intrants</i>
CEmOC	Comprehensive Emergency Obstetric Care
CHE	Catastrophic health expenditure
CNMP	<i>Commission Nationale des Marchés Publics</i> (National Procurement Commission)
CONAM	<i>Coordination Nationale de l'Assurance Maladie</i> (National Coordination of Health Insurance)
CSL	<i>Centre de santé sans lit</i> (health center without bed)
DALY	Disability-adjusted life years
DASH	<i>Développement des Activités de Santé en Haïti</i> (Development Activities and Services for Health)
DDS	<i>Directions départementales sanitaires</i> (departmental health directorates)
DEA	Data envelopment analysis
DH	Departmental hospital
DHS	Demographic and Health Survey
DTP	Diphtheria, tetanus, and pertussis
ECVMAS	<i>Enquête sur les Conditions de Vie des Ménages après le Séisme</i> (Survey on the Living Conditions of Households after the Earthquake)
EPHS	Essential package of health services
GAVI	Global Alliance for Vaccines and Immunizations
HIS	Health information system
HIV	Human immunodeficiency virus
HR	Human resources
IMR	Infant mortality rate
LAC	Latin America and the Caribbean
LIC	Low-income country
MIF	Multilateral Investment Fund
MMR	Maternal mortality ratio
MPCE	<i>Ministère du Plan et de la Coopération Extérieure</i> (Ministry of Planning and External Cooperation)
MSH	Management Sciences for Health
MSPP	<i>Ministère de la Santé Publique et de la Population</i> (Ministry of Public Health and Population)
NCD	Noncommunicable disease

NGO	Nongovernmental organization
NHA	National Health Account
ODA	Official development assistance
OFATMA	<i>Office d'Assurance Accidents du Travail, Maladie et Maternité</i> (Office of Insurance for Work Accidents, Illness and Maternity)
OOP	Out-of-pocket
ORS	Oral rehydration solution
ORT	Oral rehydration therapy
PAHO	Pan American Health Organization
PDS	<i>Plan Directeur de Santé</i> (Health Master Plan)
PER	Public expenditure review
PES	Package of essential services
PFM	Public financial management
PHC	Primary health care
PIP	<i>Programme d'Investissement Public</i> (Public Investment Program)
PNS	Politique Nationale de Santé (National Health Policy)
RBF	Results-based financing
SARA	Service Availability and Readiness Assessment
SCD	Systemic Country Diagnostic
SDG	Sustainable Development Goal
SDI	<i>Schéma Directeur Informatique</i> (IT Master Plan)
SDI	Service delivery indicator
SDSH	<i>Santé pour le Développement et la Stabilité d'Haïti</i> (Health for the Development and Stability of Haiti)
SH	Small hospital
SPA	Service Provision Assessment
TE	Technical efficiency
THE	Total health expenditure
U5MR	Under-5 mortality rate
UAS	<i>Unité d'arrondissement de santé</i> (district health unit)
UH	University hospital
UHC	Universal health coverage
UN	United Nations
UPE	<i>Unité de Planification et d'Evaluation</i> (Planning and Evaluation Unit)
USAID	U.S. Agency for International Development
WASH	Water, sanitation, and hygiene
WDI	World Development Indicators (database)
WHO	World Health Organization

EXECUTIVE SUMMARY

This report seeks to formulate a long-term vision for Haiti's health sector to accelerate progress toward universal health coverage (UHC), a key objective of the government's National Health Policy (Politique Nationale de Santé, PNS)—MSPP (2012). Progress toward this goal has been hindered by political instability and frequent natural catastrophes. Most recently, in October 2016, Hurricane Matthew wreaked havoc on Haiti's health system. It has been estimated that at least 1,000 people died and 1.4 million Haitians were directly affected by the hurricane. Such disasters have influenced Haiti's government and development partners by demanding a short-term focus on acute need priorities. This study aims to take a step back, assess Haiti's health financing system, and identify critical constraints and opportunities to accelerate progress toward UHC and the health-related United Nations' Sustainable Development Goals (SDGs) in the long term. The report compiles existing studies and information, and it provides new analysis of larger data sets, as well as hospital financing data. To our knowledge, it is the first attempt to assess systematically the health financing system in Haiti.

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Findings

Although Haiti has made significant progress on key health outcomes since the 1990s, it still fares worse than many low-income countries in terms of service coverage of key interventions and in providing equitable access to health. Between 1990 and 2015, maternal and child mortality fell by about half. And yet the maternal mortality ratio and the under-5 mortality rate have to decline further—by 80 percent and 64 percent, respectively, by 2030—to attain the SDGs. Compared with other low-income countries (LICs), Haiti has low coverage rates of basic services. For example, according to the 2012 Demographic and Health Survey (DHS) in Haiti, the coverage of institutional deliveries was 37 percent—the Low and Middle-Income Countries (LMICs) average is 70.5 (Joseph et al. 2016)—and the percentage of children under 24 months who received all three diphtheria, tetanus, and pertussis (DTP) vaccine doses. Meanwhile, service coverage was dramatically lower for the poorest wealth quintiles—for example, deliveries in health care facilities were eight times more frequent (76 percent) for the highest wealth quintile than for the lowest quintile (9 percent). The disparity in utilization mirrors the inequality in health outcomes in Haiti. For example, growth was stunted in 31 percent of children in the lowest wealth quintile but only 6 percent of children in the highest wealth quintile (DHS 2012).

The overall health expenditure in Haiti is high relative to those of the LICs, but health outcomes are not significantly better, which points to low overall efficiency in the health sector. Haiti's total health expenditure (THE) as a proportion of its gross domestic product (GDP) is 7.6 percent, which is higher than the average for the LICs (5.7 percent) and comparable to the average for the Latin America and the Caribbean (LAC) region (7.2 percent). Haiti's THE per capita is \$131 in international dollars, which is much higher than the LIC average (\$93) but much lower than the LAC region average (\$1,113).¹ Nevertheless, value-for-money is low because the level of spending in Haiti is much higher than in other countries with

similar or lower maternal and infant mortality ratios, such as Rwanda (\$125) and Eritrea (\$51).² This finding also highlights issues of low efficiency in Haiti's health sector.

The efficiency of health providers could be greatly improved. Service readiness is an issue across all facilities, and present levels of health worker productivity is very low. An analysis of how efficiently health inputs are turned into health services reveals that Haiti has very low technical efficiency scores compared with those of other LICs (Zere et al. 2006; Akzaili et al. 2008; Sebastian and Lemma 2010; Marshall and Flessa 2011; Hernandez and Sebastian 2013; Kirigia and Asbu 2013; Jehu-Appiah et al. 2014; Osmani 2015). Dispensaries are the most inefficient type of health facility, and the inefficiency of the remaining facility types—health centers without bed (*centres de santé sans lit*, CSLs), health centers with bed (*centres de santé avec lit*, CALs), and hospitals—follows accordingly. Thus primary care level units are particularly inefficient. Other measures of efficiency at the hospital level, such as bed occupancy rate, confirm the low productivity of hospitals. One reason facilities are inefficient is low staff productivity levels. For example, medical staff see only six patients a day (less than one patient per hour). Productivity is also negatively influenced by absenteeism, which contributes to the waste of approximately \$3 million per year (MSPP forthcoming³), moonlighting, and limited service readiness. A recent study of health facilities in three departments revealed that the medical staff in primary health care (PHC) facilities work only four hours a day but are actually paid a full-time⁴ salary (World Bank, USAID, and MSPP 2013). Furthermore, only 32 percent of health facilities provide essential medicines,⁵ and only 31 percent possess basic medical equipment. Other key factors contributing to low productivity at the hospital level are poor functioning of the referral system and poor utilization rates. The fact that the Ministry of Public Health and Population (*Ministère de la Santé Publique et de la Population*, MSPP) allocates 90 percent of its operating budget to personnel costs means that operational budgets are



1 These figures are in international dollars (at constant 2011 prices, purchasing power parity-adjusted).

2 World Development Indicators (database) 2016, World Bank, <http://data.worldbank.org/products/wdi>.

3 This publication, developed in partnership with the U.S. Agency for International Development (USAID), has not been released, but it was drafted in September 2014.

4 Here, "full-time" refers to a workday of eight hours.

5 Facilities were considered to have basic access to essential drugs if at the time of the survey they dispensed at least half of the 14 medicines in the Service Availability and Readiness Assessment (SARA) list of the World Health Organization (WHO 2010b).

too tight to ensure an adequate supply of essential drugs and equipment.

Even though it would be more cost-effective to invest in primary care, large allocations of resources to hospital care persist, which is one reason why value-for-money is low. Currently, Haiti only spends 19 percent of its total health expenditure on preventive care, whereas 54 percent is spent on curative care. Furthermore, the number of dispensaries per capita (the dispensary is the key facility for the provision of primary care) is much lower than the average of other LICs, while the number of community referral hospitals (*hôpitaux communautaires de référence*, HCRs)⁶ per capita is much higher (MoHSW 2008; Awate 2014; Ujoh and Kwaghsende 2014). However, the three leading causes of disability-adjusted life years (DALYs) in Haiti are the human immunodeficiency virus (HIV), acute respiratory infections, and diarrhea, all which could be addressed by preventive and primary health care interventions. This evidence on Haiti's disease burden indicates that it would be much more cost-effective to increase coverage of promotional and preventive health services at the primary care level than to maintain the current density of hospitals per capita.

Inefficiencies in both domestic and external funding are exacerbated by the fragmentation and lack of coordination of external aid. After the 2010 earthquake,⁷ it appears that a large share of external emergency funding focused on strengthening infrastructure, particularly the construction and rehabilitation of hospitals. Because Haiti did not have a strong coordination mechanism in place at that time and 90 percent of external funding is off-budget, it has been difficult to track, monitor, and plan how these resources are applied to the health sector. As a consequence, this funding has not been maximized to facilitate long-lasting and positive impacts. In the immediate aftermath

of the earthquake, several capital investments in infrastructure were funded by development partners in the form of donations to the MSPP. Since then, the MSPP has found the operational costs necessitated by these capital investments to be unaffordable—a situation that has posed further challenges to funding the health sector. In other words, the post-catastrophe response has often taken the form of construction or rehabilitation of hospitals without planning for how the running costs will be met after the initial emergency has passed. Consequently, hospitals are currently lacking the basic resources to ensure service delivery, and the MSPP is unable to meet these increasing operational costs, which is affecting its capacity to ensure staff recruitment, training, and the provision of medical equipment and commodities.

Meanwhile, for the poorest Haitians health care is unaffordable. After the 2010 earthquake, out-of-pocket expenditures as a fraction of total health expenditure fell to 26 percent (2011), which is about 10 percent lower than in 2009.⁸ However, this study shows that out-of-pocket expenditures increased steadily in the years that followed and reached 35 percent in 2014.⁹ The incidence of catastrophic health expenditures (CHEs)¹⁰ has also increased, and vulnerable populations, such as those hospitalized, the unemployed, and households with more than three children under 5, are the most affected.¹¹ Almost all health facilities (93 percent) charge user fees; this financial burden falls heaviest on the poorest segments of the population. In fact, nearly two-thirds (63 percent) of households in the lowest wealth quintile do not consult a health provider because they cannot afford to do so.

Haiti's health financing system has undergone profound change over the last two decades, particularly since the 2010 earthquake. Government financing of health care has also declined sharply in



- 6 The density of dispensaries and community referral hospitals (*hôpitaux communautaires de référence*, HCRs), was estimated using the 2013 SPA data set—Service Provision Assessment (Évaluation de la Prestation des Services de Soins de Santé, EPSSS), Haitian Institute of Childhood and ICF International, <http://dhsprogram.com/what-we-do/survey/survey-display-442.cfm>. The density of community hospitals included small hospitals. Although a small hospital is not classified as a community referral hospital, these hospitals have a similar bed capacity and staff, and thus could be regrouped. According to SPA, there were 40 HCRs and 65 small hospitals in 2013.
- 7 A catastrophic 7.0 magnitude earthquake struck Haiti in 2010. Over 100,000 Haitians died, and millions were displaced. The infrastructure damage was extensive; the earthquake destroyed approximately 105,000 homes and damaged more than 208,000. It also left more than 1,300 educational establishments and 50 health centers and hospitals completely unusable (World Bank 2010a).
- 8 Global Health Expenditure Database (GHED), World Health Organization, <http://apps.who.int/nha/database/Select/Indicators/en>.
- 9 Global Health Expenditure Database (GHED), World Health Organization, <http://apps.who.int/nha/database/Select/Indicators/en>.
- 10 A household that allocates at least 25 percent of its nonfood consumption to health is considered to be encountering catastrophic health expenditures or financial hardship related to health (WHO and World Bank 2015).
- 11 Survey on the Living Conditions of Households after the Earthquake 2013 (Enquête sur les Conditions de Vie des Ménages après le Séisme, ECVMAS), Haitian Institute of Statistics and Data Processing, <http://catalog.ihsn.org/index.php/catalog/5360>.

Haiti over the last two decades, while external financing has increased. Between 1995 and 2014, public health expenditure as a fraction of total health expenditure decreased by half, lowering from 41 to 21 percent.¹² External health financing reached record levels of about 70 percent of THE in 2011 as a result of the large inflow of emergency aid in response to the earthquake. Nevertheless, because external financing has decreased sharply in recent years and domestic financing is not increasing in proportion to this decline, households are bearing a growing burden of health costs, with grim implications for the poorest segments of the population.

Recommendations: Seven Strategic Shifts

Based on these findings, we identified seven strategic shifts that would accelerate the progress toward universal health coverage in Haiti:

- 1. Prioritize primary health care.** Realign resources from hospital to primary health care and cost and prioritize the existing Health Master Plan (*Plan Directeur de Santé*, PDS) to guide future financing. As Haiti undergoes epidemiological transition, it also takes on the double burden of disease that accompanies this change—the main causes of morbidity and mortality are now attributable to both communicable and non-communicable diseases. Since primary care models and preventive health services target the root causes of both communicable and non-communicable diseases, they would yield the highest rate of return on investment. The MSPP and development partners should spearhead the development of a joint *investment case* (or strategic plan) to guide investments in the sector and to shift resources to the primary care level. Such a document would use the existing *Plan Directeur* and the essential package of health services (EPHS) as starting points and would prioritize and cost a few focus areas or interventions on which MSPP and development partners could focus their financing. Innovative and cost-effective models for delivering health care, particularly at the level of the community, should be considered. And, indicators
- 2. Increase equitable access to quality care.** Update and implement a facility mapping tool by re-classifying health facilities to enhance service readiness and facilitate a practical referral network. Facilities should be properly (re)classified and a population-based *carte sanitaire* (facility mapping) developed to ensure systematically that all facilities included in the referral network meet the minimum criteria in terms of service readiness, which will vary by type of facility. The MSPP should therefore develop a facility mapping tool to (1) identify the existing public and private facilities; (2) establish their service readiness (mostly in terms of staff and inputs); and (3) determine the population coverage of each facility. The first step would build on the existing *carte sanitaire* that emerged from the Service Provision Assessment (SPA) survey, which was a census of all health facilities in Haiti and a mapping of the services actually being delivered in each facility. The findings of such a mapping tool would identify service gaps or redundancies and trigger a re-categorization of certain facilities. However, it would not necessarily mean building new dispensaries. Taking into consideration the investment priorities defined in the *Plan Directeur* (see Shift 1), certain inefficient community referral hospitals could be transformed into health centers that offer health promotion services and primary care. In other cases, certain facilities could be converted into primary health care units, or upgraded to hospitals, or given special attention to ensure service readiness. Merged facilities would be better equipped with drugs and medical equipment. For this exercise, it would be crucial to have a well-defined essential package of health services to be financed at the primary care level.
- 3. Spend more wisely on hospitals.** In the short run, consider placing a moratorium on new hospital construction until the existing infrastructure can be mapped and a hospital licensing program has been developed. The MSPP should also encourage development partners to finance technical assistance for hospitals. The ongoing externally financed wave of hospitals construction was not accompanied by



12 Global Health Expenditure Database (GHED), World Health Organization, <http://apps.who.int/nha/database/Select/Indicators/en>.

plans to sustain hospitals' operational costs and maintain service delivery. Consequently, hospitals are currently lacking the basic resources to ensure service delivery, and the MSPP does not have enough financing to meet the increasing operational costs, thereby affecting its capacity to ensure staff recruitment, training, and the provision of medical equipment and commodities. In the short term, no new hospital should be built unless it responds to the urgent functional or geographical needs that will remain beyond the emergency period. Technical assistance should focus on business plans that can financially sustain hospital infrastructure that is being or has been handed over to the government. Revenue generation strategies that might entail, for example, luxury wards for patients who have a high willingness to pay, or cost-cutting strategies for hospital care, or alternative sources of revenue, such as from very wealthy individuals, diaspora, or religious organizations, should be considered.

- 4. Improve technical efficiency at PHC level.** Value-for-money in service delivery should be increased by reforming human resources, having better availability and use of inputs (particularly medicines) and serving more patients, especially at the first level of care. While facilities are being recategorized and basic equipment and medicines are being better distributed (Shifts 1 and 2), it is vital to improve technical efficiency. Increasing value-for-money will require increasing patient flow and reforming human resources (among other things, the decentralization of certain decisions) in order to reduce absenteeism and improve recruitment and working conditions. Primary care facilities in Haiti are less efficient than those in other low-income countries. Low productivity characterizes health facilities across all categories—primary care dispensaries and health centers with and without beds are already known to be especially inefficient. Low productivity can be explained in part due to high levels of absenteeism and moonlighting by health personnel. This situation is likely exacerbated by low levels of demand from prospective patients in poor communities. Facilities are not properly classified in terms of the minimum criteria, and referral networks are not in place (see Shift 2), all of which impede

improvements in efficiency. Linking financing for individual staff and facilities to outcomes through results-based financing (RBF) mechanisms is one possible way to strengthen accountability and thereby lift productivity. Thus RBF could serve as an efficient tool for improving the productivity of human resources and making health facilities more accountable in terms of results, as demonstrated by the first findings from the promising pilot of the national RBF program now being implemented. The availability of medicines could also be improved by re-vamping supply chain management. Considerable savings could result from enhancing the coordination of the distribution network and focusing on last-mile distribution, potentially by outsourcing to local transport companies, which has been successfully piloted in Haiti.

- 5. Better use of external funding.** To increase impact and enforce adherence to a costed and prioritized Plan, Haiti should have an adequately staffed and well-functioning donor coordination unit that pursue donor tracking and transition planning. The donor coordination unit would, among other things, maintain the national database of cooperation projects and ensure that there is complementarity and that transition plans (especially when donors are withdrawing) match health system needs with the available resources. The MSPP should enforce registration of development partners with the donor coordination unit (other countries have enforced that practice by decree). In the short term, development partners should begin to pool external financing *virtually* around the essential package of health services and key interventions identified in the costed and prioritized *Plan Directeur* (or the investment case). Some partners have launched this process for a limited set of services in the context of the RBF program. Meanwhile, all donors should follow a standard reporting format, which would be developed by the donor coordination unit (together with the development partners). At the same time, the MSPP and development partners should strengthen public financial management (PFM) structures to make it possible to set up a SWAp¹³ mechanism to pool external financing in the future and strengthen the capacities at the departmental level (including planning, budgeting, monitoring, and reporting). In



the short term, harmonized procedures and agreements among partners on levels of per diems and salaries could slash transaction costs. To this end, the health ministry and development partners should draft and sign a memorandum of understanding to identify minimum standards for emergency financing—for example, including requirements that major capital investments such as hospitals be supported by long-term plans.

6. Increase resources for health. In light of decreases in external financing, it is particularly important to increase domestic resources for health and to ensure that domestic financing allocations address key priorities while leveraging donor financing for essential items such as vaccines. Despite pressing health care needs, Haiti has seen a sharp drop in government expenditure in the health sector over the last two decades, with a consequent increase in donor dependency. In the past, Haiti's health sector received allocations of between 9 and 14 percent of the national budget. In 2014, the share of government expenditure going to health was just 6.1 percent of the total government expenditure, well below the Abuja Declaration's recommended allocation of 15 percent¹⁴ and has since fallen to just 4.5 percent in the 2016-17 budget. In addition, donor financing is decreasing, and thus the government urgently needs to plan for increasing domestic financing for health to avoid a spike in out-of-pocket expenditures. Increasing public spending on health may imply an increase in domestic resource mobilization as a whole or specifically for the health sector. One way of achieving the latter is by introducing earmarked taxes for health. Either way, the MSPP should build a strong case for the Ministry of Economy and Finance (*Ministère de l'Économie et des Finances, MEF*) to invest in the health sector. For that, it is essential to show enhanced value-for-money, improved budget execution rates, and a vision to accelerate progress

toward UHC. On the external revenues side, Haiti should work toward increasing external financing and rally external partners around a more sustainable contribution in line with the *Plan Directeur*, which implies working on long-term financing strategies to achieve UHC. Finally, vaccines in Haiti are now entirely financed by donors – unlike in most low-income countries – and this needs to change. Without significant government cofinancing, key donors will be unable to continue financing vaccines in the country for much longer.

7. Increase affordability of health services for the poor. The feasibility of removing user fees for selected services or target populations (for example, children under 5 and pregnant women, especially in rural areas) should be assessed. User fees negatively affect not only equity in access but also efficiency of health facilities and ultimately health outcomes. Almost all health facilities charge user fees to bridge the gap in funding. As a result, out-of-pocket spending and thus catastrophic health expenditures are increasing. In 2013 almost one-quarter of households reported not consulting a provider when sick, and, among those, 49 percent could not afford care. However, because user fees are currently an important part of the operating budgets of health facilities, their removal needs to be carefully assessed so it will not affect the availability or worsen further the quality of the services provided. Mechanisms to increase the affordability of health services for the poorest should be pursued. These include a transportation voucher program or the revival of the equity fund at the facility level to protect the poorest from the direct and indirect costs of health care. The mobile clinics and services provided by community health workers are mostly used by the poor and should be strengthened. As discussed in Shift 1, more resources should be allocated to expand and strengthen community care in order to move further toward UHC.



14 In 2011 African heads of states approved the Abuja Declaration, which sets a target of allocating 15 percent of a government's total expenditure to health. This target can be regarded as aspirational, as it is currently reached only by some countries.



INTRODUCTION

This report describes how Haiti can accelerate and sustain progress toward universal health coverage (UHC). A key objective of Haiti's National Health Policy (*Politique Nationale de Santé, PNS*) is to attain universal health coverage (MSPP 2012).¹⁵ However, because of Haiti's political instability and high frequency of natural catastrophes—most recently, Hurricane Matthew in October 2016 in which reportedly at least 1,000 people died, with 1.4 million directly affected and 175,000 internally displaced¹⁶—both national and international development partners have tended to focus on emergency needs and short-term measures to improve the health sector. This analysis aims to redirect that approach toward a long-term vision for the sector.



- 15 The 2012 National Health Policy establishes the vision of attaining over the next 25 years the universal delivery of an essential package of health services (MSPP 2012).
- 16 This report was written largely before Hurricane Matthew struck Haiti in 2016. However, the systemic challenges to Haiti's health system have not changed. Moreover, pre-hurricane trends indicated that external funding, which surged after the 2010 earthquake, had dropped sharply, and economic growth was slowing in 2016. Since Hurricane Matthew, the prospects for economic growth in 2017 are even lower, and the domestic revenues and the budget available for all sectors, including health, will decrease. Although there has been a temporary—and modest—spike in emergency financing for the hurricane response, external financing is expected to approach pre-hurricane trends in 2017. Therefore, the analysis and policy recommendations in this report remain valid in the post-Hurricane Matthew period and are therefore relevant to government and partners in shaping the reconstruction efforts.



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In doing so, it identifies a set of critical constraints to overcome and opportunities to seize to move toward UHC. The recommendations are intended to guide not only Haiti's government but also its development partners, who play an important role in advancing Haiti's health care system.

UHC is a moving target, and it includes dimensions such as coverage and quality of services as well as financial protection. For countries like Haiti, with low coverage of basic health services, UHC is achieved gradually. The first step is to prioritize and strengthen the primary level of health care to enable a continual scale-up of essential services for the vulnerable and poor populations. Increasing the number of individuals with access to health services is an important dimension of UHC. Quality of services is another important aspect, as well as financial protection for all. Countries must avoid placing those needing health services in the position of having to choose to forgo health care because of financial issues or accept the impoverishment that may result from out-of-pocket (OOP) expenditures.

This report describes these important dimensions, including the level of health care coverage,¹⁷ equity in access to health services,¹⁸ and financial protection¹⁹ in Haiti. It also discusses the three basic functions of health care financing: (1) *revenue collection*—to raise enough revenue to provide individuals with a package of health services that ensures, in an equitable, efficient, and financially sustainable manner, financial protection against catastrophic health expenses arising from illness and injury; (2) *pooling*—to manage these revenues to pool health risks equitably and efficiently; and (3) *purchasing*—to ensure that the payment for or purchase of health services is carried out in

an efficient way. Our study places a special emphasis on measuring value-for-money in Haiti's health sector by examining the ability of the health system to turn resources into health services that result in improved health outcomes for the population.

This study compiles existing information and pulls together new analysis of recent data. The questions included in the Health Financing System Assessment template²⁰ were used as a starting point for the study. It also builds on the analysis carried out for the poverty assessment and public expenditure review (PER) in Haiti. Additional analysis includes study of the determinants of catastrophic health expenditures (CHEs), the drivers of inefficiency (including human resources), and health-seeking behaviors. Meanwhile, new data were collected on hospital financing, and an efficiency analysis was carried out for all facilities. New analysis was also conducted using the 2013 Survey on the Living Conditions of Households after the Earthquake (*Enquête sur les Conditions de Vie des Ménages après le Séisme, ECVMAS*) and the BOOST data set.²¹

The focus of this study is aligned with recent commitments to UHC at the global and country levels. Its objective is consistent with the United Nations' Sustainable Development Goals (SDGs) and the World Bank's strategy of eliminating extreme poverty and boosting shared prosperity. The achievement of UHC, in which all people are effectively covered by essential health services and no one suffers undue financial hardship because of illness, is key to reaching these twin goals. The focus of this study is also consistent with the Systematic Country Diagnostic (SCD) and the Country Partnership Framework for fiscal years 2016–19 for Haiti, particularly in the strategic area of building human capital, with the objective of increasing access



17 Coverage includes indicators for preventive care such as family planning requirements, at least four antenatal consultations, vaccinations, and improved water sources. In addition, health care coverage includes indicators of curative services such as hypertension treatment, diabetes treatment, TB detection, skilled birth attendance, and antiretroviral therapy.

18 Equity in coverage is measured by assessing prevention and treatment service coverage by wealth quintile.

19 Financial protection is assessed by examining the proportion of households who spend a certain threshold (in this report 25 percent, which is usually used) of their nonfood expenditures on health care or are impoverished because of out-of-pocket payments.

20 This template was recently developed by the World Bank's Health Financing Global Solutions Group.

21 The following data sets and surveys were used in this study and are cited throughout in shortened form: BOOST—Database of Public Budget Expenditures, World Bank, <http://wbi.worldbank.org/boost/boost-initiative>; DHS—Demographic and Health Survey, U.S. Agency for International Development, <http://www.dhsprogram.com/>; ECVMAS—Enquête sur les Conditions de Vie des Ménages après le Séisme (Survey on the Living Conditions of Households after the Earthquake), Haitian Institute of Statistics and Data Processing, <http://catalog.ihsn.org/index.php/catalog/5360>; GHED—Global Health Expenditure Database, World Health Organization, <http://www.who.int/health-accounts/ghed/en/>; GBD (Global Burden of Disease) Compare—Institute for Health Metrics and Evaluation, <https://vizhub.healthdata.org/gbd-compare/>; MGAE—Module Gestion de l'Aide Externe (External Aid Management Module, Haiti); MPCE—Ministère de la Planification et de la coopération externe (Ministry of Planning and External Cooperation); SNPPGD—Système national de planification, de programmation et de gestion du développement (National System of Planning, Programming and Development Management), <https://haiti.ampsite.net/portal/>; SPA—Service Provision Assessment (Évaluation de la Prestation des Services de Soins de Santé, EPSSS), Haitian Institute of Childhood and ICF International, <http://dhsprogram.com/what-we-do/survey/survey-display-442.cfm>; WDI—World Development Indicators, World Bank, <http://data.worldbank.org/data-catalog/world-development-indicators>.

to health services. The study was conceptualized with the Ministry of Public Health and Population (*Ministère de la Santé Publique et de la Population, MSPP*) and key health system stakeholders in Haiti, and complements other ongoing analytical activities.

This report is organized in seven broad chapters. Chapter 2 provides context for the overall report by describing the macro and fiscal situations in Haiti. Chapter 3 describes health outcomes and the health

system, and chapter 4 then turns to health financing and discusses resource mobilization (domestic, external, and private financing), pooling, and purchasing. Chapter 5 examines access to health services, and chapter 6 describes the efficiency of the health system in producing the services needed by the population. Chapter 7 concludes by discussing the main findings of the study, describing the key strategic shifts needed to move towards UHC in Haiti, and offering policy recommendations.

BACKGROUND

Haiti is one of the most unequal countries in the world, and most of the population is poor. Haiti ranks 163rd out of 187 countries on the Human Development Index and remains the most unequal country in the Latin America and the Caribbean (LAC) region (Gini, 0.6). Overall, the poverty headcount is about 59 percent, and 24 percent of the population lived in extreme poverty in 2012, indicating that almost 6.3 million Haitians cannot meet their basic needs, and 2.5 million cannot even cover their food needs (World Bank 2016b) Based on the international poverty lines, 54 percent of the population lives on less than \$1.90 a day and 71 percent on less than \$3.10 a day.²² In 2014 only 25 percent of the population had access to electricity, which is lower than the average of low-income countries (LICs) overall, and Haiti's unemployment rate remains one of the highest in the LAC region at 30.1 percent (World Bank 2015g). Haiti also has the lowest rate of labor force participation in the region: only 60 percent of working-age individuals participate in the labor market, compared with, for example, 70 percent in the nearby Dominican Republic (World Bank 2015g). Ninety-three percent of the population works in the informal sector (Herrera et al. 2014), making it difficult to set up a national and



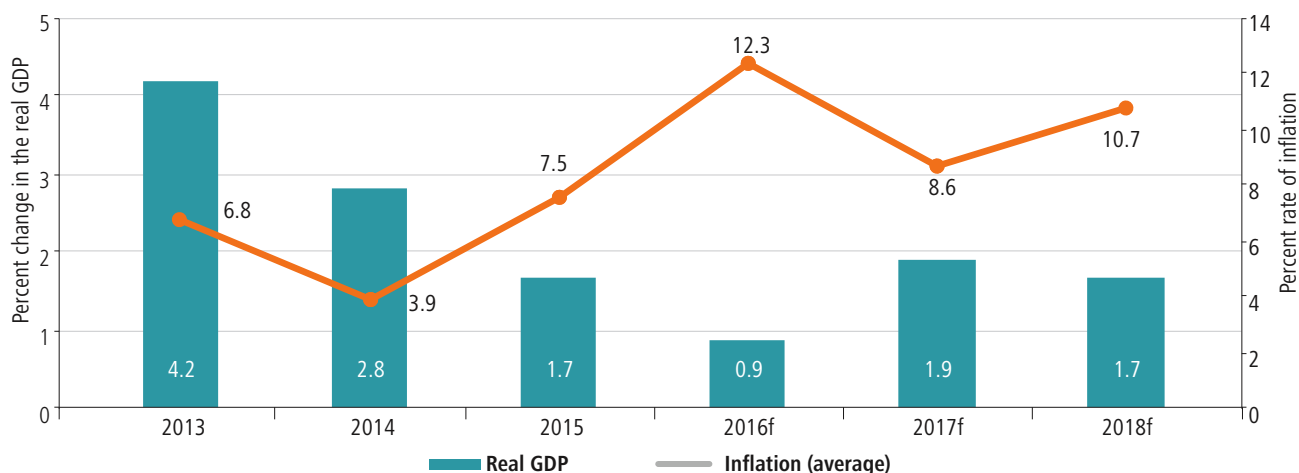
22 In constant 2011 prices, purchasing power parity-adjusted. The global poverty lines are now set at \$1.90 and \$3.10 a day, using 2011 prices. Previously, the values for extreme and moderate poverty were \$1.25 and \$2.50 a day, respectively.



PHOTO CREDIT: VICTORIA HAZOU UNW/INUSTAH



FIGURE 2.1: Annual Trends in GDP, 2013–15, and Forecasts, 2016–18: Haiti



Sources: Ministry of Economy and Finance, Bank of the Republic of Haiti, International Monetary Fund, and World Bank staff calculations.

public health insurance system because those mechanisms require levying taxes on a formal workforce. Only 5 percent of the population is enrolled in a compulsory health insurance program (see chapter 4), and they are primarily formal sector workers. There is no government policy to protect vulnerable populations from health-related financial losses.

In 2016 economic growth slowed in Haiti. Although the economy may rebound in 2017, gross domestic product (GDP) growth will remain low. In 2014 Haiti’s gross national income (GNI) per capita was \$800, making it a low-income country. Between 1999 and 2014, Haiti’s average GDP annual growth rate was 1.27 percent, but after the 2010 earthquake (in 2011 and 2014), the average growth rate increased to 3.85 percent. This growth rate exceeded that in the LAC region (2.99 percent), but was below the average growth rate (6.31 percent) of other LICs (WDI 2015). In response to inflation and erosion of the international reserves (figure 2.1), GDP growth began slowing in Haiti in 2014 and continued to decelerate to 0.9 percent in 2016.

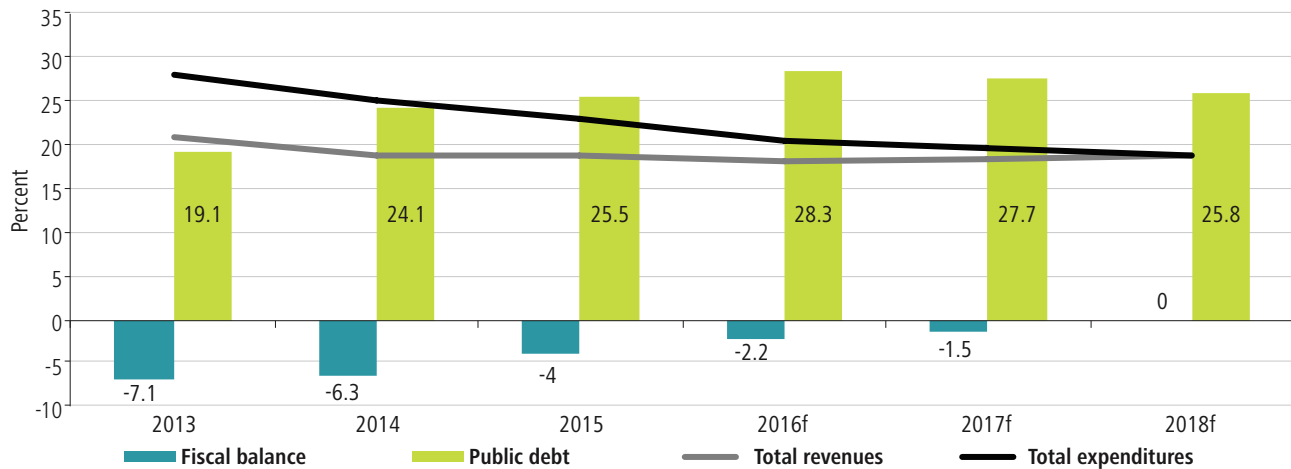
The decline in GDP growth is affecting domestic revenues and shrinking the budget available for all sectors, notably health. The slowing economy is limiting the scope for increasing public financing for the health sector in the short term. However, projections indicate that GDP may rebound in 2017 (figure 2.1), which would present an opportunity to increase the government’s contributions to equitable and efficient health financing for universal health coverage (UHC) in the medium term. That said, the forecasts for 2017 and 2018 indicate that GDP growth will remain below

the 2014 rate, thereby limiting the fiscal space for expanding funding to the health sector.

Improved tax collection is one way to increase domestic revenues for health. However, although tax mobilization rose after the earthquake, it was likely to fall in 2016. From 2005 to 2015, revenue as a share of GDP increased by nearly 50 percent, from 13.1 to 18.3 percent of GDP (World Bank 2016a). This improvement stemmed primarily from external grants, which increased from 3.5 percent of GDP in 2005 to 12.1 percent in 2010. The fiscal revenue picked up as well, moving from 9.6 percent of GDP in 2005 to 13.6 in 2015, but it was expected to decline to 13.5 percent of GDP in 2016. Since 2015, the fiscal deficit has remained below 3 percent of GDP (World Bank 2016a). Public expenditures jumped from 13.5 percent of GDP in 2005 to 23.2 percent of GDP in 2015 (World Bank 2016a). Public expenditures and revenues increased initially after the 2010 earthquake, but both are expected to fall to 18.6 percent in 2018. In addition, the recent decrease in domestic revenue mobilization is forcing a substantial decline in public investment (expected at 6.3 percent of GDP this fiscal year compared with 9.6 percent last fiscal year) –see figure 2.2.

Haiti raises little tax revenue given its economic status, but there is scope to raise more. Haiti has the second-lowest tax-to-GDP ratio (13.7 percent) of all countries in the LAC region and one that is only slightly better than the average for LICs. Its tax-to-GDP ratio is 1.07 times higher than that of the LICs, but its GDP per capita is 1.36 times higher than the LIC

FIGURE 2.2: Fiscal Account as Percentage of GDP: Haiti, 2013–18



Sources: Ministry of Economy and Finance, Bank of the Republic of Haiti, and World Bank staff calculations.

average, which indicates that Haiti raises relatively little tax given its economic status and it should have a higher tax-to-GDP ratio. If the country increases its tax-to-GDP ratio to 15 percent,²³ it could increase its fiscal revenue by \$18 per capita or 2 percent of GDP (IMF 2016)—see appendix A for a more detailed discussion of domestic revenues. As indicated in the public expenditure review (PER) for Haiti (World Bank 2016a), its tax system should undergo large-scale reforms. It is currently regressive because the country’s fiscal revenues rely heavily on indirect taxes, which affect consumers independently of their income level. Haiti also may not be exploiting its full revenue potential from corporate and personal income taxes (World Bank 2016a). Thus there is scope to raise more taxes, but that may not be feasible in the short term.

The health sector is highly dependent on external financing. Because it is now decreasing, the government needs to plan to increase domestic financing for health to avoid a spike in out-of-pocket expenditures. In both fragile states and LICs, net official development assistance (ODA) as a percentage of GDP fell over the last decade (figure 2.3) By contrast, ODA increased by 50 percent over the same period in Haiti. It peaked after the 2010 earthquake, but it has been falling ever since. Although the availability of donor assistance has enabled Haiti to finance an expansion in the social sectors, it has also increased the

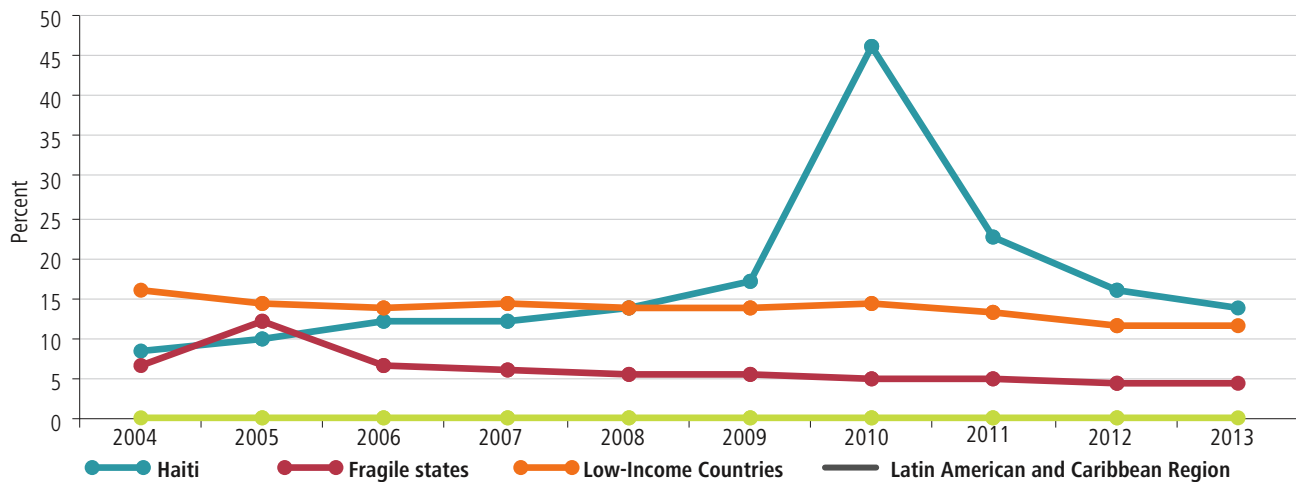
government’s reliance on donor financing over time. In 2010, 16 percent of financing for the social sectors was foreign assistance, rising to 45 percent in 2012 (Singh and Barton-Dock 2015). Health, education, and social protection are the most aid-dependent sectors in Haiti. The transition from high levels of external financing for the health sector post-earthquake to the lower levels of external financing observed now needs to be managed. Although large efficiency gains are possible in the health sector (see chapter 6), the government should begin to plan to increase domestic financing for health to compensate for the drop in external aid and protect the poor from growing out-of-pocket expenditures.

Sin taxes on alcohol and tobacco are an interesting option for raising a substantial amount of revenue for the health sector while discouraging consumption of these goods. Several countries are using taxes on alcohol and cigarettes to reduce the prevalence rate of tobacco and alcohol use and to raise revenue for the health sector. Currently, Haiti has no tax on tobacco, and the tax rate is 4 percent for locally produced spirits and 16 percent for imported alcohol. On average, taxes account for 31 percent of the retail price of cigarettes in LICs and 47 percent in the Latin America and the Caribbean region (WHO 2015). Thus there is scope for raising taxes on these products in Haiti. An estimated \$8.2 million a year, at a minimum, could be



23 Although 15 percent is an arbitrary choice, it is often suggested as minimum benchmark to reach. Tax shares of 20 and 25 percent may be difficult to achieve because of administrative and capacity constraints (Heller 2005, 2006; IMF 2011).

FIGURE 2.3: Net Official Development Assistance as Percentage of GDP: Haiti, 2004–13



Sources: WDI and World Bank staff calculations

Note: The share of gross national income represented by net official development assistance in LAC countries fell below 1 percent at each annual interval on the chart. The share began at 0.34 percent in 1995, peaked at 0.37 percent in 1996, and ended at 0.17 percent in 2014. LAC = Latin America and the Caribbean; LICs = low-income countries.

raised for the health sector if Haiti were to increase the tax on alcohol²⁴ to 25 percent and earmark the tax revenue for health (see table A.3 in appendix A). The proceeds from such a tax would represent a growth rate of almost 11 percent in per capita government health spending, or \$0.76 per capita. It is difficult to estimate how much revenue could be generated from an increase in tobacco taxes because the sales numbers are unknown (Josephson and Bode 2013). Sin taxes could increase the predictability of financing for the health sector, while reducing the consumption of alcohol and cigarettes and thereby improving the health of the population and reducing health care costs. Because the health sector incurs a disproportionate cost compared with other sectors in the consumption of these

goods, earmarking tax revenues for the health sector can be justified.

Earmarking taxes for the health sector raises technical and political issues that warrant a thorough assessment. Such a step could be instrumental in raising domestic revenues for that sector, but success in levying such taxes will require sufficient administrative capacity and information as well as alignment from tobacco and alcohol corporations and lobbies. That said, administrative capacity is an issue for the implementation of several possible tax reforms in Haiti. A more in-depth study should be conducted to assess the political feasibility of such reforms and to avoid potential negative impacts such as cross-border smuggling.

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24 Estimates for revenue are based on the sales data for rum and beer for selected brands because countrywide data on alcohol sales are not readily available.



CHAPTER 3

HEALTH OUTCOMES AND THE HEALTH SYSTEM

Key Health Outcomes

Despite Haiti's progress on meeting the 2015 health-related Millennium Development Goals (MDGs) over the last decade, much work remains to reach the 2030 health-related Sustainable Development Goals (SDGs). Haiti's maternal mortality ratio (MMR) fell from 670 maternal deaths per 100,000 live births in 1990 to 359 in 2015 (46 percent decline), and its infant mortality rate (IMR) and under-5 mortality rate (U5MR) fell by 48 percent and 52 percent, respectively (table 3.1). The SDGs aim to reduce the MMR to less than 70 maternal deaths per 100,000 live births and the U5MR to 25 or lower deaths per 1,000 live births by 2030. To achieve these goals by 2030, Haiti will need to reduce the current MMR by a further 80 percent and the U5MR by 64 percent. Haiti sustained an average annual percentage change in maternal mortality of 2.2 between 1990 and 2015, and reduced its MMR by 29 percent between 2000 and 2015 (figure 3.1). Based on these trends, Haiti is not currently on track to achieve the SDG goal for the MMR in 2030.

PHOTO CREDIT: LOGAN ABASSI UN/WHO/UNISTAH





TABLE 3.1: Comparing Health Outcomes in Haiti, LICs, and LAC Region: 1990, 2000, 2013, 2015

	1990	2000	2013	2015	SDGs 2030	% change, 1990–2015
<i>Maternal mortality ratio</i>					<70	
Haiti	670	510	380	359		–46%
LICs	900	740	450	495		–45%
LAC region	110	81	68	69		–37%
<i>Infant mortality rate</i>					–	
Haiti	100	85	54	52.2		–48%
LICs	104	74	52	53.1		–49%
LAC region	33.7	21.7	12.4	15.9		–53%
<i>Under-5 mortality rate</i>					25	
Haiti	144	104	72	69		–52%
LICs	166	134	76	76.1		–54%
LAC region	42	36	14	18.8		–55%

Sources: WHO 2016; DHS 2000, 2005–06, 2012.

Note: – = not available; LAC = Latin America and the Caribbean; LICs = low-income countries; SDGs = Sustainable Development Goals.

FIGURE 3.1: Trends in MMR, U5MR, and IMR: Haiti, 1990–2015



Source: WHO 2016.

Note: IMR = infant mortality rate; MMR = maternal mortality ratio; U5MR = under-5 mortality rate

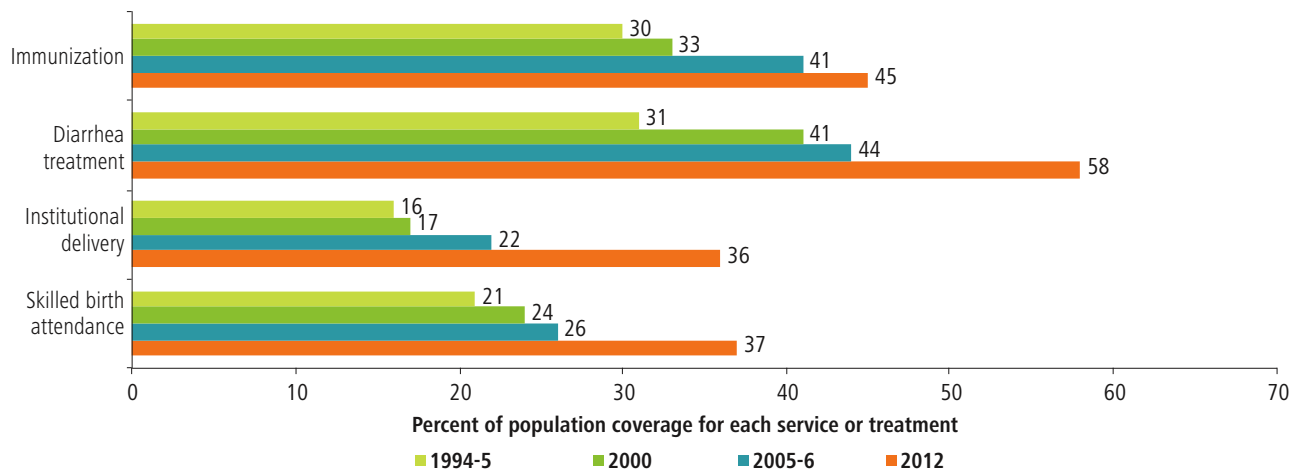
Despite substantial improvements, inequalities remain, with the poorest economic quintiles having worse health outcomes than the wealthier quintiles. For the years 2005–06 and 2012, major gains in child mortality were achieved among the lowest,

second, and third quintile groups.²⁵ However, the 2012 Demographic and Health Survey (DHS) reveals substantial inequalities in health outcomes, with the lowest quintiles faring worse. In 2012, 17 percent of those in the lowest wealth quintile were underweight,



²⁵ Surprisingly, the 2012 Demographic and Health Survey shows that child mortality increased in the fourth and highest wealth quintile groups. This may be explained by the 2010 earthquake, which affected the metropolitan area, where households are relatively richer than those in the rest of the country.

FIGURE 3.2: Trends of Key Health Preventive and Treatment Service Indicators, by Coverage Rate: Haiti Demographic and Health Survey (DHS), 1994–2012



Sources: DHS1994–95, 2000, 2005–06, 2012.

and 31 percent were stunted, compared with 3 percent and 6 percent, respectively, of those in the highest wealth quintile (DHS 2012). Furthermore, the number of deaths from cholera was much higher among households in the poorer wealth quintile than among households in the highest wealth quintile. Of those households in the poorest quintile, 2.4 percent had a member who died from cholera, but only 0.1 percent of those in the richest wealth quintile reported such an outcome (DHS 2012). Thus a household member in the lowest wealth quintile was 24 times more likely to die from cholera than one in the highest wealth quintile.

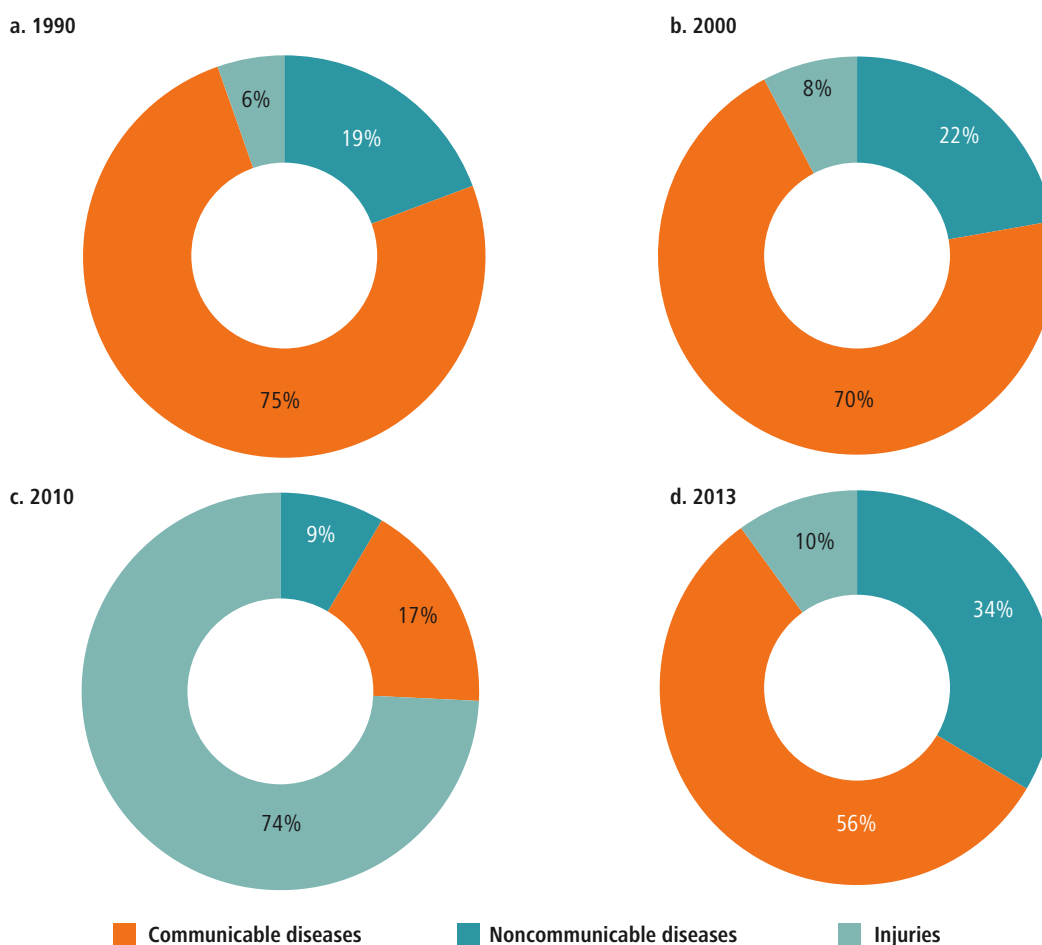
Coverage of key health services has increased over the last two decades, and the burden of disease is shifting from communicable to noncommunicable diseases. Between 1994–95 and 2012, deliveries by skilled birth attendants increased by 76 percent, deliveries in a health facility (also called institutional deliveries) by 125 percent, treatment of diarrhea by 87 percent, and immunization coverage by 50 percent (figure 3.2). The proportion of years of life lost (YLLs) attributable to communicable diseases was still dominant in 2013, but from 1990 to 2013 it decreased from 75 percent to 56 percent (figure 3.3). By contrast, the proportion of YLLs attributable to noncommunicable diseases (NCDs) increased from 19 percent to 34 percent between 1990 and 2013. However, the 2010 burden of disease in terms of YLLs exhibited a dramatic shift toward causes associated with injuries from the earthquake; whereas this measure represented 6 percent of

YLLs in 1990, it ballooned to 74 percent in 2010, and then declined again to 10 percent in 2013 (figure 3.3). Access to key health preventive and treatment services has improved in Haiti over the last two decades, and other than the anomaly distribution following the 2010 earthquake, the proportion of YLLs attributable to communicable diseases has declined accordingly, while the percentage of YLLs attributed to noncommunicable diseases is increasing dramatically.

Compared with other low-income countries (LICs), Haiti still has much to achieve on several universal health coverage indicators related to child and maternal health as well as water and sanitation.

Three key maternal health indicators are important in monitoring the progress toward alleviating maternal mortality: (1) the percentage of unmet needs for family planning, (2) the percentage of pregnant women receiving all four recommended antenatal care (ANC) visits, and (3) the percentage of pregnant women undergoing institutional delivery or with skilled birth attendants. Haiti performs weakly on all three indicators: 67 percent of pregnant women in Haiti receive four ANC visits, compared with 48 percent in LICs and 90 percent in the Latin America and the Caribbean (LAC) region; 35 percent of women 15–49 report unmet needs for family planning in Haiti, compared with 22 percent in LICs and 10.7 percent in the LAC region; and only 37 percent of pregnant women in Haiti have institutional deliveries, compared with 70.5 percent in low- and middle-income countries and more than 75 percent in rural areas and 90 percent in urban areas in

FIGURE 3.3: Attributable Years of Life Lost (YLLs), by Cause: Haiti, 1990, 2000, 2010, 2013



Source: IHME 2015.

the LAC region (WHO 2015; Joseph et al. 2016; UNFPA 2016). Furthermore, only 68 percent of children under 24 months of age in Haiti receive all three diphtheria, tetanus, and pertussis (DTP) vaccine doses, compared with 90 percent in the LAC region (WHO 2015). Pertussis, which could easily be prevented by DTP vaccination, still causes 3 percent of under-5 deaths in Haiti (WHO 2013). Furthermore, across Haiti only 62 percent of people use improved drinking water sources, and 24 percent use improved sanitation practices. Water, sanitation, and hygiene (WASH) remains fifth in the 2013 global burden of disease (GBD) ranking of top risk factors for disability-adjusted life years (DALYs) in Haiti. Relative to the LICs and countries in the LAC region, Haiti performs poorly on WASH indicators, which is a concern because of the country's cholera epidemic (World Bank 2015g). Of the children under 5 with diarrhea in Haiti, 58 percent receive treatment, which is slightly higher than the LIC average (50 percent) and just below the LAC region's average (59 percent). Yet

18 percent of deaths in children under 5 still are from diarrheal diseases, which leaves significant room for improvement. All these indicators would improve greatly with strong primary health care interventions. Thus these indicators support the finding that inadequate resources are allocated to preventive health services.

Health inequalities persist in the coverage of preventive and treatment services. As table 3.2 shows, the distribution of fully immunized children ages 12–23 months by wealth index quintile improved between 2005–06 and 2012 but inequalities still persist for other services. In 2012 about 52 percent of children with acute respiratory infections (ARIs) in the highest wealth quintile received treatment versus 23 percent of those in the lowest wealth quintile. Furthermore, institutional deliveries were eight times more frequent (76 percent) in the highest wealth quintile than in the lowest quintile (9 percent). The disparity in utilization mirrors the inequality in health outcomes described earlier.

TABLE 3.2: Maternal and Child Health Coverage Rates, by Wealth Index: Haiti Demographic and Health Survey (DHS), 2005–06, 2012

	Q1	Q2	Q3	Q4	Q5	Total
<i>DHS 2005–06</i>						
Immunization	34	40	45	37	56	41
ARI treatment	27	31	41	40	40	35
Diarrhea treatment	34	38	47	54	54	44
Skilled birth	—	—	—	—	—	54
Skilled attendant	—	—	—	—	—	26
Delivery in health facility	5	8	17	35	58	22
<i>DHS 2012</i>						
	Q1	Q2	Q3	Q4	Q5	Total
Immunization	43	46	52	42	41	45
ARI	23	32	36	52	52	38
Children with diarrhea who received ORT (or ORS at home)	57	52	59	61	62	58
Mothers who received 4+ ANC visits from any provider	—	—	—	—	—	67
Births assisted by a provider skilled in obstetrics	—	—	—	—	—	37
Births delivered in a health facility	9	20	38	51	76	36

Sources: DHS 2005–06 and 2012.

Note: Immunization refers to fully immunized children ages 12–23 months. — = not available; ANC = antenatal care; ARI = acute respiratory infection; ORS = oral rehydration solution; ORT = oral rehydration therapy.

Key Aspects of Haiti’s Health System

Organization

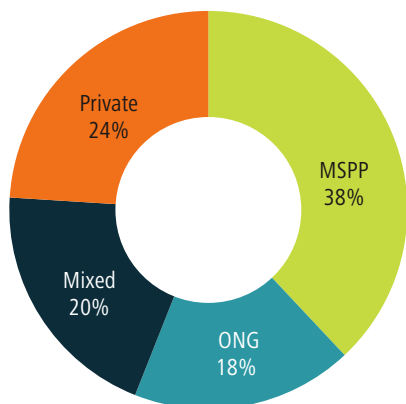
The Ministry of Public Health and Population (Ministère de la Santé Publique et de la Population, MSPP) is struggling to coordinate and oversee health service delivery, and the referral system is functioning poorly. The MSPP’s oversight role of the entire health system needs to be strengthened. The MSPP owns and runs 38 percent of health facilities, and another 20 percent are owned and managed jointly by the MSPP and nongovernmental organizations (NGOs), for a total of 58 percent (figure 3.4). Sixty-one percent of all health facilities are located in rural areas, and, of these, most are owned by the MSPP. Both NGO and private for-profit facilities are overrepresented in the metropolitan area (figure 3.5). However, 50 percent of private, for-profit facilities and 55 percent of NGO facilities are located in rural areas. Overall, private facilities are not accountable for the services they provide, and they do not systematically submit reports to the MSPP. The formal health service delivery system has three levels: health centers and dispensaries, departmental

hospitals, and referral/teaching hospitals. However, the referral system is not functional (only 6 percent of referrals are carried out properly), and thus the theoretical roles ascribed to each level in this pyramidal structure are not fulfilled.

Efforts to Deliver an Essential Package of Health Services

Recurrent cycles of natural catastrophes and political instability have shifted the Haitian government’s focus toward emergency responses and away from key structural health reforms. Because 96 percent of Haiti’s population remains at risk of exposure to two or more hazards (World Bank 2014) and because natural disasters occur frequently in Haiti, most of the attention and financing of the MSPP and development partners are being diverted from following up with structural health system reforms toward firefighting. Another key impediment to health system reforms is political instability. Since 1986, Haiti has

FIGURE 3.4: Health Facilities, by Ownership: Haiti, 2013



Source: SPA 2013

Note: MSPP = Ministère de la Santé Publique et de la Population (Ministry of Public Health and Population); NGO = nongovernmental organization

faced a succession of short-lived government administrations, and a transition government has been in place since February 2016. The newly elected incoming government has just taken office in February 2017.

Meanwhile, reforms of the organization of the health delivery system have been enacted in recent years, but they have yet to be implemented.

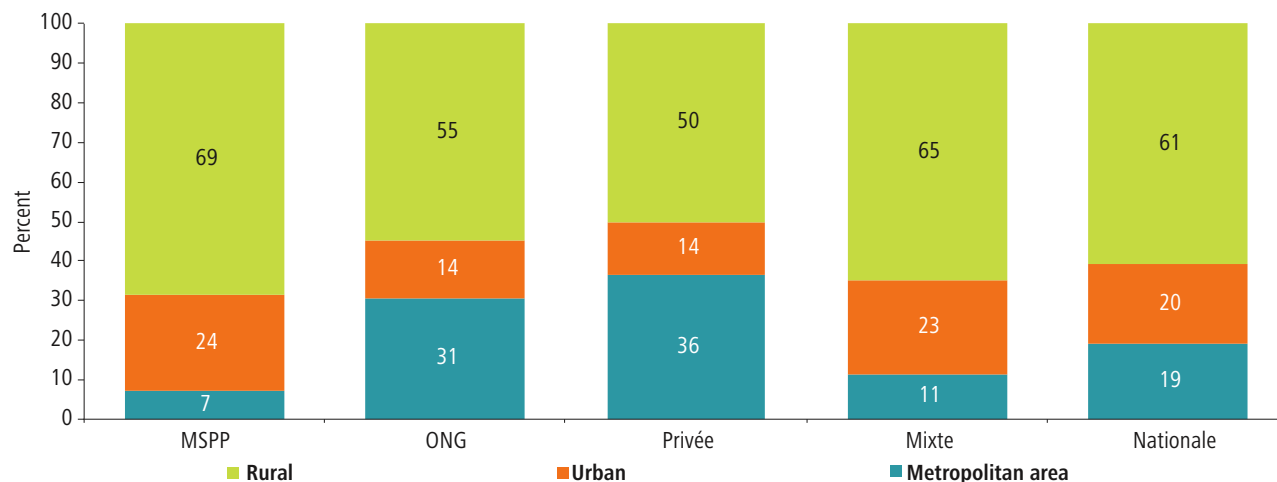
In 2012 the National Health Policy stipulated the creation new health units to improve the service delivery system. District health units (*unités d'arrondissement de santé*, UAS) were to be established to oversee the

primary care level: community referral hospitals (*hôpitaux communautaire de référence*, HCRs), health centers with bed (*centres de santé avec lit*, CALs), health centers without bed (*centres de santé sans lit*, CSLs), and dispensaries. However, establishment of the UAS has been slow, and in practice the organization of the service delivery system has not changed significantly in recent years.

A key problem in improving health care delivery is the absence of a prioritized and costed package of health services. In 2015 the MSPP commissioned a task force to update the 2006 minimum package of health services to a package of essential services (PES). However, the services offered in the PES are not prioritized and include most services already provided by the system (and even others that are not currently provided such as fertility treatment). In addition, it has not been costed. Therefore, the PES is not useful because Haiti cannot realistically provide all health services to all its citizens, at least not in the short run, given budgetary constraints. The PES, then, does not offer much guidance to service providers in terms of what priority services should be delivered where. The PES also does not include updated requirements for equipment and standards for each level of care, which will make its implementation difficult.

Another constraint is the poor quality of care, which is considerably worse in the area of preventive clinical care. Only 62 percent of pregnant women receive physical examinations that meet minimum

FIGURE 3.5: Health Facilities, by Ownership and Location: Haiti, 2013



Source: SPA 2013.

Note: MSPP = Ministère de la Santé Publique et de la Population (Ministry of Public Health and Population); NGO = nongovernmental organization.

standards of care, which should include uterine and fetal height measurements. Furthermore, 3 out of 10 health providers fail to inquire about pregnancy risk factors during patient interactions. Only 20 percent of medical consultations with pregnant women incorporate preventive care services such as counseling on the minimum number of ANC visits or dispensing essential nutritional interventions such as folic acid supplementation (SPA 2014). The recent Balanced Score Card assessment²⁶ of health facilities in Haiti found that health facilities overall score low on internal management processes (World Bank 2015a). These indicators measure how supervisors or managers conduct different processes within the health facility. Low scores on facility management processes may explain the low readiness of staff to deliver care along clinical guidelines. Many health facilities (46 percent) operate without any data collection system, which makes monitoring and evaluation, as well as quality supervision, challenging.

Service Readiness

Dispensaries, which are essential for the provision of primary care in Haiti, score very poorly on several key service readiness indicators. The Balanced Score Card report assessed readiness to deliver essential health services across four dimensions: minimum personnel, basic infrastructure, basic equipment, and drugs (World Bank 2015a).²⁷ A key finding of this assessment is that dispensaries suffer from a severe lack of service readiness; only 2 percent meet the definition of full service readiness. More broadly, 6 percent ($n=54$) of all health facilities ($n=907$) in Haiti are fully ready to provide minimum essential services. Dispensaries are less likely than other facility types to be fully equipped

with the necessary medicines (13 percent), equipment (54 percent), and infrastructure (7 percent).²⁸ For the infrastructure and drug dimensions, service readiness increases at higher levels of care. At the dispensary level, patient volumes are extremely low; the average patient flow rate through dispensaries is about one per hour or eight patients a day (World Bank 2015a). Based on these findings, dispensaries with a full staff team are likely, for lack of essential inputs, to fail to deliver basic health services to the patients who seek care there. Because dispensaries represent 4 in 10 health facilities ($n=359$), they must be prioritized as Haiti addresses service readiness in the short term.

Haiti has far less basic infrastructure and equipment than other low-income countries. The proportion of health facilities in Haiti that scores satisfactorily across internationally benchmarked standards is very low both in absolute terms and against international standards. Analysis of service provision data collected in Haiti, Kenya, and Uganda support this finding. It also highlights uneven levels of service readiness in Haiti's health facilities across the individual core service readiness indicators. The availability of basic infrastructure—electricity, water, and toilets—is far lower in Haiti (31 percent) than in Kenya (86 percent) and Uganda (64 percent) for all facility types for which data are available (dispensaries through HCRs). Likewise, the availability of the minimum equipment in Haiti (49 percent) is about half of that observed in Kenya (77 percent) and Uganda (82 percent).²⁹ By contrast, 73 percent of health facilities in Haiti score satisfactorily in the service readiness assessment of personnel staffing (IHE and ICF International 2014). Pinpointing the cause of these performance weaknesses will be an essential step in the process of improving the technical efficiency of Haiti's health facilities.



- 26 This report uses a so-called Balanced Score Card (BSC) to assess the readiness of the inputs of service delivery. For comparison purposes, it can be applied to different countries.
- 27 The minimum personnel definition was based on Haiti's essential package of health services and varies by facility type. Aligned with the World Bank's Service Delivery Indicators (SDI) methodology (World Bank 2014), infrastructure was considered adequate if the facility had access to electricity, an improved water source, and an improved bathroom. Consistent with the SDI, facilities met the basic equipment requirement if they had a stethoscope, thermometer, sphygmomanometer, and weighing scale. Finally, facilities were considered to have basic access to essential drugs if at the time of the survey they dispensed at least half of the 14 medicines in the Service Availability and Readiness Assessment (SARA) list of the World Health Organization (WHO 2010b).
- 28 Unexpectedly, 98 percent of dispensaries have the minimum requirement of personnel, far more than any other facility type. This finding likely stems from the various definitions of "minimum personnel." For example, whereas one auxiliary/nurse is considered the minimum sufficient personnel for dispensaries, the rest of facilities require at least one medical doctor, who are scarce in Haiti.
- 29 World Bank staff estimates, 2016, based on the Service Provision Assessment (SPA) 2013–14 data set.

CHAPTER 4

HEALTH FINANCING

Resource Mobilization

Haiti's health sector enjoys a high level of resources compared with those in other low-income countries (LICs), but it is still much lower than that in the Latin America and the Caribbean (LAC) region. In 2014 Haiti's total health expenditure (THE) per capita was \$131 in international dollars,³⁰ whereas in low-income countries and the LAC region the averages were \$91 and \$1,112, respectively. For the same year, if measured in constant dollars (2010), Haiti was spending \$61 per capita on health, whereas the LICs were spending on average \$37 (figure 4.1) and the LAC countries \$714. When measuring THE as a percentage of the gross domestic product (GDP), Haiti has a higher value than the average for the LICs. In 2014 THE in Haiti represented 7.6 percent of GDP, which is above the average of 5.7 percent for the LICs and comparable with the 7.2 percent average for the LAC countries. However, even if Haiti has a relatively high level of THE (as a share of GDP) compared with that of other LICs, there has been a downward trend since the post-earthquake period in 2011 when THE (as a share of GDP) reached 10.4 percent (figure 4.2). This reveals the high volatility of the total health expenditure



30 Constant 2011 prices, purchasing power parity (PPP)-adjusted.

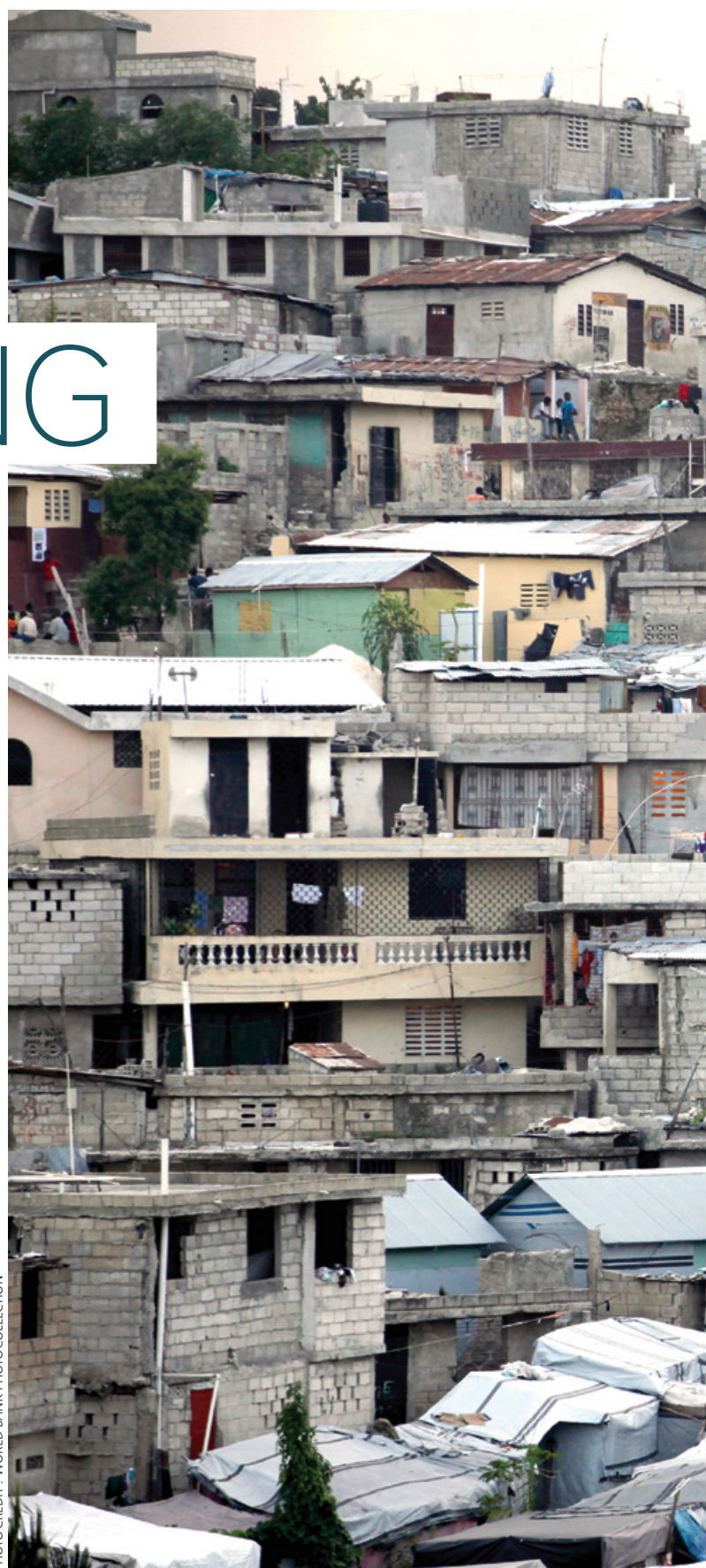
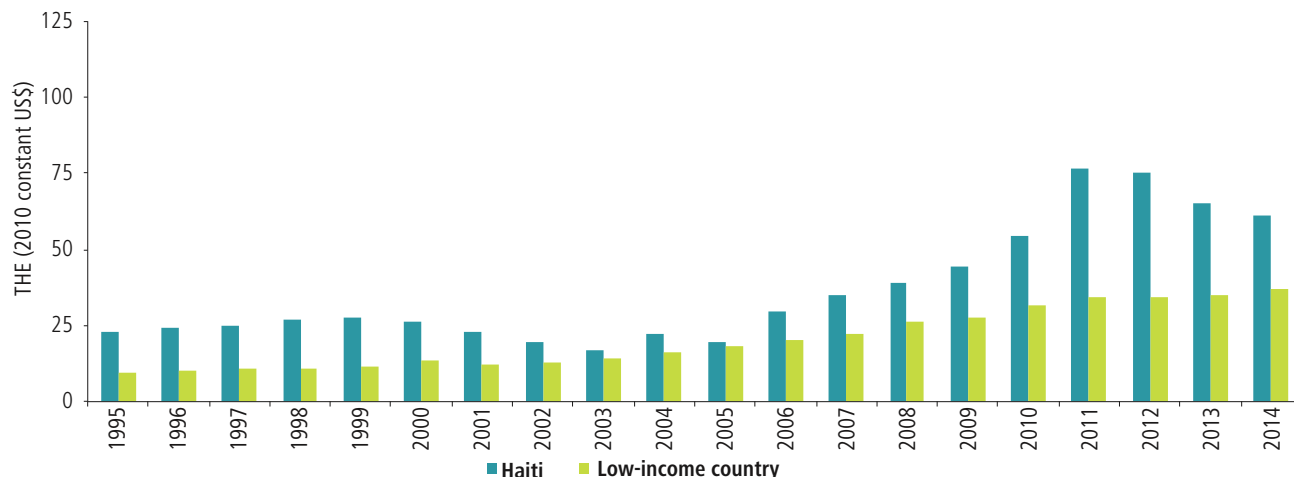


PHOTO CREDIT: WORLD BANK PHOTOCOLLECTION

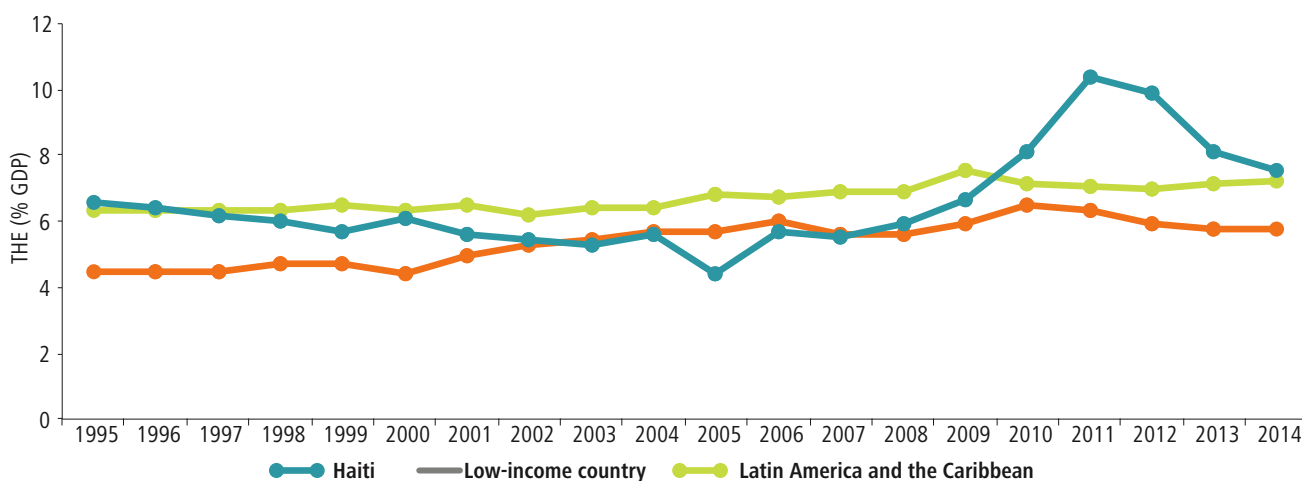


FIGURE 4.1: Total Health Expenditure (THE) per Capita: Haiti and LICs, 1995–2014



Source: GHED 2016.
 Note: LAC = Latin America and the Caribbean; LICs = low-income countries.

FIGURE 4.2: Total Health Expenditure (THE) as Percentage of GDP: Haiti, LICs, and LAC Region, 1995–2014



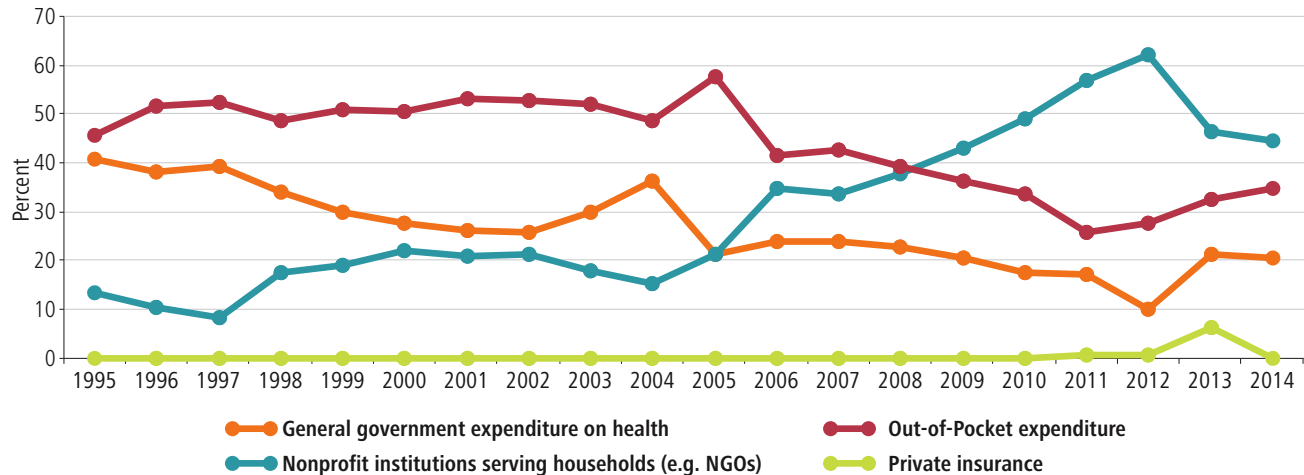
Source: Data retrieved from the 2016 WDI database and GHED.
 Note: LAC = Latin America and the Caribbean; LICs = low-income countries.

following the country’s economic fluctuations and natural catastrophes.

Considering a longer-term perspective, the total health expenditure has increased over the last 20 years, driven by external financing to nongovernmental organizations (NGOs) while the government has played an increasingly marginal role in financing the sector. The majority of the external financing has been channeled through nonprofit institutions serving households such as NGOs. Thus the increase in external financing has changed the structural composition of the total health expenditure. In 1995 households were the main financiers of the health system through out-of-pocket (OOP) payments (46 percent of

THE), followed by the government (41 percent of THE) and then NGOs (14 percent of THE)—see figure 4.3. Between 1995 and 2014, the proportion contributed by government decreased substantially, from 41 percent to 21 percent. During the same period, the share of out-of-pocket expenditures also decreased, from 46 percent to 35 percent, while the share of NGO financing increased dramatically, from 14 percent to 45 percent, mainly because of the increase in external funding. NGO participation began expanding in 2004 after the Aristide coup, reaching 35 percent in 2006. It then went up again, reaching 62 percent of THE in 2012 after the earthquake, and it has decreased substantially in recent years. Concurrently, the decline in the general government health expenditure (GGHE) accelerated: it

FIGURE 4.3: Trend in Share of Total Health Expenditure, by Finance Source: Haiti, 1995–2014



Source: GHED 2016.

Note: In the National Health Accounts (NHA) methodology followed by the World Health Organization, the total health expenditure is composed of the government health expenditure and private expenditure. The latter includes out-of-pocket expenditures, nonprofit institutions serving households (such as nongovernmental organizations, NGOs), and private insurance. Thus the sum of the four variables shown in figure 4.3 is the total health expenditure.

represented 36 percent of THE in 2004 and fell to 21 percent in 2015. In 2014 OOP payments in Haiti were similar to those in other LICs. On average, however, these payments have been steadily declining in LICs, whereas in Haiti OOP payments decreased broadly following the influx of external funding but have been rising since 2012. This increase stems mainly from the reduction in external funding to NGOs, together with the fact that the government did not increase resources enough to make up for the fall in external aid.

The growth rate of the total health expenditure has been very volatile, and the lack of predictability poses a challenge to long-term planning to reach health sector goals. The annual real growth rate of THE per capita greatly fluctuated from 2003 to 2013, with peaks in 2004, 2006, and 2010 corresponding to political crises or natural catastrophic events. From 2003 to 2013, the average annual real growth rate of the health expenditure in Haiti was 16 percent, varying from –27 percent to 53 percent. The high volatility in THE (mainly due to the volatility of donor funding) makes it difficult to create a long-term investment plan.

If used efficiently, Haiti’s current THE per capita would be sufficient to provide a basic package of health services. A costing exercise utilizing the minimum package of health services developed in 2006 by the Ministry of Public Health and Population (*Ministère de la Santé Publique et de la Population, MSPP*)³¹ finds that the actual unit cost for delivering the package³² is \$5 per capita, and the normative cost³³ is \$9.50 per capita. Financial health records capture both the reported provision and expenditure by health facilities, as well as the costs associated with drugs donated through vertical programs. If \$9.50 per capita is needed to provide a basic package of health services at the first level of care, the total amount would represent 8 percent of THE. Similarly, global estimates from the World Health Organization (WHO) indicate that \$50 per capita would ensure access to an essential health care package (Cavagnero et al. 2008; WHO 2001).³⁴ Even if these higher global estimates are used, Haiti has sufficient resources to finance a basic package of health services if all sources of funding (public, private, and external) were pooled and used efficiently for this purpose.



31 This costing would have to be updated using the recently developed package of essential services (PES).

32 The actual unit cost reflects what health facilities spend today to treat patients at the first level of care.

33 The normative cost is the cost of the minimum package of services needed for all people to receive access to treatment and prevention. The estimate would be based on prevalence rates. For example, if the prevalence rate of malaria is 3 percent, it is assumed that 3 percent of the total population would be treated for malaria.

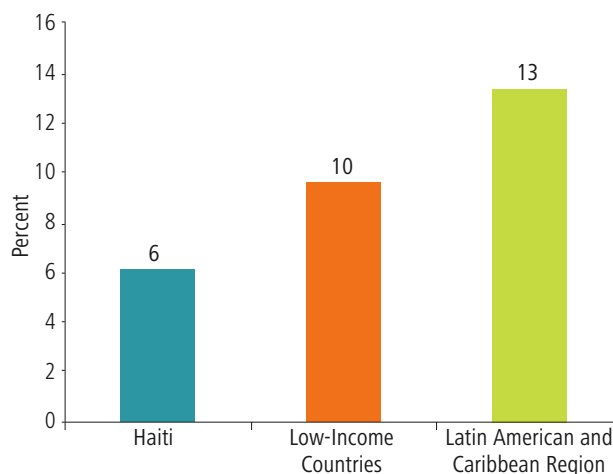
34 WHO estimated \$34 in 2001 prices, which would correspond to \$50 in 2014 prices, calculated using a methodology similar to that used by Cavagnero et al. (2008).

Public Financing

Compared with other LICs, Haiti has very low levels of public financing as a share of the total health expenditure. As shown previously, public funding as a share of THE is the smallest source of financing for the health sector apart from private insurance, which is negligible in Haiti. In the 1990s, the share of public funding was higher, but it has been steadily decreasing. In 2014 the total public health expenditure was about 6,000 million Haitian gourdes (HTG)³⁵ (counting operational budget, public treasury, and on-budget external financing), or about 1 percent of GDP. The general government health expenditure (GGHE) as a percentage of GDP has been hovering at 1–2 percent and is currently below that of the average LIC. Because the GGHE includes both public financing and on-budget external financing, it is possible that part of the decrease in the GGHE as a percentage of THE is driven by a decline in on-budget external financing. In 2014 Haiti spent 6 percent of its total government expenditure on health—that is, about half the spending of the average LIC (figure 4.4). Thus there is scope for the government to increase public financing and double this ratio to reach the average level for a LIC. Furthermore, in 2014 Haiti's per capita GGHE was \$13, which is lower than the LIC average of \$15 (figure 4.5).

The share of the budget allocated to the health sector has been decreasing over time. In the past, Haiti's health sector received domestic allocations of between 9 and 14 percent of the national budget. Between 2000 and 2005, the government health expenditure as a share of the general government budget was 14 percent on average. This was similar to the average for the LAC region, which has been relatively stable between 12 and 13 percent (figure 4.6). However, during 2006–10 the same indicator dropped to 9 percent in Haiti. Primarily because of donor funding displacement in the post-earthquake period, national budget allocations to health in 2012 were further reduced to 3.4 percent. In Haiti, the government expenditure on health represented just 6.1 percent of the total government expenditure in 2014, well below the Abuja Declaration recommended allocation of 15 percent. In addition, this percentage has continued to

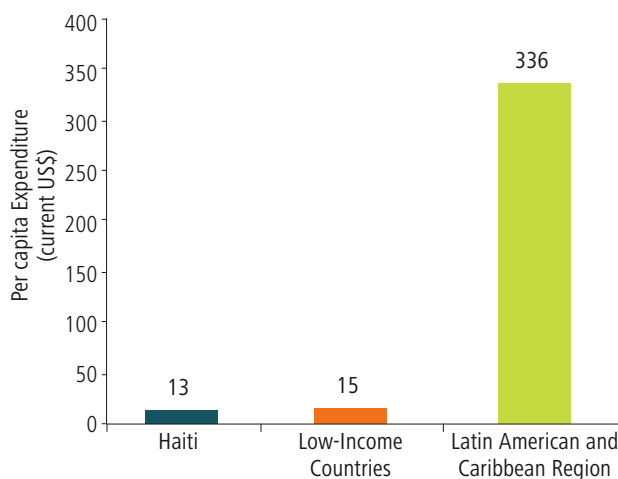
FIGURE 4.4: Government Health Expenditure as Share of General Government Expenditure: Haiti, LICs, and LAC Region, 2014



Source: GHED 2016.

Note: GGE = general government expenditure; GGHE = general government health expenditure; LAC = Latin America and the Caribbean; LICs = low-income countries.

FIGURE 4.5: Per Capita Government Health Expenditure: Haiti, LICs, and LAC Region, 2014



Source: GHED 2016.

Note: GGHE = General government health expenditure; LAC = Latin America and the Caribbean; LICs = low-income countries.

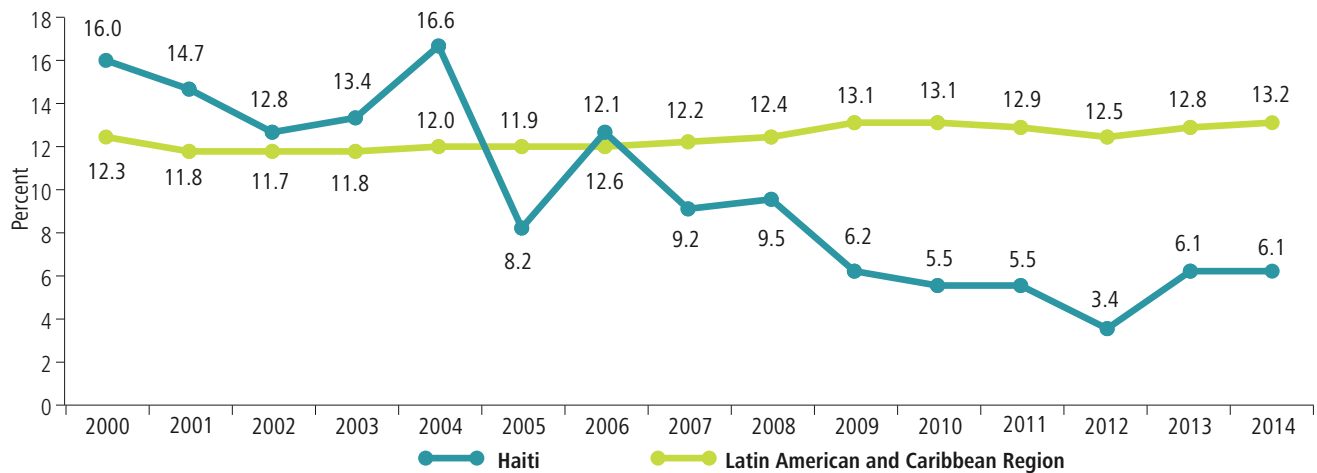
fall; some sources indicate that the share of total government expenditure going to health in the 2016–17 budget is just 4.5 percent.

The majority of domestic financing is allocated to salaries. The public health budget is composed of the operating budget and on-budget external funding,



35 This figure was annualized to calendar year 2014 because a fiscal year extends from October to September in Haiti. From October 2013 to September 2014, the operational budget, public treasury, and external funding on-budget amounted to \$3,059 million, \$612 million, and \$3,418 million, respectively, and from October 2014 to September 2015 the operational budget, public treasury, and external funding on-budget amounted \$3,321 million, \$534 million, and \$1,760 million, respectively (*Le Moniteur* 2014, 2015).

FIGURE 4.6: Government Health Expenditure as Share of General Government Expenditure: Haiti and LAC Region, 2000–2014



Source: GHED 2016.
 Note: LAC = Latin America and the Caribbean.

both executed by the MSPP, and the public investment budget (public treasury), which is executed by the Ministry of Planning and External Cooperation (*Ministère du Plan et de la Coopération Extérieure, MPCE*). The government budget is composed primarily of the operating budget, which amounted to HTG 3,059 million, or \$68 million,³⁶ in fiscal 2014-15, and represented on average 84 percent of the public budget over the last five years. From fiscal 2010-11 to fiscal 2013-14, the operating budget increased by 50 percent, from HTG 2,040 million to HTG 3,059 million, and the investment budget increased by 7 percent, or only from HTG 570 million to HTG 612 million. The MSPP uses a large share of its operating budget for personnel costs, which represented about 90 percent on average between fiscal 2006/07 and fiscal 2013-14. Other low- and middle-income countries allocate a smaller share of their operating budgets (excluding the investment budget from public funds) to human resources. Examples are Honduras (65 percent), Ghana (58 percent), Tanzania (58 percent), Uganda (53 percent), Burkina Faso (43 percent), and Benin (22 percent)³⁷—see figure 4.7. Because of the high share of domestic resources allocated to the payroll, financing for nonsalary operating expenditures, including spending on items such as vaccines and medicines, which

are critical elements of the health system, are very low in Haiti.

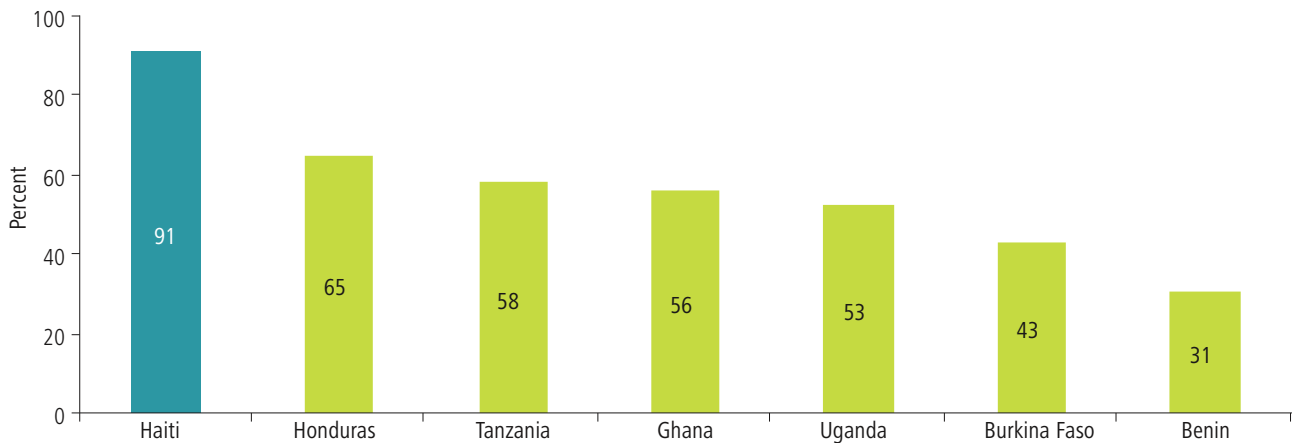
For the last several years, key items such as vaccines have been fully financed by external donors without any cofinancing by the government unlike in most other LICs. From a strategic standpoint, this needs to change; otherwise, some of these donors are likely to stop (or substantially reduce) their financing for vaccines in Haiti. For major vaccine financiers such as the Global Alliance for Vaccines and Immunizations (GAVI), cofinancing of vaccines from the government’s domestic budget is a requirement for the program to continue. The required cofinancing amounts are small—indeed, much smaller than GAVI’s contributions—and most LICs comply with this requirement. In the case of Haiti, exceptions have been made to allow the program to continue even without any cofinancing by the government, but it is unlikely that these exceptions will continue much longer. Thus it is essential for the government to begin providing the needed cofinancing through a dedicated budget line in which the needed funds are actually made available for spending. In the past, such a line was at times introduced into the budget, but ultimately with no funds actually provided under the budget line. Essentially, domestic financing provided in this manner would leverage a much larger



³⁶ Using an exchange rate of HTG 45 per U.S. dollar.

³⁷ These figures are World Bank calculations based on the public expenditure reviews (PERs) of Tanzania (2012), Ghana, (2010), Uganda (2006–07), Burkina Faso (2005), and Benin (2004). The PERs for some countries such as Honduras, Ghana, Burkina Faso, and Tanzania do not specify whether donor funding was included in the investment budget. Thus these comparisons should be interpreted with caution.

FIGURE 4.7: Human Resources Salary Payment as Share of Government Operating Budget: Haiti and Selected Countries, Various Years



Source: Adapted from World Bank 2016a.
Note: This excludes the domestic investment budget.

amount of financing from GAVI (and other donors). Similar arguments apply to other items that the government considers essential.

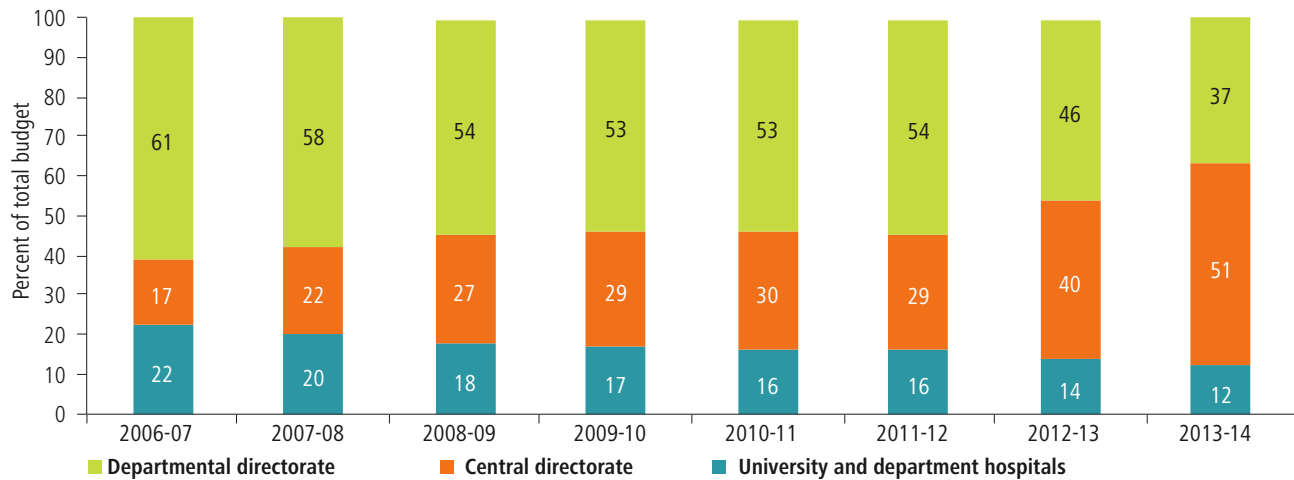
An increasing share of the public health budget is allocated to the central level. Departmental health directorates (*directions departementales sanitaires*, DDSs) captured 61 percent of the operational budget³⁸ of the MSPP in 2006–07, but their budget fell considerably in 2013–14, mainly because resources were shifted to the central directorates. In 2006–07, 17 percent of the operational budget was allocated to the central level, compared with 51 percent in 2013–14. To date, it is unclear what exactly led to this shift in budget allocations. However, according to recent studies, the central government has limited stewardship capacity in health service delivery (Durham et al. 2015), and a greater proportion of funds are consumed by administrative and stewardship costs when they are allocated at the central level rather than departmentally (Josephson and Vinyals 2012). Therefore, increased centralization of the MSPP’s operational budget poses a risk to funding for service delivery. University and specialized hospitals also received a smaller portion of the operating budget between 2006–07 (22 percent) and 2013–14 (12 percent)—see figure 4.8. The budget for central directorates, university hospitals, and DDSs is not allocated based on need, population, and poverty factors, and, as noted earlier, about 90 percent is used to pay salaries.

There is no clear or enforceable guiding principle on the amount of public spending to be devoted to the health sector. The 2012 National Health Policy stipulates, using the 2001 Abuja Declaration that the government should allocate 15 percent of the general government expenditure to the health sector. However, in practice there is no legal framework for public spending on the health sector. The budget ceiling for all sectors is determined by the assessment of the Program of Public Investment (PIP). Each year in October, the Ministry of Economy and Finance (*Ministère de l’Economie et des Finances*, MEF), Ministry of Planning and External Cooperation, and the Office of the Prime Minister (*la Primature*) discuss the structure of the budget. The outcome of this meeting is a “framework letter” that sets indicative credit ceilings (both investment and operational) for each sector based on preliminary technical work. The prime minister sends the framework letter to each sector. The MPCE then consolidates the PIP in February based on the framework letter and communicates it to the MEF, which finalizes the overall budget for “budgetary conferences” in which all line ministries participate. During these conferences, the MEF reviews the ceilings of each sector before they are submitted to the Minister Council. After submission to the Minister Council, the prime minister submits the budget to Parliament for a vote in May. A justification for additional funding is guided by the priorities of the government in office.



38 No information is available on the distribution of the public treasury among central directorates, DDSs, and university/specialized hospitals.

FIGURE 4.8: Percentage Distribution of MSPP Budget, by Directorate: Haiti, 2006–07 to 2013–14



Source: World Bank 2016a.

Note: The budget includes operating budget only. The public treasury is not broken down by directorates. MSPP = Ministère de la Santé Publique et de la Population (Ministry of Public Health and Population).

Because external donors have increased their contribution to the health sector over the last decade, the Haitian government has had little incentive to increase the share of the budget allocated to the health sector.

Private Financing

Private financing includes household out-of-pocket spending, nonprofit institutions serving households (such as NGOs), and private insurance, which includes direct service payments by private corporations. The private health expenditure is the main source of financing in Haiti, and it represented about 80 percent of THE in 2014. About 35 percent was the out-of-pocket expenditure, less than 1 percent was private insurance, and the remaining 44 percent was from nonprofit institutions serving households. The latter mainly represents financing from NGOs in Haiti because they play an important role in both the financing and provision of health services. The share of NGO financing increased from 14 percent of THE in 1995 to 44 percent in 2014. The out-of-pocket expenditure fell from about 50 percent in the early 2000s to 26 percent in 2011. But in 2014, because of the drop in external financing after the earthquake, the OOP expenditure went up to 35 percent. Thus there seems to be

an inverse relationship between the OOP expenditure and donor/NGO financing.

The out-of-pocket expenditure increased by 36 percent from 2011 to 2014, driven mainly by expenditures for medicines (82 percent) and consultation/user fees (60 percent). Individuals who had to pay out-of-pocket spent on average HTG 664 in 2012. By 2013, this figure had increased by 55 percent, to HTG 1,032 (ECVMAS 2012, 2013)—for more details, see chapter 5. This increase in OOP expenditures not only deters and delays utilization of health services when needed but also risks pushing people into or deeper into poverty. OOP spending also constrains the redistributive capacity of health financing systems to enable resources to be allocated based on need rather than on ability to pay. An analysis of the impact of the OOP expenditure on the welfare of households appears in chapter 5 on access to health services.

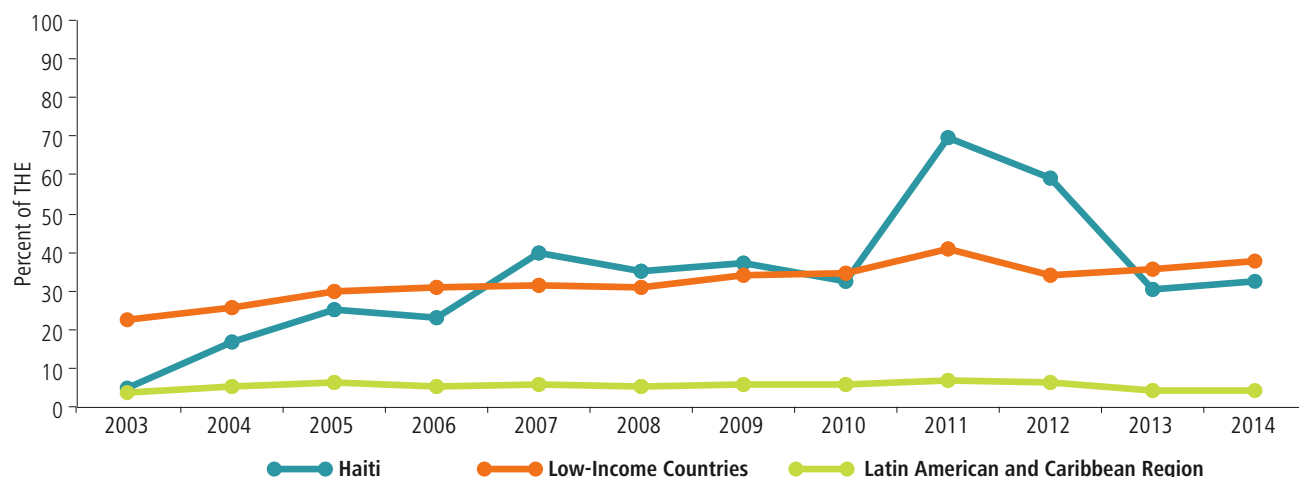
External Financing

A large surge in external financing³⁹ followed the 2010 earthquake in Haiti, but it is now declining dramatically. External funding began to increase in 2003–04, reaching its peak in 2011 in the aftermath



39 External financing is all the external aid available in a country. It can finance, among other things, on-budget government contributions (that is, it is part of the variable “general government health expenditure” in figure 4.3) and the private sector—for example, through nonprofit organizations such as NGOs (another variable in figure 4.3). Thus external financing is part of the public and private financing discussed in previous sections. However, because of the importance of external financing in Haiti, this subsection was deemed necessary. Note that because the vast majority of external aid is channeled through NGOs, the pattern found in the variable “external financing” in figure 4.9 is similar to the variable “nonprofit institutions serving households” (such as NGOs) in figure 4.3.

FIGURE 4.9: External Financing as Share of Total Health Expenditure: Haiti, LICs, and LAC Region, 2003–14



Source: GHED 2016.

Note: LAC = Latin America and the Caribbean; LICs = low-income countries; THE = total health expenditure.

TABLE 4.1: On- and Off-Budget External Financing for Health as Percentage of Total External Financing for Health: Haiti, 2010–11 to 2014–15

HTG, millions

	2010–11	2011–12	2012–13	2013–14	2014–15
Operating budget	2,040	2,209	2,591	3,059	3,321
Public treasury, PIP (on-budget)	570	372	532	612	434
External funding, PIP (on-budget)	–	–	8,947	3,418	1,760
External funding, MGAE (off-budget)	47,110	117,016	234,884	185,241	9,060
On-budget external funds for health, as % of total external funds for health (off-budget)	–	–	4%	2%	19%
Off-budget external funds for health, as % of total external funds for health	–	–	96%	98%	81%

Sources: *Le Moniteur*; BOOST 2015; MGAE database for health, <https://haiti.ampsite.net>

Note: – = not available; MGAE = Module Gestion de l'Aide Externe (External Assistance Management Module); PIP = Programme d'Investissement Public (Public Investment Program).

of the earthquake, when it represented 69 percent of THE. From 2003 to 2014, external financing as a share of THE significantly increased in Haiti, much more so than in LICs, but it also showed a more volatile pattern (figure 4.9). External financing has declined dramatically since 2011, falling from 69 percent of THE in 2011 to 33 percent in 2014, which is lower than the LIC average of 38 percent.

The drop in external financing raises the issue of sustainability of investment programs. Both on-budget and off-budget donor contributions have been falling since 2012–13. From the highest levels in 2012–13

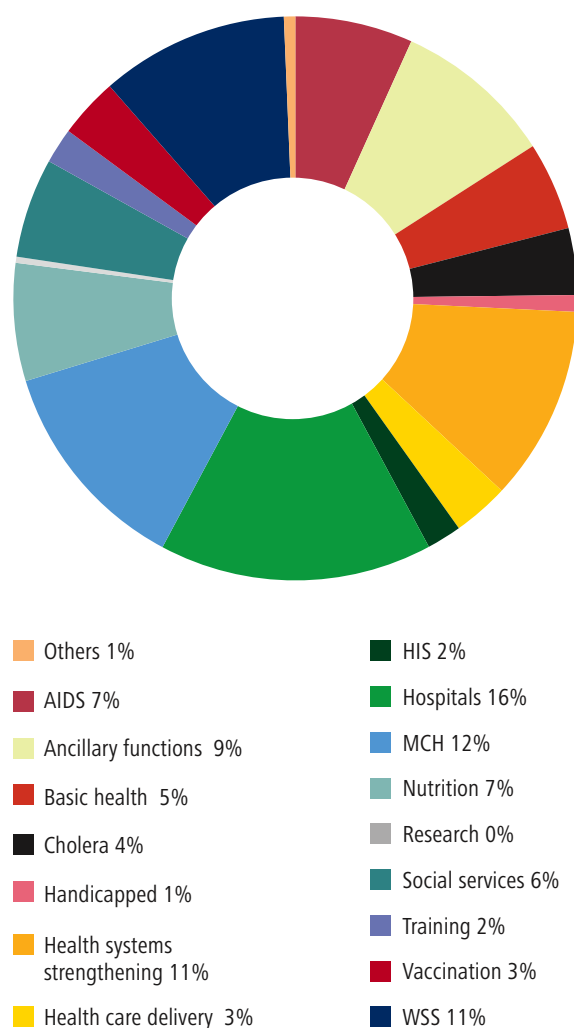
to 2014–15, the off-budget contributions have declined by 25 times and the on-budget contributions by five times (table 4.1), representing a massive loss for the health system. Public treasury funds have also decreased but at a slower pace, whereas the operating budget has increased slightly, but not enough to compensate for the sharp decrease in external funding. A large portion of external resources is currently used to finance operating costs such as vaccines, the health workforce, and medical products (MSPP 2014). The recurrent/capital expenditure ratio is slightly higher for programs in the health sector (73 percent) compared with those in other sectors. With the withdrawal

of external funding, the Haitian government needs to start paying these recurrent expenses to ensure the maintenance of capital investment and the functioning of the health system. Large financing gaps for recurrent costs are currently emerging, and they are likely to continue to occur because external financing is decreasing rapidly in Haiti. Faced with lack of a system for tracking donor resources and how they are used and with limited public financing, the government may not be able to plan and take over the costs of maintenance and operations for health facilities.

External health funding is largely off-budget with limited oversight by the government. Neither the treasury nor the MEF monitor the expenditures financed by donors. In an effort to improve its monitoring, the Ministry of Planning and External Cooperation has started to aggregate information on the projects financed by donors through its External Assistance Management Module (*Module de Gestion de l'Aide Externe, MGAE*), which was set up in 2009 and has data from 2010. On average, 95 percent of external financing was off-budget⁴⁰ over the last three years, although that percentage trended downward, from 96 percent to 81 percent from 2012–13 to 2014–15 (table 4.1).⁴¹ In the absence of a functioning donor coordination mechanism, it is difficult for the MSPP to effectively channel this external financing in accordance with the Health Master Plan (*Plan Directeur de Santé*), also because that plan has been neither costed nor prioritized.

External financing needs to be more coordinated and aligned to Haiti's global burden of disease. It is challenging to track how external financing is used in Haiti. Each donor has its own policy for disbursement, procurement, and audit systems, and many disburse directly to service providers or NGOs (that work directly with service providers), thereby bypassing the MSPP and with high transaction costs. After compiling information on key donor programs in the health sector, this study found that external financing could be better aligned to Haiti's burden of disease. Hospital

FIGURE 4.10: Share of External Financing for Health Committed to Disease-Specific Programs: Haiti, 2014



Source: Estimates based on MGAE database, 2016.

Note: AIDS = acquired immune deficiency syndrome; HIS = health information system; MCH = maternal and child health; WSS = water supply and sanitation.

rehabilitation captures the highest share of external funding, 16 percent (one-fifth)—see figure 4.10. And yet, the three leading causes of disability-adjusted life years—human immunodeficiency virus (HIV), acute respiratory infections, and diarrhea—could be addressed by preventive and primary health care interventions



40 Off-budget project support includes funding for joint projects with the private sector and NGOs, as well as some projects implemented by donors and multilateral organizations. As the MEF is not involved in the administration of this kind of support, it is excluded from any planning or collaborative discussion, which makes it easier for donors to control selection of the type of projects to be funded and the timetable for implementation. Financiers choose this approach to circumvent existing regulations on budget execution, to avoid macroeconomic budget ceilings, to conform to guidelines of donor countries, to strengthen civil society, or because of the belief that government agencies are inefficient or corrupt. Since this funding approach utilizes financial management systems outside the existing government structures, it may create parallel implementation units (Stierman et al. 2013)

41 This reduction is explained by the fact that the off-budget funding decreased by 25 percent, while the on-budget external funding decreased by 5 percent and the public treasury funding by 1.2 percent. Thus the on-budget funding represented a higher share of the total external funding for the health sector.

instead of services that are provided at the hospital level.

The MSPP should capitalize on and scale up the existing examples of donor alignment around specific programs, so that Haiti can harmonize external sources of financing for health. At the moment, the activities of external partners are not fully coordinated, which makes planning and implementing sector-wide health programs difficult. The *Table Sectorielle*, which convenes the minister of health and donors to discuss health system challenges, does not meet regularly. Although there have been intermittent efforts to coordinate donor funding (such as the decision to map donor contributions to community health

workers by location), the *Table Sectorielle* has functioned as a mechanism for ad hoc and emergency requests. As a result, it has not led to joint decision making between the MSPP and donors. However, some positive experiences of donor alignment around specific programs have emerged. For example, the MSPP has led the development of a national manual for results-based financing (RBF), which aligns key donors such as the World Bank, U.S. Agency for International Development (USAID), and the Global Fund (as of 2016) around a results-based purchasing mechanism for primary care. The same mechanisms and indicators are used. Although the RBF project is a good example of donor alignment, a weakness of this approach is that it is still 100 percent donor-financed.

Pooling

The current prepayment mechanisms are largely insufficient in Haiti and only cover a limited share of the population. An important aspect of universal health care (UHC) is a move away from reliance on OOP payments as the primary source of financing to pooled and prepaid sources (table 4.2). Pooling includes prepaid insurance as well as government spending—a form of implicit pooling where prepayment is in the form of taxes. However, as discussed earlier, public spending is a relatively small source of financing, representing only 6 percent of the general government expenditure (GGE). Prepaid insurance schemes are underdeveloped and cover less than 5 percent of the population. The majority of the population who is covered by health insurance lives in the metropolitan area. The Office of Insurance for Work Accidents, Illness, and Maternity (*Office d'Assurance Accidents du Travail, Maladie et Maternité, OFATMA*) covers about 5 percent of the population, and other community health financing mechanisms cover less than 1 percent. Little information is available on commercial insurance other than that nine private voluntary insurance schemes exist in Haiti (Wright 2015). However, there is no clear information on the

number enrolled and the target population. Voluntary health insurance initiatives launched by Partners in Health (PIH) and the Development Activities and Services for Health (*Développement des Activités de Santé en Haïti, DASH*) are the best-known community health insurance mechanisms. With funding from the Inter-American Development Bank (IDB), DASH offers a market-based, low-cost, prepaid health card that gives 100,000 low-income Haitians limited access to quality basic health care (IDB 2013). In 2013 DASH⁴² covered 40,000 inhabitants (Le Nouvelliste 2013) or 0.04 percent of the population, but it aimed to cover 100,000 or 1 percent of the population. The coverage rate of prepaid insurance schemes is similar to that in many LICs and far below that of neighboring countries (see table 4.3 for a review of existing schemes).

OFATMA is the main health insurer in Haiti. It is an autonomous public institution under the administrative supervision of the Ministry of Social Affairs.⁴³ OFATMA's mission is to manage insurance regimes against health, accident, and maternity risks. Initially, OFATMA offered work accident insurance (since 1967)



42 In 2003 the Multilateral Investment Fund (MIF), a member of the Inter-American Development Bank Group, approved an \$827,807 donation for a project with DASH (MIF 2013). In 2013 DASH enrolled 40,000 patients. IDB funds have been particularly helpful in marketing DASH and informing the population about the advantages of prepayment mechanisms.

43 OFATMA is also overseen by the entity National Coordination of Health Insurance (Coordination Nationale de l'Assurance Maladie, CONAM) and by CAROSSE, which is the administration board.

TABLE 4.2: Health Financing System Characteristics, Haiti

	General revenue– financed government spending	OFATMA	Private health insurance	Voluntary health insurance scheme (DASH)	Household out-of- pocket payment
Target population and share of population covered	All the population (although roughly 40 percent of the population lacks access to essential health and nutrition services)	About 5 percent of population (440,000 persons—that is, 88,000 civil servants and their dependents), private sector employees and their dependents, as well as 2,000 persons from the informal sector	Not known but assumed to be <1 percent	Not known but assumed to be <1 percent; typically, informal sector	More than 93 percent of the population; those not covered by other schemes
Mode of participation	Open to the entire population	Mandatory for civil servants; voluntary for the private and informal sectors	Voluntary	Voluntary	Voluntary, depending on the willingness of household to pay
Revenue source	Taxes (tax system is currently regressive because the country’s fiscal revenues rely heavily on indirect taxes) plus external financing	Nonrisk-related health insurance contribution Two plans offering various services: one plan for employees earning less than HTG 25,000 and one plan for those earning more than HTG 25,000 Civil servants: 30 percent funded by civil servants and 70 percent funded by government Private sector: 3 percent levied from employee’s salary and 3 percent paid by firm; same for informal sector Informal sector	Premiums	Different packages of services at a cost of between HTG 68 (\$1) and HTG 685 (\$10) per month <i>Avantage santé</i> (pilot): fee of HTG 1,500 for six months IDB grant covering marketing costs	Voluntary: households’ disposable income and saving
Level of pooling and redistribution	National	National but mainly covering the West and no separate pooling between civil servants and private sector schemes		Scheme level	No interpersonal pooling
Cofinancing	93 percent of health facilities charge user fees	HTG 50 when going to general practitioner and HTG 100 when going to specialist; 20 percent for paramedical services (lab, drug, x-ray)	Varies across schemes	Copay of HTG 75 to have access to free generics and lab analysis (<i>Avantage santé</i>)	Entirely cofinanced (there is no prepayment)
Benefits	Benefit package is not implemented, so it varies by region, depending on availability and readiness. Implicit rationing.	Health insurance: PHC consultation, laboratory exam, drugs, hospital stay, regular hospital visits, maternity expenses, dental care and prevention, ambulance transportation, optical care; preventive care not covered Occupational insurance: accident, loss of a member, funeral costs. Benefits vary by professional status.	Varies across schemes	Preventive care and basic PHC services as well as surgery	n.a.
Gatekeeping	Referral system in theory but not implemented	Referral not required	Not known	Referral required	No referral required

Source: World Bank 2016a.

Note: n.a. = not applicable; DASH = Développement des Activités de Santé en Haïti (Development Activities and Services for Health (DASH)); HTG = Haitian gourde; IDB = Inter-American Development Bank; OFATMA = Office d’Assurance Accidents du Travail, Maladie et Maternité (Office of Insurance for Work Accidents, Illness, and Maternity); PHC = primary health care.

TABLE 4.3: Health Insurance Coverage in Haiti and Other Countries

	Population covered		Benefits package	Financial protection (level of out-of-pocket expenditure as % of total health expenditure)	
	Target	Health insurance or services subsidized by government			
		Insured (%)			Uninsured (%)
Ghana	Entire population	54	46	Comprehensive	27
Indonesia	Entire population	63	37	Comprehensive	38
Rwanda	Entire population	92	8	Comprehensive	22
Vietnam	Entire population	42	58	Comprehensive	58
Haiti	Civil servants, expanding to formal private sector	5	95	Not comprehensive	35
India	People below the poverty line	8	92	Inpatient (with pilot outpatient)	61
Kenya	Formal sector	20	80	Inpatient (with pilot outpatient)	43
Mali	Entire population	3	97	Comprehensive	53
Nigeria	Civil servants, expanding to informal sector	3		Comprehensive	59

Source: World Bank 2016b; adapted from Lagomarsino et al. 2012.

for the private sector and expanded to maternity insurance in 1975, but the latter was only put into practice in 2014. This social insurance scheme is compulsory for all workers, according to a 1967 law. However, not all firms have enrolled their employees. Today, OFATMA covers up to 5 percent of the population and targets four populations: (1) 88,000 civil servants and their dependents (about 440,000 persons in total, assuming households include five members)—this scheme is compulsory and was moved from the private sector to OFATMA management in 2014; (2) employees from private companies with an agreement—the accident insurance is compulsory, but not all firms enroll their employees and the number of employees benefiting from accident and health insurance is not known; (3) employees from the informal sector who are organized in organization/trade unions—this scheme is voluntary and covers only 400 persons working at the airport (red caps) and 100 women and their dependents;⁴⁴ and (4) employees from the formal sector (voluntary) (OFATMA 2015).

The financing of OFATMA is fragmented. A monthly tax of 3 percent is levied on private sector

employees' salaries, and it is matched by another 3 percent paid by employers. This tax covers employees and their dependents. Civil servants contribute up to 30 percent of the premium, and the MEF contributes up to 70 percent. Informal workers pay HTG 100 per month for an individual membership only. This funding is supposed to be complemented by a public allocation of HTG 600 per person (OFATMA 2015), but it has not yet been fixed (Lamaute-Brisson 2015). Although OFATMA manages four populations, it is organized in two pools. The civil servant scheme is one pool, and the pool regrouping contributions from the formal and informal sectors is managed separately. Because there is no cross-pooling between these two funds, risk equalization arrangements are limited. The financial viability of OFATMA-managed schemes is also questionable. For example, the premium for the civil servant schemes has not changed in 15 years, and OFATMA does not know exactly how many civil servants are in the program because this information has not been provided by the government. Thus OFATMA does not know whether the program is financially sustainable based only on the contributions from employees and the MEF.



44 This scheme, known as *Kat wòz konbit solidarity* or *Carte rose*, will not be extended because OFATMA did not receive the subsidy from the government for this purpose (2 percent of the government's budget).

Because OFATMA is perceived to be a management entity more than an insurer, it does not have any mechanism to improve the civil servants' scheme. Furthermore, the MEF is often delayed in reimbursing OFATMA, which poses solvency issues and delays in payments to providers. This situation is affecting OFATMA's image because providers perceive this delay as being OFATMA's responsibility.

OFATMA offers several benefits packages that vary, based on the salary of the insured. There are two plans for the private sector: one for employees earning HTG 25,000 or less a month and another for employees earning more than HTG 25,000 a month. The three plans for civil servants are based on the salary of the insured. Overall, both the formal and informal sectors would be entitled to the following services: primary health care consultation, laboratory exam, drugs, hospital stay, regular hospital visits, maternity expenses, dental care and prevention, ambulance transportation, and optical care (OFATMA 2015). Preventive care is not covered, however. Those earning less than HTG 25,000 have lower reimbursement than those earning more. Patients with OFATMA insurance are offered services in OFATMA facilities, which comprise three hospitals and a network of 37 health facilities. To avoid supplier-induced demand, there is a copay of HTG 50 per outpatient consultation and HTG 100 for a visit to a specialist. Civil servants and employees from the private sector

have to pay 20 percent of the total amount of paramedical services (lab, x-ray, drugs).

OFATMA's health insurance excludes the unemployed and is less inclusive for informal workers' dependents. This health insurance is offered only to those who are employed, which is problematic because the unemployment rate in Haiti is 30.1 percent (Singh and Barton-Dock 2015). And yet the unemployed are the most likely to encounter catastrophic health expenditures (CHEs). OFATMA has experimented with contracting associations of informal workers. However, it is questionable whether this program could be scaled up, and there are issues with how informal workers' dependents are included in the program.⁴⁵

Building capacity in effectively managing existing insurance schemes would be essential for future expansion of coverage. In 2013 OFATMA was able to reduce the time required to reimburse the provider from six months to 45 days thanks to a firm that set up software to manage insurance claims. However, there are no in-house insurance and actuarial skills that would allow OFATMA to estimate the cost of the health services it covers and the per capita premium based on the number of enrollees. In 2013 OFATMA relied on a firm to conduct such an analysis, but ideally such work would be done internally or in partnership with an organization that could strengthen OFATMA's technical capacities.

Purchasing

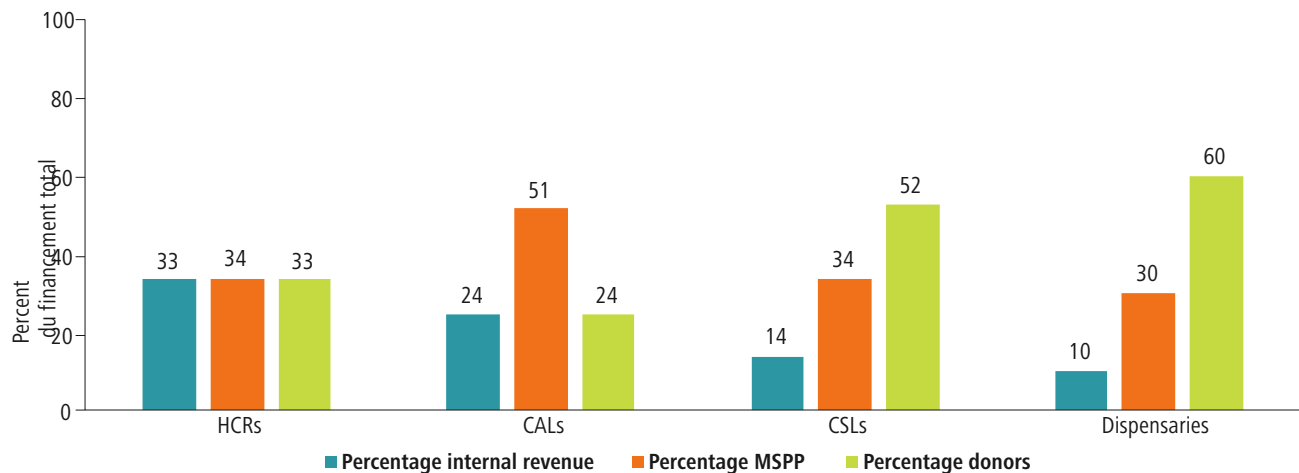
Strategic purchasing is limited in Haiti because of the fragmentation of health financing flows and the service delivery system. All health facilities, regardless of their ownership status, report to departmental health directorates. Most facilities receive input-based financing from a number of sources. A small study of 45 primary health care (PHC) facilities in three

departments conducted by the World Bank in 2013 found that facilities typically rely on three sources of funding: various donors (main source), MSPP/public financing, and internal revenue/user fees (figure 4.11). Because of the complex ownership structures and the fragmented financial flows to facilities, strategic purchasing is limited in practice.



45 The children of workers in the informal sector and those of workers in the formal economy do not have equal access to health insurance. Civil servants and workers in the formal economy are entitled to cover four dependents for free. By contrast, workers in the informal sector have to pay a monthly fee of HTG 55 for each additional child. Because most workers in the informal sector are poor (they live on \$2.25 or less per day) and have on average five dependents (ECVMAS 2012), paying HTG 100 per month plus HTG 275 in total (HTG 55 per dependent) would push them to spend 10 percent of their salary on health care per month, which is far above the 3 percent tax levied on salaried workers.

FIGURE 4.11: Funding (HTG) of Primary Health Care Facilities, by Source: Haiti, 2013



Sources: World Bank, USAID, and MSPP 2013.

Note: CALs = *centres de santé avec lit* (health centers with bed); CSLs = *centres de santé sans lit* (health centers without bed); HCRs = *hôpitaux communautaire de référence* (community referral hospitals); HTG = Haitian gourde; MSPP = Ministère de la Santé Publique et de la Population (Ministry of Public Health and Population).

Because there is no prioritized benefits package, each provider delivers whatever services it deems necessary. In the absence of strategic purchasing, NGO and private providers do not necessarily deliver services aligned with the minimum package of health services defined in 2006 by the MSPP. In theory, MSPP facilities are supposed to implement this package, but no one monitors compliance. As noted earlier, the MSPP recently developed a package of essential services (PES), but that package has not been prioritized or costed. Usually, an essential package of health services (EPHS) focuses on reproductive health, maternal and child health (MCH), noncommunicable diseases (NCDs), and mental health. In Haiti, the PES goes beyond this list of basic services (WHO 2008). For example, the newly proposed PES offers fertility and cancer treatments.⁴⁶ In addition, the PES does not provide an overview of the required input (especially drugs and equipment) by level of care—dispensary, health center, community referral hospital (*hôpital communautaire de référence*, HCR). The PES thus differs from its predecessor, which at least included a list of drugs and equipment by level as well as the minimum number of staff by level. Because there is not enough funding in any health systems, including Haiti’s, to cover all services for all citizens, it is very unlikely that the PES can be implemented in practice unless it is prioritized and costed.

Health facilities have limited financial autonomy, and there is little accountability for results

between purchasers and providers. MSPP facilities do not receive budget allocations for their use. Instead, the MSPP pays the salaries of health staff at the departmental level via the departmental finance directorates. For the rest, MSPP facilities have to make requests to their departmental health directorate to pay nonsalary expenses such as for utilities, medicines, and supplies. MSPP facilities usually rely on user fees to purchase medicines and medical supplies.

Because these facilities have no control over a budget, they are limited in their ability to use resources to improve services delivery. MSPP second-level facilities such as the HCRs and hospitals have more leverage because they receive funding for nonsalary expenses from the departmental finance authorities. For NGO facilities, a line-item budget is the typical provider payment mechanism used across local and international NGOs in charge of delivering health services. Traditionally, an NGO’s headquarters has managed the financial aspects of health facilities and paid staff, as well as managed disbursement for specific line items. Health workers hired by NGOs receive higher salaries than staff recruited by the MSPP, in particular medical doctors. In a study conducted in three departments (Center, North-East, and North-West), medical doctors recruited by NGOs made 58 percent more than medical doctors recruited by the MSPP. This incentive may contribute to the higher productivity of medical staff in NGO facilities, as confirmed by the Service



⁴⁶ The package of essential services was launched and made available to the team only in September 2016.

Provision Assessment (SPA—Évaluation de la Prestation des Services de Soins de Santé, EPSSS) data set (see the discussion of human resources in chapter 6).

Strategic purchasing is also limited within OFATMA.

There is no accreditation system between OFATMA and its contracted health facilities and hospitals. Ninety-three medical doctors are affiliated with OFATMA, as well as four laboratories, three pharmacies, and two eyeglass manufacturers (OFATMA 2015). Health facilities and medical doctors receive a copayment from patients at the point of service delivery. OFATMA then reimburses the provider the difference. OFATMA provides a financial incentive to medical doctors who receive insured patients at an OFATMA hospital.

The MSPP recently strengthened the tools that will encourage provider-purchaser responsiveness.

It has developed several tools to control resources and the production of health services at the national level. Each facility, regardless of type, has to submit a report on the utilization of PHC services to the departmental health directorates, and those reports are forwarded to the Planning and Evaluation Unit (*Unité de Planification et Evaluation, UPE*) at the MSPP for a quality check and monitoring. Using its new health management information system, SISNU, the MSPP can better oversee the delivery of care. For example, the UPE will follow up with the departmental health directorates if data are inconsistent or there is an alarmingly low utilization of key health services coverage indicators.

Several USAID-funded NGOs have improved service coverage by contracting providers based on results-based financing (RBF). With USAID funding, the Management Sciences for Health (MSH) program contracted out the provision of health services in all 27 NGOs through the project Health for the Development and Stability of Haiti (*Santé pour le Développement et la Stabilité d’Haïti, SDSH*) as of 2007. The MSH not only contracted out services, but also implemented performance-based financing

mechanisms. It worked with each NGO to set service delivery targets and incentives based on the organization’s historical performance and to agree on a budget. The MSH disbursed 95 percent of budgeted funding to NGOs on a quarterly basis after receiving the required information (such as data reports and an action plan), and it retained 5 percent of budgeted funding as incentives. Thus an NGO received the lowest percentage (95 percent) of its budgeted funding if it met none of its service targets and the highest percentage (105 percent) if it achieved all the targeted goals set by SDSH by the end of each year. An evaluation in 2009 found that NGO health facilities enrolled in the scheme performed better than those in the rest of Haiti in complete immunization coverage, prenatal care, assisted deliveries, and postnatal care (Eichler, Auxila, and Pollock 2001; Eichler and Levine 2009). A more recent study confirmed those findings and showed that the addition of performance-based incentives, training, and technical assistance for non-governmental health facilities in Haiti increased key services over a three-year period by 39 percent. For children under 1 year and pregnant women, the increases in services were both statistically significant and large in magnitude—1.7 to 2.2 times the baseline rates (Zeng et al. 2013).

The MSPP has just begun to implement RBF in about 10 percent of PHC facilities and will begin to pay providers based the coverage and quality of care.

With the implementation of RBF in March 2016, 80 PHC facilities (50 sponsored by the World Bank and 30 sponsored by USAID) are being paid through output-based payments with the implementation of RBF. The 80 PHC facilities include dispensaries, health centers, and community referral hospitals. Fifty percent of the funding will be allocated to improve the operating and quality of health services, and up to 50 percent of total funding will be used to pay health staff based on a grid of indicators combining measures of both quantity and quality of care (MSPP 2014)—for more details, see chapter 6.

ACCESS TO HEALTH SERVICES

The outpatient utilization rate in Haiti was low in 2013, at approximately 0.5 visits per person per year. The MSPP has estimated that there were 0.58 visits per person in 2014–15 (MSPP 2016), confirming the relatively weak utilization. However, there are wide variations by department and only in the West, North, and North-East departments is utilization higher than the national mean. Two departments, South-East and Artibonite, have very low utilization rates, with less than 0.4 visits per person (IHE and ICF International 2014).

Affordability

Affordability is one of the main causes of low outpatient utilization. In 2013, 24 percent of households reported not consulting a health provider when sick (ECVMAS 2013). Among those, 49 percent did not consult a provider because they could not afford care (figure 5.1). Low affordability has also been found in other studies in Haiti. For example, in one study the majority of the sample reported not using traditional birth assistance or a hospital for birthing because of the cost (Urrutia et al. 2012). The removal of user fees for maternal and child health services in several facilities in Grand’Anse led to a 200 percent increase in attendance as compared with cost sharing (Altaras 2009).

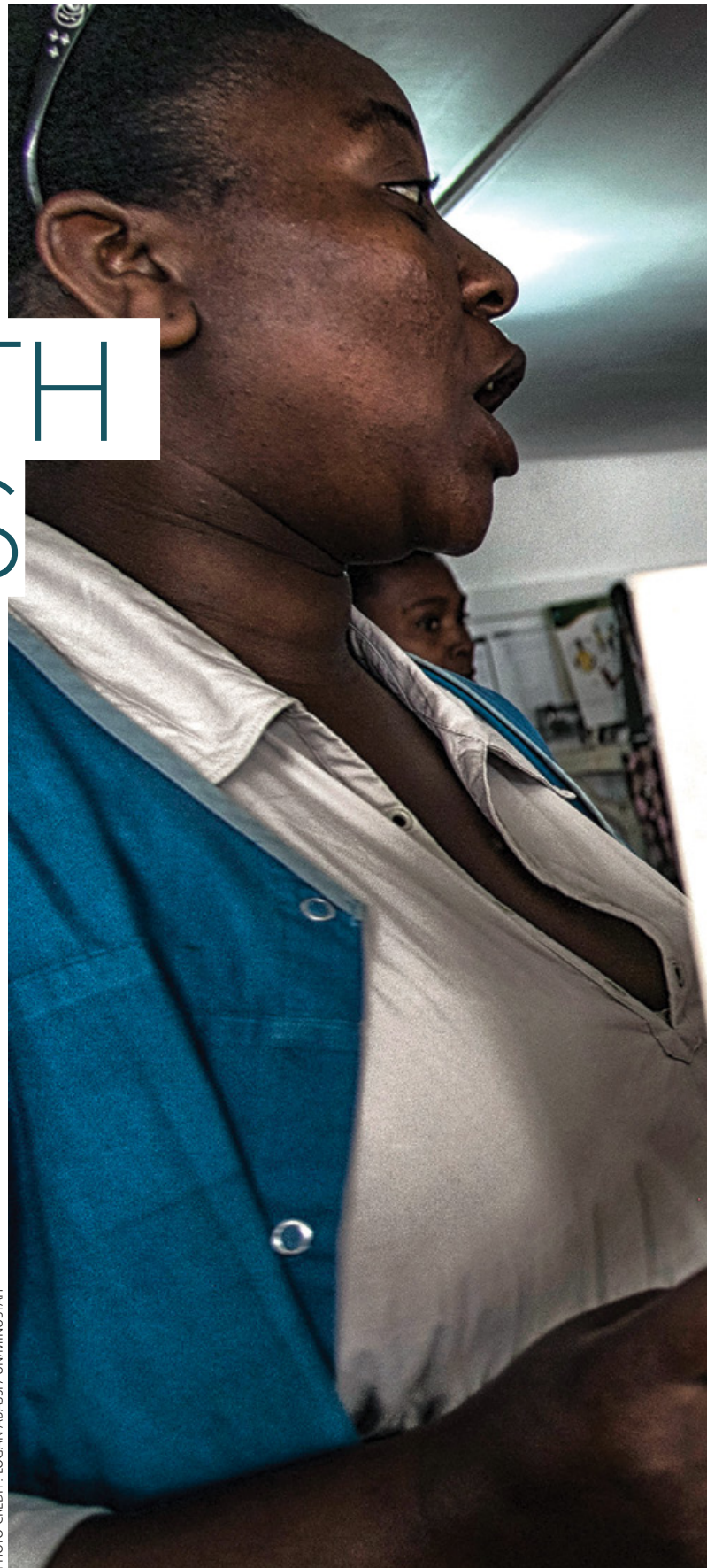


PHOTO CREDIT: LOGAN ABASSI / UN/WHO/UNISTAH

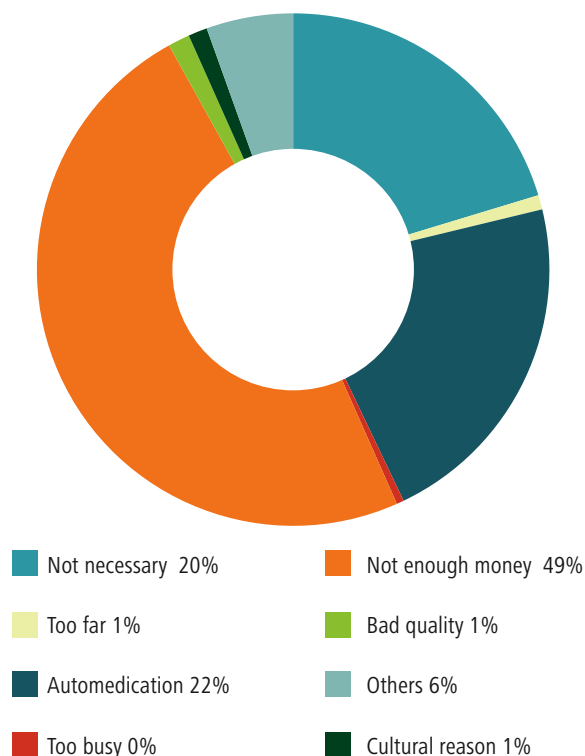


TABLE 5.1: Health Behavior and Financial Barriers to Access to Health Care, by Wealth Quintile: Haiti, 2013

Wealth quintile	Reported health problems in last 30 days (%)	Did not seek care for reported health problems (%)	Did not seek care because "too expensive" (%)
Lowest	16	35	66
Second	13	25	46
Middle	20	28	53
Fourth	18	17	42
Highest	20	17	39
National	18	24	49

Source: World Bank estimates based on ECVMAS II 2013, World Bank, and ONPES 2014.

FIGURE 5.1: Cited Barriers to Health Services Utilization as Share of Survey Respondents: Haiti, 2012



Sources: World Bank estimates based on ECVMAS, World Bank, and ONPES 2012; DHS 2012.

Affordability is particularly acute for the poor, two-thirds of whom did not seek care in 2013. In 2013, 66 percent of households in the lowest

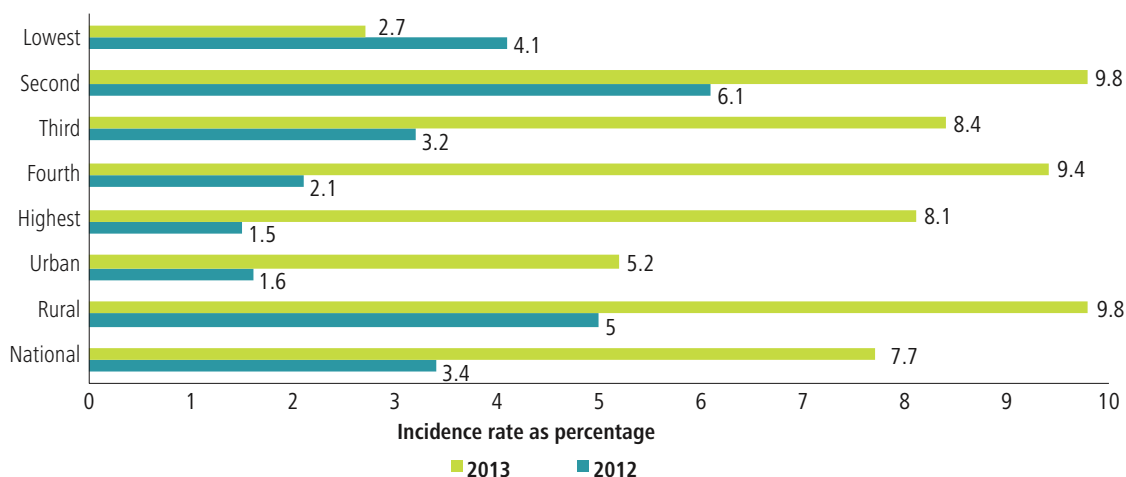
wealth quintile did not seek medical attention because of lack of money, compared with 39 percent in the highest wealth quintile and 49 percent at the national level (table 5.1). Further analysis confirmed that wealthier households were more likely to consult a provider when sick (World Bank estimates based on ECVMAS 2013).⁴⁷ Because the poor consult a health provider less often, they encounter a lower level of catastrophic health expenditures (CHEs)⁴⁸ than the highest wealth quintile. Overall, the incidence of CHEs increased for all socioeconomic and geospatial categories from 2012 to 2013, except for the lowest quintile (figure 5.2). Indeed, from 2012 to 2013 the lowest wealth quintile saw a decrease in its out-of-pocket (OOP) payments, while all other wealth quintiles saw an increase in OOP payments, in particular the third and fourth wealth quintiles (table 5.2). The decrease in OOP in the lowest quintile could be theoretically explained for two reasons. One reason could be that the poorest are exempted from paying and therefore more protected against CHEs. Another reason could be that the poorest are directly not using health services when needed since they know they cannot afford to pay. The latter seems to be explaining that decrease since 66 percent of households in the lowest quintile forgo health services due to its cost. Further analysis confirms that belonging to the highest and third quintiles was associated with CHEs in Haiti. Studies from other countries, such as Bolivia (Aguilera Rivera, Xu, and Carrin 2006) and Argentina



⁴⁷ See appendix B for a more detailed analysis of access.

⁴⁸ Catastrophic health expenditures are one way to measure financial protection. Health spending is labeled catastrophic if households spend a certain threshold of their income or nonfood consumption on health. CHEs are considered a key measure of financial protection because they indicate whether a health system is able to protect its citizens from extreme financial hardship (Murray et al. 2003). In this study, CHEs were estimated using the ADePT software based on the Survey on the Living Conditions of Households after the Earthquake (Enquête sur les Conditions de Vie des Ménages après le Séisme, ECVMAS). A household encounters CHEs when allocating 25 percent or more of its nonfood consumption to health.

FIGURE 5.2: Incidence Rate of Catastrophic Health Expenditures, by Wealth Quintile: Haiti, 2012 and 2013



Source: World Bank estimates using AdePT based on ECVMAS I and II.

TABLE 5.2: Out-of-Pocket Payments for Health, Household and per Capita, by Wealth Quintile: Haiti, 2012 and 2013

Wealth quintile	Household			Per capita		% change
	2012	2013	% change	2012	2013	
Lowest	1,498.57	1,398.12	-7%	189.46	162.23	-14%
Second	2,588.97	3,409.05	32%	340.49	405.99	19%
Third	2,698.28	5,773.08	114%	437.14	797.51	82%
Fourth	2,999.27	5,751.42	92%	543.92	863.47	59%
Highest	6,907.17	10,845.31	57%	1,608.06	2,249.90	40%

Source: World Bank estimates based on data from ECVMAS 2012 and 2013.

Note: Out-of-pocket payments include user fees for consultations, costs of hospitalization, medicines, medical furniture and ancillary services, prostheses, and eyeglasses.

(Cavagnero et al. 2006), confirm these results and find that households with higher incomes are more likely to face CHEs than the poorest households simply because the richer are willing to spend more money on health services.

Affordability is an issue for specific services.

Households face CHEs because of visiting a private clinic or undergoing hospitalization. A first analysis shows that the mean out-of-pocket expenditures are the highest for hospitals and medicines (table 5.3). A more in-depth regression analysis (see details in table B.2 in appendix B) reveals two of the main characteristics associated with CHEs. First, households visiting a private clinic are almost three times more likely to encounter CHEs, which is statistically significant. And, second, households in which a member went to a hospital within the last 12 months are three times more likely to encounter CHEs ($p < .001$) than those who did not. The association between CHEs and

TABLE 5.3: Mean Out-of-Pocket Payments per Capita: Haiti, 2012 and 2013

	2012	2013	% change
Total health	664	1,032	55%
Hospitals	1,197	844	-29%
Eyeglasses	867	721	-17%
Medical supply	511	631	23%
Consultation	205	327	60%
Medicines	758	1,380	82%
Lab exams	302	349	16%

Source: World Bank estimates based on ECVMAS I and II.

Note: Currency is in Haitian gourdes

private providers and hospitalization is well documented in the existing literature (Adhikari, Maskay, and Sharma 2009; Li 2012; Brinda, Andres, and Enemark 2014). Households consulting a traditional healer are also twice as likely to incur CHEs compared with

TABLEAU 5.4: Utilisation des services de santé par quintile de richesse: Haïti

Pour cent

Wealth quintile	Public dispensary	Public hospital	Community health worker	Traditional healer	Private provider	Pharmacy	Ambulant drug seller	Others	Total
Lowest	23	23	13	6	17	1	9	5	100
Second	18	29	6	9	20	3	10	8	100
Third	18	27	6	6	28	4	7	5	100
Fourth	18	28	4	5	31	5	4	5	100
Highest	14	26	3	3	40	5	6	5	100
Total	18	27	6	6	28	4	7	5	100

Source: Estimations de la Banque mondiale sur la base de l'ECVMAS II, 2013.

households visiting a public dispensary or health center ($p < .05$). This finding could be of concern because households from the lowest wealth quintiles consult traditional healers more often than households from the highest wealth quintile (table 5.4). And yet, the performances of traditional healers are neither regulated nor monitored and could pose a health risk for the poor. There is also an association between CHEs and accessing specialized services (such as eye care). Accessing specialized services can imply high costs because of the purchase of medicines and the consultation fees in hospitals.

Socioeconomic Factors

Socioeconomic factors also influence health-seeking behavior and the likelihood of incurring CHEs, whereas health insurance only has an impact on health-seeking behavior. Households headed by an inactive person are 1.5 times more likely to consult a health care provider when sick than those headed by an employed person ($p < .001$). This finding reflects the fact that such households have more household members over the age of 65, thereby requiring more health services (see tables B.1 and B.2 in appendix B for more details). Households with one elderly (65 and older) member are 1.6 times more likely to encounter CHEs ($p < .05$) than those without. Compared with households headed by an employed member, those headed by an inactive or unemployed household member are

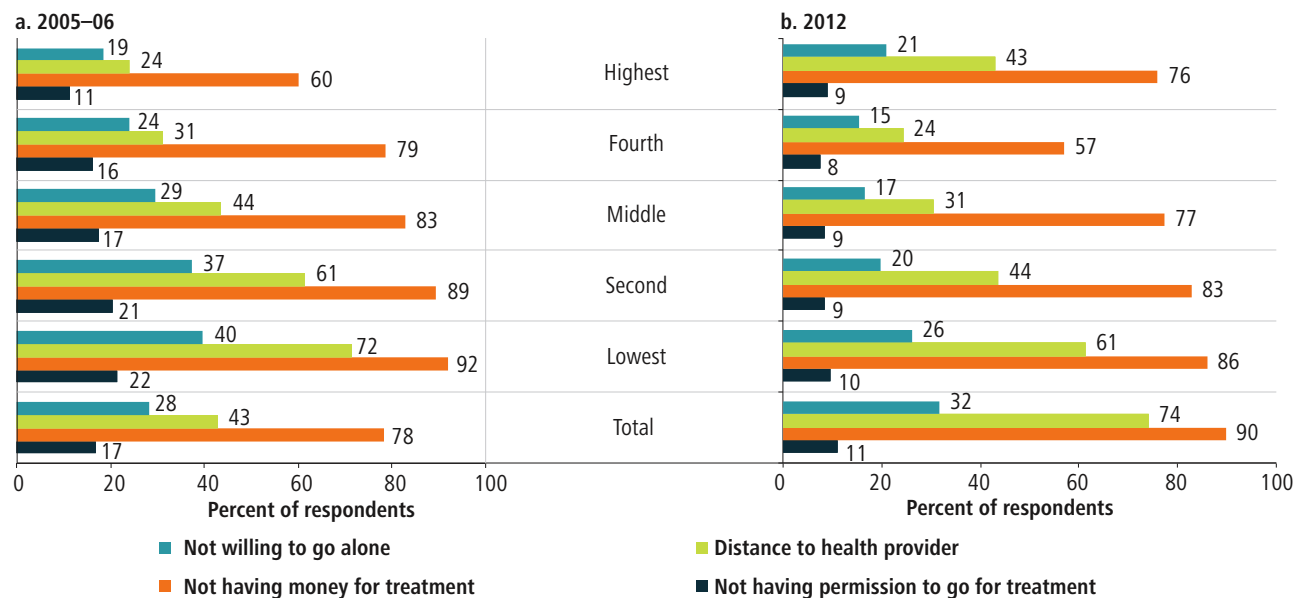
about twice ($p < .01$ and $p < .05$, respectively) as likely to encounter CHEs. Furthermore, households with two or more children under the age of 5 years are 1.5 times ($p < .001$) more likely to seek care and 1.7 times ($p < .05$) more likely to encounter CHEs than those without any children. In addition, households headed by a member who failed to complete a primary education are 1.3 times more likely ($p < .005$) to seek care and 2.1 times more likely ($p < .001$) to encounter CHEs than households headed by a member with no education. Households headed by members with health insurance are 3.5 times ($p < 0.001$) more likely to seek care than those headed by uninsured members. However, health insurance status is not associated with a greater likelihood of encountering CHEs. Households located within urban areas are about half ($p < 0.05$) as likely to encounter CHEs than those located in rural areas. Although about one-fifth of the determinants of CHEs are explained by this statistical modeling, the determinants of health-seeking behavior are far more complex, and it is difficult to include all the explanatory variables, such as distance from health facilities and cultural factors.⁴⁹

Distance is another key obstacle to care in Haiti and could be addressed by an improved community health system and reliable referral system. The 2012 Demographic and Health Survey (DHS) pointed out that transportation was the second reason, after finance, for the low access of women ages 15–49 to health services; 43 percent did not seek care



49 Fewer conclusions can be drawn from the statistical model on determinants of health-seeking behavior than from the model on incidence of CHEs. Overall, R-squared in the former model remains weak at 8 percent.

FIGURE 5.3: Reported Obstacles to Access to Health Care Services, by Wealth Quintile: Haiti, 2005–06 and 2012



Sources: DHS 2005–06, 2012.

because of distance (figure 5.3).⁵⁰ Several studies on health-seeking behaviors related to maternal and child health confirm that distance impedes access to health services, particularly in rural areas. Of 2,030 individuals who reported diarrhea in the North department, two-thirds did not consult a provider because of distance. As for maternal health, only 55 percent of rural households live within 10 kilometers of a basic emergency obstetric facility versus 90 percent of households in urban areas. Alexandre et al. (2005) also confirm that long travel time and greater distance to centers in rural areas are barriers to repeated antenatal care (ANC) visits. This does not mean, however, that the system needs more health facilities, but that the referral system with appropriate transportation needs to be improved. Strengthening the community system could also improve access to basic primary health care (PHC) services, including maternal and child health services.

Religious and cultural practices seem to influence health-seeking behaviors as well. Data from ECVMAS (2013) indicate that cultural aspects play a marginal role in influencing health-seeking behavior in Haiti. According to ECVMAS, of 438 sick patients, 1 percent did not consult a provider because of cultural reasons. However, quantitative surveys, such as ECVMAS,

do not always capture the role of cultural practices in influencing health-seeking behavior. Several qualitative studies highlight the role of religion, voodoo, and other cultural factors in health-seeking behavior in Haiti. For example, a study examining the determinants of seeking care for mental health problems in rural Haiti revealed that 32 percent of respondents selected God as the first choice of care, followed by clinics and hospitals (Wagenaar et al. 2013). A descriptive analysis of the health-seeking behavior of pregnant women found that their health-seeking decision making was guided by underlying core beliefs about wind/bad air and the need to obtain permission for any action from their husbands. In other cases, even though mothers recognized that umbilical cords infection pose a potential health threat to newborns, they often misattributed that threat to a mythical or voodoo-based explanation rather than germ theory (Walsh et al. 2015).

When encountering a health problem, almost half of the population goes to a public provider. According to the 2013 ECVMAS, on average 45 percent of households visit a public facility when sick, with little variation among economic gradients (table 5.5). Another significant portion consults a private provider (28 percent), with a much higher prevalence



50 Distance was not perceived to be a key barrier to access to health care services in the ECVMAS survey for two reasons. First, the population in the two surveys is different. In ECVMAS, it was the head of household who was interviewed, whereas in the Demographic and Health Survey it was women ages 15–49. Second, ECVMAS offered more options for answers on why households did not go to a doctor when sick, whereas there were very few categories of answers in the DHS.

TABLE 5.5: Participation Incidence Rates for Health Services, by Wealth Quintile: Haiti, 2013

Percent

	Lowest wealth quintile	Second wealth quintile	Third wealth quintile	Fourth wealth quintile	Highest wealth quintile	Total
Public dispensary	18	17	22	21	22	100
Public hospital	13	17	22	22	26	100
Community health worker and traditional birth attendant	34	15	21	14	16	100
Traditional healer	14	26	28	19	13	100
Private provider	9	10	18	24	39	100
Pharmacy	5	11	23	28	34	100
Drug seller	18	16	33	10	23	100

Source: World Bank estimates based on ECVMAS 2013.

among the fourth and highest wealth quintiles. This could explain the higher prevalence of CHEs among the richer. Although private providers have higher user fees than facilities under the Ministry of Public Health and Population (*Ministère de la Santé Publique et de la Population, MSPP*), one-fifth of the lowest wealth quintile goes to a private facility when sick. Meanwhile, the same quintile relies more often on a community health worker (CHW) or consults mobile clinics more than the richest wealth quintiles. The lowest and second wealth quintiles also have a higher incidence of using street vendors for medications than the fourth and highest wealth quintiles, certainly because their prices are cheaper than those at pharmacies. This finding, together with the fact that 22 percent of households do not go to health facilities because of self-treatment practices, could explain why medicine is the highest OOP expense (see table 5.3). The prevalence of consulting a traditional healer is also higher among the lowest wealth quintiles (lowest, second, and third) than the highest wealth quintiles (fourth and highest).

And yet, public facilities, including public dispensaries, receive a higher portion of richer beneficiaries, demonstrating that public health facilities are not pro-poor. Among households going to the public dispensaries, 18 percent belong to the lowest wealth quintile, 17 percent to the second quintile, 21 percent to the fourth quintile, and 22 percent to the highest quintile (table 5.5). This finding is striking because dispensaries are in general thought to be pro-poor as they are located in rural areas where the majority of the population is poor, according to the latest poverty

assessment (World Bank 2014). In addition, more beneficiaries in the fourth and highest wealth quintiles go to public hospitals. The only services that seem clearly pro-poor are those provided by CHWs at nongovernmental organizations (NGOs) and the MSPP—more than a third of the beneficiaries of these services are from the lowest wealth quintiles (table 5.5). Finally, a matter of concern is the fact that among households buying medications from street vendors, an important proportion (almost 70 percent) comes from the three lowest wealth quintiles (World Bank estimates based on SPA 2013). Equally worrisome is the high share of people from the lowest, second and third wealth quintiles who go to traditional healers. The services of both street vendors and traditional healers are not monitored, and little is known about their fees. Therefore, there is a risk that some of the poor pay a significant amount of money for ineffective treatments.

A larger proportion of publicly managed facilities than NGO facilities charge user fees. The proportion of MSPP facilities charging routine user fees (almost 94 percent) is higher than that of NGO facilities (85 percent), which explains why MSPP facilities are not necessarily pro-poor (IHE and ICF International 2014). In addition, a higher share of dispensaries (95 percent) charge routine user fees than hospitals (90 percent) and health centers (93 percent)—(SPA 2013). This difference could reflect the fact that hospitals and health centers generally receive more funding from the government and donors, whereas dispensaries usually have very small operational budgets and so often rely exclusively on user fees for all operating expenses (except salaries).

TABLE 5.6: Impoverishment Resulting from Health Expenditures, by Poverty Line: Haiti, 2012

	Pre-health payments	Post-health payments	Percentage point (pp) change	% change
<i>Moderate poverty</i>				
Poverty headcount	58.6% ^a	59.3%	0.7 pp	1%
Poverty gap (HTG)	7,361	7,548	187 pp	3%
<i>Extreme poverty</i>				
Poverty headcount	23.7%	24.7%	1 pp	4%
Poverty gap (HTG)	1,168	1,226	58 pp	3%

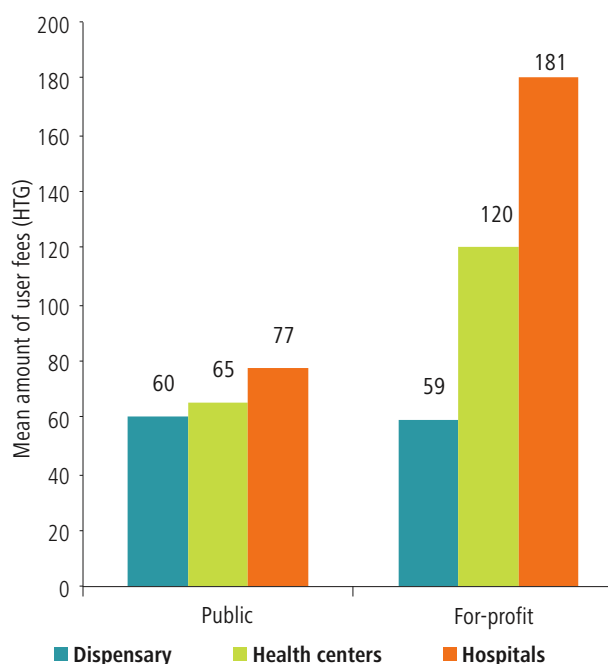
Source: AdePT, using ECVMAS 2012.

Note: HTG = Haitian gourde. Pre-health payments include both recurrent and exceptional health expenditures.

Because of the high poverty rate in Haiti, any amount of user fees, even very low ones, can deter the poor from seeking care. According to World Bank estimates for 2013 (table 5.4), dispensaries and MSPP facilities charged lower user fees than hospitals and private facilities. On average, user fees for ANC visits were lower among MSPP facilities than those charged by the private for-profit sector (figure 5.4). However, the presence of user fees at the public dispensary level, even low, can deter the extremely poor—representing 24 percent of the population in 2012—from consulting a health provider. On average, an ANC visit costs HTG 60 (\$1.50) at a dispensary and HTG 77 (\$1.60) at a hospital.⁵¹ The extremely poor live on less than \$1.25 a day. Thus the user fee at the dispensary level corresponds to more than one day of consumption, without counting other costs (such as transportation) and the opportunity cost of seeking care (such as the revenue lost from absence at work because of illness). In addition, these data show that there is not a coherent user fee policy because fees are almost the same for dispensaries and hospitals, thereby giving patients the wrong incentive to seek care directly at the hospital level and contributing to the inefficiencies in the system.

Because the poorest segments of the population cannot afford health care, they forgo care instead of paying. Thus catastrophic health expenditures push only a small proportion of the population into poverty. According to the data, 0.7 percent of households do transition into moderate poverty because of high health expenditures, and 1 percent into extreme

FIGURE 5.4: Mean Amount of User Fees Paid by Patients for Antenatal Care (ANC) Services: Haiti, 2013



Source: World Bank estimates based on ANC data set, 2013.

Note: HTG = Haitian gourde.

poverty (see table 5.6).⁵² Such low figures reflect the low level of CHEs in Haiti. However, in the face of donor withdrawal, the proportion of households impoverished by CHEs is likely to increase.

Among the various strategies used by households in Haiti to cope with health expenditures, drawing



⁵¹ Based on the 2013 exchange rate.

⁵² The analysis used \$1.25 and \$2.50 for the extreme and moderate poverty lines, respectively. The analysis will have to be updated with the new poverty lines of \$1.90 and \$3.10 for extreme and moderate poverty recently developed by the World Bank. Thus impoverishment from health expenditures will be greater than that presented here.

TABLE 5.7: Share of Survey Respondents Reporting Various Strategies to Cope with Financial Losses Arising from Health Problems, by Wealth Quintile: Haiti, 2012

Percent

	Wealth quintile					
	Lowest	Second	Third	Fourth	Highest	Total
Savings	20	22	28	42	42	32
Food support from parents/friends	3	6	3	2	3	3
Financial support from parents/friends	13	10	13	10	10	11
Reduction in food consumption	4	4	5	3	1	3
Loan from parents/friends	20	17	13	13	18	16
Loan from banks/shops	4	4	3	4	1	3
Sale of livestock and farming assets	14	13	8	3	4	8
Committed to spiritual activities	5	1	2	2	2	2
No strategy	5	5	7	4	7	6
Other strategies	13	17	16	17	12	15
Total	101	100	100	100	100	100

Source: World Bank calculations based on ECVMAS I 2012.

on savings and borrowing money from friends and family are the main ones adopted. In 2012, overall, 32 percent of households who experienced a health problem used savings to pay for health care services, 11 percent received financial support from parents or friends, and 16 percent borrowed money from parents or friends (table 5.7). The proportion of households who cope with health problems using no particular strategy could reflect the prevalence of CHEs. These households pay out-of-pocket and see a direct reduction in their nonfood expenditures. On average in 2012, 6 percent of the population had no particular strategy to cope with health problems (table 5.7).

Very few social protection and assistance mechanisms are in place to protect vulnerable populations

from CHEs and health shocks. Households whose heads are unemployed, have no education, or are retired, and households with elderly and children seem to be the main populations affected by CHEs. These populations are not covered by any social protection mechanism. Only wage employees working in the formal sector have access to the limited social insurance schemes (health, pension, disability) in Haiti (World Bank 2016a). Meanwhile, only 2.6 percent of the elderly population has access to a pension (old age, disability), but 92 percent of them live in urban areas, whereas most of the poor live in rural areas. The social assistance system—mainly composed of scholarships, food aid, and other transfers—is weak and covers only 8 percent of the population. Support is highly fragmented, and little support exists for children under 5 (World Bank 2016a).



EFFICIENCY ANALYSIS

Allocative Efficiency

Compared with other low-income countries, Haiti's health sector is relatively well resourced but without significantly better health outcomes, pointing to low overall efficiency. According to recent model estimates, the 2015 maternal mortality ratio (MMR) in Haiti is 359 deaths per 100,000 live births.⁵³ The average MMR across all low-income countries (LICs)⁵⁴ (496) is much higher, and more than half (21) of LICs exhibit higher MMR model estimates than Haiti (figure 6.1). As such, Haiti appears to be in relatively good standing compared with similar country contexts. However, Haiti's 2014 total health expenditure (THE) per capita⁵⁵ (\$130.80) is the seventh highest of those of all LICs (which range from \$25 to \$223.70) and almost 1.5 times higher than the average 2014 THE (\$91.30) across all LICs. Furthermore, the 2015 infant mortality rate (IMR) in Haiti is 52.2 deaths per 1,000 live births, which



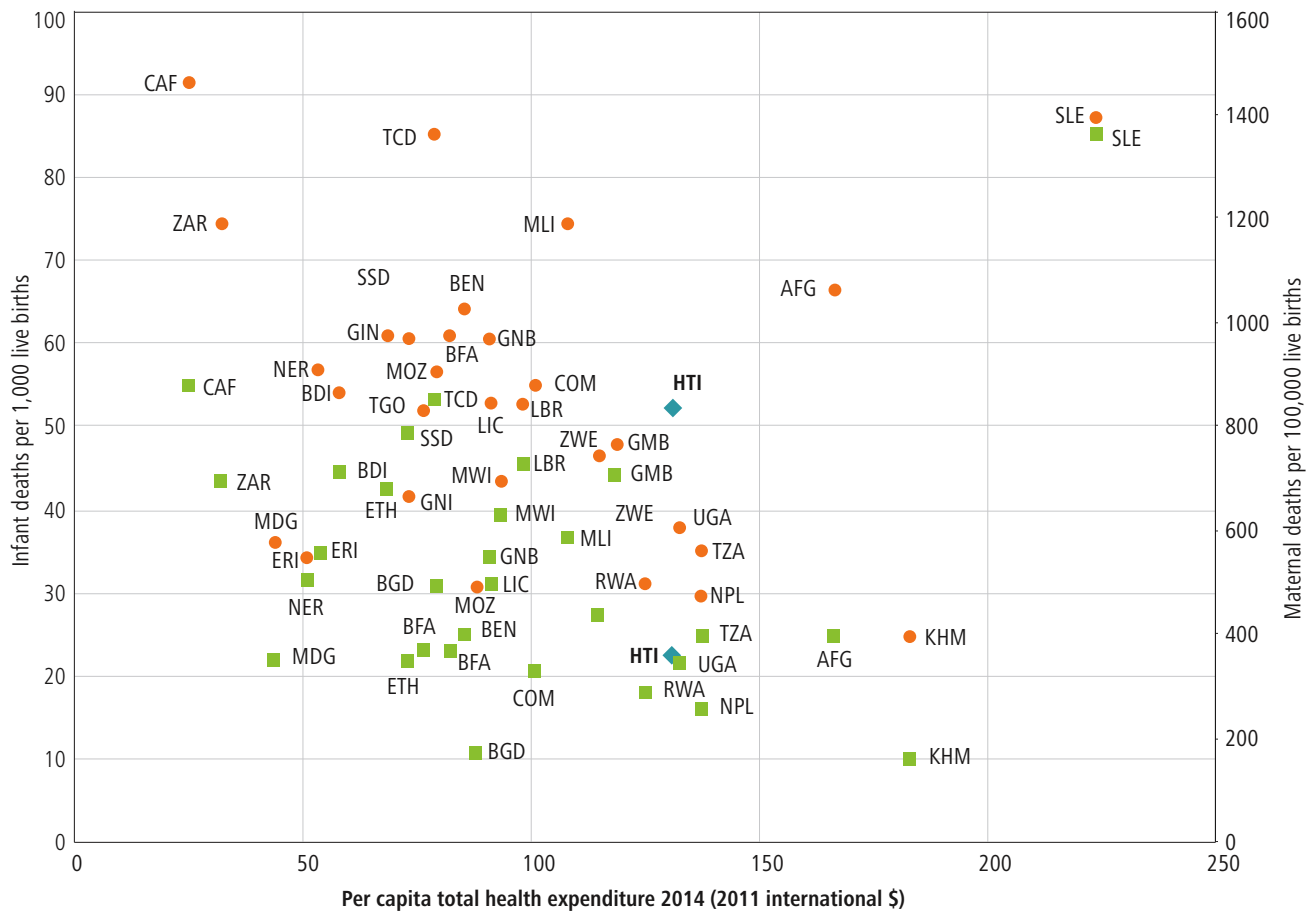
- 53 Unless otherwise specified, all MMR, IMR and THE data cited in this paragraph were retrieved from the World Health Organization's Global Health Expenditure database (see <http://apps.who.int/nha/database> for the most recent updates) via the 2016 World Development Indicators database at the World Bank.
- 54 For the purposes of this report, the term *low-income countries* refers to the 30 countries in the low-income category defined by the World Bank.
- 55 The total health expenditure is the sum of public and private health expenditures as a ratio of the total population. It covers the provision of health services (preventive and curative), family planning activities, nutrition activities, and emergency aid designated for health, but it does not include the provision of water and sanitation. Data are in international dollars converted using 2011 purchasing power parity (PPP) rates.



PHOTO CREDIT: UNW/MIJNSTAH



FIGURE 6.1: Infant Mortality Rate and Maternal Mortality Ratio against Total Health Expenditure per Capita: LICs and Haiti, 2014/15



- Mortality rate, infant (per 1,000 live births) 2015 [YR2015]
- Maternal mortality ratio (modeled estimate, per 100,000 live births) 2015 [YR2015]

Source: World Bank estimates based on WDI and GHED 2016.
 Note: LICs = low-income countries. For country codes, see http://www.nationsonline.org/oneworld/country_code_list.htm.

is close to the average IMR across all LICs (53.1 deaths per 1,000 live births) and the 19th highest IMR among all LICs. By contrast, the 2014 per capita total health expenditure in the four LICs with MMRs within 15 more or less of Haiti’s–Madagascar (353), Ethiopia (353), Togo (368), and Burkina Faso (371)–are much lower at \$43.70, \$73, \$76.30, and \$82.3, respectively. The 2014 IMRs in LICs with levels of total health expenditure per capita similar to that Haiti–Rwanda, 125, and Uganda, 132.6–are considerably lower at 31.1 and 37.7 infant deaths per 1,000 live births, respectively (figure 6.1).

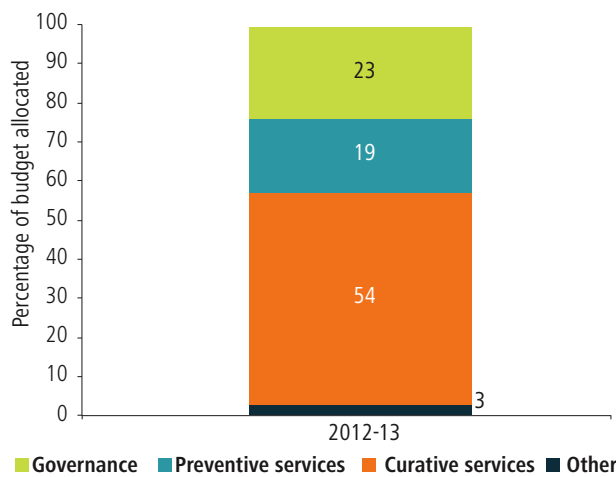
Poor allocative efficiency may be one explanation for low health sector performance. Considering

Haiti’s disease burden, resources need to be shifted from curative to preventive care. The three leading causes of disability-adjusted life years (DALYs) in Haiti are the human immunodeficiency virus (HIV), acute respiratory infections, and diarrhea, which could be addressed by preventive care interventions. According to the last National Health Account (NHA) exercise (2012–13), the allocation to preventive care is 19 percent of THE, while the allocation to curative services is almost three times as much, 54 percent (figure 6.2). Development partners share the responsibility for the way resources are allocated because donors provided 52 percent of THE in 2012–13 (NHA 2012–13).⁵⁶ In the future, the Ministry of Public Health and



⁵⁶ The NHA takes into account the Haitian fiscal year from September to October. For that reason, this number is a bit different than the one shown in figure 4.9 using the Global Health Expenditure database from the World Health Organization (WHO), which shows external funds as percentage of THE to be 59 percent in 2012.

FIGURE 6.2: Total Recurrent Health Expenditures, by Function: Haiti, 2012–13



Sources: MSPP 2014, 2015a.
Note: THE = total health expenditure.

Population (*Ministère de la Santé Publique et de la Population, MSPP*) and donors need to consider Haiti’s burden of disease when making investment decisions in the health sector. In view of Haiti’s double burden of disease—that is, the coexistence of communicable and noncommunicable diseases (NCDs) as the main causes of death—health prevention and promotion interventions would yield the highest rate of return on investments because such interventions address both infectious diseases and the emerging priorities related to NCDs. For example, the return on investments on health promotion programs is estimated to be \$3–\$10 for every \$1 invested (Coe and de Beyer 2014).

Although resources should be allocated to preventive care, a major question is how to finance the operational and maintenance costs of the existing hospital infrastructure, which plays a substantial role in curative care.⁵⁷ After 2010 earthquake, most hospital construction and rehabilitation work was performed by donors (MSPP 2016). Because of the urgent situation, little effort was made to understand the long-term financial implications for running these hospitals. Various donors have now begun to formulate business plans to support the MSPP in developing a more comprehensive picture of hospital financial

flows, but these activities remain fragmented. The main findings of these studies indicate that the government of Haiti would need \$15 million to run, for example, the University Hospital of Mirebalais (Baruwa et al. 2015). Another study shows that an additional \$12 million would be needed to run the National University Hospital (AEDES 2016). Just for these two hospitals, the total operating amount would represent 40 percent of the government’s operational budget allocated to health, which, as noted earlier, is mainly funding the government’s payroll. Thus how to finance the running costs of the existing hospital infrastructure remains a challenge.

At the primary care level, an increase in operational expenditures and the reclassification of some non-performing community referral hospitals (hopitaux communautaire de reference, HCRs)⁵⁸ as primary care facilities at a lower level should be key priorities. Compared with other countries, Haiti has low physical access to the primary care level.⁵⁹ The country has only 0.3 dispensaries per 10,000 inhabitants, with large variations by department (figure 6.3). This ratio is well below the norm set by the MSPP in its *carte sanitaire*, as well as that of other countries. For example, the state of Maharashtra in India has one subcenter (which is comparable to a dispensary in Haiti) per 5,000 inhabitants (Awate 2014), and in Liberia, the government operates one health clinic for each catchment of 5,000–10,000 inhabitants (MoHSW 2008). The physical access of Haitians to the second level of primary health care, the health center, is better: Haiti has 1.2 health centers per 30,000 inhabitants, which is comparable to the situation in other LICs (MoHSW 2008; Awate 2014). By contrast, the density of community referral hospitals is very high in Haiti compared with international benchmarks: 1.4 community referral hospitals per 150,000 inhabitants versus 1 per 150,000–250,000 inhabitants in other LICs (MoHSW 2008; Awate 2014; Ujoh and Kwaghsende 2014). The current ratio of community hospitals to population in Haiti also exceeds the norm set by the MSPP (2006). The government should explore the potential of converting community referral hospitals with poor performance to primary care facilities at a lower level.

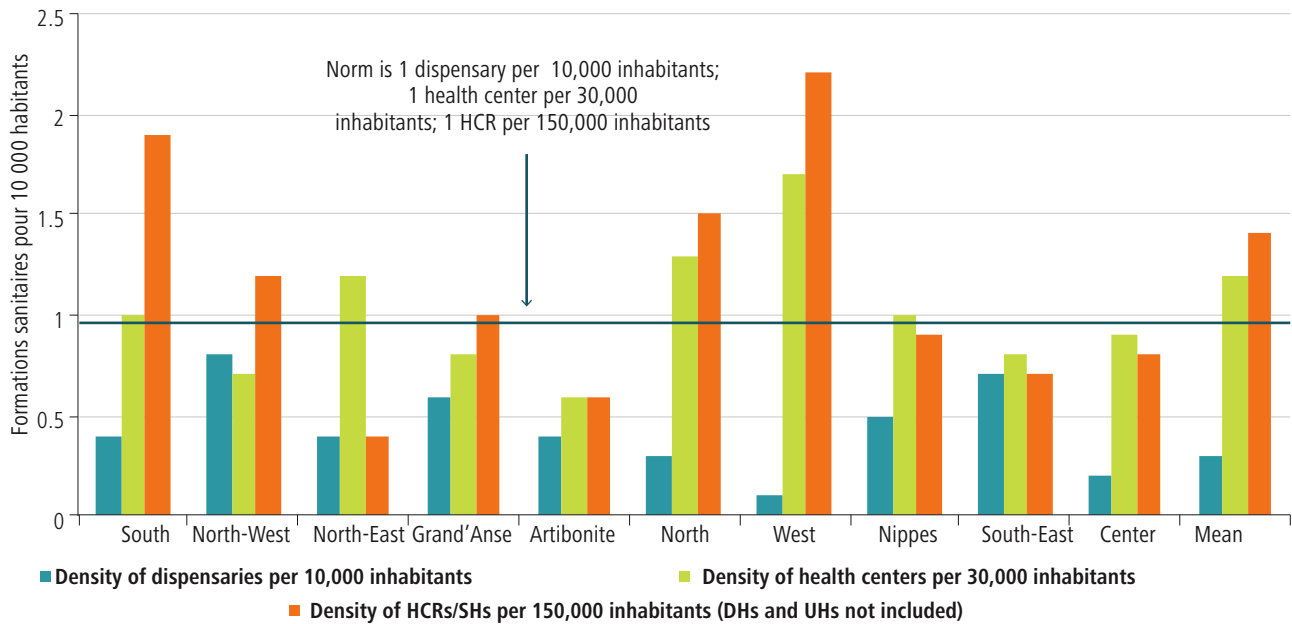


57 See table 7 of the NHA 2012–13 (MSPP 2015b).

58 Haiti has 40 community referral hospitals and 65 “small hospitals” (SHs). The latter are the same size as the community referral hospitals according to SPA data, and thus these two hospital categories can be regrouped. If not specifically mentioned, it is assumed that small hospitals are counted with community referral hospitals.

59 Evidence indicates that some institutions in Haiti are not correctly classified. For example, several institutions that are classified as health centers operate as dispensaries.

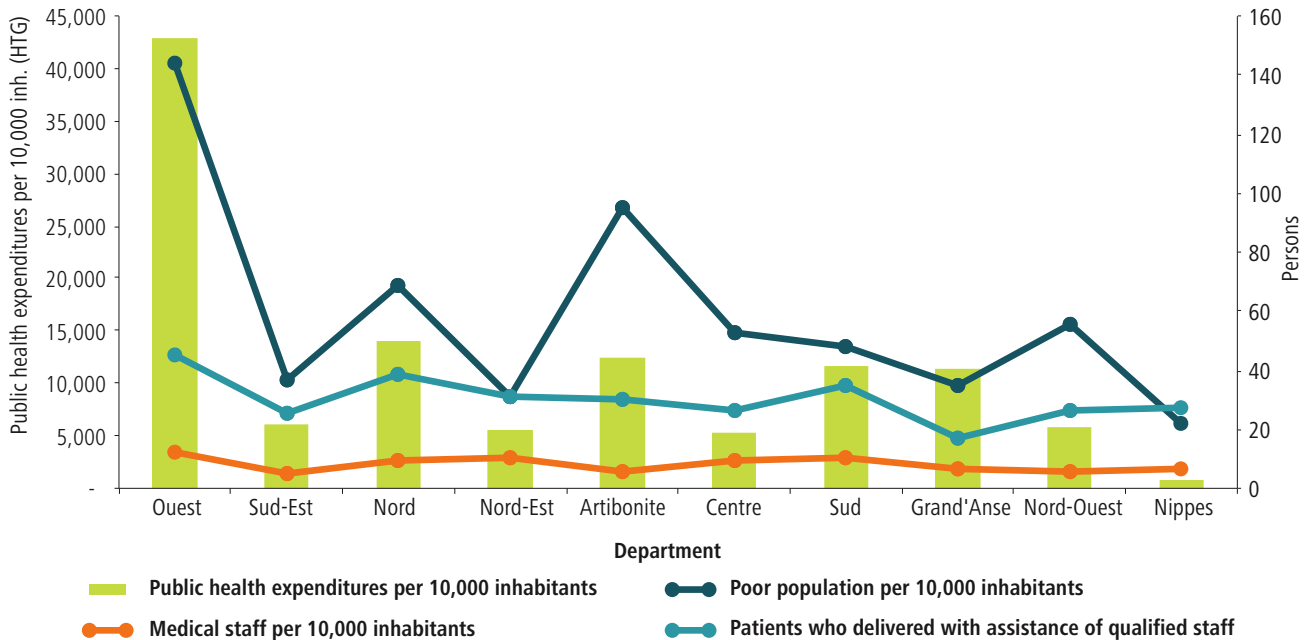
FIGURE 6.3: Density of Health Infrastructures: Haiti, 2013



Source: World Bank estimates based on SPA 2014.

Note: The *carte sanitaire* implies that a dispensary covers a subcommune (population, 10,000), while a health center covers a commune (population, 30,000 on average). There should be one HCR per arrondissement covering a population of between 150,000 and 250,000 (MSPP 2006). HCRs include small hospitals, which have almost the same number of beds as HCRs. DH = departmental hospital; HCR = *hôpital communautaire de référence* (community referral hospital); SH = small hospital; UH = university hospital.

FIGURE 6.4: Relationship among Government Health Expenditure, Poverty, Health Supply, and Coverage at Departmental Level: Haiti, 2012–13



Sources: World Bank estimates based on BOOST 2016; World Bank 2014; DHS 2012; SPA 2013.

Note: Government health spending was reported for fiscal 2012-13 and only included the operational budget. The prevalence of poor per 10,000 inhabitants is from the World Bank's Haiti Poverty Assessment, which relies on ECVMAS 2012. The density of medical staff was estimated based on SPA 2013, and data on the share of deliveries assisted by qualified staff are from the Demographic and Health Survey (DHS).

All institutions in Haiti, as well as desirable referral paths between institutions, should be mapped, department by department, to guide investment decisions. Furthermore, the shift of resources from hospitals to the primary care level should be guided by data. An updated facility mapping or *carte sanitaire* based on population needs ought to be developed. For example, departments such as Artibonite that have a low density of health centers, dispensaries, and community referral hospitals should be prioritized. However, this does not necessarily mean building new dispensaries. Instead, certain inefficient facilities (such as community referral hospitals) could be converted to offer health promotion services and primary care services. In this process, it is critical to agree on a minimum package of services that will be financed and provided at the primary care level. As shown earlier, very few dispensaries have the resources needed to offer preventive services and provide referral services. Indeed, currently there is no budget line for primary health care in the operational budget of the MSPP. In the future, it will be important to include this line because it is essential to increasing service readiness for delivery of an agreed-on minimum package of services (see discussion of service readiness in chapter 3). A starting point for this

exercise would be to map all facilities, the services they should provide, as well as referral paths.

Allocations of financing from the central to the departmental level should also be guided by the introduction of an allocation formula based on equity and efficiency principles. Usually, the MSPP and development partners determine allocations to departments based on historical allocations (the previous year's budget). Figure 6.4 shows, by department, the MSPP allocation per 10,000 inhabitants, the number of poor per 10,000 inhabitants, as well as health indicators. It illustrates that the distribution of the operational budget does not necessarily align with the needs of the population. For example, Artibonite's annual spending per 10,000 inhabitants is 12,000 Haitian gourdes (HTG) versus HTG 14,000 in the North. And yet Artibonite has more poor people per 10,000 inhabitants, a lower density of medical staff, and worse coverage and institutional deliveries than the North. In the future, resource allocations, both by MSPP and development partners, need to be guided by a rational allocation formula that takes into account the disease burden, health systems characteristics, and population of the particular department.

Technical Efficiency

Solving access problems will require increasing the productivity of dispensaries. In Haiti, 359 dispensaries, staffed by at least one nurse or aid nurse (or both), provide prevention services (SPA 2013). As described earlier, the density of dispensaries per 10,000 inhabitants is very low. Although increasing the number of dispensaries is recommended, this measure alone will not solve the access problem. An analysis of the efficiency of service delivery at the primary care level using a data envelopment analysis (DEA) method (box 6.1) revealed that less than 1 percent of dispensaries are efficient in terms of the number of patient visits for a given number of staff. In fact, for every 342 dispensaries, only one was efficient—that is, accommodated a sufficient number of visits for the number of staff available. In Haiti, the mean technical efficiency (TE) score for dispensaries is 0.04, which is much lower than those discovered in similar studies of technical efficiency at the health

post/dispensary level in, for example, Ethiopia and Guatemala (table 6.1).

The density of health centers is similar to those in other LICs, but their performance is much weaker in Haiti. Haiti has 129 health centers with beds (*centres de santé avec lit* CALs) and 298 health centers without beds (*centres de santé sans lit*, CSLs) that provide diagnostic, curative, and preventive services. CSLs and CALs have at least one medical doctor and at least one lab technician to provide diagnostic services, although not all CSLs offer these services and are fully staffed. Haiti has a sufficient density of health centers per 30,000 inhabitants. However, CSLs and CALs produce little for the resources they are given, especially the CSLs. The analysis found that only 4 percent of CALs and less than 1 percent of CSLs were using their resources efficiently: they had the right number of staff and beds (beds only for CALs) for the number of

BOX 6.1

Definition of Technical Efficiency and DEA Methodology in Haiti

In the health sector, technical efficiency consists of achieving a maximum level of consultations or admissions to a health facility with a given level of inputs (Street et al. 2011). There are two cases: (1) input-oriented technical efficiency, which aims at determining the proportion of inputs (personnel, other expenses) that must be used to produce a given number of consultations; and (2) output-oriented technical efficiency, which gauges the additional number of consultations possible without having to change the health facility's number of inputs (Coelli 1996).

Linear programming, known as data envelopment analysis (DEA), is a nonparametric method that determines the number of health care facilities included in an efficiency frontier. This method produces a technical efficiency score based on the number of inputs, such as personnel, current expenditures, and results (consultations, hospital admissions). The technical efficiency score ranges from 0 to 1. A score of 1 means that the health facility is on the efficiency frontier and so is efficient. A score below 1 demonstrates poor performance, especially if the score is close to 0. Initially applied in the industrial sector, this methodology is being used increasingly in the health sector to measure the technical efficiency of hospitals or primary health care facilities.

In Haiti, several DEA analyses were conducted, all using SPA data sets. An output-oriented model was chosen because we wanted to know how much health facilities could produce with the resources available. Two separate DEA analyses were undertaken: one for dispensaries, health centers without bed (centres de santé sans lit, CSLs), and health centers with bed (centres de santé avec lit, CALs)—that is, the primary health care (PHC) level—and one for hospitals or secondary and tertiary care facilities.

At the PHC level, separate DEA analysis was conducted for dispensaries, CSLs, and CALs because all three facilities produce different outputs and have various staffing standards: dispensaries focus on preventive visits and have only one nurse or aid nurse; CSLs provide both curative and preventive services; and CALs provide preventive and curative consultations as well as hospitalization. Inputs for dispensaries and CSLs included number of medical staff. For CALs, inputs included number of medical staff and beds, and outputs included number of consultations and admissions. Because of missing data in the SPA data set, the sample was 342 dispensaries (out of 359), 265 CSLs (out of 298), and 72 CALs (out of 129).

DEA analysis at the hospital level was conducted for a sample of 78 hospitals (out of 121). Various values were missing, in particular for outputs. In addition, several hospitals providing specialized services were excluded—for example, the Doctor without Borders hospital providing intensive care for burn patients or small hospitals providing only deliveries. Inputs included four separate categories of medical staff (not possible at the PHC level because there are fewer staff): medical doctor, nurse, nurse assistant, and laboratory technician. Output included consultations and admissions. Four categories of hospitals were included: HCRs, small hospitals (equivalent to HCRs), departmental hospitals, and university hospitals. Because in university hospitals medical doctors allocate part of their time to teaching, lower technical efficiency scores were expected for these institutions. However, this was not the case in Haiti, where university hospitals, in fact, had some of the highest technical efficiency scores of all institutions.

visits and admissions they produced. The mean technical efficiency score was 0.30 for CALs and 0.09 for CSLs. However, these scores are weak compared with those from similar studies on technical efficiency at the health center level (table 6.1).

Compared with other LICs, Haiti fares poorly in hospital efficiency, despite the fact that 38 percent of its total health expenditure⁶⁰ is spent at this level. Development of a hospital licensing policy and further

work to improve hospital performance are needed. Hospitals in Haiti do not perform very well and this is especially true for departmental and small hospitals with a mean score of 0.36 (table 6.2). Physical access to secondary care—HCRs and small hospitals (SHs)—is high (figure 6.3). However, the mean technical efficiency score of hospitals is quite low (0.49) compared with those of other countries (figure 6.5). Only 23 percent of hospitals in Haiti are efficient—that is, have a TE score equal to 1. Haiti's bed occupancy rate (BOR),⁶¹ average



60 The 2012–13 NHA indicates that hospital expenditures represent 42 percent of recurrent health expenditures. By adding capital expenditures to recurrent expenditures, thereby estimating the total health expenditure, hospital expenditures represent 38 percent of THE.

61 BOR is the percentage of official beds occupied by hospital inpatients for a given period of time. In general, the greater the occupancy rate, the greater is the revenue for the hospital.

TABLE 6.1: Technical Efficiency, Haiti and Other LICs

Country	% of sample that is not efficient (<1)	Average score	Sample
Haiti	96.00%, CALs; 99.24%, CSLs; 99.41%, dispensaries	0.30, CALs; 0.09, CSLs; 0.04, dispensaries	79 CALs, 265 CSLs, 342 dispensaries
Burkina Faso	—	0.86	25 PHC facilities
Ethiopia	75%	0.57	60 health posts
Ghana	78%	0.88	Random selection of 86 health facilities
Guatemala	71%, but 53% have a score >0.9	0.78	34 health posts

Sources: World Bank staff, 2016; Akzali et al. 2008; Sebastian and Lemma 2010; Marshall and Flessa 2011; Hernandez and Sebastian 2013.
Note: — = not available; CALs = centres de santé avec lit (health centers with bed); CSLs = centres de santé sans lit (health centers without bed), LICs = low-income countries; PHC = primary health care. See table C.1 in appendix C for descriptive statistics of the dispensary and health center samples and more details on the data envelopment analysis score.

length of stay (ALOS),⁶² and unit cost per bed day⁶³—three proxies for efficiency of hospital care—also highlight poor hospital efficiency (the data used to estimate these three indicators are taken from the macro-costing hospital study—see appendix C). Of these indicators, Haiti performs best on the ALOS (figure 6.6). However, Haiti’s BOR is 29 percent, which is significantly lower than that of other LICs (figure 6.7). The low BOR contributes to a high unit cost per bed day of \$76,⁶⁴ which is much higher than that of, for example, Cambodia, Guatemala, and the Philippines, all of which have a higher gross domestic product (GDP) per capita (figure 6.8). The poor efficiency of Haitian hospitals is particularly alarming because Haiti spent 38 percent of its total health expenditure at this level (MSPP 2015a). In absolute terms, this figure represents HTG 11,221 million, or \$260 million in fiscal 2012. Although the share of

THE at the hospital level often reaches 50 percent (MSH 2001), Haiti spends more than countries at a similar level of economic development. In recent years, Burundi, Tanzania, and Afghanistan have spent, respectively, 23 percent (2015), 26 percent (2012), and 29 percent (2013) of THE on hospitals.⁶⁵ Of greater concern, is that hospital-level expenditures in Haiti do not seem to translate into improved output. The low efficiency is certainly due to too many small hospitals, which, even if they were classified as hospitals, lack basic hospital services and equipment. Dealing with this issue will require an urgent effort to set up a licensing policy, impede further hospital construction, consolidate existing hospital infrastructure, map out needed hospitals, and ensure that hospital services are provided in selected institutions where the needed volume of care can be obtained to also improve the quality of hospital care. It is important as well to explore how hospital management can be improved. A line of technical assistance will be needed to implement these important reforms.

Factors Influencing Technical Efficiency: Ownership and Geography

At the PHC level, facilities managed by nongovernmental organizations (NGOs) perform better than other facilities. Lessons from how well-performing facilities are managed should be transmitted to all facilities. There is no broad variation in the TE score by ownership at the PHC level, although the NGOs seem to perform slightly better in their CSLs and dispensaries, while the MSPP scores better in its CALs (see table C.3 in appendix C). This finding confirms those from a previous study showing that technical assistance was associated with an increase in the utilization of PHC health services by 35 percent over three years (Zeng et al. 2013). However, the correlation between the TE score and ownership is only statistically significant at



62 ALOS refers to the number of calendar days from the day of patient admission to the day of discharge averaged for all patients during the period.

63 This ratio provides a macro-costing of hospitals by estimating the unit cost of a hospital treatment day (bed day equivalent) and is indicative of the total resource cost per bed. The unit cost per bed equivalent is obtained by dividing total annual costs by the total number of bed day equivalents. Bed day equivalent includes both outpatient and inpatient cases. Outpatient visits were converted to equivalent bed days using the methodology of Shepard, Hodgkin, and Anthony (2000) in which one outpatient visit is equivalent to 0.32 inpatient cases.

64 The unit cost per inpatient day is usually twice as much at a referral hospital (departmental and university hospitals) as at a district/community hospital. Baruwa et al. (2015) found out that in the University Hospital of Mirebalais, the unit cost per inpatient ranged from \$41 to \$188 and major services cost more than \$138 a day. Thus the macro-costing results of the community referral and small hospitals study are aligned with the findings of Baruwa et al. (2015) as the unit cost per bed day is much lower than \$138.

65 See National Health Account reports from the Ministry of Health and Social Welfare, Republic of Tanzania (2012); Ministry of Public Health, Afghanistan (2013); and Ministry of Public Health, Burundi (2015).

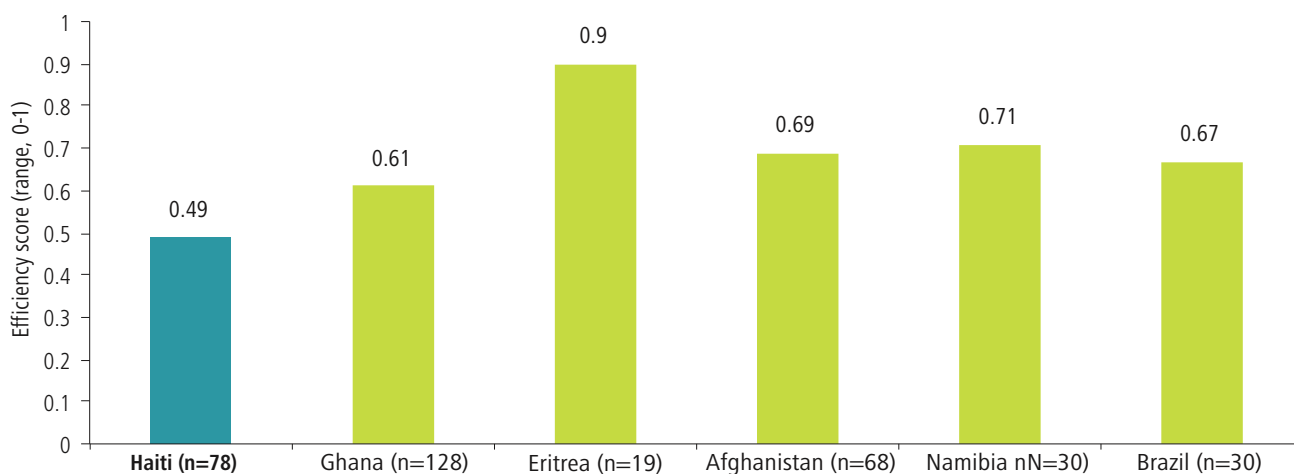
TABLE 6.2: Bed Capacity and Technical Efficiency Score, by Hospital Type: Haiti, 2013

Facility	Number	Total number of beds	% of beds	Number of beds (mean)	Number of beds (median)	Technical efficiency score (mean)
University hospital (UH)	6	1,249	17	156	107	0.52
Departmental hospital (DH)	6	722	10	90	82	0.36
Community referral hospital (HCR)	32	1,977	27	49	38	0.52
Small hospital (SH)	34	3,256	45	50	26	0.36
Sample	78	7,198	100	59	40	0.49

Source: World Bank estimate based on SPA 2014.

Note: Small hospitals do not belong in any official hospital category, such as an HCR, DH, or UH, but can be classified as a HCR having a similar average number of beds. Haiti has 121 hospitals according to the EPSSS data set (2013). They can be broken down as follows: 8 UHs, 6 DHs, 40 HCRs, and 65 SHs. For this analysis, however, data were missing for 43 hospitals, and thus the result in the first column of this table. See table C.2 in appendix C for descriptive statistics of the hospital sample.

FIGURE 6.5: Distribution of Technical Efficiency Scores: Hospitals in Haiti and Selected Countries, Various Years

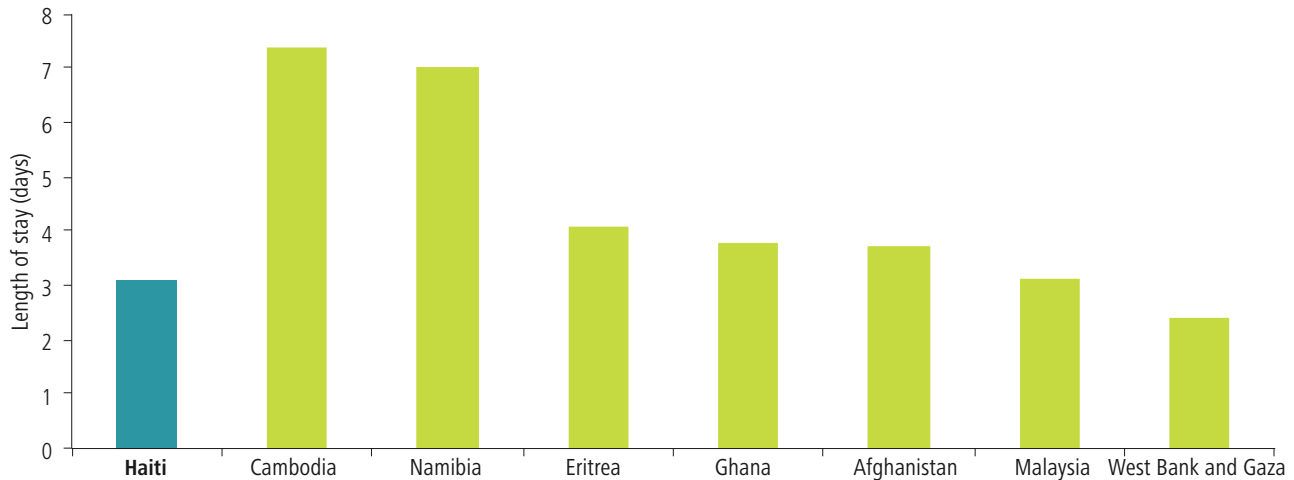


Sources: Data for Haiti are taken from a sample of 22 hospitals for which the World Bank collected hospital statistics and financial data from February to April 2016; Ghana (data from 2005): Jehu-Appiah et al. 2014; Eritrea (data from 2007): Kirigia and Asbu 2013; Afghanistan (data from 2012): Osmani 2015; Namibia (data from 1998–2001): Zere et al. 2006; Brazil (data from 2003–06): Lobo et al. 2010.

the CSL level ($p < .10$)—see table C.4 in appendix C). There is little variation in the TE score by location at the CSL and dispensary levels, but CALs located in urban and metropolitan areas scored higher than those in rural areas (see table C.3 in appendix C). This observation is confirmed by the correlation between TE score and location at the CAL level ($p < .05$)—see table C.4. One possible explanation for this observation is greater demand for health services in urban and metropolitan areas than in rural areas. Differences in management practices across facility types and categories with higher TE scores should be studied and mainstreamed across all facilities whenever possible.

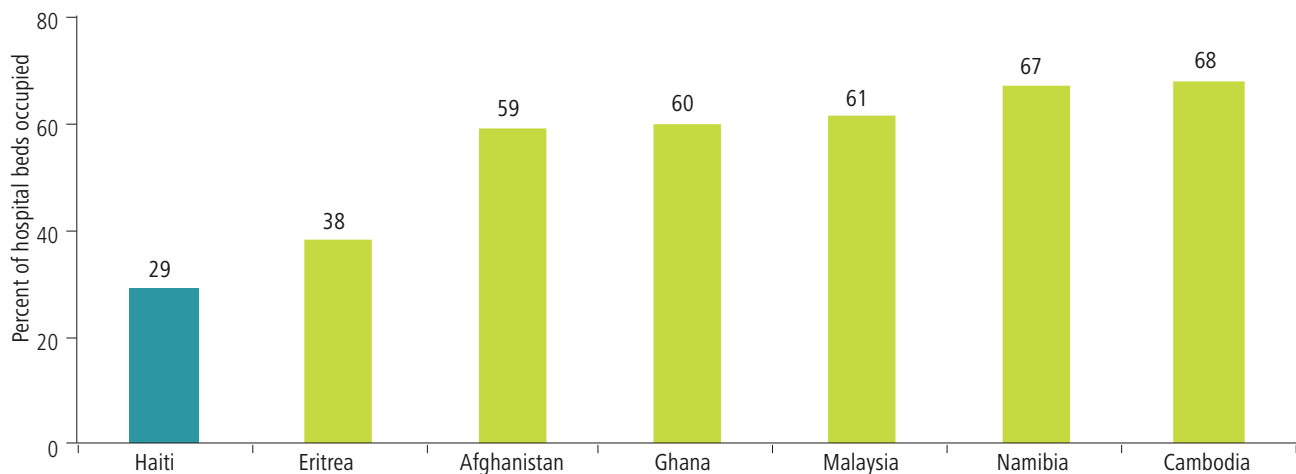
Selected secondary care hospitals should be consolidated to achieve economies of scale in hospital care. As noted earlier, the density of hospitals per capita in Haiti is higher than in other LICs. Haiti has approximately 1.14 hospitals per 100,000 inhabitants (SPA 2013), which is nearly twice the density in LICs—0.08 hospitals per 100,000 inhabitants (WHO 2015). For hospital beds, this scenario is reversed. Haiti has approximately 6.4 hospital beds per 10,000 inhabitants, but an average of 21 hospital beds per 10,000 inhabitants are available in LICs (World Bank estimates using the SPA data set, 2013; WHO 2015). Fewer hospital beds across a larger number of hospitals may reduce the patient flow in Haiti’s health facilities, and this finding may provide a possible explanation for the low hospital TE

FIGURE 6.6: Average Length of Stay: Haiti and Selected Countries, Various Years



Sources: Haiti: World Bank estimates based on SPA 2014; Cambodia (data from 2007): Collins, Gupta, and Sovannarith 2009; Namibia (data from 2000–2001): Zere et al. 2006; Eritrea (data from 2013): Ministry of Health, Eritrea 2014; Ghana (data from 2009): Salaeh 2013; Afghanistan (data from 2012): Osmani 2015; Malaysia (data from 2010): Nwagbara and Rasiah 2015; West Bank and Gaza (data from 2006–12): Hamidi 2016.

FIGURE 6.7: Bed Occupancy Rate: Haiti and Selected Countries, Various Years



Sources: Haiti: World Bank estimates based on SPA 2014; Eritrea (data from 2013): Ministry of Health, Eritrea 2014; Afghanistan (data from 2012): Osmani 2015; Ghana (data from 2009): Saleh 2013; Malaysia (data from 2010): Nwagbara and Rasiah 2015; Namibia (data from 2000–2001): Zere et al. 2006; Cambodia (data from 2007): Collins, Gupta, and Sovannarith 2009.

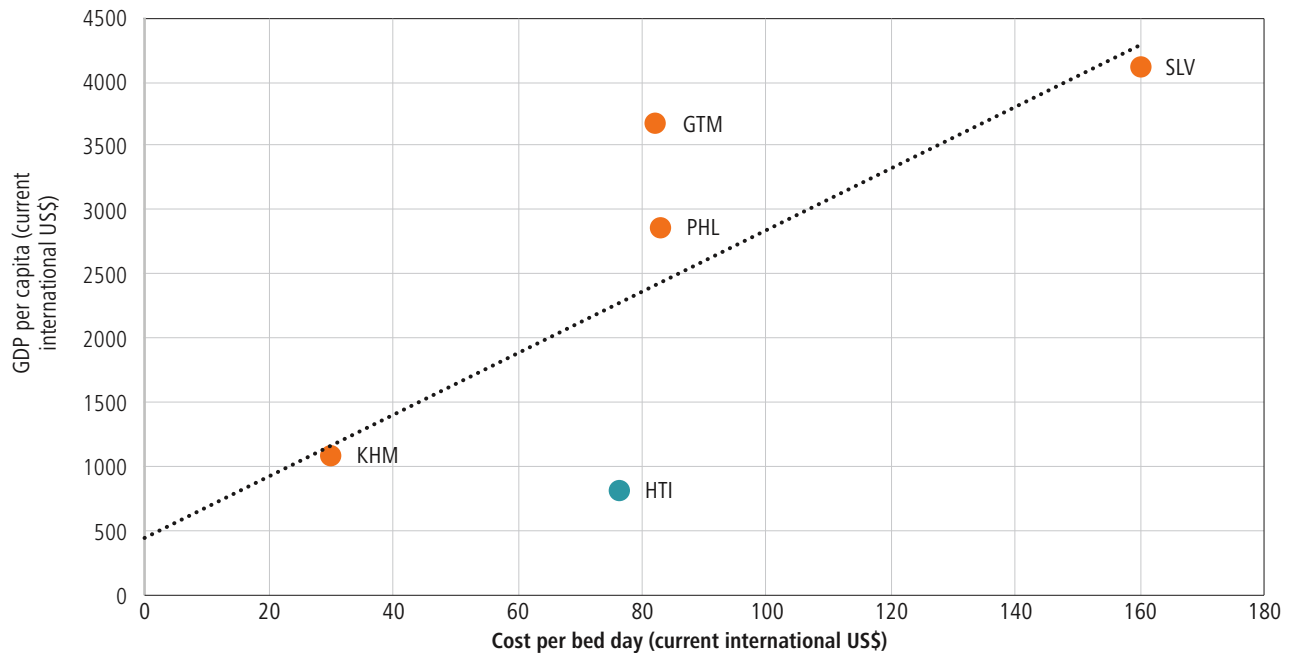
scores. As the theory of economies of scale highlights,⁶⁶ a hospital sector in which small entities must each provide (and afford) distinct diagnostic and administrative services is likely to incur higher costs and lower productivity. Haiti’s hospital sector is subject to these inefficiencies. Low patient flow also makes it difficult for medical staff to maintain a high level of proficiency in their skill set. This problem can, in time, lead to poor quality of care and decreased patient safety. These findings and observations in Haiti’s hospital sector make a strong case for downsizing or consolidating secondary care hospitals

(HCRs and small hospitals reduced to CALs) to generate efficiency gains. The hospitals shown in map 6.1 are color coded to indicate those that are efficient (green) and those that are inefficient (red). This mapping exercise highlights clusters of inefficient hospitals that might be consolidated to concentrate resources and capacity into a smaller number of higher-performing facilities. In several departments, such as North-West, Artibonite, and West, several secondary hospitals that are inefficient are located close to each other, and they could potentially be consolidated to increase productivity.



⁶⁶ This microeconomics theory describes the observation that as hospital operations scale up, the cost per unit of output decreases. Accordingly, a hospital sector with several small and operationally independent hospital units is associated with higher costs per unit of output.

FIGURE 6.8: Relationship between Unit Cost per Bed Day and GDP per Capita: Haiti and Selected Countries, Various Years



Sources: Haiti (HTI, data from 2013): World Bank estimates based on SPA 2014; Cambodia (KHM, data from 2005): Suaya et al. 2009; Guatemala (GTM, data from 2006): Suaya et al. 2009; El Salvador (SLV, data from 2005): Suaya et al. 2009; Philippines (PHL, data from 2011): Largo 2012.

Note: The unit cost per bed day may reflect the economic status of the country; the wealthier countries tend to be more expensive, possibly because of the higher costs of labor. The unit cost per bed day equivalent is \$76.34 on average, which represents 9.2 percent of GDP per capita (high). This is certainly due to a low bed occupancy rate and high costs.

NGO-managed hospitals perform better than MSPP hospitals, and private for-profit hospitals are the least-performing entities. In line with findings on performance variations by ownership at the dispensary and clinic levels, NGO-managed hospitals perform better (TE score 0.6) than those managed by the MSPP (TE score 0.47), and private for-profit hospitals (TE score 0.41)—see table C.5 in appendix C. The high level of technical assistance provided by NGOs may influence both system management capacity and facility service readiness. However, this association is not statistically significant at the hospital level. Therefore, further study is needed to explain these differences in performance levels.

Private for-profit hospitals are not just the least-performing; they also spend more than MSPP and NGO facilities.⁶⁷ The MSPP needs to engage with these private entities and include them in the proposed hospital licensing program. Overall, hospitals run by the private for-profit sector have a higher unit cost (\$117) than hospitals run by the MSPP (\$48) and

NGOs (\$61). Furthermore, the relationship between the unit cost and ownership is statistically significant. Regression analysis shows that hospitals managed by private for-profit providers yield an increase in the unit cost per bed day of 109 percent compared with those managed by the MSPP ($p < 0 .05$)—see table C.8 in appendix C. Low efficiency in private for-profit health facilities might be explained by the high number of small facilities that receive a relatively lower number of admissions and consultations than other ownership types, which may itself be the result of high user fees at admission. Still, private for-profit hospitals exhibit the highest BOR (compared with NGO and MSPP facilities) and the highest ALOS, which contributes to the high unit cost per bed day. To enhance the performance of private hospitals, these entities should be included in the proposed hospital licensing program.

Some departments have poorer technical efficiency scores, and these should immediately be prioritized by the MSPP and its partners. By linking the TE



67 The analysis that collected financial data at the hospital level included a sample of 22 small hospitals and community referral hospitals. See table C.6 in appendix C for descriptive statistics of the study sample.

MAP 6.1: Efficient and Inefficient Secondary Care Hospitals, Haiti



Source: World Bank estimate based on SPA 2014.

TABLE 6.3: Technical Efficiency Scores, by Facility Type: Haiti, 2016

	Technical efficiency score				
	CALs	CSLs	Dispensaries	Hospitals	Total
South	0.24	0.05	0.03	0.35	0.67
North-West	0.19	0.02	0.04	0.48	0.73
North-East	0.37	0.07	0.03	0.28	0.75
Grand'Anse	0.33	0.08	0.04	0.34	0.79
Artibonite	0.32	0.17	0.05	0.34	0.88
North	0.27	0.08	0.03	0.53	0.91
West	0.26	0.09	0.05	0.52	0.92
Nippes	0.16	0.04	0.03	0.7	0.93
South-East	0.26	0.05	0.05	0.63	0.99
Center	0.57	0.1	0.09	0.5	1.26
TE mean	0.30	0.09	0.04	0.49	0.92

Source: World Bank estimates based on SPA 2014.

Note: Shaded values fall below the TE mean for that respective category. CALs = *centres de santé avec lit* (health centers with bed); CSLs = *centres de santé sans lit* (health centers without bed); TE = technical efficiency.

score to each health facility, it is possible to assess technical efficiency by department (table 6.3). The overall mean TE score is 0.92. Six departments are below this mean: South (0.67), North-West (0.73), North-East (0.75), Grand'Anse (0.79), Artibonite (0.88), and North

(0.91). Donors and the MSPP should focus their efforts on these departments because value-for-money could be improved. The South department has an abnormally high number of hospitals per 150,000 inhabitants, but they produce little (their TE score is 0.35 compared

TABLE 6.4: Average Annual Wage of Medical Staff: Haiti and Selected Countries, Various Years

U.S. dollars

	Haiti (public)	Haiti (NGO)	Burkina Faso (public)	Rwanda (public)
	2013	2013	2014	2011
Medical doctor	10,415.20	15,328.40	9,469.50	–
Nurse	5,659.50	6,214.00	5,754.00	5,445.1
GNI (2014)	800	800	700	590
<i>Ratio of salary to GNI per capita</i>				
Medical doctor	13.0	19.2	13.5	–
Nurse	7.1	7.8	8.2	7.9

Source: WB estimates based on World Bank, USAID, and MSPP 2013; Appaix, Henry, and Badjeck 2015; Collins et al. 2011.

Note: – = not available. Figures include all monetary allowances, including income from per diems, but exclude other private income and nonmonetary benefits. In Haiti, the average wage of a medical doctor in the public sector was calculated based on 14 observations; for nurses, 12 observations. In the private sector, the average wage of a medical doctor is based on 14 observations; for nurses, 52 observations. The data were collected in three departments (World Bank, USAID, and MSPP 2013). In Burkina Faso, the average is from estimates from seven districts (Appaix 2015). In Rwanda, the average is estimated based on seven health facilities (Collins et al. 2012). GNI = gross national income; NGO = nongovernmental organization.

with the mean TE score for hospitals countrywide of 0.49). In addition, the TE scores of CALs, CSLs, and dispensaries in the South are below the overall mean TE scores for the same categories, and the same analysis could be drawn for the North-West. Both the North-East and Grand'Anse are performing very poorly at the dispensary, CSL, and hospital levels, but relatively better at the CAL level compared with the national-level averages. Thus the focus should be on assessing the service readiness of hospitals and merging or upgrading some of them. In Artibonite, which has the lowest TE scores, the MSPP and development partners should prioritize service readiness and process management at the dispensary and hospital levels.

Supply Factors Influencing the Technical Efficiency/Performance of Health Facilities

At the PHC level, medical staff see only six patients a day. Absenteeism and work outside of the facility are key drivers of low human resource productivity and

lead to wasted resources. The six patients seen per day by medical staff at the first-level primary health care facilities is low compared with the numbers in other LICs (World Bank 2015a⁶⁸). The low productivity of medical staff may also be the reason Haiti fares poorly in international comparisons of the correlation between the density of medical staff and key health outputs and outcomes.⁶⁹ Low productivity is often caused by high levels of absenteeism, which is linked to income-generating opportunities outside of the facility (WHO 2006). In Haiti, more than one-third of medical staff have a second job in the Centre, North-West, and North-East departments (World Bank, USAID, and MSPP 2013), and those with a second job spend less time working at the health facility ($p < .05$)—see table C.9 in appendix C. Public sector wages for doctors and nurses in Haiti are comparable to those in LICs⁷⁰ (table 6.4). Delays in payments demotivate staff, and health workers who experience payment delays are more likely to have a higher level of absenteeism (see table C.9). Not unexpectedly, absenteeism yields a tremendous waste of resources in the health system. For example, Haiti's 2014 operating budget for health amounted to \$68 million, 90 percent (\$61.2 million) of which was spent



68 See the World Bank's 2015 public expenditure review in Haiti for further discussion (World Bank 2016a).

69 For example, there is a correlation between the density of medical staff and the proportion of births attended by skilled personnel in LICs (correlation: 0.66, $P < .001$). And yet, Haiti is doing very poorly (37 percent of births are attended by skilled personnel) compared with other LICs such as Liberia (61 percent), Mali, (57 percent), and Mozambique (54 percent), although it has a higher density of medical staff than these countries: the density of medical staff per 10,000 inhabitants is 2.8 in Liberia, 5.1 in Mali, 4.5 in Mozambique (WHO 2015), and 9.5 in Haiti (World Bank staff estimates based on SPA 2014).

70 A common approach is to benchmark the salaries of health workers against the average gross national income (GNI) per capita (McCoy et al. 2009). In Haiti in 2013, public sector medical doctors earned 13.0 times as much as the GNI per capita, whereas public sector nurses earned about 7.1 times the GNI per capita. By comparison, nurses make 8.2 times the GNI per capita in Burkina Faso and 7.9 times the GNI per capita in Rwanda, and thus a slightly higher salary than in Haiti. Medical doctors earn 13.5 times the GNI per capita in Burkina Faso, again comparable with Haiti, where the ratio was 13.0.

BOX 6.2**Preliminary Results of Results-Based Financing (RBF) Pilot**

Since 2013, the MSPP has had a contracting unit in charge of implementing RBF at the national level. The unit, with support from the World Bank and the USAID/LMG (Leadership, Management, and Governance) project, has been piloting RBF in the North-East department since August 2014. In 2016 the contracting unit began to implement RBF in 80 sites across seven departments. RBF funds will be used in two ways: (1) at least 30 percent of RBF funds will improve the functioning and quality of services (training, advanced strategies at the community level, and small investments), and (2) up to 70 percent of the total funds will be used to pay premiums for individual performances.

The results of the pilot in the North-East are promising. Service coverage increased for almost all indicators from August 2014 to December 2015 (table B6.2.1). Diarrhea is the second cause of deaths among under children under 5, and the number of treated children with diarrhea increased by 500 percent. Only antenatal care decreased during the same time frame. It could be that medical staff targeted specific services and did not manage to improve all services. Although higher reporting must have favored those positive results, the results are so large that it is likely that RBF played a role in this improvement. The ongoing impact evaluation of the RBF program will study the impact of the program with more scientific rigor.

TABLE B6.2.1: Health Coverage in Six Health Facilities from RBF Pilot in North-East: Haiti, 2014 and 2016

	Aug.–Oct. 2014	Oct.–Dec. 2016	% change
Diarrhea cases treated	22	132	500%
Referral to next level of care	8	100	1,150%
Nutritional screening children 6–59 months	987	1,494	51%
Complete immunization of children <12 months	77	136	77%
Institutional delivery	18	26	44%
Fourth antenatal care visit completed	40	23	–43%
Home postnatal visit during days 0–3	77	201	161%

Sources: SPA 2014; World Bank 2016a.

on salary payments to staff. If a 50 percent productivity loss is assumed for staff being paid for full-time productivity,⁷¹ then half of Haiti’s annual expenditure of \$61.2 million, or about \$30.6 million of its operating budget for health, is being wasted every year. Furthermore, a loss of about \$30.6 million represents roughly 4.7 percent of Haiti’s THE of \$650 million (World Bank estimates based on NHA 2012–13). A study done by the U.S. Agency for International Development (USAID) estimates that absenteeism alone costs the public sector \$3 million (USAID forthcoming) on a yearly basis.

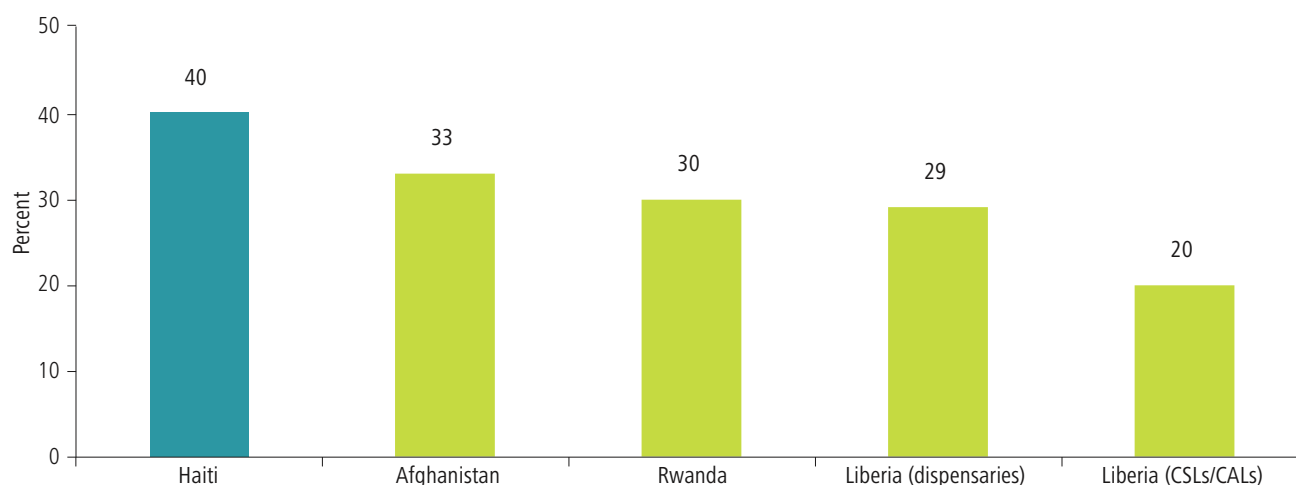
Linking financing for individual staff and facilities to the production of results through results-based financing (RBF) mechanisms⁷² is one way to strengthen accountability for results and increase human resource productivity. Evidence shows that health sector interventions based on RBF mechanisms increase human resource productivity and accountability in service delivery (Fritsche, Soeters, and Meessen 2014). Initial piloting of the national RBF program in Haiti shows very promising results (box 6.2). Even though the results are preliminary, this payments mechanism demonstrates a measurable



71 A USAID, World Bank, and MSPP study conducted in 2013 in the North-West, North-East, and Center departments revealed that medical staff (a sample of 200 medical doctors, nurses, and aid nurses) worked on average four hours a day and thus 50 percent of the time.

72 Results-based financing (RBF) is defined as the transfer of money or material goods to a recipient conditional on measurable action taken or the realization of a predetermined performance target (Eichler and Levine 2009). Applied to the health sector, RBF has helped to improve the use of maternal and child health services and key functions of the health system in several low-income countries. Experience shows that this approach (1) gives the providers of health services clear signals about the government’s priorities and ensures that institutions continue to place enough emphasis on prevention interventions and on the poor; (2) enables an off-center focus on inputs to the production of tangible results; (3) strengthens monitoring and evaluation systems; (4) strengthens the decentralization of decision making; and (5) increases productivity and accountability in service delivery. All these qualities are essential for both improving outcomes for maternal and child health and strengthening the health system (Fritsche, Soeters, and Meessen 2014).

FIGURE 6.9: Administrative Personnel as Share of Total Number of Staff of Primary Health Care Facilities: Haiti and Selected Countries, Various Years



Sources: MSPP 2014a; World Bank 2016a; Haiti: Cros and Zeng 2014; Afghanistan: Ministry of Health, Afghanistan 2003; Rwanda: Collins et al. 2011; Liberia: Wang, Young and Connor 2009.

Note: CALs = *centres de santé avec lit* (health centers with bed); CSLs = *centres de santé sans lit* (health centers without bed).

impact on human resource productivity in the Haitian context.

The scale-up of RBF in Haiti should be accompanied by decentralization of key human resource decisions and improved human resource management practices. Recruitment practices and large resource investments are not fully decentralized, and health facilities have little to say in this area of decision making, which requires approval from the departmental health directorates (*directions départementales sanitaires*, DDSs) or at the NGO level. Although medical staff members are appointed by the departmental health directorates, management candidates are appointed by the MSPP at the central level. However, health facilities do manage and spend revenues generated by on-site user fee collection.

The existing health facility performance management systems are weak. On average, only 30 percent of facilities hold management meetings, and only 70 percent of health facilities receive supervisory visits from staff at the departmental level (SPA 2014). In addition, clinical guidelines are rarely available (World Bank 2015a), which may contribute to low staff accountability in quality of care. Global evidence shows that health facility performance is increased by health reforms that combine facility autonomy, staff accountability, human

resource management, quality assurance, and financial incentives (Abzalova et al. 1998; Barber, Bonnet, and Bekedam 2004). Under Haiti's current national RBF model, health facilities receive results-based funding from the central level. Through formal contracting, the DDS ties the receipt of payment to the delivery of specified health service delivery outputs—the basis of the RBF financial incentive mechanism. Furthermore, the DDS is obligated to uphold regular performance monitoring to confirm health facility performance. This facilitates increased autonomy for health facilities in the use of financial resources, and it supports motivation by engaging medical staff more intensively. Through the national RBF initiative, Haiti has already increased facility autonomy levels in several departments. To scale up this model, the RBF contracting unit and the MSPP human resources and planning directorates must reach a consensus on current health human resource reforms and move forward collaboratively.

Poor working conditions⁷³ lead to low satisfaction and productivity by medical staff. Increasing the nonsalary operational budget would improve service readiness and the overall performance of health workers. In a survey of medical staff and health managers in three departments, lack of medicines and equipment and limited opportunities for training were the main reasons for poor motivation of medical staff and non-functioning of health facilities (World Bank, USAID, and



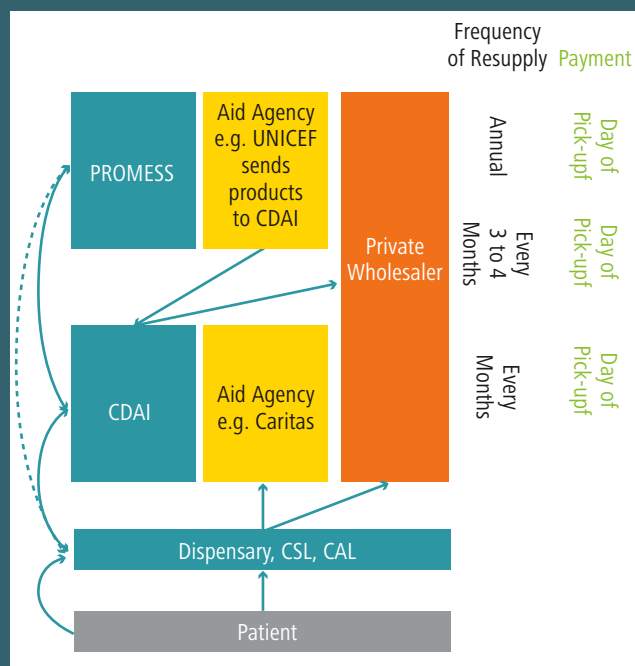
73 Working conditions include availability of equipment and supplies, infrastructure, support services, regulations at work and lines of authority, as well as decision making. These are important determinants of job satisfaction and the performance of health facilities (Dieleman and Hammeijer 2006).

BOX 6.3

The Supply Chain for Drugs in Haiti

Haiti has a three-tiered supply chain system. Health facilities retrieve products from a regional warehouse (*Centre Départemental d'Approvisionnement en Intrants, CDAI*). CDAs stock those products that are specifically related to health programs sponsored in-country and distributed free of charge by the *Programme des Médicaments Essentiels*¹ (PROMESS, the essential drugs program managed by PAHO) from Port-au-Prince. CDAs and health facilities also procure additional products from donors and private wholesalers. Figure B6.3.1 illustrates this process. The boxes in blue represent the public sector, the boxes in orange the foreign aid sector, and the box in purple the private for-profit sector. The direction of the arrows indicates which group is responsible for transportation. For example, a dispensary goes to a wholesaler to pick up products. Exceptions include when programs run by aid agencies drop off stock at regional stores either regularly or as part of a campaign for a specific health program such as family planning. Some health facilities go directly to PROMESS for stock. The private for-profit sector plays a key role in product availability in Haiti. There are three registered local manufacturers, 35 registered wholesalers based in Port-au-Prince, and 129 authorized private for-profit pharmacies (PAHO 2012). Over 400 unauthorized pharmacies also operate in the metropolitan area (PAHO 2012). There is as well a thriving informal (and thus unregulated) market for both the procurement and sale of pharmaceuticals.

FIGURE B6.3.1: Supply Chain for Health Care Facilities in Haiti



Source: Johnson, Lavery, and Sjoblom 2014, unless otherwise indicated
 Note: CAL = *centre de santé avec lit* (health center with bed); CDAI = *Centre Départemental d'Approvisionnement en Intrants*; CSL = *centre de santé sans lit* (health center without bed); PROMESS = *Programme des Médicaments Essentiels*.

MSPP 2013). Although the facility equipment index and an improved source of water are not significantly associated with TE scores in Haiti's PHC sector, positive associations exist between the drug index in CALs and electricity in CSLs (see table C.4 in appendix C). As noted earlier, service readiness is very low in Haiti. Improving it would require an increase in the nonsalary recurrent budget to allow for the availability of the other inputs such as medicines, equipment, and medical supplies that are needed to produce health services. Over the last decade, 90 percent of Haiti's operational budget has been allocated to staff salaries (BOOST 2016), which is very high compared with the allocation in LICs (World Bank 2016a). One way to free up resources for complementary inputs is to tackle the high level of support staff on the payroll. At the University Hospital of the State of Haiti (*Hôpital de l'Université d'État d'Haïti, HUEH*), 87 percent of the operational budget is used to pay staff (BOOST 2016), and 22 percent of the staff

are low qualified, which is high based on international benchmarks (AEDES Consortium 2016). In public facilities, administrative staff represent nearly half of the workforce (MSPP 2014a). Another study found that administrative personnel represent 40 percent of total institutional personnel at the PHC level (Cros and Zeng 2014). This ratio also seems high in comparison with those for the LICs (figure 6.9).

The availability of medicines could also be improved by providing better supply chain management. Seven different parallel supply chains were established after the 2010 earthquake, but in recent years they have been slowly consolidated into two main supply chains. However, more could be done to improve supply chain management (see box 6.3). Considerable savings could result from improving the coordination of the distribution network and focusing on improving the last-mile distribution.⁷⁴ One possible approach is



74 *Last mile* is a term used in supply chain management planning to describe the movement of goods from a transportation hub to a final destination at the facility level.

to outsource distribution to local transport companies, which has already been successfully piloted in Haiti. Some medical products are not distributed by development partners, and to fill this gap in inventory, health facilities have to rely on a regular cash flow to facilitate outside procurement. However, persistent deficits in this cash flow necessitate more frequent, smaller trips to medical supply vendors and lead to higher distribution costs overall. Improper storage management and weak information systems at the Program of Essential Drugs (*Programme des Medicaments Essentiels, PROMESS*)⁷⁵ also reduce the availability of medicines at the facility level. In fact, anecdotal evidence seems to show that drugs originally destined for subsidized distribution at public facilities are intercepted at the regional depots (*Centre Departementaux d'Approvisionnement en Intrants, CDAI*), syphoned off, and sold to private sector pharmacies, which subsequently sell the same product at higher prices. Stock-outs at the CDAI then force public facilities to purchase drugs at market prices. Most important, this practice reduces patient access to subsidized medicines.

Demand Factors Impeding Technical Efficiency/Performance

Although policies addressing the supply of health care are key to significantly improving the performance of health care in Haiti, mechanisms should be put in place to stimulate the demand for health services. These may include mobile clinics, community agents, and the removal of user fees for selected services for poor populations, in particular. Health centers, especially those in rural areas, have lower technical efficiency scores because poorer people live in these areas and they cannot afford to visit health facilities. Improving the efficiency of PHC facilities would require mechanisms that stimulate demand. First, mobile health clinics could be organized by CSLs and CALs because two-thirds of mobile clinic and community services users are poor. Such strategies used in the Health for the Development and Stability of Haiti (*Santé Pour le Développement et La Stabilité d'Haiti, SDSH*) program in Haiti have contributed to increasing the utilization

of maternal and child health services (Eichler, Auxila, and Pollock 2001; Eichler and Levine 2009; Zeng et al. 2013). However, such an approach would require additional funding to cover the per diems of clinical staff as well as transportation. Second, community health agents can play an instrumental role by referring patients seen at the community level to higher levels of care. Currently, discussions are under way on expanding the scope of practice for community health workers. Third, as discussed in the access section, removing user fees for selected services will help boost the demand for services for the poor.

Most hospitals have low levels of productivity (table 6.5). Strengthening the referral system, providing subsidized transportation to poor patients following referrals, and subsidizing service fees could help increase the demand for hospital services. Increasing the number of admissions is instrumental to improving efficiency at the hospital level. However, the mechanisms used for this purpose must not allow patients to skip the primary care level. Three mechanisms will increase the demand for hospital services. The first is to strengthen the referral system⁷⁶ so that patients are referred to community hospitals from the primary health care level or from community hospitals to departmental or university hospitals. Currently, the RBF program is providing incentives for referrals at the dispensary, health center, and community referral hospital levels. Therefore, behavioral change is likely to occur at the supply level. At the demand level, queuing systems should be redesigned to separate referred patients from nonreferred patients in order to fast-track referrals and increase patient awareness of the rationale underlying treatment referrals (Jamison et al. 2006). Second, it is well known that transport is the key deterrent to access to hospital services for the poor in LICs (Kloos 1990; Martey et al. 1998) and in Haiti overall (DHS 2012). Policies should enhance transportation systems from health centers to hospitals for referred services. Such a step will be more cost-effective at the community or departmental hospital level such as for children with complicated cases of diarrhea, patients with acute respiratory diseases, and women undergoing C-sections. The third mechanism is the removal of user fees for key selected (and referred) services at the



75 The public supply chain in charge of essential drugs (and managed by the Pan American Health Organization, PAHO).

76 A referral system ensures that patients can receive appropriate, high-quality care for their condition at the lowest cost and in the closest facility possible (Jamison et al. 2006).

TABLE 6.5: Projected Changes in Admissions and Consultations across Facility Type, Haiti

	Current no. of admissions	Projected no. of admissions	% difference	Current no. of consultations	Projected no. of consultations	% difference
Sample	1,176	4,524	285%	1,6908	42,210	150%
<i>Facility category</i>						
University hospital	7,716	25,878	235%	56,916	138,827	144%
District hospital	2,868	16,187	464%	18,624	74,141	298%
Community referral hospital	1,086	3,417	215%	15,168	37,636	148%
Small hospital	816	2,865	251%	9,090	33,076	264%

Source: World Bank staff estimates, 2016.

Note: This table is the result of the DEA hospital analysis based on SPA data set, 2013. This table highlights by how much hospitals would need to increase their productivity (number of admissions and consultation) using their current resources to be efficient. For example, community referral hospitals (*hôpitaux communautaire de référence*, HCRs), with their current resources, should be able to triple their number of admissions and double their number of consultations to remain efficient. In other words, HCRs would have to increase their admissions by 215 percent and consultations by 148 percent to reach efficiency.

hospital level. Financial losses from user fee removal for selected services could be financed by cross-subsidization between the rich and the poor as suggested for Mirebalais referral hospitals (Baruwa and Meline

2014).⁷⁷ Other options include voucher and health equity funds. For example, in Cambodia voucher mechanisms provide free C-sections in public hospitals for the poor (Noirhomme et al. 2007).



77 Baruwa et al. (2015) suggested cross-subsidizing services at the University Hospital of Mirebalais—such as radiology, physiotherapy, and surgical services—between those who can afford them and the poor. Such a policy is valid and should be applied to referred services only to deter the poor from consulting a university hospital for a service that could be treated at the PHC or district hospital level.

MAIN FINDINGS AND RECOMMENDATIONS

Seven prioritized strategic shifts emerged from the key findings of this report, and they are presented in this chapter in tandem with recommendations on how to take the next steps toward accelerating and sustaining progress in achieving universal health care (UHC) in Haiti.

Shift 1: Prioritize Primary Health Care.

Realign resources from hospital to primary health care and cost and prioritize the existing Health Master Plan (Plan Directeur de Santé, PDS) to guide future financing.

MAIN FINDINGS

Strengthening the delivery of preventive and primary health care (PHC) services would help address the three leading causes of disability-adjusted life years (DALYs) in Haiti, but only 19 percent of the total health expenditure (THE) is directed to preventive care and more than half (54 percent) to curative care.

Although best practice indicates that funding allocations should be tailored to the needs of the population, allocations made at the departmental level in Haiti are instead based on historically set values.

Haiti has 1.4 community hospitals for every 150,000 inhabitants. By contrast, it has only 0.3 dispensaries for every 10,000 inhabitants. Compared with the averages for low-income countries (LICs), the facility density in Haiti is much higher for hospitals and lower for dispensaries. Furthermore, dispensaries are disadvantaged by their low service readiness overall.

RECOMMENDATIONS

A core step in implementation of this strategic shift is to prioritize and cost the Plan *Directeur* with a focus on primary health care. This prioritization and cost should be according to Haiti's disease burden and take into account the services included in the essential package of health services (EPHS).

Based on these priorities, the Ministry of Public Health and Population (*Ministère de la Santé Publique et de la Population, MSPP*), with support from development partners, would build an "investment case" that would guide the investments as well as the technical and financial contributions of both the government and development partners to the health sector.

The MSPP should oversee implementation of the framework developed in the investment case, and the development partners would play supportive roles in the financial and technical components.

The MSPP should adjust the resource allocation methodology to incorporate a formula derived from the health and socioeconomic needs of the poor, pertinent health system characteristics, updated data on the disease burden, and population size.

Shift 2: Increase Equitable Access to Quality Care.

Update and implement a facility mapping tool by reclassifying health facilities to enhance service readiness and facilitate a practical referral network.

MAIN FINDINGS

Service readiness is very low both in absolute terms and against international standards. Only 32 percent of health facilities have essential medicines, and only 31 percent of health facilities have the basic medical equipment. There is almost no budget to pay for drugs and running costs at the health facility level because the MSPP assigns 90 percent of its operating budget to staffing costs.

In certain areas, there are no health facilities or services available, whereas in others duplications exist. In addition, some health facilities do not necessarily meet the minimum criteria for their level of service (that is, their nomenclature does not reflect the actual services provided). Thus a reclassification is needed for certain facilities.

The referral system is not functional; only 6 percent of referrals are carried out properly.

RECOMMENDATIONS

The MSPP should develop a facility mapping tool to (1) identify the existing public and private facilities; (2) establish their service readiness—mostly in terms of staff and inputs; and (3) determine the population coverage of each facility. The first step would build on the existing *carte sanitaire*. The findings of such a mapping tool will identify service gaps or redundancies and trigger a recategorization of certain facilities.

The MSPP should then systematically confirm that all facilities included in the referral network meet minimum criteria in terms of service readiness, which will vary by type of facility.

Taking into consideration the investment priorities that would be defined in the Plan *Directeur* (see Shift 1), certain inefficient community referral hospitals could be transformed into health centers with increased operational expenditures. In other cases, certain facilities could be converted into primary health care units, or upgraded to hospitals, or given special attention to ensure service readiness. Merged facilities would be better equipped with drugs and medical equipment.

The recategorization of facilities should align with the definition of a coherent and effective referral system. That would imply, among other things, considering strategies such as subsidized transportation options for patients to hospitals. In this process, it is critical to agree on a minimum package of services that will be financed and provided at the primary level.

Shift 3: Spend More Wisely on Hospitals.

Suspend new hospital construction until the existing infrastructure can be mapped and a hospital licensing program has been developed. Development partners should finance technical assistance for hospitals.

MAIN FINDINGS

External financing, which was especially high after the 2010 earthquake, fueled hospital (re)construction. However, these capital investments were not accompanied by plans on how to sustain service delivery in the units. Consequently, the MSPP is now struggling to deal with rising operational costs.

Hospital construction has not been aligned with the needs or gaps reflected in the *carte sanitaire* but rather built in an opportunistic fashion.

RECOMMENDATIONS

The MSPP should consider placing a moratorium on the construction of new hospitals that would begin immediately and remain until a hospital mapping exercise is completed and a hospital licensing program has been established. Reconstruction linked to emergency situations such as that launched by Hurricane Matthew should be allowed.

A licensing agency, either managed by the MSPP or outsourced to a third party, should license facilities that meet the minimum criteria. Those that do not should be downgraded or closed down. At the hospital level, this will allow the MSPP to rationalize the number of hospitals and potentially convert some community hospitals to lower-level facilities. Private for-profit facilities should be included in the licensing program.

To increase the MSPP's oversight of private for-profit/nongovernmental organization (NGO) facilities, formal contracts should be undertaken with licensed facilities.

Haiti should also encourage its development partners to fund a technical assistance that would guide the development of business plans, which could strengthen the financial sustainability of imminent hospital acquisitions (or programs) by the government.

New sources of revenues for hospitals such as luxury wards or contributions from wealthy individuals inside and outside of Haiti as well as diaspora and religious organizations should be explored.

Shift 4: Improve Technical Efficiency at PHC Level.

Value-for-money in service delivery should be increased by reforming human resources, having better availability and use of inputs and serving more patients, especially at PHC level.

MAIN FINDINGS

All categories of health facilities have low productivity. Of the low-income countries, Haiti displays one of the lowest technical efficiency scores for all health facilities. Primary care facilities—dispensaries, health centers without bed (*centres de santé sans lit*, CSLs), and health centers with bed (*centres de santé avec lit*, CALs)—are particularly inefficient. Key measures of hospital productivity such as the bed occupancy rate (BOR) show that Haiti fares poorly compared with other countries.

Low efficiency is explained in part by the low productivity of medical staff (they produce six consultations per day at the PHC level), absenteeism (which contributes to wasting approximately \$3 million a year), and moonlighting (in certain departments medical staff spend a third of their time working in a second job outside their facility but are still paid for full-time work).

Haiti does not use its available health sector workforce potential. There appears to be a shortage of qualified midlevel staff such as clinical officers and nursing staff.

The low utilization and thus demand for health services are another key factor in low productivity.

RECOMMENDATIONS

To improve the productivity of human resources (HR), certain HR decisions should be decentralized to make health facilities more accountable for results, thereby limiting absenteeism and low productivity issues. The pilot of the results-based financing (RBF) program is showing promising results in terms of increasing the productivity of HR. If it continues to sustain these initial results, the program should be scaled up nationwide. The MSPP should also establish regulatory frameworks to strengthen management of human resources for health, which will help reduce dual practice, absenteeism, and the number of ghost workers.

To improve the availability and access to subsidized drugs, the last-mile distribution problem should be studied further. Storage management and strengthening of the information system at the regional depot (*Centre Départemental d'Approvisionnement en Intrants, CDAI*) level to avoid leakages of subsidized products should also be implemented.

Nationally pooled procurement of medical equipment and commodities could generate significant cost savings, which could in turn help finance more affordable services for the poorest.

Additional work is needed to understand the market conditions for pharmaceutical importation, wholesale arrangements, and distribution.

The MSPP and donors should focus on mechanisms to improve the demand for the services of health facilities (see Shift 7), especially dispensaries. Such mechanisms could increase their efficiency and their utilization by the poor. The emphasis should be on public hospitals, which had the lowest BOR, but also because the poorest segments more often seek care at public hospitals than private hospitals.

Shift 5: Better Use of External Funding.

Put in place an adequately staffed and well-functioning donor coordination unit that pursue donor tracking and transition planning to increase impact and enforce adherence to Plan Directeur.

MAIN FINDINGS

At least a third of the total health expenditure is financed externally. External financing is particularly fragmented; 90 percent is off-budget and channeled through many different implementers. Budget execution rates for external financing is below 80 percent.

Because of the fragmentation, the MSPP has limited control of the uses of external financing.

There is no regular, established mechanism whereby donors and MSPP can discuss and coordinate their technical and financial contributions to the health sector. The existing mechanisms have not yet yielded results in terms of aligning partners in the implementation of the Plan *Directeur*.

A large share of external financing is emergency aid, which is volatile and has tended to focus on hospital construction. New hospitals are not necessarily what Haiti needs in view of its disease burden and existing health infrastructure. These large infrastructure investments often do not take future operational costs into account from the outset, and the MSPP, with its available resources, cannot cover the running costs of many of the institutions that were built (or rehabilitated) after the earthquake.

RECOMMENDATIONS

The MSPP should oversee the investments of development partners and seek their support for a costed and prioritized *investment case* (see Shift 1). One way to do this is to create an adequately staffed and well-functioning donor coordination unit that, among other things, would (1) maintain the national database of cooperation projects, and (2) ensure that transition plans (especially because many donors are withdrawing) match health system needs with the available resources. The MSPP should also enforce the need for development partners to register with the donor coordination unit.

In the shorter term, development partners should begin to pool external financing virtually around the essential package of health services (EPHS). Some partners have begun this process for a limited set of services in the context of the RBF program.

In the longer term, key donors should work with the MSPP to strengthen the public financial management (PFM) structures of the MSPP or of entities such as the MSPP's Project Management Unit (*Unite de Gestion du Projet, UGP*), which is used currently by several donors. They should also work together to develop a joint PFM manual with the objective of creating enough confidence to channel more resources on-budget through a Sector Wide Approach (SWAp) mechanism. Such a modality would imply a harmonization of procedures for PFM and agreement on the level of per diems, salaries etc. That would dramatically reduce the transaction costs of external financing.

The same agreement or memorandum of understanding (MoU) should contain details related to emergency funding. The MoU could develop minimum standards for improving the sustainability of emergency financing such as including requirements that major capital investments (hospitals) be supported by long-term sustainability plans.

Shift 6: Increase resources for health.

Leverage greater health financing overall by increasing public health expenditure through better tax collection and more sustainable external financing.

MAIN FINDINGS

There has been a sharp decline in the general government health expenditure (GGHE) over the last two decades in Haiti.

The government is heavily reliant on external funding (donor dependency increased particularly after the 2010 earthquake), but external financing has decreased sharply in recent years, while out-of-pocket (OOP) expenditures have increased.

Recurrent health expenditures for vaccine supplies, salaries of human resources for health, and medical products are largely financed by external resources, which are declining rapidly.

Although large efficiency gains can be achieved in the health sector (see Shift 4), more resources are needed to sustain and improve health outcomes in the future. The government needs to start planning to increase domestic financing for health to compensate for the drop in external aid and protect the poor from increased OOP expenditures. It also may need to attract sustainable external financing, at least in the short run.

For some time now, vaccines in Haiti have been fully financed by donors, and in this respect Haiti is different from most other LICs which provide some of their own domestic financing for vaccines. But increasingly these donors are finding it difficult to continue to finance vaccines in the country without any cofinancing contribution from the government. It is hence urgent for the government to start allocating some of its own funds to vaccines. Similar arguments apply to other items considered by the government to be essential.

RECOMMENDATIONS

A strong case should be built for the Ministry of Economy and Finance (MEF) to invest in the health sector. It is essential to show improved value-for-money, improve budget execution rates, build trust with the MEF, and explain the vision to accelerate progress toward universal health care.

As indicated in the public expenditure review (PER), general tax system reforms should be implemented to increase mobilization of revenue for health and other sectors.

The MSPP is in the process of developing a long-term health financing strategy. This work should continue, including implementation of such a strategy. The strategy should, among other things, consider unorthodox ways to raise revenue for the health sector. For example, the following should be considered:

Putting in place mechanisms to allow migrants to send remittances directly to prepayment mechanisms for health care or other form of earmarking remittances for the health expenses of the recipient. Remittances accounted for about a fifth of Haiti's gross domestic product (GDP) in recent years.

Having the MSPP engage strategically with wealthy individuals inside and outside of Haiti to finance individual facilities or programs.

Exploring an earmarked tax on alcohol and tobacco and determining which segments of the population would or would not benefit from an excise tax, as well as feasibility of implementation.

Exploring the possibility of receiving more external financing. For example, Haiti could be selected for the next round of countries that will receive support from the Global Financing Facility (GFF) for every woman and child. The GFF does not just provide additional financing, but, more important, it is a partnership that helps rally external partners around an investment case and work on long-term financing strategies to achieve universal health care.

Haiti should ensure that domestic financing for health is spent in a manner that addresses key priorities and is also strategically "smart", leveraging donor financing for essential items like vaccines. For this to happen, a domestic budget line for vaccines needs to be established and maintained, with significant funding made available under this budget line.

Shift 7: Increase the Affordability of Health Services for the Poor.

The feasibility of removing user fees for selected services or target populations -- children under 5 and pregnant women, especially in rural areas -- should be assessed.

MAIN FINDINGS

Out-of-pocket expenditures make up 35 percent of Haiti's total health expenditure.

Because of the reduction in external funding and the low level of GGHE, almost all health facilities (93 percent) charge user fees. Consequently, households are taking on a growing burden for financing the health system, with increases in OOP expenses and catastrophic health expenditures (CHEs) observed in recent years.

This situation raises affordability issues, and the poorest are priced out of health care. Sixty-three percent of households in the lowest wealth quintile do not consult a health provider when sick because they cannot afford to do so.

The lack of affordability may explain the low utilization rates and its impact on the low productivity.

RECOMMENDATIONS:

Explore the feasibility of removing user fees associated with the delivery of essential health services. In particular, focus on the removal of fees associated with essential health services for pregnant women and children under 5 years of age.

Because the poorest use more mobile clinics and services provided by community health workers, more resources should be allocated to expand and strengthen community care, which should be a key part of the prioritization of PHC (see Shift 1).

Mechanisms to increase the affordability of health services for the poorest should be part of the investment case (developed from a prioritized and costed *Plan Directeur*). These mechanisms would include a transportation voucher program or the revival of the equity fund at the facility level to protect the poorest from the direct and indirect costs of health care. Lifting financial barriers should boost use of health services, which if of quality will increase health outcomes that is the ultimate goal of the health system.

APPENDIX

A. Domestic Revenues

Domestic revenue mobilization has improved in Haiti. The recent improvement in fiscal revenue has been driven by the increase in domestic income and sales tax revenue collected in Port-au-Prince (table A.1). In addition, a new tax instrument was introduced in fiscal 2012. The National Education Fund (*National Fond d'Education, FNE*), which is financed through taxes on international telephone calls and money transfers, supports the Free and Compulsory Universal Enrollment Program (*Programme de Scolarisation Universelle Gratuite et Obligatoire, PSUGO*).

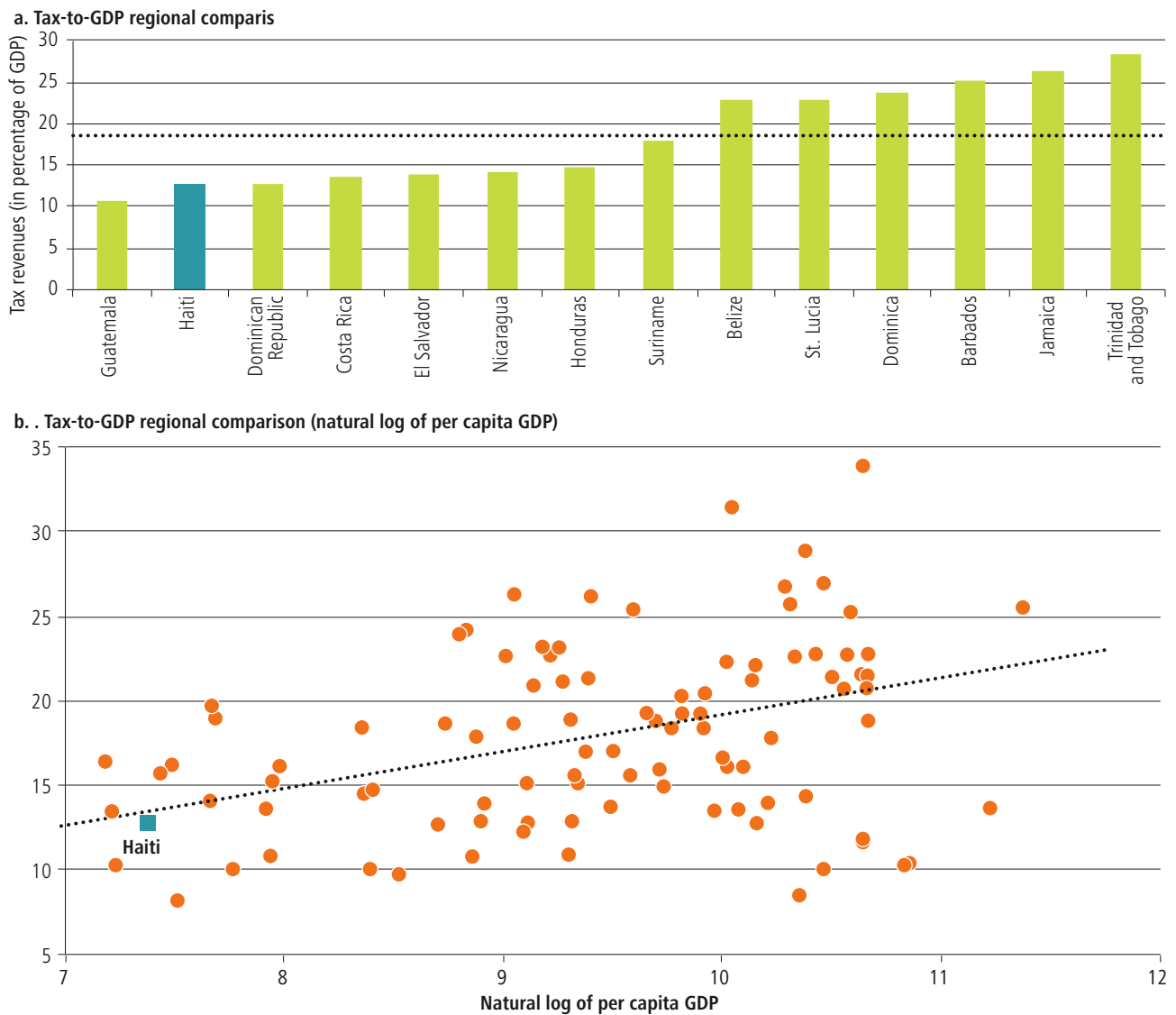
And yet domestic revenue mobilization remains low compared with that of neighboring and other low-income countries. Haiti also still has the second lowest tax-to-gross domestic product (GDP) ratio (13.7 percent) of all countries in the region, and its ratio is only slightly better than those of the low-income countries (LICs)—see panel a of figure A.1. In 2012, 24 low- and lower-middle-income countries had tax-to-GDP ratios below 15 percent

TABLE A.1: Tax Categories as Share of GDP: Haiti, 2009–15

	2009	2010	2011	2012	2013	2014	2015
Fiscal revenue	11.2	11.8	12.8	12.8	12.7	12.5	13.7
Domestic taxes	7.4	7.3	8.1	8.6	8	8.5	8.9
Income taxes (Port-au-Prince only)	2.3	2.2	2.5	3	2.6	2.9	3.1
Domestic taxes in provinces	0.5	0.4	0.4	0.5	0.5	0.7	0.7
Excise taxes	0.7	0.5	0.3	0.3	0.3	0.2	0.8
Sales taxes	3.5	3.2	3.7	3.7	3.7	3.6	3.3
Other taxes (Port-au-Prince only, including discrepancies)	0.5	0.9	1.2	1	1	1.1	1.1
Customs duties (including inspection fees)	3.3	4.3	4.5	4.2	3.9	3.4	4.1
Other (including FNE)	0.4	0.2	0.3	0.1	0.8	0.6	0.6

Sources: Ministry of Economy and Finance, Bank of the Republic of Haiti, International Monetary Fund, and World Bank staff calculations.
Note: FNE = Fond National d'Education.

FIGURE A.1: Tax-to-GDP Ratio, Haiti and Selected Countries



Source: Adapted from World Bank 2016a.

(World Bank 2016a), which is an arbitrary but often suggested minimum benchmark.⁷⁸ Haiti’s tax-to-GDP ratio is 1.07 times higher than that of the LICs, but its GDP per capita is 1.36 times higher than the LIC average. Given its economic status, Haiti should have a higher tax-to-GDP ratio, as reflected in panel b of figure A.1 where Haiti is below the fitted line. If Haiti were to increase its tax-to-GDP ratio to 15 percent, it would increase its fiscal revenue by \$18 per capita or 2 percent of GDP (see table A.2).



78 In view of administrative and capacity constraints, tax shares of 20 and 25 percent may be difficult to achieve (Heller 2005, 2006; IMF 2011).

TABLE A.2: Tax Efforts: Haiti and Its Comparators, 2015

	Tax (% of GDP)	GDP per capita (US\$)	Additional tax revenue per capita if tax collection were 15% of GDP (US\$)	Additional tax revenue per capita if tax collection were 20% of GDP (US\$)
LICs	12.8%	\$605	\$23	\$58
LAC	17.0%	\$9,279	–	\$427
CAM	15.5%	\$5,840	–	\$343
Haiti	13.7%	\$824	\$18	\$59

Source: World Bank staff estimates based on World Bank 2016a.

Note: – = not available; CAM = Central America and Mexico; LAC = Latin America and the Caribbean; LICs = low-income countries.

TABLE A.3: Additional Revenues Levied from Earmarked Taxes on Spirits, Haiti

	Rum	Beer
Global pretax sales	\$12,000,000	\$33,377,406
Price elasticity of demand for spirits	–1.5	–0.3
Potential tax	25%	25%
Proceeds from tax	\$1,312,500	\$6,946,673
Generated revenue per capita	\$0.12	\$0.64
Per capita government health spending	\$7	\$7
Per capita government health spending with tax	\$7.12	\$7.64
Growth rate of per capita government health spending	1.71%	9.14%

Sources: World Bank staff estimates based on literature review of the price elasticity of spirits and sales of spirits in Haiti (Josephson and Bode 2013); population estimates for Haiti, 2013: World Bank 2016a; 2013 per capita government health spending for Haiti: WHO 2015.

In Haiti, taxes earmarked for the health sector could address negative externalities while raising a substantial amount for the sector. Several countries are using taxes on alcohol and cigarettes to reduce the prevalence rate of tobacco and alcohol use and to raise revenue for the health sector. Despite the prevalence of tobacco at 8 percent of the population in Haiti, there is no tax on tobacco. Haiti did sign the World Health Organization Framework Convention on Tobacco Control on July 23, 2003, but it has not yet ratified the convention. The tax rates on spirits are 4 percent for those locally produced and 16 percent for imports. However, none of the taxes levied on spirits are earmarked for the health sector. On average, taxes account for 31 percent of the retail price of cigarettes in LICs and 47 percent in the Latin America and the Caribbean (LAC) region (WHO 2015). In Haiti, a 25 percent tax on alcohol earmarked for health could produce an estimated \$8.2 million in revenue a year for health financing based on sales estimates for Prestige beer and Barbancourt rum (Table A.3). The proceeds from such a tax would represent a growth rate of 24 percent in government health spending, or \$1.64 per capita (Table A.3). Estimates for revenue are based on sales numbers for selected brands of rum and beer because countrywide data on alcohol sales or use are not readily available. Estimates for tobacco sales are unknown, but a large tobacco company based in Haiti accounted for 97.8 percent of the market share in 2012 (Josephson and Bode 2013). Sin taxes could increase the predictability of financing and affect risky behavior, thereby improving health.

Earmarking taxes for health raises technical and political issues that warrant a thorough assessment. Earmarking taxes on tobacco and alcohol for the health sector could be instrumental in raising domestic revenues for that sector, especially in Haiti where external financing needs to be replaced by domestic resources in the near future. However, success in levying sin taxes requires sufficient administrative capacity and information as well as alignment from tobacco and alcohol corporations and lobbies. That said, administrative capacity is an issue for several potential tax reforms in Haiti. Other valid concerns are that earmarking taxes could reduce the

TABLE A.4: Summary of Tax Reforms, Rwanda and El Salvador

	Rwanda	El Salvador
Administrative reform	<p>1997: Established Rwanda Revenue Authorities to oversee taxation processes</p> <p>2003: Adopted software system to support customs operations, finance processes, and taxpayer audit</p> <p>2011: Implemented mechanism for electronic tax registration</p>	<p>1990–2000: Modernized tax and customs operations</p> <p>Mid-2000: Improved administration of tax structures and policies by taking measures to improve fiscal compliance, mitigate fraud, and enhance efficiency</p>
Policy reform	<p>2001: Widened the VAT base and ultimately replaced existing sales taxes with VAT; implemented a new excise tax</p> <p>Mid-2000: Implemented legislation that strengthened tax collection processes and instituted penalties for tax evasion, which bolstered tax compliance</p>	<p>1990–2000: Adopted multiple reforms of existing tax and trade policies—in particular, adopted reforms that widened the tax base and replaced sales tax with VAT</p> <p>2012: Raised the rates applied to the income tax as well as some excise taxes</p>
GGHE as % of GGE	19%	18%
Tax-to-GDP ratio (%)	Close to 15% in 2015	15.40%
Political support	In Rwanda, the 2008–2012 Economic Development and Poverty Reduction Strategy I established explicit long-term goals for increasing the ratio of the public expenditure on health to the total public expenditure from 12 to 15 percent by 2012.	In El Salvador, implementation of the 2007 Law for the Creation of the National Health System set forth the government’s aim to expand health care coverage and reduce inequities in health outcomes.

Sources: Nakamura and Williamson 2015; Heredia-Ortiz 2016.

Note: GGE = general government expenditure; GGHE = general government health expenditure; VAT = value added tax.

discretionary allocation of the Ministry of Public Health and Population (*Ministère de la Santé Publique et de la Population, MSSP*)—World Bank (2014). But it also would be regressive because the poor and nonpoor would pay the same amount of taxes. However, the benefit is that youth and poor people tend to respond more than others by not starting to smoke or smoking less (Savedoff and Alwang 2015). Earmarked taxes on luxury goods would be more progressive, but they are known to raise less revenue than direct taxes such as those on income (World Bank 2015e). Thus a more in-depth study should be conducted to assess the political feasibility of such reforms.

The LICs and the LAC region have already examined tax compliance and expanding the tax base to improve resource mobilization. Lessons learned from Rwanda and El Salvador on revenue mobilization for the health sector pinpoint the importance of administrative and policy reforms as well as political reforms. In both Rwanda and El Salvador, high political support, tax compliance, and reforms widening the tax base were key drivers for successful tax reforms and broader resource mobilization for the health sector (table A.4).

Levying taxes on tobacco and alcohol is a promising way to raise additional revenue for the health sector, but it will require further analysis (table A.5). Replacing the tax on turnover with a value-added tax (VAT) is another option adopted by several low- and middle-income countries such as Rwanda and El Salvador to increase domestic resource mobilization. Tax reform efforts are under way in Haiti. Taxes on luxury goods such as commercial airline flights may be more difficult to implement than taxes on alcohol and tobacco products. Unlike the latter, taxes on luxury goods do not address negative externalities, which can help generate public

TABLE A.5: Summary of Potential Tax Options to Expand Revenue in Haiti

Option	Pros	Cons	Feasibility in other countries	Haiti
Taxes on tobacco and alcohol	<p>Would increase domestic spending by 23 percent</p> <p>Would encourage healthy lifestyle</p>	<p>Would be regressive</p> <p>Would be opposed by lobbies</p> <p>Would require administrative capacity</p>	<p>Argentina, Colombia, El Salvador, Guatemala, Jamaica, Madagascar, Nepal, Panama</p>	<p>Justified as tackling a negative externality</p> <p>Needed to initiate dialogues with “business families” owning alcohol companies</p>
VAT	<p>Many</p>	<p>Would be regressive</p> <p>Would require administrative capacity</p>	<p>Ghana (2.5%); VAT covers two-thirds of NHIA revenue. Initiated in in El Salvador and Rwanda but not earmarked for health</p>	<p>Replacement of TCA by VAT is under way^a (not earmarked for health)</p>
Luxury goods	<p>Would be limited</p>	<p>Would be progressive</p>	<p>Cameroon, Chile, Republic of Congo, France, Madagascar, Mali, Mauritius, Niger, and Republic of Korea</p>	<p>Perhaps taxes on commercial airline flights, but this is more difficult to justify as a tax tied to health</p>
Taxes on money transfers and mobile devices and services	<p>Provides cheap, stable source of revenue for government</p>		<p>Democratic Republic of Congo, Gabon, Ghana, Philippines, Senegal, Uganda</p>	<p>Already used in the education sector</p>

Source: Cotlear et al. 2015.

Note: NIHA = National Health Insurance Authority; TCA = taxe sur le chiffre d’affaires (turnover tax); VAT = value added tax.

a. Because deductibility is applied to consecutive sales, including input, the turnover tax erodes the competitiveness of Haitian firms. Technical work is currently under way to determine the transition of the TCA toward a regular VAT (such as by removing deductibility restrictions, building a sound refund administration, or introducing a zero rate for exporters) and a schedule for its implementation. According to a World Bank analysis (World Bank 2016a) of nine low- and lower-income countries, tax revenue as a share of GDP increased from about 13 to 14.6 percent of GDP within three years after introduction of the VAT.

and political support for tax reform. Several LICs have considered levying taxes on money transfers and mobile devices and services. However, Haiti already administers such taxes to subsidize services within the education sector, precluding the application of these taxes within the health sector. Finally, Haiti could also raise tax revenues by expanding the personal and corporate income tax base. For example, reforming the tax bracket structure applied to income levels in the 91st percentile and up would effectively raise the overall personal income tax rate by 12 percent (World Bank 2016a).

Statistical Analysis of Access to Health Care Services

TABLE B.1: Determinants of Health-Seeking Behavior: Haiti, 2013

Dependent variable: consulted a health provider when sick (yes=1; no=0)	Coefficient	Odds ratio	Standard error	P > z	[95% confidence interval]	
<i>Area (vs. rural)</i>						
Urban	-0.1593	0.8527	0.0700	0.0520	0.7260	1.0015
<i>Department (vs. Artibonite)</i>						
Center	0.1601	1.1736	0.1344	0.1620	0.9376	1.4690
Grand'Anse	-0.6211	0.5373	0.0784	0.0000	0.4037	0.7152
Nippes	-0.9810	0.3749	0.0648	0.0000	0.2672	0.5262
North	-1.2403	0.2893	0.0437	0.0000	0.2152	0.3889
North-East	-2.0205	0.1326	0.0310	0.0000	0.0838	0.2098
North-West	-1.7064	0.1815	0.0332	0.0000	0.1268	0.2598
West	-1.3518	0.2588	0.0259	0.0000	0.2127	0.3148
South	-0.4592	0.6318	0.0837	0.0010	0.4873	0.8191
South-East	-1.0375	0.3543	0.0553	0.0000	0.2610	0.4810
<i>No. of elderly in household (vs. no elderly)</i>						
One 65 +	0.3126	1.3670	0.1124	0.0000	1.1635	1.6061
Two or more 65+	0.4245	1.5288	0.2156	0.0030	1.1597	2.0155
<i>No. of children in household (vs. no child)</i>						
One child <5	0.2610	1.2982	0.0935	0.0000	1.1273	1.4951
Two or more children <5	0.4065	1.5016	0.1371	0.0000	1.2555	1.7958
<i>Gender of household head (vs. man)</i>						
Female	0.0532	1.0546	0.0707	0.4270	0.9248	1.2026
<i>Employment status of head of household (vs. employed)</i>						
Unemployed	-0.0022	0.9978	0.1033	0.9830	0.8145	1.2223
Inactive	0.4526	1.5725	0.1417	0.0000	1.3178	1.8763
<i>Educational level of head of household (vs. no education)</i>						
Incomplete primary	0.2427	1.2747	0.1084	0.0040	1.0790	1.5059
Completed primary, secondary incomplete	0.1008	1.1061	0.1076	0.3000	0.9141	1.3384
Completed primary and secondary	0.1420	1.1526	0.1110	0.1400	0.9544	1.3920
<i>Insurance status of head of household (vs. no insurance)</i>						
Insured	1.2459	3.4643	0.6286	0.0000	2.4276	4.9438
<i>Expenditure quintile (vs. 1st quintile)</i>						
2nd quintile	0.2364	1.2666	0.1429	0.0360	1.0154	1.5800
3rd quintile	0.6372	1.8912	0.2090	0.0000	1.5228	2.3487
4th quintile	0.7625	2.1437	0.2485	0.0000	1.7080	2.6906
5th quintile	0.8496	2.3386	0.2937	0.0000	1.8283	2.9914
Constant	-2.025382	n.a.	0.1371	0.0000	-2.2941	-1.7567

Sources: World Bank estimates based on ECVMAS 2013.

Note: n.a. = not applicable. Quintile 1 is the poorest and quintile 5 the wealthiest. Number of observations = 10,879; Prob > chi2 = 0.0000; Pseudo R-squared = 0.0830.

TABLE B.2: Determinants of Catastrophic Health Expenditures (CHEs): Haiti, 2013

Determinant	Coefficient	Odds ratio	Standard error	P > z	[95% confidence interval]	
<i>Area (vs. rural)</i>						
Urban	-0.5074	0.6021	0.1360	0.0250	0.3868	0.9372
<i>Department (vs. Artibonite)</i>						
Center	-1.4308	0.2391	0.0738	0.0000	0.1305	0.4380
Grand'Anse	-2.1367	0.1180	0.0519	0.0000	0.0499	0.2794
Nippes	-1.1891	0.3045	0.1639	0.0270	0.1061	0.8743
North	-2.0607	0.1274	0.0731	0.0000	0.0413	0.3924
North-East	-0.5367	0.5847	0.3320	0.3450	0.1921	1.7795
North-West	0.2720	1.3126	0.5106	0.4840	0.6124	2.8137
West	-1.2744	0.2796	0.0728	0.0000	0.1678	0.4659
South	-1.2389	0.2897	0.1100	0.0010	0.1377	0.6096
South-East	-1.4518	0.2341	0.0992	0.0010	0.1021	0.5370
<i>No. of elderly in household (vs. no elderly)</i>						
One 65 +	0.4912	1.6342	0.3659	0.0280	1.0538	2.5344
Two or more 65+	0.0652	1.0674	0.4061	0.8640	0.5064	2.2500
<i>No. of children in household (vs. no child)</i>						
One child <5	0.1304	1.1393	0.2401	0.5360	0.7538	1.7219
Two or more children <5	0.5685	1.7656	0.4227	0.0180	1.1044	2.8228
<i>Gender of household head (vs. man)</i>						
Female	-0.3017	0.7396	0.1355	0.1000	0.5164	1.0592
<i>Employment status of head of household (vs. employed)</i>						
Unemployed	0.6385	1.8937	0.4937	0.0140	1.1361	3.1565
Inactive	0.7792	2.1797	0.5178	0.0010	1.3682	3.4723
<i>Educational level of head of household (vs. no education)</i>						
Incomplete primary	0.7376	2.0910	0.4721	0.0010	1.3433	3.2549
Completed primary, secondary incomplete	-0.1063	0.8991	0.2510	0.7030	0.5202	1.5540
Completed primary and secondary	0.1199	1.1274	0.2953	0.6470	0.6747	1.8839
<i>Insurance status of head of household (vs. no insurance)</i>						
Insured	0.1025	1.1079	0.5044	0.8220	0.4539	2.7043
<i>Expenditure quintile (vs. 1st quintile)</i>						
2nd quintile	0.2116	1.2357	0.4306	0.5440	0.6241	2.4465
3rd quintile	0.8907	2.4368	0.7860	0.0060	1.2950	4.5854
4th quintile	0.2028	1.2248	0.4268	0.5610	0.6187	2.4247
5th quintile	1.0561	2.8751	1.0374	0.0030	1.4175	5.8315
<i>Went to a hospital (vs. did not go to a hospital)</i>	1.1947	3.3026	0.8665	0.0000	1.9748	5.5232
<i>Health problem type (vs. fever/malaria)</i>						
Diarrhea	-0.6076	0.5447	0.2824	0.2410	0.1971	1.5049

Determinant	Coefficient	Odds ratio	Standard error	P > z	[95% confidence interval]	
Accident	0.3443	1.4109	0.6558	0.4590	0.5674	3.5089
Dental problem	-0.0829	0.9204	0.7367	0.9170	0.1917	4.4183
Skin problem	0.6170	1.8534	0.8235	0.1650	0.7758	4.4277
Eye problem	1.0598	2.8858	1.2047	0.0110	1.2733	6.5404
Hypertension	0.0023	1.0023	0.3757	0.9950	0.4808	2.0896
Typhoid fever	-0.4008	0.6698	0.3627	0.4590	0.2317	1.9360
Ulcers	-0.2282	0.7959	0.5173	0.7250	0.2227	2.8448
Ear, nose, throat problems	1.5505	4.7139	4.1184	0.0760	0.8506	26.1246
Diabetes	-0.8892	0.4110	0.4471	0.4140	0.0487	3.4662
Meningitis	0.2885	1.3344	1.4675	0.7930	0.1546	11.5183
Pregnancy	-0.3080	0.7349	0.3608	0.5300	0.2807	1.9239
Other	-0.2520	0.7772	0.1637	0.2320	0.5143	1.1745
<i>Health facility type (vs. public dispensary)</i>						
Public hospital	0.2498	1.2838	0.3411	0.3470	0.7626	2.1610
Community health center	-0.2431	0.7842	0.4288	0.6570	0.2685	2.2901
Traditional healer/provider	0.7560	2.1297	0.8029	0.0450	1.0172	4.4588
Private dispensary	-0.1419	0.8677	0.2796	0.6600	0.4614	1.6318
Private clinic/polyclinic	0.9976	2.7117	0.7677	0.0000	1.5569	4.7231
Pharmacist/optometrist	0.3763	1.4569	0.6305	0.3850	0.6239	3.4024
Ambulatory provider	-0.4544	0.6348	0.2809	0.3040	0.2667	1.5111
Other	-0.5810	0.5593	0.2975	0.2750	0.1972	1.5865
Constant	-2.2928	n.a.	0.4445	0	-3.1642	-1.4215

Sources: World Bank estimates based on ECVMAS 2013.

Note: n.a. = not applicable. Quintile 1 is the poorest and quintile 5 the wealthiest. Number of observations = 1,704; Prob > chi2 = 0.0000; Pseudo R-squared = 0.1762.

TABLE B.3: Routine User Fees, by Ownership and Facility Type: Haiti, 2013

	Yes	No	Total	%
<i>Ownership</i>				
Government/public	320	22	342	94%
NGO and mission/faith-based facilities	321	28	349	92%
Private for-profit	207	7	214	97%
<i>Facility type</i>				
All hospitals	109	12	121	90%
Health centers	398	28	426	93%
Dispensaries	341	17	358	95%
Total	848	57	905	94%

Source: World Bank estimates based on SPA 2013.

Note: Health centers include health centers with bed (centres de santé avec lit, CALs) and health centers without bed (centres de santé sans lit, CSLs). All hospitals include community referral hospitals (*hôpitaux communautaire de référence*, HCRs), hospitals, departmental hospitals, and university hospitals. NGO = nongovernmental organization.

C. Methodology and Approach to Analysis of Health Service Efficiency in Haiti

Sample of the Macro-Costing Hospital Study: Haiti, 2016

In Haiti, the department health directorates (DDSs) and the Ministry of Public Health monitor information on hospital statistics at departmental and central levels. However, the quality is usually not double-checked. It is only recently that MSPP's Planning and Evaluation Unit (*Unité de Planification et d'Évaluation, UPE*) began training data clerks at the hospital level on hospital statistics. As a result, the study team decided to collect hospital statistics on a representative sample of hospitals. In view of Haiti's budget constraints and the fact that 87 percent of hospitals are community referral hospitals (*hôpitaux communautaires de référence, HCRs*) or small hospitals (SHs), the team randomly selected a sample of 22 HCRs and SHs across the 10 departments based on their total number of HCRs and SHs (proportion-to-size sampling strategy). Thus there were more HCRs and SHs from the West. There were data limitations because discharge data were missing in a few hospitals and therefore was not input when the team estimated the average length of stay. In addition, both hospital inpatient and length of stay data were missing for several months in a few hospitals. As a result, both the bed occupancy rate and the average length of stay were annualized based on the available data. Data were collected across the 22 hospitals from February to April 2016. However, the data could not be fully collected in two hospitals.

TABLE C.1: Descriptive Statistics and Technical Efficiency Scores, Primary Health Care Level: Haiti, 2013

	CAL (min-max)	CSL (min-max)	Dispensary (min-max)
Sample	72	265	342
No. of personnel	17 (1–205)	7 (1–49)	2 (1–22)
No. of beds	16 (2–174)	–	–
No. of visits	8,242 (156–57,060)	6,122 (12–75,780)	2,755 (12–64,800)
No. of admissions	683 (12–15,136)	–	–
Technical efficiency score	0.30 (0.01–1)	0.09 (0.00–1)	0.04 (0.00–1)
No. of efficient units	4	1	1
Percentage of efficient units	4%	<1%	<1%

Source: World Bank staff estimates based on SPA 2013.

Note: – = not available; CAL = *centre de santé avec lit* (health center with bed); CSL = *centre de santé sans lit* (health center without bed).

TABLE C.2: Descriptive Statistics of Hospitals: Haiti, 2013

Variable (n=78)	Mean	Standard deviation	Min	Max
Discharges	2,741	5,192	60	28,800
Outpatient visit	22,343	21,467	12	119,880
Medical doctor	15	15	1	88
Nurse	23	29	1	164
Aid nurse	17	18	–	80
Laboratory technician	7	5	–	23
Bed	61	65	3	400

Source: World Bank estimates based on SPA 2013.

Note: – = not available. Of the 121 hospitals, data were missing for 43. Thus the sample was composed of 78 hospitals.

TABLE C.3: Technical Efficiency Score of Primary Health Care Facilities, by Department, Ownership, and Location: Haiti, 2013

	CAL	CSL	Dispensary
Technical efficiency mean	0.30	0.09	0.04
<i>Department</i>			
Artibonite	0.32	0.17	0.05
Center	0.57	0.10	0.09
Grand'Anse	0.33	0.08	0.04
Nippes	0.16	0.04	0.03
North	0.27	0.08	0.03
North-East	0.37	0.07	0.03
North-West	0.19	0.02	0.04
West	0.26	0.09	0.05
South	0.24	0.05	0.03
South-East	0.26	0.05	0.05
<i>Ownership</i>			
MSPP	0.35	0.07	0.04
NGO	0.28	0.11	0.05
Private for-profit	0.26	0.08	0.04
<i>Location</i>			
Rural	0.22	0.10	0.04
Urban	0.40	0.09	0.06
Metropolitan	0.36	0.08	0.06

Source: World Bank staff calculations based on SPA 2014.

Note: CAL = *centre de santé avec lit* (health center with bed); CSL = *centre de santé sans lit* (health center without bed); MSPP = Ministère de la Santé Publique et de la Population (Ministry of Public Health and Population); NGO = nongovernmental organization.

TABLE C.4: Correlation between Technical Efficiency Score and Covariates, Primary Health Care Sector: Haiti

		CAL	CSL	Dispensary
Department	ANOVA	1.39	3.61***	1.02
Location	ANOVA	4.32**	0.61	0.16
Ownership	ANOVA	0.51	2.40*	0.64
Drug index	Correlation	0.21*	0.06	0.02
Equipment index	Correlation	0.05	0.01	0.08
Improved source of water	Correlation	0.09	0.09	0.01
Electricity	Correlation	0.10	0.10*	0.04

Source: World Bank staff estimates based on SPA 2013.

Note: Electricity: combines functional generator and fuel available today; definitions for electricity and improved source of water: SPA 2013; drug and equipment indexes: developed in line with the WHO's SARA methodology (WHO 2010a). Bivariate statistics were applied in each of the three following PHC facility data sets: CAL, CSL, and dispensary. ANOVA = analysis of variance; CAL = *centre de santé avec lit* (health center with bed); CSL = *centre de santé sans lit* (health center without bed); SARA = Service Availability and Readiness Assessment.

*p < .10 **p < .05 ***p < .01

TABLE C.5: Technical Efficiency Scores of Hospitals, by Ownership and Facility Type: Haiti, 2013

	Mean	Standard deviation	Min	Max
Facility type				
University hospital	0.52	0.41	0.08	1
Departmental hospital	0.36	0.31	0.11	1
HCR	0.52	0.31	0.08	1
Small hospital	0.48	0.34	0.03	1
Ownership				
MSPP	0.47	0.33	0.08	1
NGO	0.60	0.36	0.06	1
Private	0.41	0.28	0.03	1

Source: World Bank staff estimates based on SPA 2013.

Note: HCR = *hôpital communautaire de référence* (community referral hospital); MSPP = Ministère de la Santé Publique et de la Population (Ministry of Public Health and Population); NGO = nongovernmental organization.

TABLE C.6: Technical Efficiency Scores of Hospitals, by Department, Ownership, and Category: Haiti, 2013

Department	Ownership			Category				
	Department score (n)	MSPP	NGO	Private	University hospital	Departmental hospital	Community referral hospital	Small hospital
West	0.42 (34)	0.43	1	0.27	0.41	–	0.67	0.42
North	0.50 (10)	0.52	0.49	0.45	1	0.28	0.52	0.38
North-West	0.45 (6)	0.49	0.40	0.59	–	–	–	–
North-East	0.28 (1)	0.28	–	–	–	0.28	–	–
Center	0.34 (5)	0.28	1	–	0.22	0.23	0.74	–
Artibonite	0.23 (7)	0.23	0.07	0.67	–	0.11	0.23	0.06
South	0.26 (7)	0.23	0.63	0.17	–	–	0.23	0.27
Grand'Anse	0.24 (3)	0.17	0.68	–	–	–	0.24	–
Nippes	0.80 (3)	0.80	–	–	–	1	0.55	–
South-East	0.63 (2)	0.63	–	–	–	0.26	–	1.00

Source: World Bank estimates based on SPA 2013.

Note: – = not available; MSPP = Ministère de la Santé Publique et de la Population (Ministry of Public Health and Population); NGO = nongovernmental organization.

TABLE C.7: Descriptive Statistics of the Macro-Costing Hospital Sample: Haiti, 2016

	Mean \pm standard deviation	Median
Annual expenditures	HTG 32,572,841 \pm HTG 30,958,809 (\$678,600 \pm \$644,975)	HTG 20,476,426 (\$426,592)
No. of staff	93 \pm 62	88
Share of administrative and support staff	43.65% \pm 10%	43.5%
No. of beds	26 \pm 16	25
No. of admissions	998 \pm 784	785
No. of external consultations	18,104 \pm 11,597	15,485
Bed occupancy rate	29.85% \pm 16.83%	28%
Average length of stay (days)	3.19 \pm 2.09	2.8
Unit cost per bed day equivalent	HTG 3,664 \pm HTG 2,9922 (\$76.34 \pm \$ 60.88)	HTG 3,058 (\$63.61)
Recovery rate	36.23% \pm 36.64%	38%

Source: World Bank staff estimates based on data collected in 22 hospitals.

Note: HTG = Haitian gourde.

TABLE C.8: Determinants of Unit Cost per Bed Day Equivalent: Haiti, 2016

Log of unit cost	Coefficient	Standard error	t value
Ownership (MSPP)			
NGO	0.113	0.291	0.39
Private	1.089	0.418	2.58**
Share of cost recovery	-0.704	0.313	-2.25
Region (West)			
North	-0.419	0.437	-0.96
South	0.001	0.383	0.00
Bed occupancy rate	-0.564	0.648	-0.87
Average length of stay (days)	0.045	0.080	0.57
Share of outpatient departments	-0.021	0.045	-0.48
Share of direct labor cost (compared with overhead expenses)	-1.747	1.432	-1.22
Constant	5.012	1.398	3.58**

Source: World Bank staff estimates based on SPA 2013.

Note: The dependent variable is the log of the unit cost. MSPP = Ministère de la Santé Publique et de la Population (Ministry of Public Health and Population); NGO = nongovernmental organization.

*p < .10, **p < .05, ***p < .01; R-squared, 0.70.

TABLE C.9: Regression Analysis, Dependent Variable: Number of Hours Worked per Day, Haiti

Variable	Dependent variable: number of hours worked per day	
	Coefficient	Standard error
<i>Department (omitted variable: North-West)</i>		
North-East	-0.293*	0.156
<i>Geography (omitted variable: urban)</i>		
Rural	-0.367	0.235
<i>Facility type (omitted variable: dispensary)</i>		
Health center without bed (CSL)	-0.398	0.205
Health center with bed (CAL)	-0.248	0.222
<i>Community referral hospital (HCR)</i>		
Community referral hospital (HCR)	-0.504	0.234
<i>Job category (omitted variable: medical doctor)</i>		
Nurse	0.064	0.210
Aid nurse	0.039	0.190
<i>Professional status (omitted variable: civil servant)</i>		
Contracted	-0.064	0.164
<i>Delay in salary (omitted variable: had delayed salary)</i>		
Did not have delay in salary	0.226*	0.123
Second job	-0.23*	0.125
<i>Lack of medicines (omitted variable: not an obstacle)</i>		
Obstacle to providing health services	-0.064	0.178
<i>Lack of equipment (omitted variable: not an obstacle)</i>		
Obstacle to providing health services	-0.278	0.217
R-squared	0.16	
No. of observations (no. of medical staff)	122	

Source: World Bank staff estimates based on *human resource assessment conducted by Leadership, Management, and Governance project, a collaboration of the World Bank, USAID, and MSPP (2013)*. Results report a regression analysis.

Note: CAL = centre de santé avec lit (health center with bed); CSL = centre de santé sans lit (health center without bed); HCR = hôpital communautaire de référence (community referral hospital).

*p < .10 **p < .05 ***p < .01.

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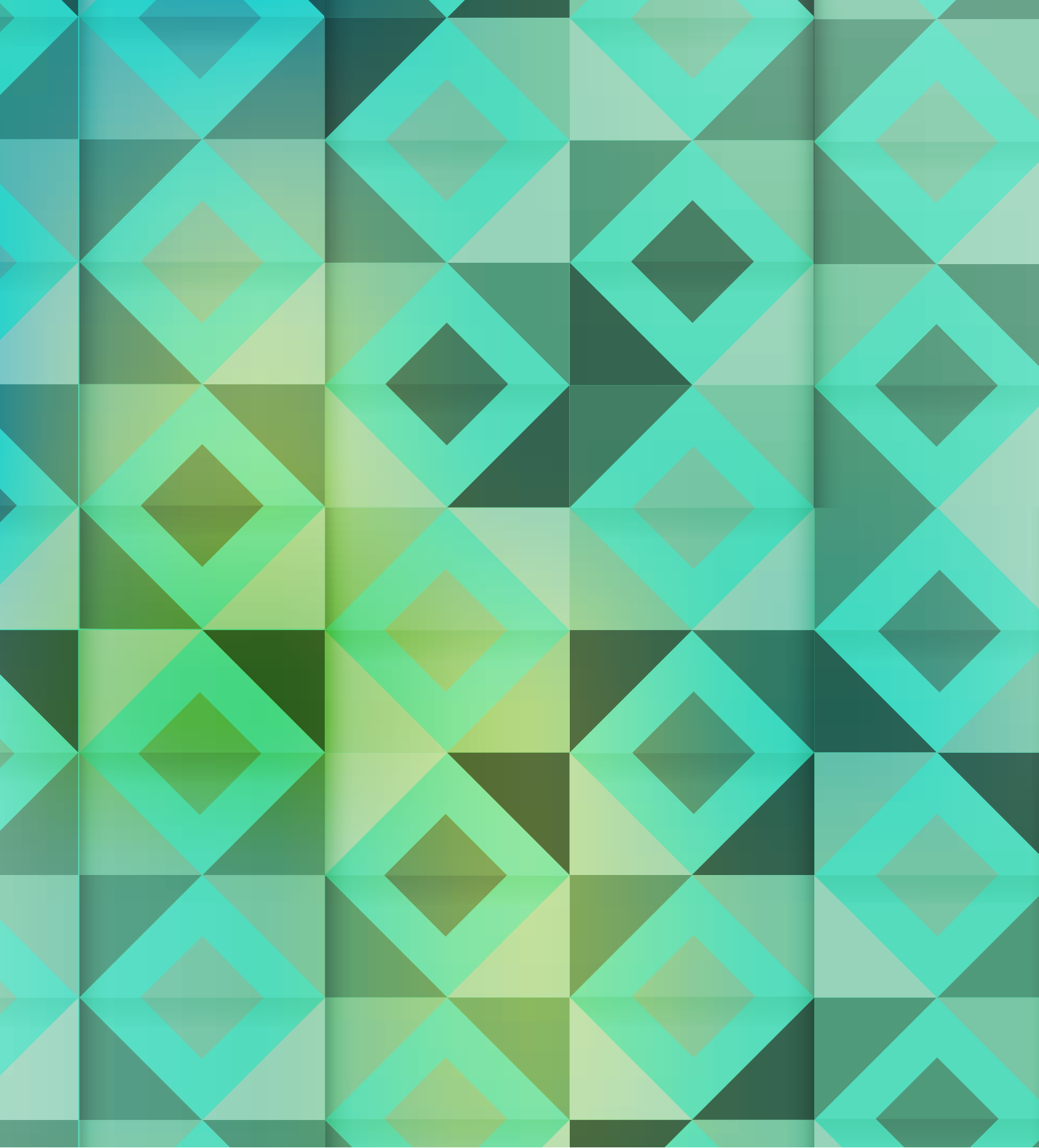
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