Technical Assessment

Morocco Health Reform Program (P179014)

Contents

1. Country Context

1.1 **Morocco had achieved substantial economic and development gains in the past two decades**. The Kingdom has made significant social and economic progress since 2000, aided by political stability, large public investments as well as institutional and sector reforms. Accelerated economic growth led to a sharp decline in the national poverty rate (extreme poverty was close to be eradicated in 2019, with a national poverty rate of 1.7 percent[1]), increased life expectancy, greater access to basic public services, and significant public infrastructure development. The 2011 Constitution provided further reform impetus, including measures to make public spending more equal and expand protection of citizens against several risks. Most oil subsidies were phased out between 2012 and 2015, one of the most successful reforms in the Middle East and North Africa region that rid the country of a subsidy that benefited the rich more than the poor, saving the government a cost equivalent to 4.5 percent of Gross Domestic Product (GDP).[2]

1.2 **The COVID-19 pandemic, climate-related shocks, and various crises have all had significant impacts on the Moroccan economy, hampering its recovery following a recession in 2020**. The pandemic led to reduced economic activity, disrupted supply chains, and decreased demand for Moroccan goods and services, particularly in tourism. Climate-related shocks, in particular droughts, have also affected the agricultural sector, leading to reduced productivity and higher production costs. Furthermore, consecutive crises have impacted global energy prices affecting Morocco's energy imports and increasing its energy costs. All these factors have contributed to the slowdown of Morocco's economic recovery, creating challenges for reducing poverty in the country. Real GDP growth dropped from 7.9 percent in 2021 to an estimated 1.2 percent in 2022.

1.3 **These consecutive shocks may threaten shared prosperity in Morocco and may exacerbate pre-existing vulnerabilities.** After several years of declines, the poverty rate (US$3.2 PPP international poverty line) is estimated to have increased from 5.4 percent in 2019 to 6.6 percent in 2020, an increase that could have been larger, if not for the cash transfer programs. In addition, poor, vulnerable, rural households are disproportionately suffering from the impact of the inflationary surge. The annual inflation may be 30 percent higher for the poorer decile of the income distribution than for the wealthier one. These inflation differentials are mostly due to the impact of food price increases, which represent a higher share of poorer households' consumption baskets[3]. An adaptative and a better targeted social protection system will constitute a more cost-effective tool to mitigate the impacts of these supply shocks.

1.4 **Morocco is highly vulnerable to climate variability and change.** Morocco is facing different challenges pertaining to climate-induced hazards and health conditions, with coastal regions more exposed to flooding and sea-level rise, while others to drought, heat waves, sandstorms or other climate-induced shocks. The country is one of the most water-scarce countries in the world, and expectations of increasing frequency and intensity of droughts for the country are particularly alarming for the agricultural sector and will affect both rural livelihoods and the economy.[1] The increasing incidence and severity of droughts is already a major source of macroeconomic volatility, and a threat to food security. With a longer-term perspective, the reduction in water availability and the drop in crop yields due to climate change could reduce GDP by up to 6.5 percent. Rainfed agriculture, which represents

[1] Climate Risk Country Profile, World Bank, 2021

80 percent of the country's cultivated area and employs most of the agricultural workforce, is particularly vulnerable to both droughts and water scarcity[2], increasing the risk of crop failures, food insecurity, and malnutrition. Floods are the most frequent climate-related natural hazards in Morocco, causing average direct losses estimated at US$450 million per year, with a disproportionate impact on vulnerable households. Increased floods due to climate change will also cause extensive direct and indirect health effects, including impacts on food production, water provision, ecosystem disruption, infectious disease outbreak and vector distribution, as well as longer term effects such as post-traumatic stress and population displacement. In addition, given that more than 65 percent of the population and 90 percent of industry is concentrated on the country´s coastline, sea-level rise constitutes another long-term stressor, especially for low-lying areas that will contribute to exacerbating the risk of floods. [3]

1.5 The Government of Morocco (GOM) recognizes weak human capital as a binding constraint to economic growth, and the New Development Model[4] (NDM), seeks to accelerate progress. Morocco's Human Capital Index (HCI) in 2020 was 0.50, indicating that a child born today would only be 50 percent as productive as if they had access to full education and full health, by age 18. This is lower than the average for the Middle East & North Africa (MENA) region (0.56), but higher than the average for low-middle income countries (LMIC, 0.48). On May 2021, the government announced the ambitious and comprehensive NDM charting a path towards sustainable growth, the four top priorities of which include: i) a productive and diversified economy; ii) enhanced human capital that is better prepared for the future; iii) opportunities for inclusion for all; and iv) resilient territories. Under pillar ii), social protection reform is a priority, and the NDM sets ambitious targets of improving the HCI from 0.50 to 0.75, reaching universal health coverage through the universalization of health insurance, reducing out-of-pocket expenditures from 47 percent to 30 percent of current health expenditures, and improving the density of health workers from 1.65 per 1,000 population to 4.50, by the end of 2035.[5]

2. Sectoral and Institutional Context

2.1 **Morocco's epidemiological transition accelerated over the past decade, as the main risk factors became those associated with a high burden of non-communicable diseases.** While the top risk factor in Morocco in 2009 was malnutrition, it went down by over 50 percent over the past decade. In the meantime, high blood pressure, high body mass index, and high blood sugar became the top three risk factors. This has led to an increase in the burden of non-communicable diseases: the burden associated with ischemic heart disease, strokes, and hypertensive diseases went up by almost 30 percent, and diabetes went up by over 50 percent. In the meantime, the burden of disease associated with communicable diseases has declined considerably, such as with lower respiratory infections (15 percent), neonatal disorders (55 percent), and tuberculosis (26 percent). This has resulted in a high

[2] Morocco Country Climate and Development report, World Bank, October 2022

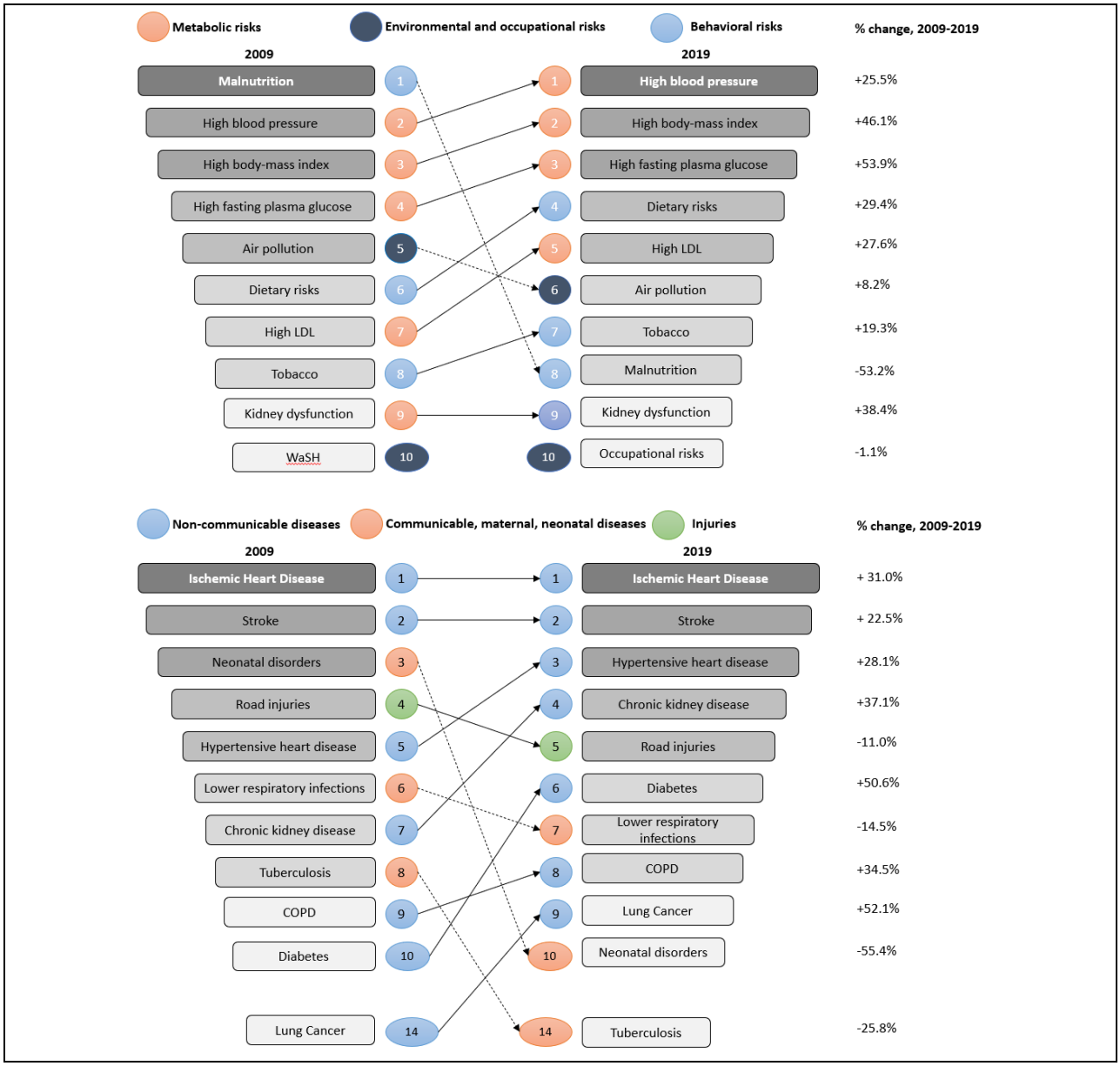
[3] Morocco Country Climate and Development report, World Bank, October 2022

[4] The NDM's three goals for health sector reform include: i) improvement of financial protection; ii) significant strengthening of availability and quality of care, particularly for human resources for health; and iii) improvement of quality and efficiency of care. The first priority is operationalized by the ongoing implementation of the scaling up of health insurance coverage, as stipulated by the Framework Law 09-21, and the second and third priorities are operationalized by the Framework Law 06-22. *La commission spéciale sur le modèle de développement, 2021. « Le nouveau modèle de développement : libérer les énergies et restaurer la confiance pour accélérer la marche vers le progrès et la prospérité pour tous »*

[5] La commission spéciale sur le modèle de développement, 2021. « Le nouveau modèle de développement : libérer les énergies et restaurer la confiance pour accélérer la marche vers le progrès et la prospérité pour tous »

burden of non-communicable diseases, as well as a decline in maternal, newborn, and under 5 mortality.

Figure 1: Distribution of the drivers of the burden of disease and risk factors in Morocco, 2009-2019

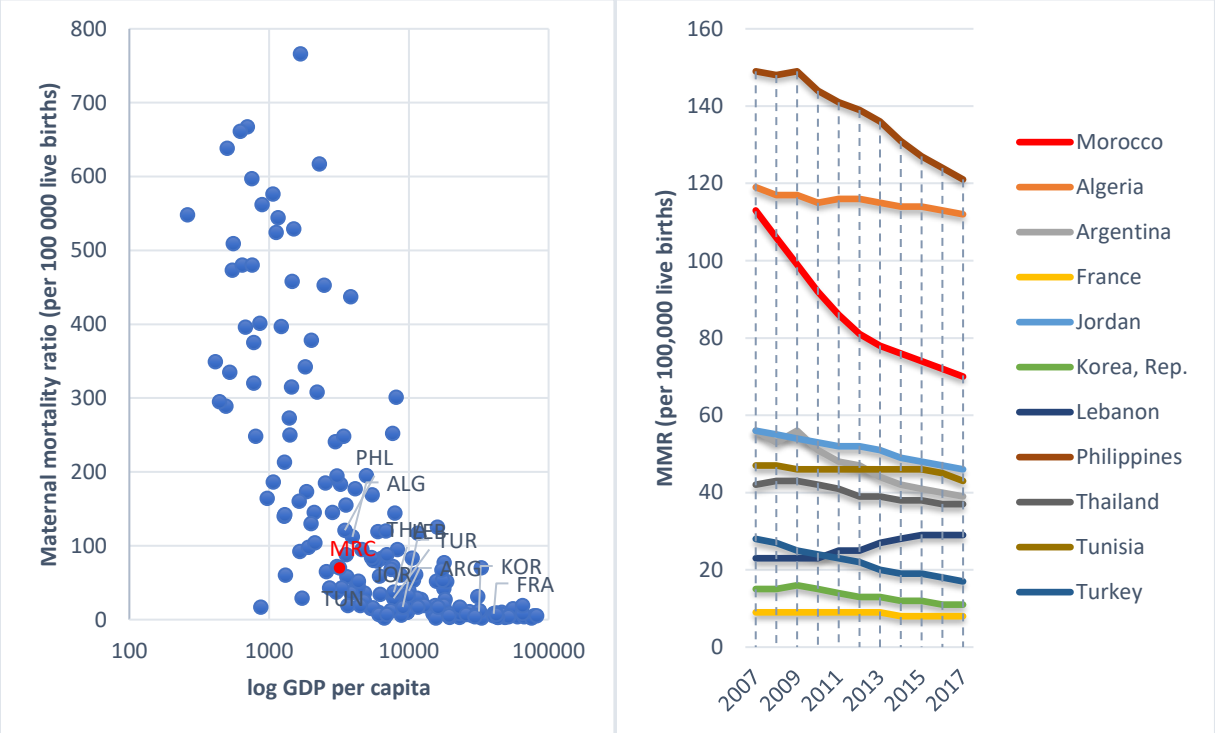


Source: Institute for Health Metrics and Evaluation (2021), Global Burden of Disease dataset

2.2 **Maternal mortality has declined significantly in Morocco over the past decade, giving Morocco a lower rate than many comparable countries, even as inequalities between urban and rural areas have increased.** As seen in Figure 2, maternal mortality in Morocco has dropped steeply over the past decade, giving it one of the lowest rates amongst other middle-income countries, going down from near 120 per 100,000 in 2007 to 70 per 100,000 in 2017 according to World Bank World Development

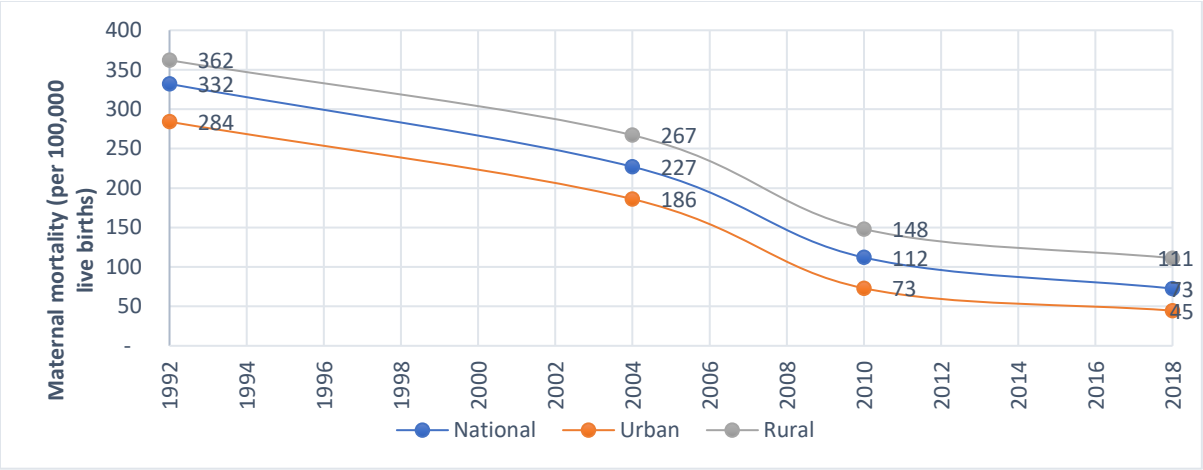
Indicators. Household survey data points to a similar decline, from 284 per 100,000 in 1992 to 45 per 100,000 in 2018. However, urban and rural discrepancies in maternal mortality rates have actually increased in this period, despite significant decreases in rural maternal mortality: in 1992, rural maternal mortality was 1.27 times that of the urban maternal mortality rate; in 2017, rural maternal mortality was 2.47 times that of the urban maternal mortality rate, highlighting a widening inequality in outcomes (Figure 3).

Figure 2: Maternal mortality ratio (per 100,000 live births) vs. GDP per capita, 2017 & evolution of maternal mortality in Morocco and selected countries, 2007-2017



Source: World Bank World Development Indicators, 2021

Figure 3: Maternal mortality rate (per 100 000 live births) in Morocco, urban versus rural areas, 1992-2018

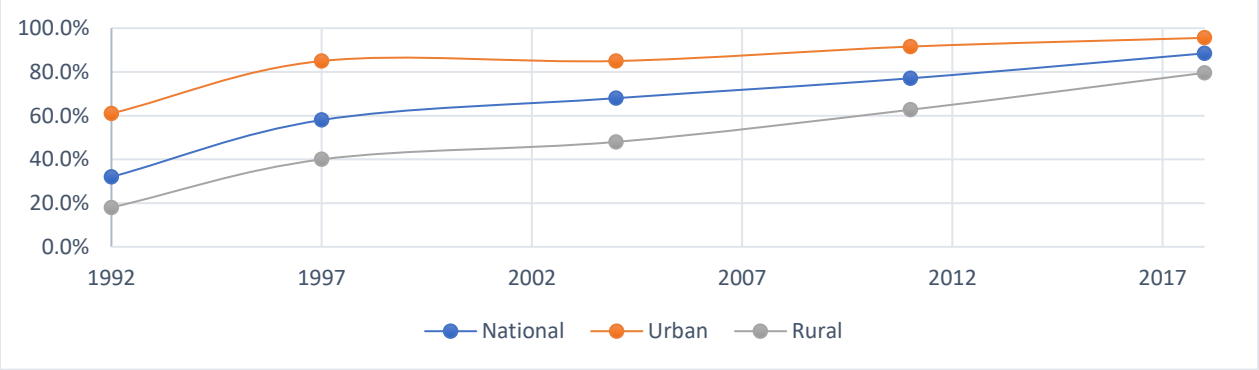


Source: ENPSF, 2018

2.3 **Antenatal care coverage has increased significantly in the same period, with visible regional and socioeconomic inequalities.** Coverage of four antenatal care visits for pregnant women went up from 32 percent in 1992 to 89 percent in 2018, demonstrating a significant increase. The urban-rural gap also shrunk in this same period, with coverage in rural areas increasing from 18 percent in 1992 to 80 percent in 2017. Various regions, such as Tanger-Tetouan, Fes-Meknes, Beni Melal-Khenifra and Draa-Tafilalet, had an antenatal care coverage rate below the national average (Figure 4). While the coverage rate for four antenatal visits is relatively high on average, there are various socioeconomic inequalities: for example, the poorest income quintile's coverage rate is 76 percent, as opposed to 96 percent for the richest quintile. The coverage rate for the timeliness of the first antenatal care visit, as measured by any visit within the first three months of pregnancy, is also lower: 67 percent of the population has received a timely antenatal care visit, including 51 percent of the rural population and 43 percent of the poorest quintile (Figure 5), indicating potentially lower effective coverage. In addition to the challenges in service coverage and timeliness, even as there is no individual-level data on quality of care received, service availability at health facilities points to potential quality gaps. The ENPSF demonstrates that only 54 percent of antenatal care visits in public health centers and 59

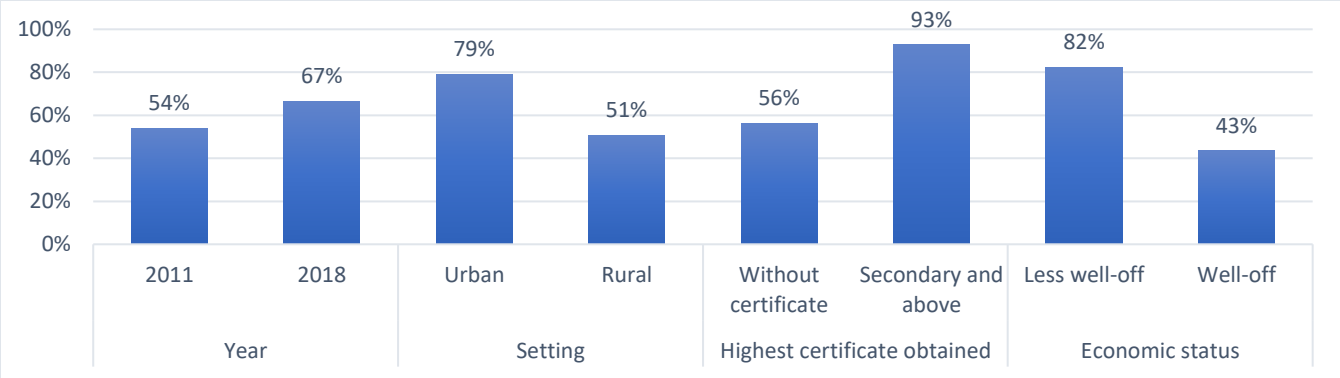
percent of visits in private health centers included the analysis of a urine sample, highlighting the importance of focusing on quality.

Figure 4: Evolution of antenatal care coverage (at least 4 visits), 1992-2018 (top), and distribution of women 15-49 receiving antenatal care (at least 4 visits) by region (bottom)



Source: ENPSF, 2018

Figure 5: Distribution of women 15-49 receiving antenatal care in the first three months of their pregnancy by socioeconomic characteristic (top), and by region (bottom)

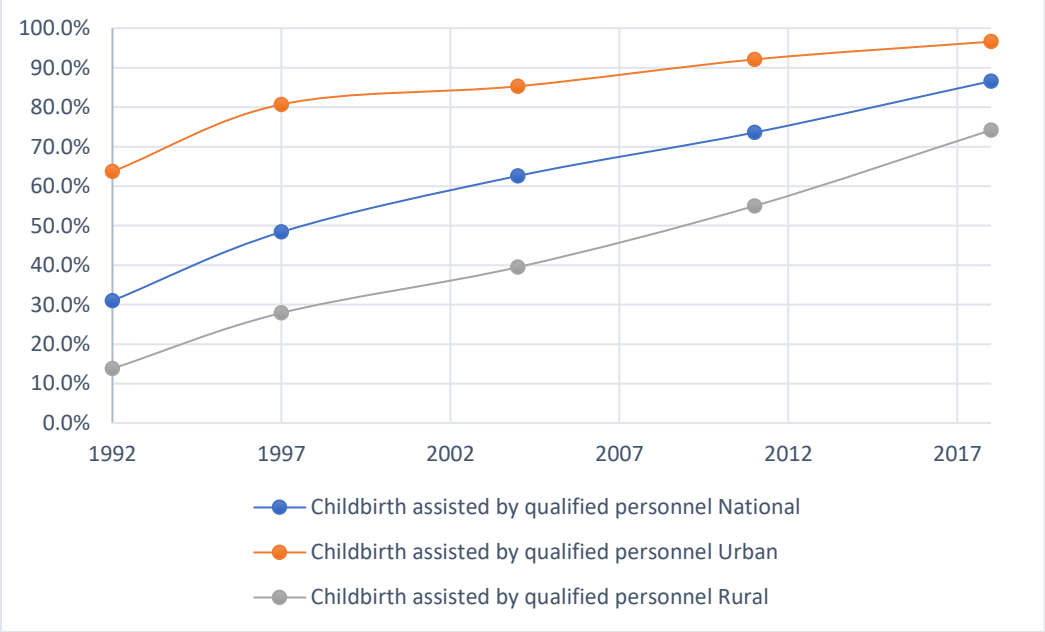


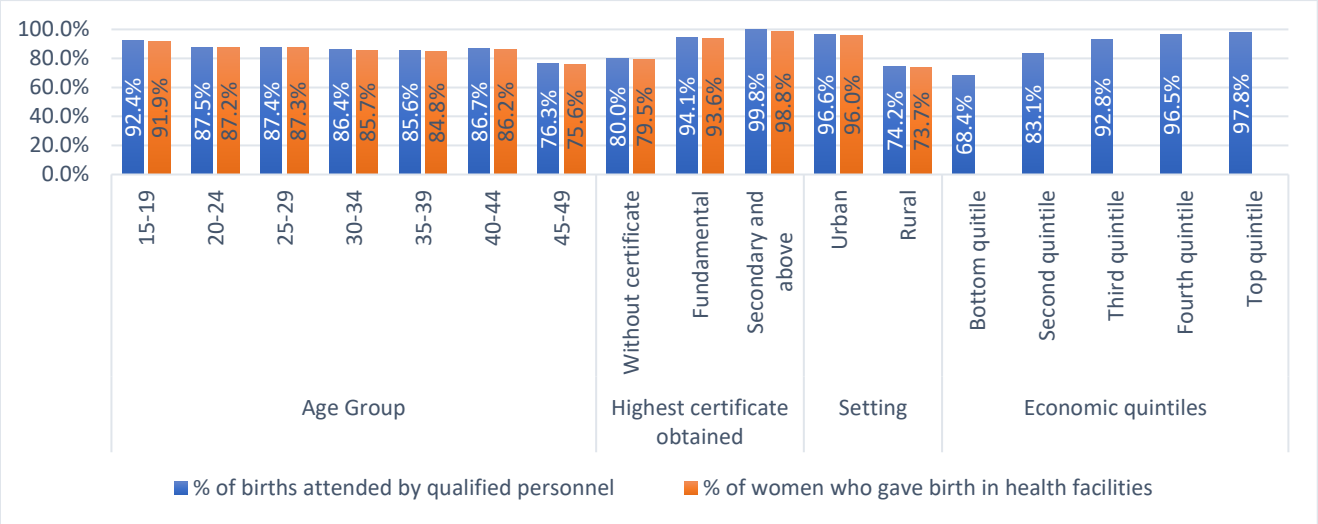
Source: ENPSF, 2018

2.4 **While almost all deliveries in urban areas are attended by skilled health workers in urban areas, about a quarter of births in rural areas are not.** Figure 6 demonstrates the significant increases in deliveries attended by skilled health workers, which went up from 30 percent in 1992 to 86 percent in 2018. In this period, rural and urban gaps have shrunk: in 1992, urban areas had about 6 times the coverage of skilled birth coverage, whereas in 2018 the gap shrunk to 1.3 times. There are no significant gaps between skilled birth attendance and facility delivery, indicating that most deliveries take place in health facilities. 69 percent of women in poorest quintiles delivered with skilled attendance, whereas almost the entirety of women in richest quintiles did. Regional discrepancies in

skilled attendance mirrored those of antenatal care, with Draa-Tafilalet, Beni Mellal-Khenifra, and Fes-Meknes having the lowest coverage of skilled birth attendance (Figure 6).

Figure 6: Evolution of skilled deliveries by place of residence, 1992-2018 (top), socioeconomic distribution of skilled deliveries, 2018 (middle), regional distribution of skilled deliveries (bottom)

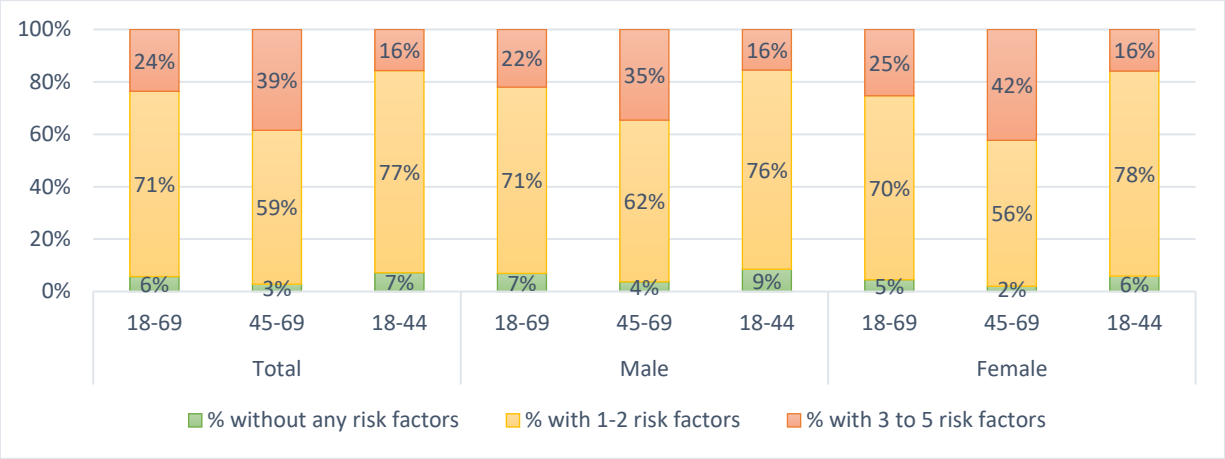




Source: ENPSF, 2018

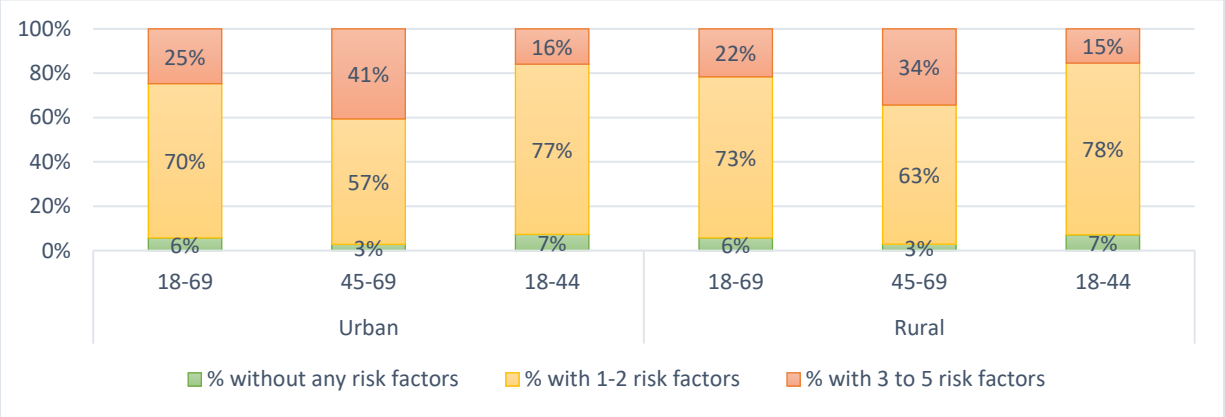
2.5 **A significant portion of the Moroccan population has at least one risk factor[6] associated with non-communicable diseases (NCD), resulting in a large share of NCD attributable mortality.** As can be seen in Figure 7 and Figure 8, over 90 percent of the Moroccan population has at least one risk factor associated with non-communicable diseases, with relatively low differences across urban and rural areas, or between male and female genders. This results in a high burden of NCD, and compared to other countries with a similar income level, Morocco has amongst the highest shares of mortality attributable to NCDs, demonstrating that its epidemiological transition has been more advanced than other countries.

Figure 7: Percentage distribution of cumulative risk factors, by gender and age group, 2017-18



Source: STEPS, 2017-2018

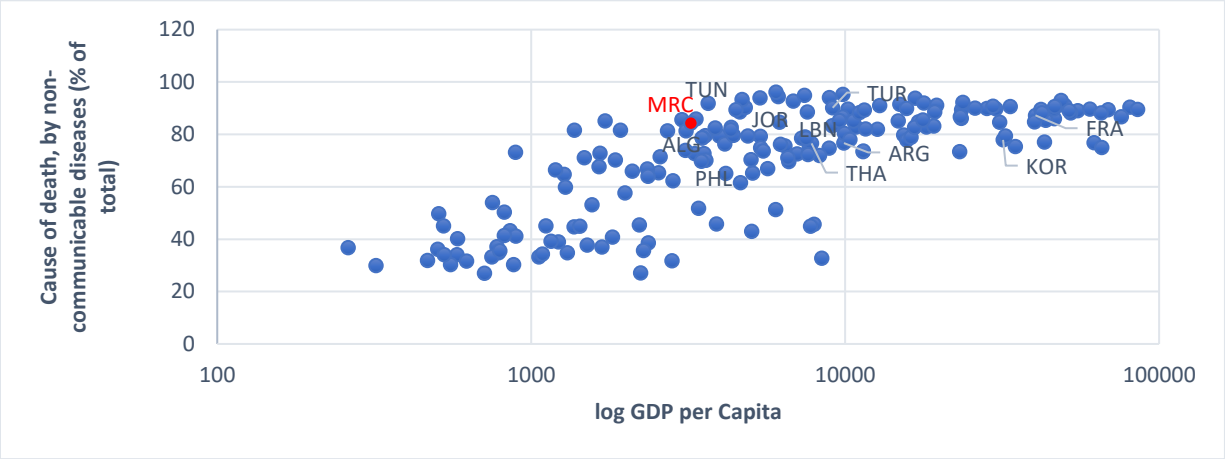
Figure 8: Percentage distribution of cumulative risk factors, by age group and by setting



Source: STEPS, 2017-2018

[6] Combination of risk factors is considered in accordance to five risk factors: (1) Daily smokers, (2) People consuming less than five servings of fruit and / or vegetables per day, (3) People who do not comply with WHO recommendations on physical activity for health (<150 minutes of moderate activity per week or equivalent), (4) Overweight or obese people (BMI ≥ 25 kg / m2), (5) People with increased blood pressure (SBP ≥ 140 mmHg and / or DBP ≥ 90 mmHg, or on medication for high blood pressure).

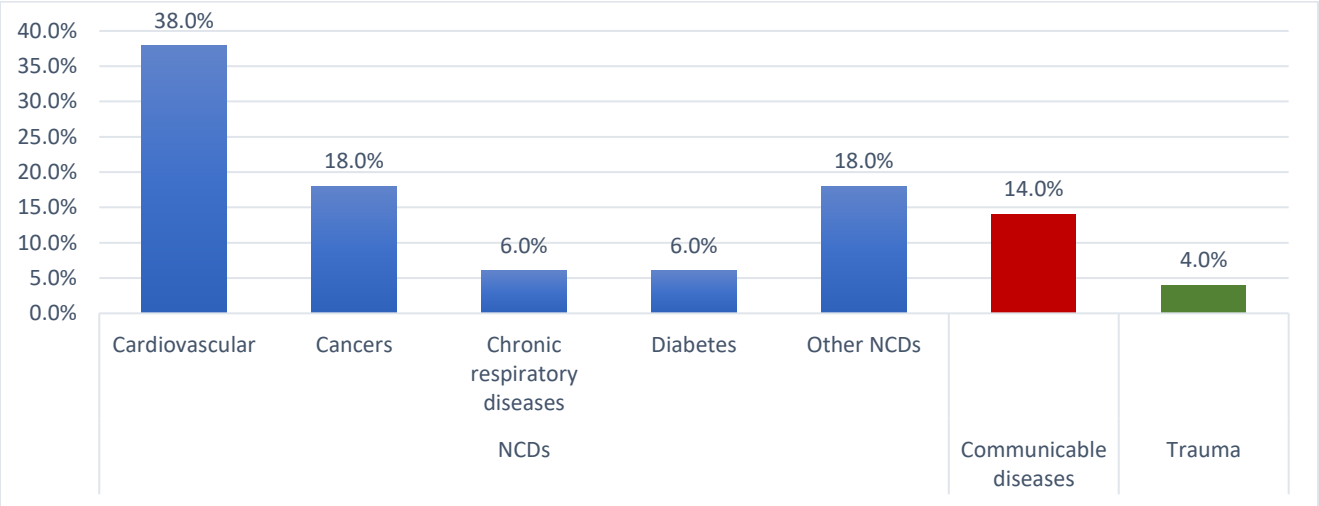
Figure 9: Cause of death by non-communicable diseases (% of total) vs. GDP per capita, WDI-2019



Cardiovascular diseases, cancers, and diabetes are the most commonly observed non-communicable diseases in Morocco. According to STEPS data, cardiovascular diseases constitute 38 percent of mortality, followed by cancers (18 percent), and chronic respiratory diseases and diabetes, with 6 percent each (Figure 10). According to the ENPSF survey, which relies on self-reported data, diabetes, hypertension, and cardiovascular diseases are the most commonly self-reported NCDs (

2.6 Table 1). As STEPS relies on biomarkers which are more reliable than self-reported data, the rest of this section only reports data from this survey, as it pertains to the treatment cascade of NCD.

Figure 10: Cause of Mortality in Morocco, 2018, STEPS 2017-2018



Source: STEPS, 2017-2018

Table 1: Distribution (%) of the most reported chronic conditions by age group, gender, and setting

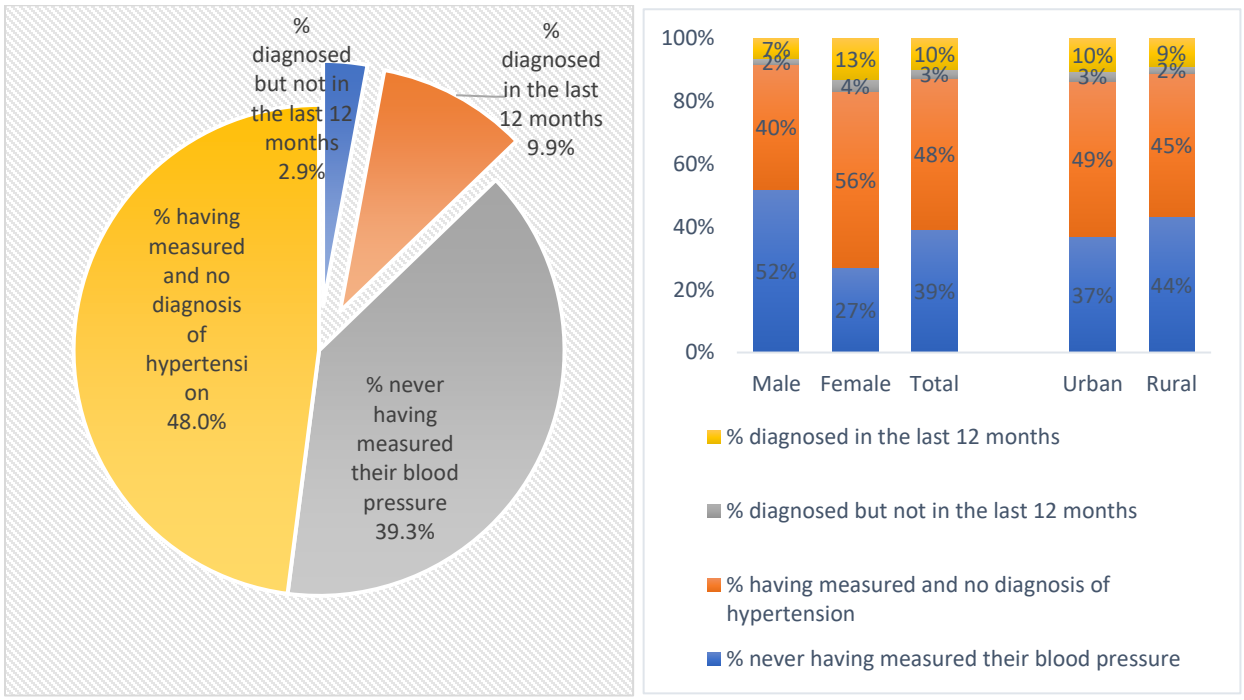
Distribution (%) of the most reported chronic conditions by age group, gender, and setting, ENPSF-2018	Age group			Gender		Setting	
	<15	15-64	≥65	Male	Female	Urban	Rural
At least one chronic disease	5.10%	22.60%	67.60%	17.10%	24.90%	22.50%	18.60%
Diabetes	3.20%	16.50%	16.60%	17.00%	15.10%	17.30%	12.80%
Hypertension	0.40%	20.20%	31.50%	19.60%	24.30%	22.40%	22.70%
Cardiovascular illnesses	3.80%	3.70%	7.80%	4.90%	4.90%	5.30%	4.20%
High cholesterol	0.00%	3.90%	4.30%	2.80%	4.50%	4.50%	2.40%
Lower back pain	0.20%	3.10%	1.20%	2.50%	2.30%	2.00%	3.30%
Chronic tuberculosis / asthma / chronic lung disease	19.00%	6.40%	2.90%	7.90%	4.90%	7.00%	4.00%
Anemia	17.50%	3.60%	0.70%	3.10%	4.30%	3.30%	3.70%
Kidney disease	2.00%	2.70%	1.60%	2.90%	2.00%	2.00%	2.90%
Chronic eye disease / Glaucoma / Ocular hypertension	5.90%	1.80%	3.20%	2.90%	2.10%	2.30%	2.60%
Stomach ulcer / Gastric reflux of the stomach / Gastric reflux	0.30%	3.20%	3.00%	3.40%	2.80%	2.40%	4.40%
Chronic mental illness	1.50%	5.10%	1.40%	4.90%	3.20%	3.50%	4.40%
Neurological diseases (Epilepsy - Dementia- Alzheimer's)	5.20%	3.90%	4.90%	3.80%	3.10%	3.20%	3.70%
Thyroid Diseases (Noncancerous)	0.60%	3.10%	1.50%	0.60%	3.60%	2.80%	1.70%
Joint diseases	1.90%	9.30%	11.50%	7.30%	11.00%	8.50%	11.60%
Other chronic diseases	38.60%	13.50%	10.80%	17.40%	11.90%	13.40%	15.30%

Source: ENPSF, 2018

2.7 **Diagnosis and treatment for hypertension, which is the most prevalent NCD, remains low.** 39 percent of adults over age 15 in Morocco have never had their blood pressure measured, a rate that is higher in rural areas (44 percent) than urban areas (37 percent) (Figure 11). Hypertension testing rates are also higher for women than men, with 52 percent of men never having had their blood pressure measured as opposed to 27 percent of women. Among those who have been diagnosed with hypertension, less than 50 percent are on treatment (49 percent in urban versus 41 percent in rural areas), and treatment rates are particularly low for those below ages 60 (Figure 12). The relatively high persistence of high blood pressure, even after accounting for those on treatment, demonstrates the need to focus on factors improving adherence: Figure 13 demonstrates that about a third of the

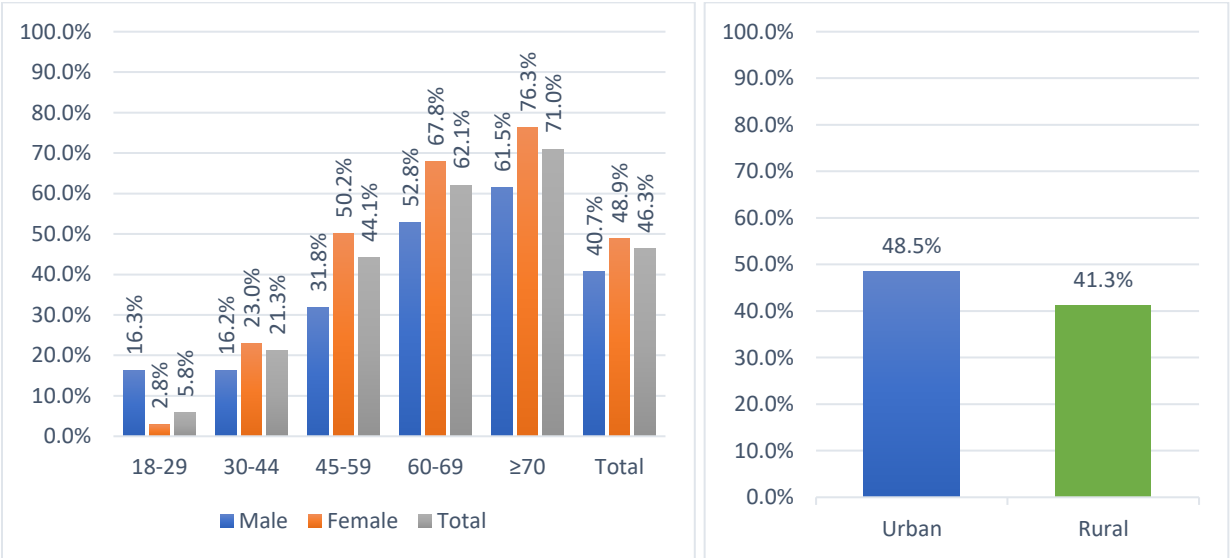
population still had high blood pressure, which includes groups that receive and do not receive treatment.

Figure 11: Hypertension testing and diagnosis among adults by gender, rural vs. urban



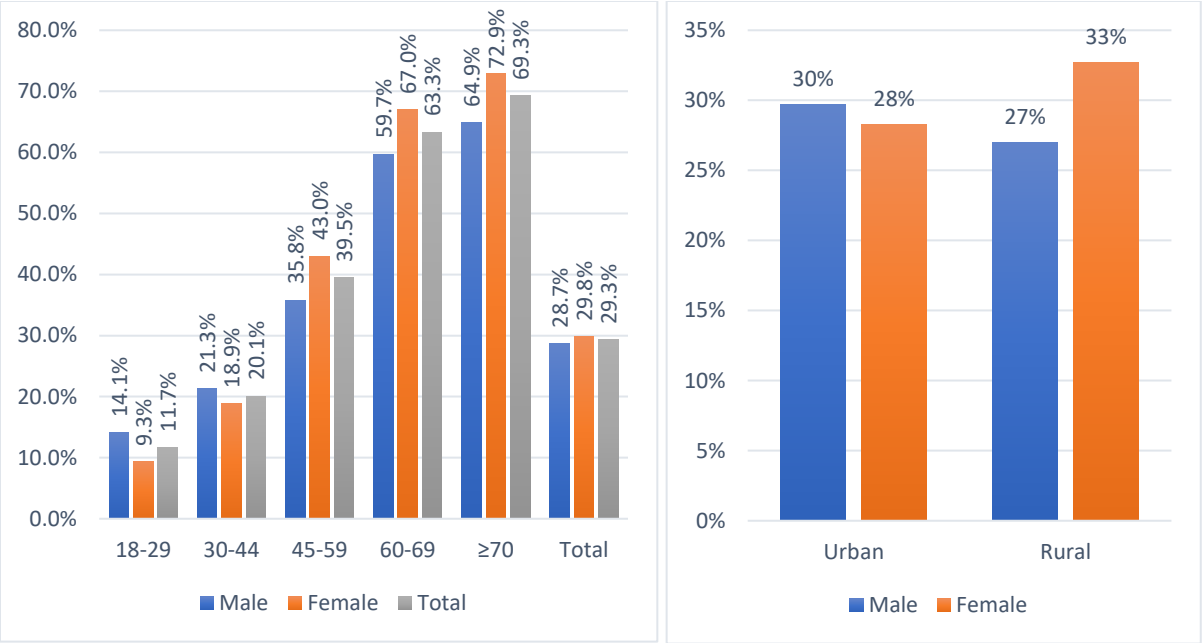
Source: STEPS, 2017-2018

Figure 12: Percentage of participants on medication among those diagnosed with hypertension by sex and age groups



Source: STEPS, 2017-2018

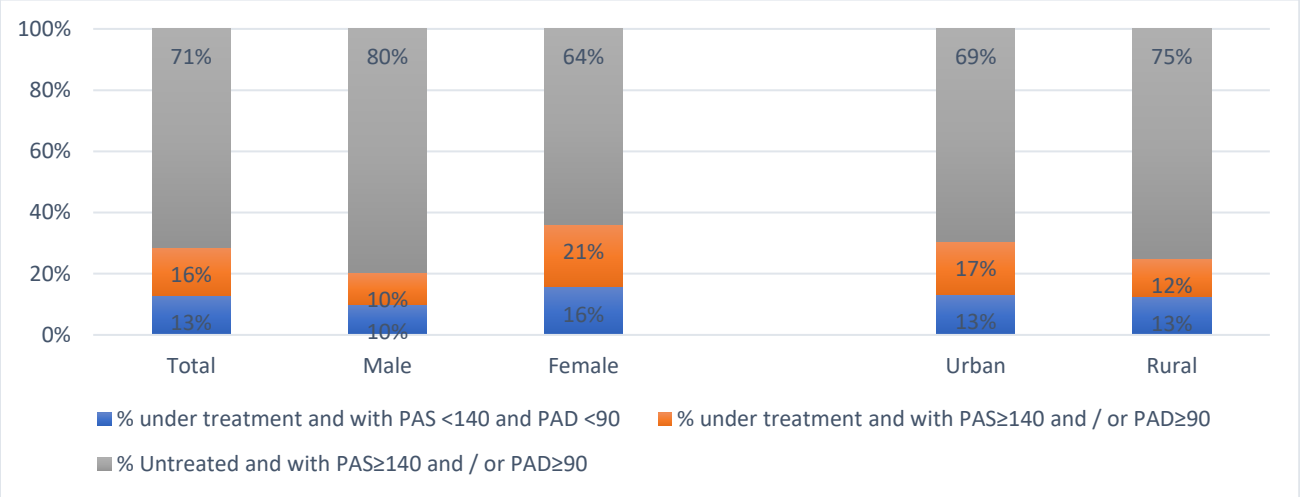
Figure 13: Percentage of people with high blood pressure (SBP ≥140 and / or DBP ≥ 90 mmHg), including those on medication by age, gender, and setting, STEPS 2017-2018



Source: STEPS, 2017-2018

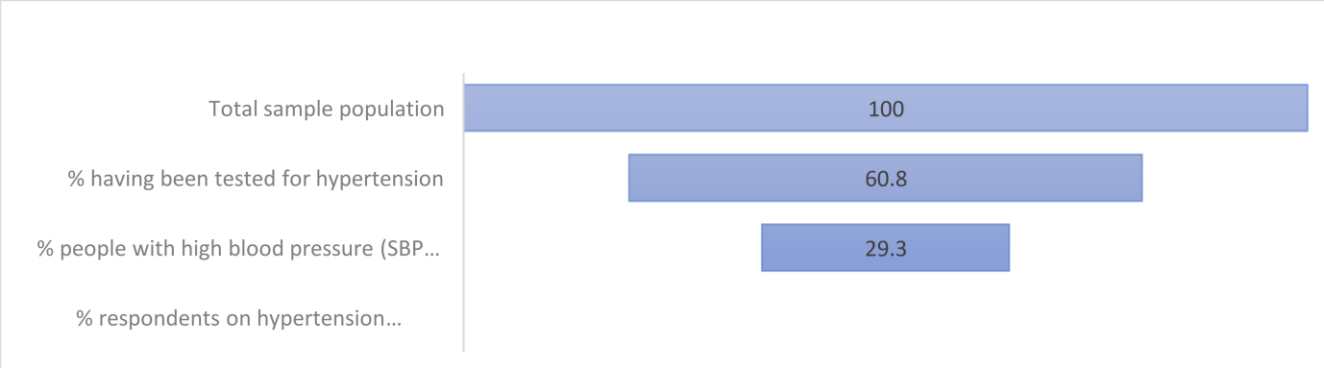
2.8 **About 13 percent of hypertensives have their blood pressure controlled, indicating the persistent burden of disease.** As shown in Figure 14, of those who are hypertensive, 13 percent have their blood pressure controlled, as defined by systolic blood pressure less than 140 and diastolic blood pressure less than 90. This highlights the need to focus on patient-level follow-ups at the community level, to ensure access and adherence to treatment. While data from STEPS does not enable a full computation of the treatment cascade for hypertension, as shown in Figure 15, effective coverage of hypertension remains low. More data and analysis are needed to better calculate the care cascade, as well as reveal regional and other socioeconomic gaps in hypertension coverage and treatment.

Figure 14: Percent of hypertensive patients whose blood pressure is being treated and/or controlled among those with high blood pressure or who are currently taking medication, by gender and setting, STEPS 2017 -2018



Source: STEPS, 2017-2018

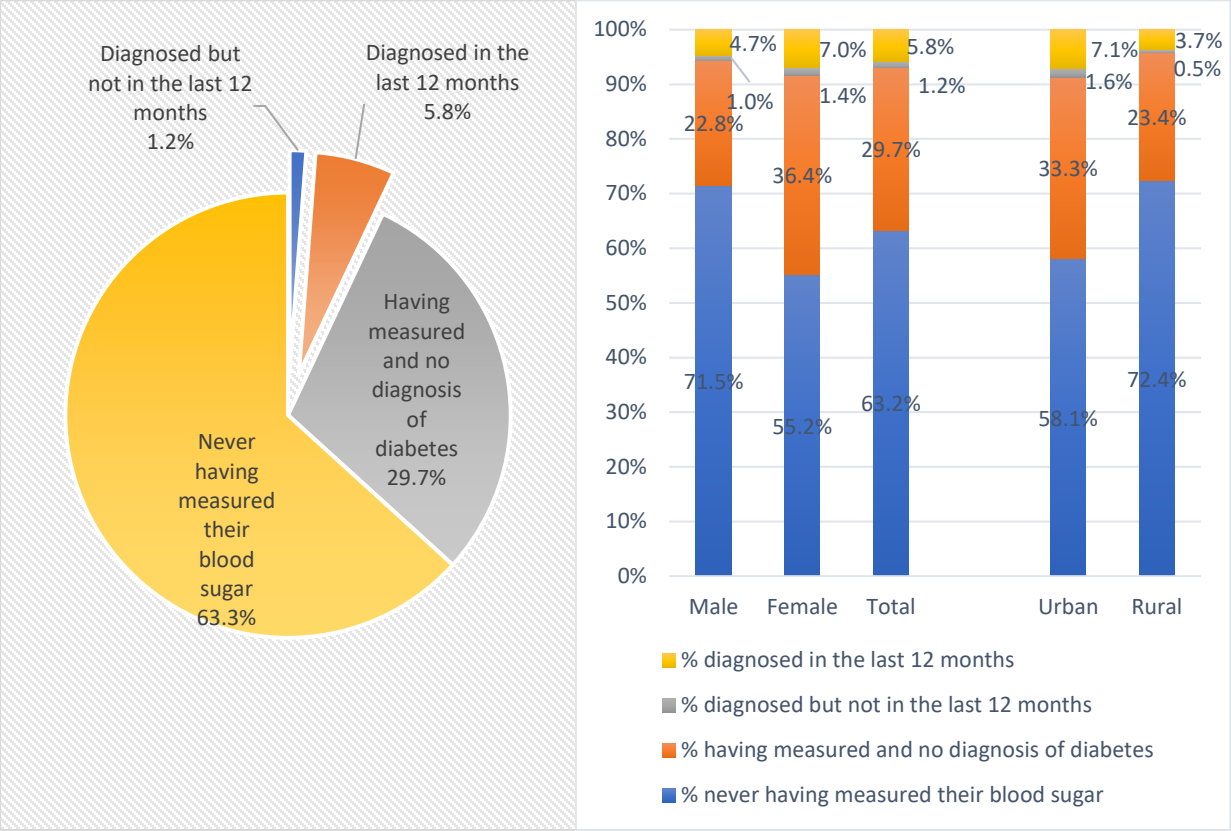
Figure 15: Hypertension care cascade (as a percentage of the total population)



Source: STEPS, 2017-2018

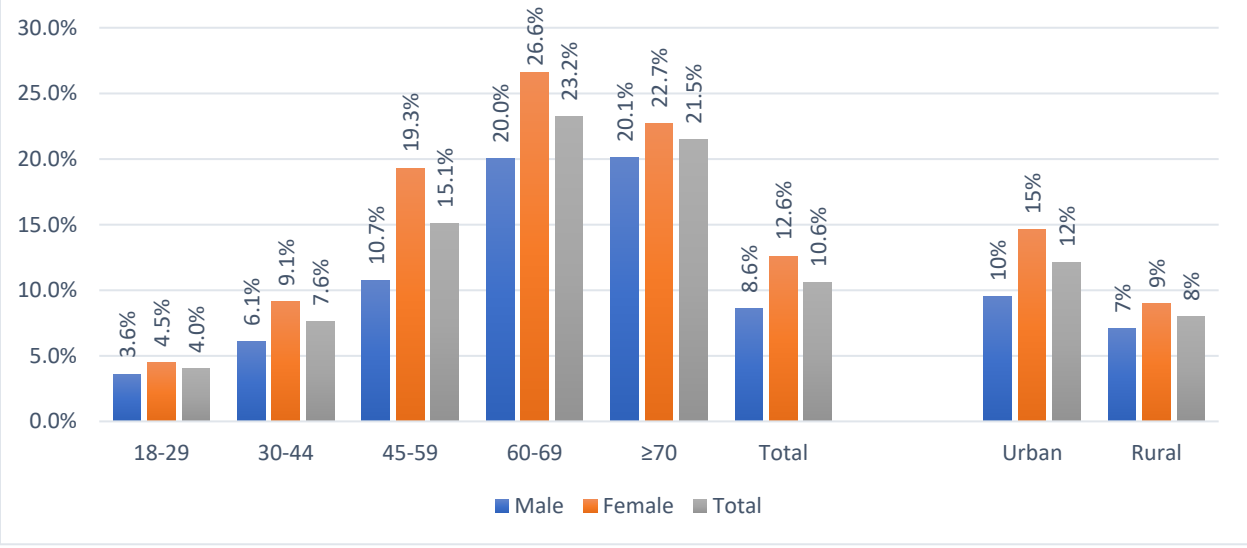
2.9 **Similar to hypertension, there are important gaps in the coverage of testing and treatment of diabetes, particularly with a very low diagnosis rate.** About two thirds of adults have never gotten their blood sugar measured, a rate which is much higher in rural (72 percent) than urban (58 percent), as well as higher for males (72 percent) than females (55 percent) (Figure 16). About 11 percent of the population either had diabetes or was under treatment for diabetes in 2017 (Figure 17). Treatment rates for diabetes are higher than treatment for hypertension, with 72 percent of those diagnosed with diabetes on treatment and 22 percent on insulin (Figure 18). Despite this relatively high treatment rate, effective coverage of diabetes treatment remains low, going from a 37 percent testing rate, to 11 percent treatment rate, to 6 percent on medication; in the absence of data on the percentage of diabetes patients who have their blood sugar controlled, it is not possible to assess effective coverage (Figure 19).

Figure 16: Diabetes testing among adults by gender and rural vs urban



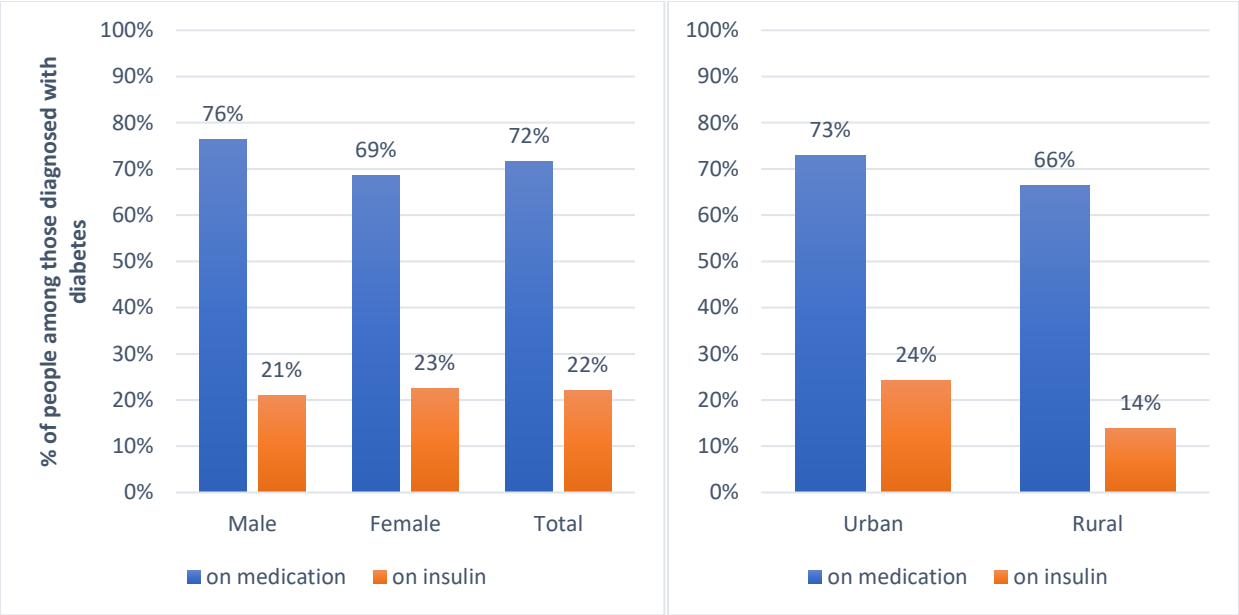
Source: STEPS, 2017-2018

Figure 17: Percentage of respondents with hyperglycemia (diabetes) or under treatment for diabetes by age, gender, urban vs. rural 2017



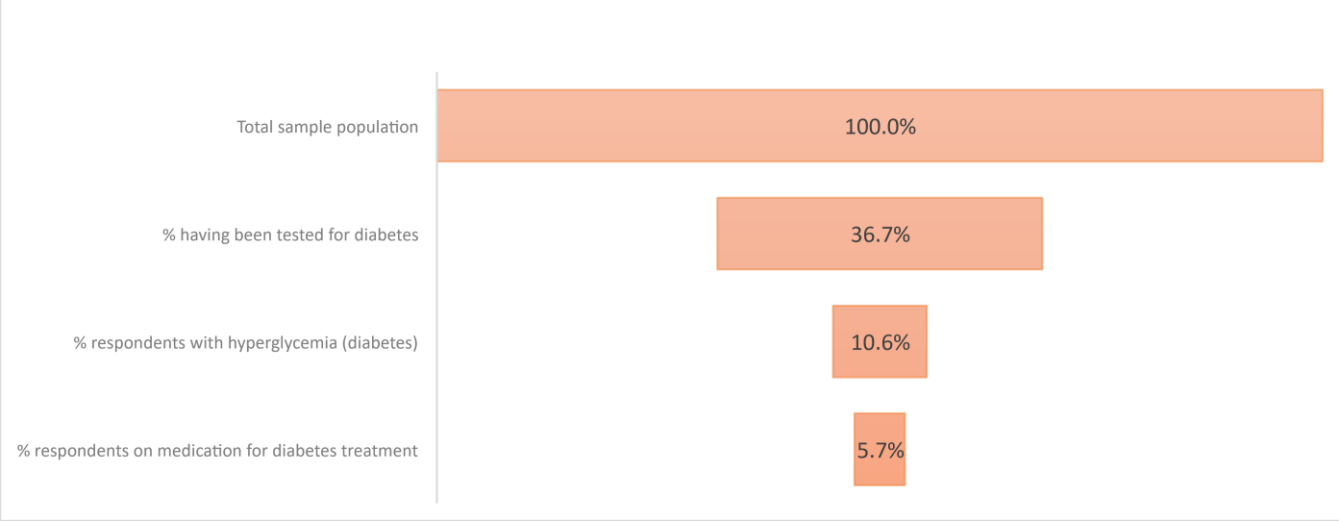
Source: STEPS, 2017-2018

Figure 18: Proportion of people taking medication or taking insulin among those previously diagnosed with diabetes, STEPS 2017



Source: STEPS, 2017-2018

Figure 19: Diabetes care cascade (as a percentage of the total population)



Source: STEPS, 2017-2018

3. Government Program

3.1 The government program ("p") supported by this PforR seeks to redesign the health system to improve the quality and availability of health services. The comprehensive health sector reform seeks to improve the quality, equity, and resiliency of the health system through two components: i) demand-side financial protection reform; and ii) supply-side health system redesign program. On the demand side,the reform aims to achieve effective health coverage of 100 percent by 2025, by

extending health insurance coverage to 11 million uninsured people, corresponding to self-employed workers and their households on the basis of professional groups, as well as switching of 11 million poor and vulnerable people who were previously covered by the medical assistance scheme (RAMED) to the compulsory health insurance scheme (AMO). The demand-side reform is already underway and is being supported by a series of World Bank DPFs (box 1) and other complementary partner investments. The government program supported by this PforR is the supply-side health system redesign program, which is based on two sets of foundational documents: a) Framework Laws 06-22 and draft Laws 07-22, 08-22, 09-22, 10-22 and 11-22[7], which set forth the principles and domains of the health system redesign; and b) the three-year government's Triennial Budget Programming (*Programmation Budgétaire Triennale* (PBT), 2023-2025) (Figure 2Figure 20). The PBT incorporates aspects of the reform, as well as other recurrent activities for the operation of the health sector, across 5 programs, with annual performance targets.[8]

3.2 Through four pillars, the Framework Law, and five draft Laws introduce a substantial shift in every function of the health system. The government's health system redesign program seeks to improve the health system across the four pillars below:

- Strengthening organizational and institutional capacity for health system governance: To improve responsiveness and enable improving quality of care, Framework Law 06-22 and draft Laws 07-22 and 08-22 introduce radical changes to the governance of the health system at all levels. At the central level, a new, fully independent and autonomous High Authority for Health (*Haute Autorité de la Santé*, HAS) will be instituted for the supervision of health insurance, definition of quality standards, and the implementation of accreditation (draft Law 07-22). The government will strengthen the deconcentration of the governance of the health sector through the introduction of Territorial Health Groups (*Groupements Sanitaires Territoriaux* – GSTs), which are going to serve as institutional and operational structures responsible for ensuring the provision of public health services within a region. As deconcentrated entities and public establishments with full managerial and financial autonomy across health system functions, the GSTs will ensure the complementarity and coordination of health facilities and services and will allow to tailor the supply of services to the specificities of the region: once effective, PHC centers, secondary and tertiary hospitals will all be integrated under the GSTs. This organizational integration will allow the GSTs to deliver integrated health services based on a Regional Medical Program, which covers public facilities and patient pathways within the public sector. It will also allow GST to strengthen physical and human resources through the elaboration of a regional health map, which includes both public and private facilities and seeks to meet the specific needs of the population while maximizing quality and efficiency. Coordination of health services across levels of care will be ensured within each GST, with the primary health center within a GST forming the entry point to care-seeking, and primary and secondary services being organized around regional hospitals through a referral system. As such, GST will integrate service delivery while taking on functions across governance (i.e. developing the epidemiological regional health profile and managing service delivery capacity for both public and private sectors) and financing (i.e. defining

[7] Framework Law 06-22 was adopted by the Council of Ministers on July 13, 2022, and by the House of Councilors at the Parliament on October 11, 2022. It was promulgated on December 2, 2022 through Dahir n° 1-22-77 and published on the Official Gazette (issue 7151) on December 9, 2022. Draft Laws 08-22, 09-22, 10-22 and 11-22 were approved by the Chamber of representatives on April 26, 2023. Draft Law 07-22was approved by the Government Council on December 21, 2022 and will be discussed by the Parliament in the June or October 2023 session. All draft Laws are expected to be promulgated by the end of 2023 following these discussions.

[8] PBT is updated every year for the subsequent three years. The current PBT covers 2022-2025, and does not include activities specific to the Framework Law 06-22. The programs in the PBT are further described in the figure on Program boundary and the section on expenditure framework, and include: human resources for health; planning, programming, and coordination; reproductive, maternal, newborn and child health; epidemiological surveillance; service delivery at primary, secondary, and tertiary levels; and upgrading of health infrastructure and medical equipment. Each of the programs have annual results indicators and targets.

financing needs and revenue collection particularly for investment and infrastructure budget). GST would also purchase health services from AMO, and allocate these resources for service delivery with facility and health workforce payment modalities to be designed on the basis of various elements including quality of care. Strong implementation of deconcentration of service delivery and decision-making is expected to contribute to improved health outcomes in Morocco, particularly for conditions which require sustained engagement and follow-up such as maternal, newborn, and child health, and NCDs, resulting in improved health sector responsiveness to health needs due to climate shocks. Improvements in governance will be accelerated by the digitalization of the health system, with the launch of an integrated health information system (across public and private sectors, as well as across service delivery and billing for insurance purposes), and patient-level electronic medical records.

- Improved availability and competence of human resources for health: To reduce the shortage of human resources for health, alleviate territorial disparities, and improve clinical quality, Framework Law 06-22 and draft Law 09-22 allow health workers to be paid based on performance, as well as incentivize the recruitment of foreign doctors. The laws designate GST with the responsibility to manage health worker performance and provides GST with the authority, within this responsibility, to move health workers within their region to close gaps in high-need areas. This includes the definition of performance payment modalities on the basis of quality and other factors for health workers. In addition, the laws prioritize the expansion training capacity, particularly for priority cadres that face substantial shortages, and open new training programs for specialists. To improve clinical competency, the laws include measures to update training curricula and scale up continuous in-service training.

- Reorganized health service delivery: To rectify insufficient physical resource capacity, to improve spatial and gender equity of health outcomes, and to improve the quality of health services, a substantial reorganization of the health service delivery system is needed. Framework Law 06-22 and Law 08-22 do so through four levers. First, the laws stipulate care pathways within a GST such that patients can only seek services at the hospital level if they first seek services at their public PHC facilities and receive a referral. Second, they stipulate the rehabilitation and upgrading of both public PHC facilities and public hospitals for the improvement of their structural quality, which will result in improved climate resilience and conformity with energy and thermic standards. Third, the laws seek to institutionalize quality evaluation and improvement processes at the GST level, in addition to the accreditation arrangements stipulated at the central level. Fourth, the legislative framework as well as the PBT include priority activities to strengthen health prevention and promotion, combatting stigmatization of individuals due to their health status, as well as epidemiological surveillance capacity. While the legislative framework stipulates improved coordination between public and private sectors, the details of how the private sector will be contracted or deliver services under the redesign are yet to be defined.

- Strengthened pharmaceutical regulatory and production capacity: To improve Morocco's self-sufficiency and capacity to respond to potential supply-side shocks with regards to pharmaceuticals and other health commodities, Framework Law 06-22 and draft Laws 10-22 and 11-22 include measures to ensure quality control and regulation for pharmaceuticals, to support the development of a local pharmaceutical industry, and to prepare, implement, track, and evaluate blood policy to ensure a reliable supply and quality.

Table 2 Pillars and activities described in Framework Laws for health system redesign program

Pillar	Activities
Strengthened organizational and institutional capacity for health system governance (articles 15-17, 21-22, 28-29, 32)	• Launch of an integrated health information system where all public and private health institution data is integrated with patient-level electronic medical records, including protection of personal data **(DLI 3).** • Establishment of a High Authority for Health for technical supervision of mandatory health insurance, assessment of quality of services, and informing definition of public health policies • Establishment of GST to implement government health policy in regional and territorial levels, with each GST including all public facilities within the region **(DLI 1, DLI 4).** • GST to have independent financing and managed by performance contracts with the MHSP **(DLI 2).** • Development of a health map defining distribution of treatments, and development of regional health maps by GST, including a comprehensive inventory of public and private sectors, with the GST having the responsibility to close gaps in health infrastructure **(DLI 1).**
Improved availability and competence of human resources for health (articles 17, 23-27)	• Establishment of a health service to define health worker entitlements and to improve the quality of service delivery **(DLI 5).** • Scaling up of health worker enrollment and graduation from the Higher Institutes of Nursing Professions and Health Techniques (*Institut Supérieur des Professions Infirmières et Techniques de Santé*, ISPITS) and other training institutions **(DLI 6).** • Update to the curricula for pre-service training and in-service training **(Intermediate Outcome indicator)** • Recruitment of foreign doctors. • Strengthening of pre-service and in-service training **(Intermediate Outcome indicator).**
Reorganized health service delivery (articles 2, 3, 5, 6, 8, 9, 10-14, 18-20, 30-31)	• Rehabilitation of primary healthcare facilities to improve their physical capacity and to comply with energy and thermal efficiency standards to address climate vulnerabilities **(DLI 7).** • Reorganization of care pathways to introduce gatekeeping (primary health care institutions for public sector; generalist or attending physician for the private sector) **(PDO indicator).** • Definition of quality standard and specifications, safety standards, clinical guidelines, and launch of accreditation to ensure continuous improvement of quality and safety of health services **(DLI 8).** • Reduction of inequalities and scale up investments in medical equipment, beds, facilities **(DLI 7).** • Strengthening health surveillance to reach World Health Organization approved standards, and to respond to health threats in an integrated manner **(DLI 9).** • Informing population of health risks, behaviors, and measures, and precautions to be taken for its prevention, and ensuring access to preventive services **(Intermediate Outcome indicator).**
Strengthening pharmaceutical regulatory and production capacity (article 7) (outside Program scope)	• Promotion of the development of a local pharmaceutical industry and encouraging the development of generic medicines. • Determining safety and quality rules in the field of manufacturing and importing medicines, as well as their export, distribution, and delivery. • Encouraging scientific research. • Launch of two institutions (one on medicines and the other on blood products) to strengthen governance.

4. PforR Program Scope

4.1 The World Bank Program ("P") supports the achievement of results in Program areas within the supply-side health system redesign program which is going to be implemented in the next five years by the MHSP. Given the fact that this PforR will be implemented in the early stages of the reform, interventions will prioritize the establishment of building blocks and incentive mechanisms for its successful implementation. This will enable the reform to improve the availability of high-quality health services, deliver competent care, and strengthen the health system through interventions to improve governance, health workforce, and service delivery capacity. While the legislative framework and the strategic vision for the reform are established through the publication of Framework Law 06-22 in December 2022, there remains a degree of uncertainty with regards to the timeline in which various key institutions that are a part of the reform but outside of the scope of the MHSP would be established. As such, interventions pertaining to the scope of these institutions are out of the Program scope, which includes the establishment of HAS, Moroccan Agency for Pharmaceuticals, and the Moroccan Agency for Blood and Blood Products. Further certainty on the implementation of the reform will be ascertained through the publication of implementation decrees for each of the Laws, as well as the promulgation of draft Laws 08-22 (on GST) and 09-22 (on HRH) which were adopted on April 26, 2023 by the parliament. The Program is entirely based on Framework Law 06-22, as demonstrated in The government **program ("p") supported by this PforR seeks to redesign the health system to improve the quality and availability of health services.** The comprehensive health sector reform seeks to improve the quality, equity, and resiliency of the health system through two components: i) demand-side financial protection reform; and ii) supply-side health system redesign program. On the demand side,the reform aims to achieve effective health coverage of 100 percent by 2025, by extending health insurance coverage to 11 million uninsured people, corresponding to self-employed workers and their households on the basis of professional groups, as well as switching of 11 million poor and vulnerable people who were previously covered by the medical assistance scheme (RAMED) to the compulsory health insurance scheme (AMO). The demand-side reform is already underway and is being supported by a series of World Bank DPFs (box 1) and other complementary partner investments. The government program supported by this PforR is the supply-side health system redesign program, which is based on two sets of foundational documents: a) Framework Laws 06-22 and draft Laws 07-22, 08-22, 09-22, 10-22 and 11-22, which set forth the principles and domains of the health system redesign; and b) the three-year government's Triennial Budget Programming (*Programmation Budgétaire Triennale* (PBT), 2023-2025) (Figure 2Figure 20). The PBT incorporates aspects of the reform, as well as other recurrent activities for the operation of the health sector, across 5 programs, with annual performance targets.

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As deconcentrated entities and public establishments with full managerial and financial autonomy across health system functions, the GSTs will ensure the complementarity and coordination of health facilities and services and will allow to tailor the supply of services to the specificities of the region: once effective, PHC centers, secondary and tertiary hospitals will all be integrated under the GSTs. This organizational integration will allow the GSTs to deliver integrated health services based on a Regional Medical Program, which covers public facilities and patient pathways within the public sector. It will also allow GST to strengthen physical and human resources through the elaboration of a regional health map, which includes both public and private facilities and seeks to meet the specific needs of the population while maximizing quality and efficiency. Coordination of health services across levels of care will be ensured within each GST, with the primary health center within a GST forming the entry point to care-seeking, and primary and secondary services being organized around regional hospitals through a referral system. As such, GST will integrate service delivery while taking on functions across governance (i.e. developing the epidemiological regional health profile and managing service delivery capacity for both public and private sectors) and financing (i.e. defining financing needs and revenue collection particularly for investment and infrastructure budget). GST would also purchase health services from AMO, and allocate these resources for service delivery with facility and health workforce payment modalities to be designed on the basis of various elements including quality of care. Strong implementation of deconcentration of service delivery and decision-making is expected to contribute to improved health outcomes in Morocco, particularly for conditions which require sustained engagement and follow-up such as maternal, newborn, and child health, and NCDs, resulting in improved health sector responsiveness to health needs due to climate shocks. Improvements in governance will be accelerated by the digitalization of the health system, with the launch of an integrated health information system (across public and private sectors, as well as across service delivery and billing for insurance purposes), and patient-level electronic medical records.

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stigmatization of individuals due to their health status, as well as epidemiological surveillance capacity. While the legislative framework stipulates improved coordination between public and private sectors, the details of how the private sector will be contracted or deliver services under the redesign are yet to be defined.

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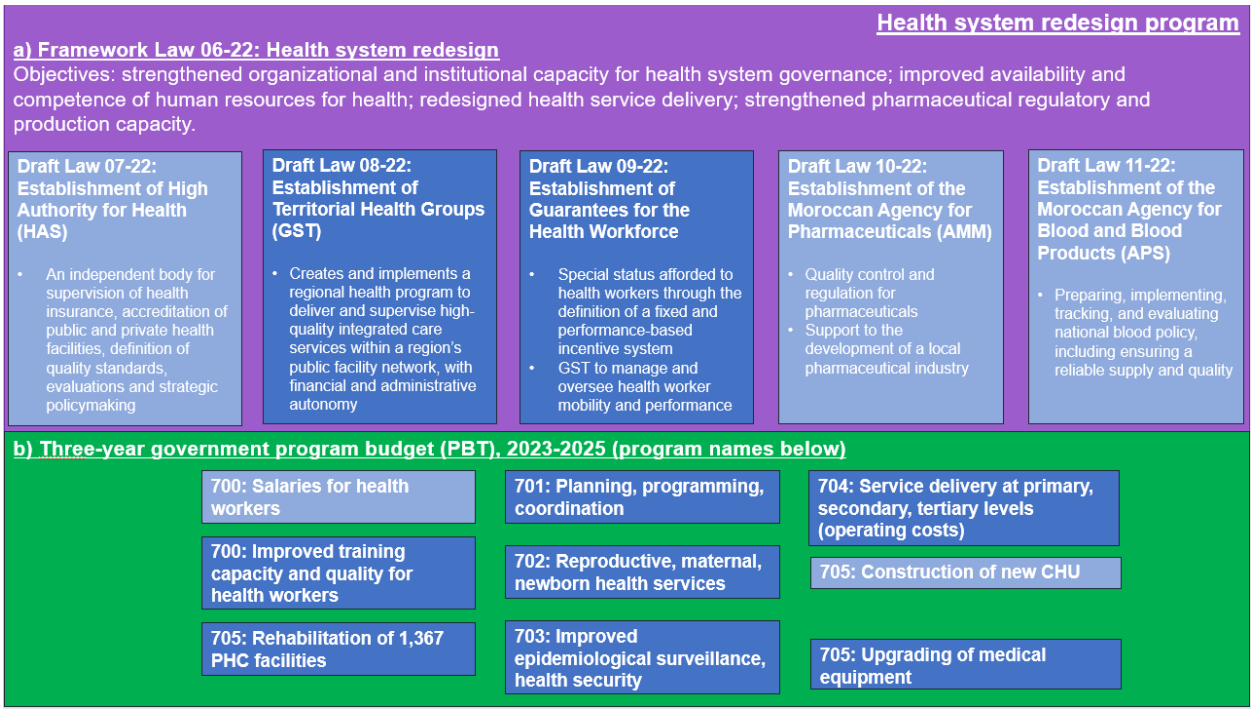
4.3 Table 2 and Figure 20. In addition, activities within the PBT that are essential for achieving the Program Development Objective (PDO) and the objectives of the reform are also included in the Program scope. This includes programs pertaining to training, planning, programming, coordination; strengthened delivery of maternal, newborn, and child health services; improved epidemiological surveillance; service delivery at primary, secondary, and tertiary levels; climate-resilient rehabilitation of public PHC facilities; and upgrading of medical equipment. Investments with potential to cause significant adverse impact on the environment and/or affected people as defined in the World Bank Policy and Directive on PforR financing, as well as investments involving works, goods, and consultancy contracts above the World Bank thresholds, are excluded. Finally, the implementation of the activities is restricted to the Program area, which will be further defined in the Program Operations Manual (POM). As described further in the expenditure framework section and in Table 7, the PforR constitutes 23.2 percent of government program financing.

Figure 20 Scope of government program ("p") and Program ("P") supported by the PforR

Boxes in dark blue are included in the Program, whereas boxes in light blue are excluded



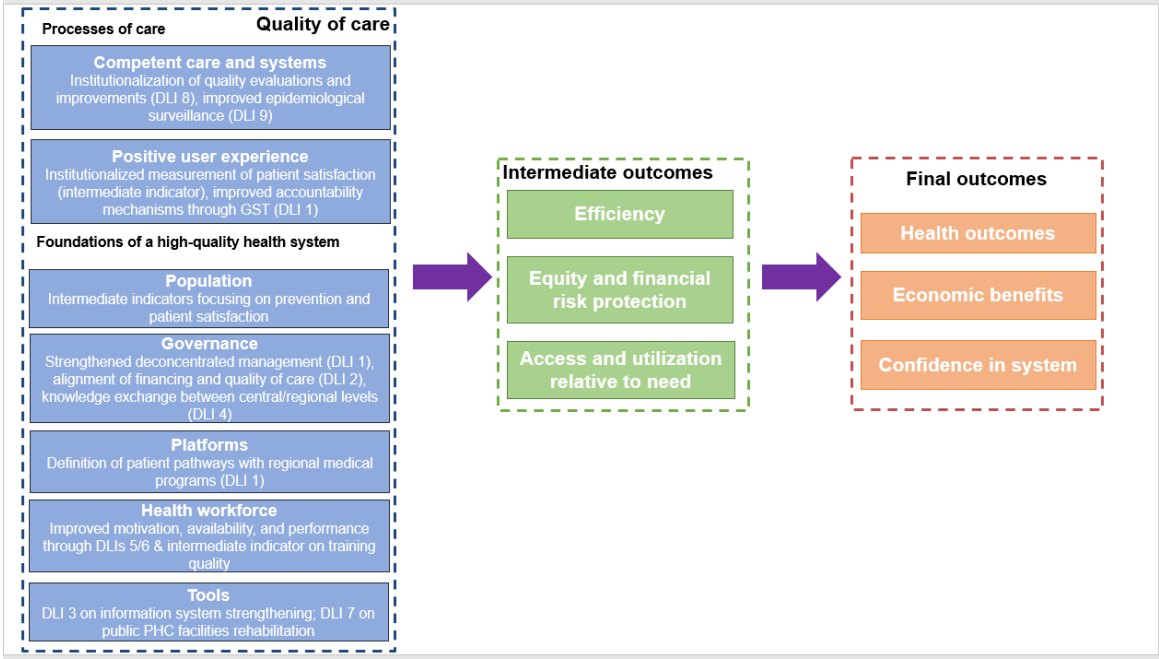
5. Strategic Relevance and Soundness of Program

5.1 Through three results areas, the Program incentivizes catalytic results to build the foundation for a health system which will continuously measure and improve quality of care and improve health outcomes, in line with international evidence. The government's health system redesign program seeks to introduce a high-quality health system; one that "optimizes health in a given context by consistently delivering care that improves or maintains health outcomes, by being valued and trusted by all people, and responding to changing population needs."[9] As demonstrated in Figure 21Figure 21, the Program design mirrors the pillars of the health system redesign reform, with interventions that are specifically selected and defined to improve quality of care on the basis of country context and good international practices. A high-quality health system has three pillars, each of which are targeted by the redesign program: i) foundations of a high-quality health system, which include aspects pertaining to the population, governance, platforms; workforce, and tools; ii) processes of care, which include competent care and systems and positive user experience; and iii) quality impacts, which include health outcomes, economic benefits, and confidence in system. [10] All these pillars are supported by the Program through DLIs and other indicators in the results framework.

[9] Kruk, M.E., et al, 2018. High-quality health systems in the Sustainable Development Goals era: time for a revolution. The Lancet Global Health 6, e1196–e1252. https://doi.org/10.1016/S2214-109X(18)30386-3

[10] ibid

Figure 21 Program activities within the context of a high-quality health system[11]



5.2 Results Area 1: Strengthened organizational and institutional capacity for health system governance

5.3 Given the essential role of strengthened governance in improving the quality and availability of health services, the Program supports aspects of the health system redesign program which are going to be implemented in the next five years, as outlined in Framework Law 06-22 and Law 08-22 as well as the PBT. Strengthened governance at every level of the health system, or governing for quality, is a prerequisite for improved availability and quality of health services. Recent work points to the role of poor-quality care in high mortality and morbidity, demonstrating that system-wide, "macro" reforms are more effective in improving quality and averting deaths than "meso" or "micro" interventions. Governing for quality includes several elements: (i) adopting and implementing a quality policy and strategy; (ii) improving capacity for management at all levels of the health system; (iii) strengthening regulation and accountability, and (iv) collecting and learning from health system data, all of which are reflected in the design of the first result area.

Situation

5.4 Aligned with national initiatives, Morocco has adopted several reforms to improve the governance of the health sector over the past decade. In line with the 2011 constitutional change, these governance reforms have aimed to improve the performance and accountability of health sector institutions, including through the implementation of the regionalization agenda, the development of better data and information systems, or the introduction of performance-based budgeting. The current health sector reform agenda aims to further operationalize some of these changes, such as the development of health data and information systems, and to introduce institutional innovations such as the creation of GSTs, which embody a move toward greater regional autonomy. The next

[11] ibid

paragraphs take stock of core governance trends and challenges in the health sector prior to the adoption of Framework Law 06-22, and highlight some of the changes that are expected with the implementation of the Framework Law 06-22 as well as laws 08-22 and 09-22 which are included within the Program boundary.

Current governance architecture in the health sector

5.5 **Despite the adoption of regionalization and deconcentration[12] reforms since 2011[13], the health sector has remained largely centralized, with limited autonomy for deconcentrated structures at the regional and provincial/prefectoral levels**. This is in contrast to the education sector, which has moved towards a decentralized approach in the early stages of the adoption of the national law, and faces various challenges, as summarized in the next section. The health system is currently organized along vertical lines of governance, with a central administration (MOHSP), twelve regional directorates (DR), and 82 provincial/prefectoral delegations (DP)[14]. In each region, the MOHSP is represented by a regional director mandated to coordinate the health policy implementation in the region, and by a delegate at the provincial and prefectural level[15]. The central administration of the MOHSP is responsible for the definition of national health priorities and the development of government policy on the health of the population, the planning of the supply of care; the regulation of funding and allocation of resources to the regions; the control of the exercise of the medical, paramedical and pharmaceutical professions; and the monitoring of the performance of health institutions and the process of their accreditation. DR were created in 2011, with the intention of coordination and implementation of the national health policy at regional levels, as well as leading and coordinating the activities of DP. The DRs also lead and coordinate the activity of prefectural and provincial delegations of their respective region. DP are responsible for the supervision, coordination, control and evaluation of prevention and care actions, undertaken by the health establishments within their territorial jurisdiction; strategic and operational planning; as well as resource management. Managerial autonomy at the regional level has remained limited. The 2013 CESE report on basic health services[16] highlighted the strong centralization of the Ministry of Health and the need to clarify and enhance the prerogatives and power of regional directors, including in terms of human resource management. The 2021 Report of the New Development Model Commission[17] echoed this diagnosis. Yet, to date, in terms of administrative deconcentration, the Ministry of Health's concrete efforts to increase financial and administrative regional autonomy remain limited. This is evidenced by its 2023 performance project which only includes one indicator on the deconcentration of human resources (indicator 700.1.1. on the number of management responsibilities delegated to deconcentrated services)[18].

[12] Deconcentration in the Moroccan context refers to the devolution of various limited responsibility and decision-making roles to territorial entities. Decentralization refers to the complete or near-complete transfer of power, responsibilities and competencies to local collectivities which have moral personality and an autonomous budget. There are three dimensions of decentralization in this context: political, fiscal, and administrative. The deployment of GST fit the definition of decentralization across each of the three dimensions.

[13] 2015 Organic Law on Regionalization, 2018 Charter on Deconcentration.

[14] In addition: 76 hospital centers scattered throughout the territory, in addition to 7 higher institutes of nursing professions and health techniques with their 16 annexes.

[15] Ministry of Health (2020). https://www.sante.gov.ma/; WHO. (2017). WHO-Morocco Cooperation Strategy 2017-2021

[16] CESE. 2013. Avis. Les soins de santé de base . Vers un accès équitable et généralisé. http://www.cese.ma/media/2020/10/Avis-du-Conseil-Soins-de-sant%C3%A9-de-base-vers-un-acc%C3%A8s-%C3%A9quitable-et-g%C3%A9n%C3%A9ralis%C3%A9.pdf

[17] CESE. 2019. Le Nouveau Modèle de Développement du Maroc. Contribution du Conseil Economique, Social et Environnemental..

[18] http://lof.finances.gov.ma/sites/default/files/recueil_2021_-_vfr.pdf

5.6 **Other than university hospitals, health facilities have limited or no financial or managerial autonomy.** Primary health centers (Etablissements de soins de santé primaires – ESSP) have no financial and managerial autonomy and are therefore under the jurisdiction of DR. Secondary-level hospitals, which include proximity, provincial, regional, and inter-regional hospitals, benefit from SEGMA status, with no distinct legal character but some levels of financial autonomy, including for revenue generation. Tertiary hospitals (Centres hospitalieres universitaires – CHU) have full public establishment status, which entails full financial and decision-making autonomy, with a direct reporting to the Ministry of Finance's Directorate of Public Establishments (DEP)[19]. SEGMA generate their own resources through invoiced services, but also benefit from subsidies from the general state budget. They have management autonomy, which provides them services with flexibility to manage these resources, but – contrary to public establishments – do not have a distinct legal personality. SEGMA and public establishment (CHU) revenues come from proceeds from payment of hospital days and medical and surgical fees; payment product for outpatient medical and surgical procedures; produces radiology, biology and rehabilitation procedures; revenue from legal medical certificates and driving licenses. The Court of Accounts highlights some challenges in the management of hospitals' own resources, including with regards to internal control procedures, which do not guarantee the recording of all the information necessary for the issuance of invoices corresponding to the care services provided, as well as with regards to revenue collection. Some invoices remain unpaid due to insufficiencies in internal controls and difficulties with reimbursements by the state of services provided to RAMED beneficiaries. Finally, it should also be noted that regional directorates also have limited autonomy, with budgets fully under the MHSP.

5.7 **Since 2019, budget programming of the MOHSP is done on a three-year basis and through using a program-based budgeting approach.** Article 5 of the 2015 Organic Budget Law (*Loi Organique des Finances*) provides that "The annual budget law is drawn up with reference to a three-year budget program [PBT, *programmation budgétaire triennale*] updated each year with a view to adapting it to changes in the financial, economic and social situation of the country". The objective of three-year budget programming is to reconcile strategic planning and budget programming: it seeks to establish the link between national and sectoral development strategies, which are part of a medium/long term time horizon, and the annual budgets which ensure their financing[20]. The preparation of the MOHSP PBT follows three-phase cycle: (i) Phase 1: the preparation of the ministry's draft budget (internally); (ii) Phase 2: finalization of the ministry's draft budget, its validation by the Minister and adoption by the Council of Ministers[21]; (iii) Phase 3: examination and vote of the budget by the parliament. PBT for the MOHSP includes six programs and twenty objectives, as demonstrated in Table 3[22].

[19] This is also the case for the regional blood transfusion center-Casablanca; the Medicines and Pharmacy Department; the National School of Public Health; the National Center for Blood Transfusion and Hematology - National Institute of Hygiene; and the National Center for Radiation Protection.

[20] Three-year budget programming also concerns the CHU. See Arrêté du MEF n° 679-20 en date du 13 février 2020 fixant la liste des EEP devant soumettre leur programmation budgétaire pluriannuelle aux commissions parlementaires concernées.

[21] This phase is triggered by the issuance of the orientation circular of the Head of Government in August of each year. This circular specifies the budgetary choices of the government and sets the estimated ceilings for the preparation of ministerial budgets; which ceilings are examined and approved by the government council. On the basis of these ceilings, the ministries finalize their budgets and undertake negotiations with the Ministry of Economy and Finance according to the timetable set by the latter.

[22] This project is presented according to the standard model established by the Ministry of Finance. It first briefly presents the ministry's three-year strategy; to then make a variation of it on the 6 programs structuring the budget of the ministry, by associating with each program objectives accompanied by performance indicators, with the targets of expected results.

Table 3 MOHSP PBT programs and objectives, 2023

700. human resources and health system capacity building 1. Optimize the management of the health centers and provide them with qualified and motivated human resources for a better offer of care 2. To generalize patient care by increasing the capacity for basic and continuous training 3. Improve the working conditions of health professionals by taking into account the gender dimension and strengthen social actions	**703. Epidemiological surveillance, health monitoring and safety, disease prevention and control** 1. Strengthen the capacity of all public health actors to detect and respond to public health emergencies 2. Improve equitable access of the population to communicable disease prevention and control services 3. Strengthen the prevention and management of non-communicable diseases 4. Strengthen the monitoring and evaluation of risks related to environmental determinants
701. Health system mission planning, programming, coordination, and support 1. Improve the management of resources allocated to health system support at the central and deconcentrated levels 2. Generalize social protection 3. Setting up an integrated information system 4. Support for contractualization and accompaniment of the implementation of the regionalization provisions	**704. Primary care, pre-hospital and hospital actions and benefits** 1. Improve management at the PHC level 2. Improve access to care and hospital management
702. Reproductive health, maternal, child, youth and special needs populations 1. Ensure health promotion and prevention for children and youth 2. Improve maternal and reproductive health 3. Ensure access to health services for populations with special needs	**705. Strengthening, upgrading, and preserving health care infrastructure and facilities** 1. Establish a balanced supply of pre-hospital and hospital health care that is better distributed throughout the country in an equitable manner 2. Establish a primary health care supply that is balanced and better distributed over the national territory 3. Strengthen and modernize technical facilities 4. To improve the quality of patient care.

5.8 **Despite limited resources, accountability, and a lack of systematic evaluations, the current structure of performance contracts between regional health directorates and MOHSP directorates provides a starting point for results-based management**. Currently, a very small share of the MOHSP budget is managed in deconcentrated DR and DP level. The majority of the MOHSP budget is retained at the central level, including the totality of the salaries budget and 44 percent of the investment budget. While most of the operating budget (materials and other expenditures) is deconcentrated to DR and DP levels, this is inequitably distributed, with four regions (Rabat, Casablanca, Marrakech, Fes) constituting over 75 percent of this budget, with 25 percent remaining for 8 regions. Budget formulation and execution is a function of national strategic plans; the Court of Accounts demonstrates limited use of these tools at regional levels, as well as the lack of routine evaluations of previous strategies and programs. The evaluation also demonstrates that while the Framework Law 34-09 on the organization of the health sector stipulates the use of planning and coordination tools, their utilization at the CHU level is low, with substantial delays in the annual program budget formulation. At the same time, there has been an effort to introduce performance-based management tools at the regional level, with performance contracts signed between different directorates of the MOHSP and regional directorates, on the basis of determined program and objectives of the MOHSP performance budget, with strategic objectives, resources, and result targets, monitored through progress reports. The contracts are aligned with the objectives demonstrated in Table 3, and include specific targets with action plans, such as the number of hospitals implementing a governance process for quality evaluation and accreditation, a triennial training program, or average notification period of notifiable conditions. Even as these contracts are not fully enforced in the sense that they do not inform budgetary and policy decisions, and that there is no report on the

achievement of targets, they provide a starting point for a full transition towards a results-based management approach.

Upcoming changes to the governance architecture in the health sector

5.9 **Framework Law 06-22 provides for a new institutional architecture in the health sector including at the regional level, with the creation of territorial health groups (GSTs), which will have substantially larger levels of autonomy than current regional health directorates.** Framework Law 08-22, enacted pursuant to Article 32 of Framework Law 06-22, establishes a territorial health group (GST) at the level of each region. All public health services will be organized around the GSTs, which will include all existing public health establishments within their territories, from which they will inherit both property and personnel. As such, GST will replace CHU and regional health directorates in their rights and commitments; similar to current CHU, they will have the status of a public establishment, placed under the supervision of the Minister of Health, with management and financial autonomy. The GST will ensure, within the limits of their territorial jurisdiction, the implementation of state policy in terms of public health. GST are legislated to have six core responsibilities which they would be executing autonomously, including: service delivery; training and health workforce management; research and innovation; and strategic and administrative management. The final list of establishments falling within the purview of the GST, as well as the exact management structure of GST, will be established by a decree. All health facilities within the region, including those with SEGMA and public establishment status, will be integrated within a GST. In addition, the implementation of GST is expected to lead to better pooling and optimization of human, financial and material resources between the various care providers, through the codification of the mobility of medical personnel (discussed further under the second result area), as well as the definition of a regional health plan and map which would enable a proactive planning for physical and human resources.

5.10 **Planning and budgeting processes will also face substantial changes through Framework Laws 06-22 and 08-22.** At the planning level, regional medical programs (*programme médical regional – PMR*) will constitute the main planning tool for GST, building on existing efforts with regional health delivery but with improved accountability . As per legislative provisions, the PMR aims to: improve the supply of care by considering the specificities of each region; to achieve synergies and pool available resources; and guarantee compliance with the patient pathways established by Framework Law 06-22. It should be noted that the PMR only covers public health establishments under the GST), and exact coordination mechanisms with private facilities remains uncertain. At the budgeting level, the new governance structure implies heavy changes. As public establishments, GSTs will also be financially autonomous, and will be receiving funds from MOHSP as well as CNSS/CNOPS for the services they deliver. Financial reporting and control lines will evolve: rather than being subjected to the financial control of the central State, GST will be subject to the financial control of the *Direction des établissements et entreprises publics* (DEPP) of the Ministry of Economy and Finance (MEF), which applies to all public establishments and enterprises as per Law n°69-00 relating to the financial control of the State over public establishments and enterprises (EEP), and GST expenditures will be controlled by the (DEPP) and not by the (*Trésorerie Générale du Royaume* – TGR). Even as it is a part of the MOHSP budget, the approval of the GST budget will be the responsibility of their boards of directors and not of the MOHSP.

5.11 **Building on the current national health map, each GST will have their own regional health map, including the public and private sector, enabling an evidence-based resource planning modality**[23]. The purpose of the health map, which was introduced in 2015[24],[25], is to provide data on the availability of health infrastructure, personnel and equipment at the national, regional, provincial, and down to municipality level. The health map also sets the sanitary division (*découpage sanitaire*) of the national territory, based on epidemiological, demographic, socio-economic and administrative characteristics. It is established by the administration for a maximum period of 10 years and must be evaluated and revised every 5 years. In practice, the health map is intended to inform strategic policy and budget decisions, by allowing the MOH to determine the locations most in need of services and investments. According to the Court of Accounts, the health map is limited to an inventory of the current health supply, and does not yet include forecasts of changes in the care offer, making it difficult for the MOHSP to leverage that data to design policies that address disparities and imbalances in the supply of care between regions and within regions. This is expected to change substantially with the health system redesign program: Under the terms of Article 19 of framework law 6.22, each GST will be required to draw up a regional health map, with reference to the general guidelines of the national health map, for a fixed period and be subject to regular updates. The map is expected to provide an overall inventory of healthcare services offered in both the public and private sectors, and specify, with regard to the public sector, the measures likely to (i) respond appropriately to the needs of the population in terms of health care and services at the regional level, on the basis of projected forecasts, particularly in terms of human resources, infrastructure and medical equipment; and (ii) achieve a coherent and equitable distribution of human and material resources and, at the regional level, reduce intra-regional and regional disparities in the provision of care.

5.12 **As autonomous and decentralized public establishments, GST will have substantial levels of autonomy, and will need to develop and implement management tools for improved accountability.** In compliance with government regulations, this entails the definition and implementation of seven management tools: a) definition of a personnel status; b) definition of an organogram; c) definition of a procedure and organizational manual; d) certified accounting reports; e) adherence to contracting and procurement regulations; f) a multi-year plan; and g) an annual management report. Full implementation of these measures will entail a transition towards even greater accountability. GSTs will have the status of public establishments, and as such will have management and financial autonomy. They will be placed under the supervision of the MOHSP (their ministre de tutelle) and the financial supervision of the MEF, which applies to all public establishments and enterprises (*Etablissements et Entreprises Publiques* – EEP) as per Law n°69-00. The supervisory role of the state, which is exercised in particular through the representation of line ministries on the boards of directors of the public establishments, consists in ensuring that the EEPs fulfill their statutory missions in line with sectoral policies. The development of a contracting approach between the State and EEPs in the past decade aims clarify the relations between the State and the EEP, by ensuring the alignment of EEPs strategies and national strategies and the setting of mutually negotiated and agreed objectives. However, the full implementation of contracting remains limited, demonstrating a potential risk for the implementation of a fully decentralized system: a performance

[23] http://cartesanitaire.sante.gov.ma/dashboard/pages2/index_2019.html

[24] La loi cadre N° 34-09 du 2 Juillet 2011 relative au système de santé et à l'offre de soins de santé, et du décret d'application N° 2-14-562 concernant l'organisation de l'offre de soins, de la carte sanitaire, et des schémas régionaux de l'offre de soins, qui est entré en vigueur officiellement après sa publication au Bulletin Officiel le 24 Juillet 2015.

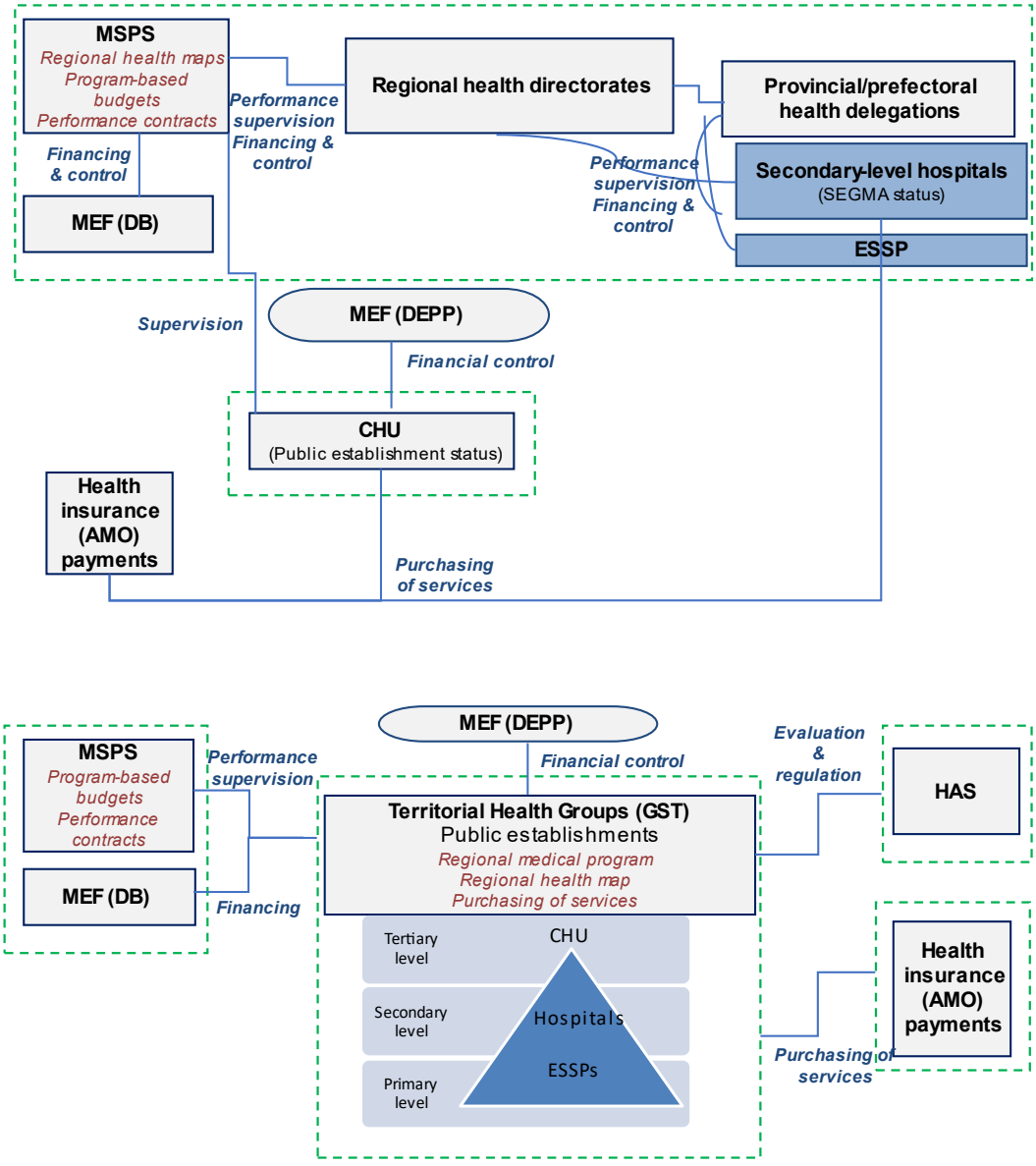
[25] In 2019 for the regional and provincial levels.

audit prepared by the Inspection Générale des Finances (IGF) in 2018 notes that, as of October 2020, only 19 departments have concluded performance contracts with partners (including public establishments and companies under their authority), and 5 departments have adopted a similar approach with their decentralized services. Further, the preparation, adoption, and execution of public establishments budgets do not fall within the framework of the Budget Law. The Directorate of Public Enterprises and Privatization (DEPP) supervises the EEP portfolio and exercises the financial control of the State over the EEP. Its missions consist mainly of the following: the exercise of financial control by the State over the EEP; oversight of the public portfolio; participation in EEP restructuring actions; management of external audits of EEP; the management of privatization operations; accounting standardization and monitoring of accounting professions at the national level.

5.13 **These reforms introduce a full reorganization of institutional roles and responsibilities in the health sector.** Figure 22 summarizes the anticipated changes as a part of the health system redesign program through the establishment of new institutions. The current governance structure results in limited autonomy, strategic planning and accountability at the regional, provincial, and facility levels, with minimal incentives or decision space to be able to take decisions to improve the availability or quality of health services. The reforms are expected to improve the enforceability and scope of performance-based management and decision space, resulting in improved ability of decentralized entities to improve availability and quality of services. GST will also have direct links with other key institutions in the health sector, such as the High Authority for Health (HAS) and National Social Security Fund (CNSS), even as the nature of these links is not fully confirmed, as the application decrees for HAS are yet to be announced and Given the current limited use of planning and budgeting tools under the deconcentrated system, the shift to a decentralized system with the introduction of GST entails a substantial shift and will need to be accompanied with a proactive focus on trainings and capacity building, as well as the strengthening of control and accountability measures.

Figure 22 Governance of the health sector before (top) and after (bottom) health system redesign

Blue text: responsibility; red text: planning and accountability tools[26]



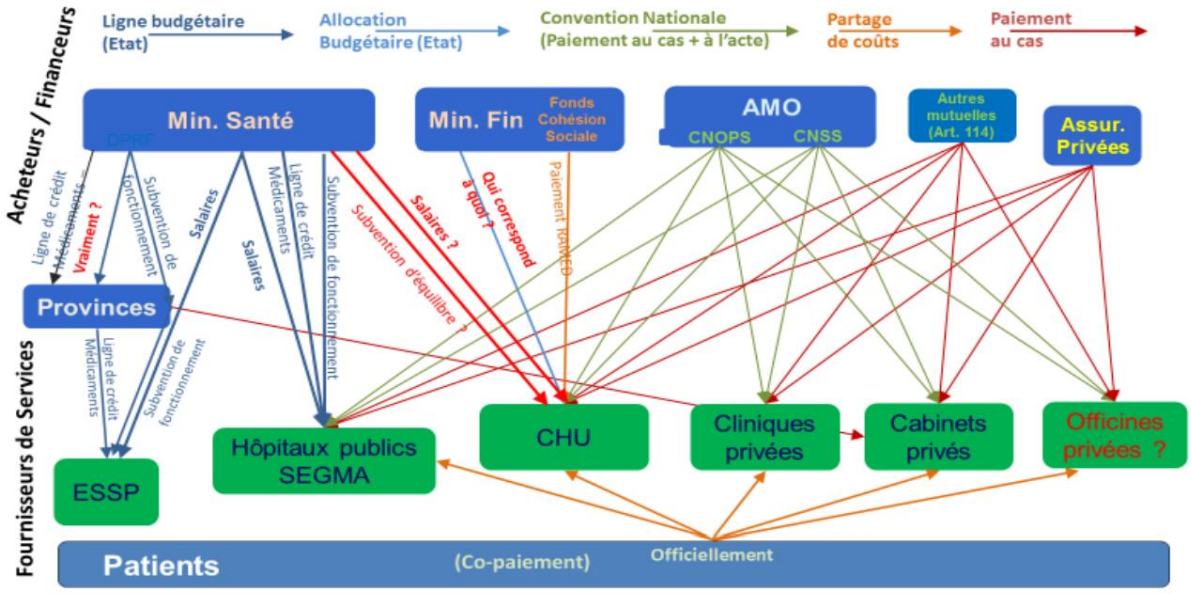
5.14 **While the design of decentralized arrangements avoids some of the pitfalls experienced by the education sector, experience with the implementation of Regional Education and Training Academies (AREF) points to certain potential challenges, which are incorporated to Program design.** Having the status of public establishments similar to GST, AREF deliver education services within a region and also provide administrative coordination functions. During the past two decades, the

[26] Compiled by authors on the basis of the current legislative frameworks. ESSP: primary health centers; HAS: High Authority for Health; CNSS: National Social Security Fund. Secondary-level hospitals include proximity, provincial, regional, and inter-regional hospitals.

education sector has been gradually decentralizing, and the process has been marked by various challenges, notably a) constraints in the implementation of accountability tools (e.g. boards, organogram) between different governance structures and harmonizing objectives; b) challenges in the organizational mapping of regions, including with the role of provincial directorates which is not fully clarified; c) slow roll-out of information systems and public financial management tools, and d) lack of a resource allocation formula between establishments in the jurisdiction of a given AREF. Each of these challenges are addressed by the design of the government's health system reform program, and also incorporated into DLI design, as described in subsequent sections.

5.15 **The implementation of demand- and supply-side health sector reform will necessitate updates to current provider payment modalities.** Morocco currently uses a mix of global budgets and fee-for-service payments for the payment of public facilities. There is a national benefits package which is relatively generous and ensures free services for the totality of services provided at primary and secondary levels. There are currently three main purchasers of services from the public sector: i) MOHSP, which purchases services for interventions offered free of charge at public facilities within the benefits package; ii) CNSS, which purchases services for those under the AMO-CNSS and AMO-Tadamon schemes; and iii) CNOPS, which purchases services for those under the AMO-CNOPS scheme. At the primary care level, ESSP have no financial autonomy or individual budget lines, and are therefore directly paid through the DR/DP lines with a global budget approach. There is no level of budgetary traceability for individual ESSP given the lack of budget lines for individual facilities. At the secondary hospital level, even as these facilities have a SEGMA status with relatively large levels autonomy and their own budget lines, they still receive payments through a global budget approach from the MOHSP, given the fact that the majority of their funds come through MOHSP and that an increase in funds received from CNOPS or CNSS translates into a reduction in MOHSP funds. At the tertiary hospital level, university hospitals benefit from full financial and decision-making authority as public establishments, and bill for services they provide under AMO-Tadamon (to the Ministry of Finance), and AMO-CNSS/CNOPS (to CNSS/CNOPS), through a mix of fee-for-service and case-based payments. Private facilities are paid through both AMO schemes and private facilities through agreed upon conventions; the national price reference list, which forms the basis for these arrangements, is currently in the process of being updated and negotiated with provider. The implementation of the health system redesign program will change these arrangements, with the GST unifying the totality of service delivery under a single entity, and billing the CNSS and CNOPS collectively for services delivered at public facilities within its integrated network. Provider payment arrangements from the MOHSP, CNSS, and CNOPS to GST, as well as from the GST to the individual facilities within the network, are not yet defined. A range of options, such as capitation for ESSP and diagnosis-related groupings for secondary and tertiary hospitals, are being considered. The implementation of patient-level medical records, as indicated in the next section, will facilitate the implementation of strategic purchasing interventions, which would enable provider payments to improve quality of services.

Figure 23 Overview current provider payment modalities in the Moroccan health system[27]



5.16 **Despite recent progress, availability of key data and its use for decision-making across the health sector is a significant constraint.** The lack of a patient-based electronic medical records system is a fundamental bottleneck: while this has been a priority of the Ministry of Health over the past decade and important steps have been taken towards digitizing data at a population-level, there is still no unified implementation plan for transitioning towards this system, which would necessitate patients to have an identification card they can use across all public and private health facilities, and enable providers to see the health status of that patient. At a population level, there is an integrated information system for maternal, newborn, and child health, as well as for diabetes and hypertension (SMIPF), however, data from this system is publicly available with a significant delay: as of the writing of this report, the most recent available data was from 2017 on key health service utilization metrics. According to the VSP, only about 16 percent of primary health facilities have an electronic health information system, indicating the significant work associated with digitizing patient-level medical records. This is exacerbated by the lack of surveys which focus both on the population as well as the health system. On the population side, the equivalent of a demographic health survey has been conducted on an average interval of 7-8 years in the past two decades, with surveys only from 2002, 2011, and 2018. It should also be noted that this data is only available from public health facilities; there is no centralized reporting system at any level of the private health system, which indicates that there is no visibility for at least half the services delivered in the Moroccan health system. On the health system side, there is no facility-level survey providing insights on physical and human resources, such as the Service Availability and Readiness Survey (SARA), Service Provision Assessments (SPA), or Service Delivery Indicators (SDI), prohibiting analyses on crucial domains of quality of care such as provider competence, know-do gap, or availability of medical equipment to enable diagnoses

[27] Summary of provider payment modalities in Morocco, 2019. https://www.sante.gov.ma/Documents/2019/06/ACHAT%20DE%20SERVICES%20AU%20MAROC%20%20RESUME%20EXECUTIF%20DE%20L%E2%80%99ETUDE%20REALISEE%20PAR%20L%E2%80%99OMS.pdf

and treatment. Similarly, detailed health financing data on level and trends in expenditures across levels of care and population groups is missing, with the most recent National Health Accounts was published in 2021 but with data from 2018. In the absence of these key data points, it is impossible for the government to transition towards a system-wide approach of health system capacity and quality planning and improvement.

5.17 **Full digitalization of the health information system and a move towards patient-level electronic medical records is a significant government priority, with substantial progress achieved over the past decade.** In 2012, Morocco launched its first digital health action plan through 2016, with a vision to move towards a fully digitized and facility based HMIS until 2025. Between 2016-2020, the MOHSP finalized and updated the national strategy for HMIS, as well as an urbanization study and a roadmap for the implementation of the HMIS strategy, providing a blueprint for the generation of timely health data across key conditions and population groups. Implementation of this strategy has been underway in a phased approach, with the first phase consisting of the implementation of regional HMIS.[28] The regional HMIS (SMIPF-SC[29]) platform relied on Excel- and paper-based data submissions from all health facilities to the regional health directorates, which were then submitted to the central MOHSP. The second phase constituted the selection of four technological solutions providers for the deployment of patient-level health information systems across regions, with each region adopting a provider for the scale-up of patient-level electronic medical records in their region. This phase also included the finalization of definition of key indicators and ensured interoperability between the four providers. The patient-level electronic medical records system has already been deployed in all central and regional hospitals, as well as over half of all ESSP. The third and final phase includes the finalization of the deployment of the patient-level electronic medical records system at the remaining ESSP as well as a focus on improving the content, quality, and use of the generated data. Once deployed at the ESSP level, the system will allow for routine availability of key population indicators across the treatment cascade, such as the percentage of hypertensives with treatment adherence and with controlled blood pressure. This will also enable analysis of such effective coverage indicators across socioeconomic factors such as gender and underserved areas.

5.18 **There remains space to improve data collection and to enhance the use of existing data to inform budget and policy planning.** Data-sharing is a prerequisite for effective policy coordination. This raises the critical question of data interoperability, including for HMIS. Data systems in Morocco are currently fragmented. The move towards a fully digitalized, integrated, and patient-level electronic medical records system will help close these gaps. It will also enable a move towards a strategic purchasing system.

5.19 **The public has low levels of satisfaction with the health system.** According to data from a 2021 survey conducted by the World Bank[30], 70 percent of the population is not satisfied at all or not very

[28] The regional HMIS was supported by the previous World Bank PforR in the health sector.
[29] The system includes all interventions delivered at primary care facilities, including maternal health (National Pregnancy and Childbirth Monitoring Program), including prenatal care, delivery, and postnatal care; child health, including preventive vaccination and nutrition services for children under 5 years of age and the integrated management of sick infants (0–2 months) and children (2–59 months); family planning; breast and cervical cancers, including screening and diagnostic and therapeutic management; sexually transmitted infections/AIDS; and curative care (hypertension and diabetes).
[30] World Bank, 2021. Survey on trust in Morocco

satisfied with the health system, a rate which is higher than for security, education, water and sanitation. This is in sharp contrast to satisfaction with the government's COVID crisis management, for which the dissatisfaction rate was down to 30 percent. The low levels of trust to the public health system demonstrate the importance of the health reform in not only strengthening the foundations of the health system, but also to understand and respond to population expectations. Data from the MIPA trust index from 2021 shows that while 71 percent of respondents was satisfied or very satisfied with private health providers, only 40 percent was satisfied or very satisfied with the public healthcare system. Further, while only 47 percent of the population trusted public health services, 79 percent trusted private services.[31] A likely reason in this mismatch is that while access and utilization have improved due to recent initiatives, there is still room for improvement in quality of care.

International Experience

5.20 **In strong health systems, health financing flows and incentives support access to quality health care, and various components of the current Moroccan health system reform initiatives will have direct impact on quality of care.** While there are many definition of quality of care, a relevant one for the current Moroccan context is that of a high quality health system as one "that optimizes health in a given context by consistently delivering care that improves or maintains health outcomes, by being valued and trusted by all people, and responding to changing population needs."[32] This definition is further unpacked in the framework presented in **Error! Reference source not found.**, which has three high level components: i) foundations of a high quality health system, which include aspects pertaining to the population, governance, platforms, workforce, and tools; ii) processes of care, which include competent care and systems and positive user experience; and iii) quality impacts, which include health outcomes, economic benefits, and confidence in system. Recent evidence points to the fact that even as many countries have tried micro-level quality improvement strategies, such as trainings or checklists, it is impossible to improve the quality of care unless significant reforms are undertaken to improve the foundations of the health system, such as through reforms to transition towards a learning health system with performance and accountability measures that are consistently and coherently implemented; a patient-centered and redesigned service delivery architecture; and improved quality of pre-service training to improve provider competence.

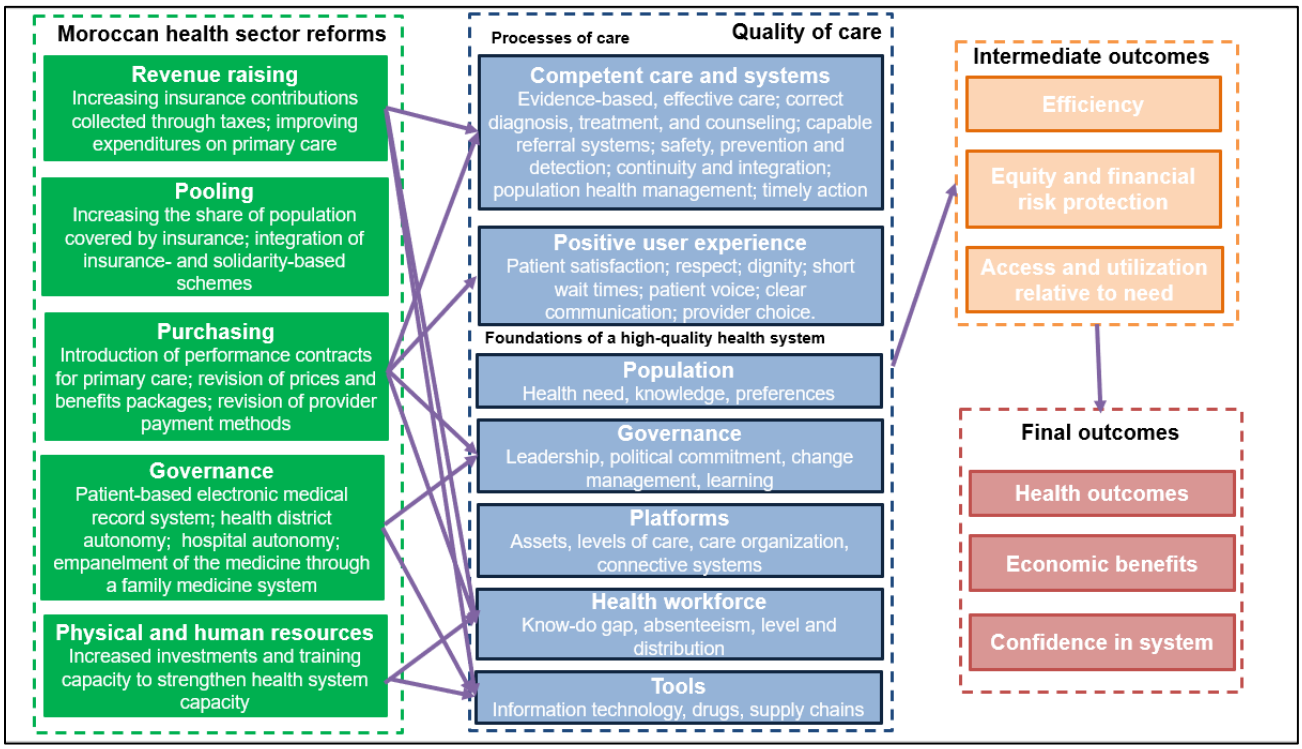
5.21 **The success of the Moroccan reform, as measured by its impact on health outcomes, is contingent upon the extent to which they will be able to strengthen quality of care.** In order to translate health financing reforms into quality of care, the health financing system has to raise sufficient revenue to assure the availability of inputs; consolidate risk pools to maximize the population covered; and use strategic purchasing to incentivize competent care and systems and positive user experience. Beyond a strong health financing system, there is also significant need for strengthening the foundations of a high-quality health system, and the designed reform initiatives seek to do so through specific interventions to strengthen the governance, platforms, health workforce, and tools of a high-quality health system. These links, as demonstrated in **Error! Reference source not found.** at a high level, indicate that the current reforms have the potential to strengthen quality of care and thus health outcomes, through strengthened financing arrangements, governance,

[31] MIPA Trust Index, 2021.

[32] Kruk, M.E., et al, 2018. High-quality health systems in the Sustainable Development Goals era: time for a revolution. The Lancet Global Health 6, e1196–e1252. https://doi.org/10.1016/S2214-109X(18)30386-3

and investments in improving health system capacity. For example, introduction of performance-based contracts for primary care, coupled with the empanelment of the population to a family medicine system such that individuals will have easier access to a generalist to consult as needed, has the potential to result in a patient-centered system which focuses on prevention as well as timely access to care.

Figure 24 Moroccan health system reforms in the context of a high-quality health system



Source: Author, on the basis of a summary of Moroccan health sector reform initiatives, Moroccan health financing strategy, as well as the Lancet High-Quality Health Systems Framework (Kruk et al, 2018)

5.22 **Strengthened governance at every level of the health system, or governing for quality, is a prerequisite for improved availability and quality of health services.** Recent work completed by the Lancet Global Health Commission on High Quality Health Systems points out to the role of poor-quality care in high mortality and morbidity, demonstrating that system-wide, "macro" reforms are more effective in improving quality and averting deaths than "meso" or "micro" interventions. [33] Governing for quality includes several elements: (i) adopting a national quality policy and strategy; (ii) improving capacity for management at all levels of the health system; (iii) strengthening regulation and accountability, and (iv) collecting and learning from health system data. Governing for quality requires a strong political commitment at the highest level and a shared vision for improving quality and translating the commitment into action across the health system. It also includes managing relationships across multiple sectors and stakeholders, and aligning stakeholders behind the shared

[33] Kruk, M. E., Gage, A. D., Arsenault, C., Jordan, K., Leslie, H. H., Roder-DeWan, S., Adeyi, O., Barker, P., Daelmans, B., Doubova, S. V., English, M., García-Elorrio, E., Guanais, F., Gureje, O., Hirschhorn, L. R., Jiang, L., Kelley, E., Lemango, E. T., Liljestrand, J., … Pate, M. (2018). High-quality health systems in the Sustainable Development Goals era: Time for a revolution. *The Lancet Global Health*, *6*(11), e1196–e1252. https://doi.org/10.1016/S2214-109X(18)30386-3

vision of making large-scale sustainable improvements in quality and health outcomes.[34,35] Examples from Mexico and Nepal highlight the importance of strong political commitment and stakeholder engagement in improving quality of care. A study analyzing surveys from 310 Mexican health systems leaders revealed that a lack of coordination in regards to quality improvement agendas and a vague understanding of roles and responsibilities as the major obstacles to translating federal policies into improved quality of care.[36,37] Similarly, while Nepal endorsed the Policy on Quality Assurance in Healthcare Services in 2007, the success of the policy remains mixed due to lack of commitment and involvement from all stakeholders, in the absence of a shared vision on the definition of quality as well as an institution with the accountability to implement a strategy.

5.23 **Strong implementation of decentralization has the potential to improve equity, efficiency, and resilience of the health system, developing a strong institutional framework for quality improvements.** Decentralization can do so through three pathways: i) bringing governance closer to people and allowing for the use of local initiatives and feedback; ii) impacting the distribution of people and resources to improve outcomes; and iii) institutionalizing mutual accountability and support between different levels of government and community.[38] Given complex interdependencies between different levels of the health system, it is difficult to quantify the exact attribution of each of these pathways, or link a specific portion of quality or health outcome improvements to decentralization; in this case, well-implemented decentralization arrangements can, therefore, be referred to as a necessary but not sufficient condition for improved quality of care and health outcomes. If not implemented well, decentralization can result in exacerbated regional inequities, but this can be mitigated with accountable community-level structures which can provide co-financing and co-management.[39] Evidence from large, decentralized health systems points to some potential for impact as well as lessons learned. Studies from a wide range of contexts point to the relatively long process of decentralization, with a study from Indonesia demonstrating that even after two decades of devolving authority to decentralized authorities, issues remain with regards to the governance capacity of districts, as well as with routine availability of data on budget execution or health service coverage data.[40] Another study from Brazil finds that decentralization was associated with reduced infant mortality, while pointing to the learning curve in the implementation and that improvements were only able to materialize after the implementation of referral systems and the establishment of a successful monitoring system.[41]

5.24 **Setting up management capacity for effective implementation of decentralized arrangements takes time and deliberate action.** In Nigeria, a study found that sub-national governments

[34] Stroh, D. P. (2015). *Systems thinking for social change: A practical guide to solving complex problems, avoiding unintended consequences, and achieving lasting results*. Chelsea Green Publishing.
[35] Kruk et Al (2018).
[36] Doubova, S. V., García-Saiso, S., Pérez-Cuevas, R., Sarabia-González, O., Pacheco-Estrello, P., Infante-Castañeda, C., ... & Leslie, H. H. (2018). Quality governance in a pluralistic health system: Mexican experience and challenges. *The Lancet Global Health*, *6*(11), e1149-e1152; Kruk et al (2018).
[37] Kruk et al (2018).
[38] Abimbola, S., Baatiema, L., & Bigdeli, M. (2019). The impacts of decentralization on health system equity, efficiency and resilience: a realist synthesis of the evidence. *Health policy and planning*, *34*(8), 605-617.
[39] Abimbola, S., Baatiema, L., & Bigdeli, M. (2019). The impacts of decentralization on health system equity, efficiency and resilience: a realist synthesis of the evidence. *Health policy and planning*, *34*(8), 605-617.
[40] Rakmawati T, Hinchcliff R & Pardosi J (2019). District-level impacts of health system decentralization in Indonesia: A systematic review. *Intl J Health Plann Mgmt, 34, e1026-e1053*
[41] Guanais, F. C., & Macinko, J. (2009). The health effects of decentralizing primary care in Brazil. *Health Affairs*, *28*(4), 1127-1135.

demonstrated significant variation with respect to the implementation of core components of decentralization policy.[42] While 32 percent of states fully met national criteria for the structural domains of office establishment and legislation, no state was fully compliant to requirements on human resources and financial management, which are more indicative of functionality. The pattern of implementation suggests that state governments may prioritize executing low hanging fruits to access national incentives rather than implementing with the aim to improve outcomes. This demonstrates the importance of evaluating implementation gaps in improving policy execution, especially in decentralized health systems.[43] In New Zealand, district-level alliances (partnerships between district health boards and primary health organization) are driving stronger health system integration but performance varies across regions. [44,45] However, challenges to successful implementation remain, including difficulty attributing changes in outcomes to organizational and collaborative strategies, variable strength and functioning of collaborative relationships between organizations at the local level, and existing funding arrangements in the health system, potentially limiting the extent and pace of change.[46]

5.25 **Improved managerial capacity in centralized and decentralized contexts is a key enabler of quality improvements and effective implementation of the legislative framework.** The role of strong managerial capacity across all levels of the health system is a key enabler to improvements in quality of care, with training interventions proven to be substantially impactful. [47,48,49,50] Examples from successful implementation of training programs exists among others, in Ethiopia, where the hospital performance improved when managed by graduates of a master's program in Healthcare and Hospital Administration (MHA),[51] and Vietnam, where management training, including applied projects with coaching, led to the diffusion of process improvements across districts and improved managerial and program performance of the National Tuberculosis Program.[52]

5.26 **Alignment of financial incentives across the health system has the potential to improve quality of care.** Health financing and provider payment can be used to leverage improved quality of care

[42] Eboreime, E. A., Abimbola, S., Obi, F. A., Ebirim, O., Olubajo, O., Eyles, J., ... & Mambulu, F. N. (2017). Evaluating the sub-national fidelity of national Initiatives in decentralized health systems: Integrated Primary Health Care Governance in Nigeria. *BMC health services research*, *17*, 1-13.
[43] Eboreime et al. (2017).
[44] Gauld, R. (2017), "The theory and practice of integrative health care governance: The case of New Zealand's alliances", *Journal of Integrated Care*, Vol. 25 No. 1, pp. 61-72. https://doi.org/10.1108/JICA-10-2016-0035
[45] Gauld, R. (2020, June 5). *International Health Care System Profiles—New Zealand*. https://www.commonwealthfund.org/international-health-policy-center/countries/new-zealand

[46] Chalmers, L. M., Ashton, T., & Tenbensel, T. (2017). Measuring and managing health system performance: An update from New Zealand. *Health Policy*, *121*(8), 831-835.
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within a health system, with purchasing having the greatest impact on quality.[53,54] Given the challenges of under-treatment or over-treatment caused by input and output-based payments, Kruk and colleagues (2018) suggest a mix of input and output-based financing as the best strategy for low- and middle-income countries (LMIC). Performance-based financing (PBF) designed to improve providers' and facilities' quality and quantity of care has been widely implemented in LMICs, and though they appear to increase the utilization of care and service volume, their effect on quality of care is less clear.[55,56,57] Table 1 demonstrates a range of provider payment methods. Evidence from a range of contexts demonstrates various design principles for the design and implementation of provider payment methods to maximize quality of care, including i) the importance of incorporating health system context into design and focusing on cross-cutting indicators as opposed to condition-specific ones, and ii) focusing on direct facility financing, autonomy, transparency, and community engagement while designing provider payment methods.[58]

Table 4 Provider payment methods and role in implementing patient-centered integrated care[59]

Type of payment method	Role in implementing patient-centered integrated care
Add-on payments	
Ex ante payment to multidisciplinary structures, France; Integrated care contract for back pain, Germany; Family Health Teams, Canada; Team Care, Australia; target private providers, Spain; bonuses for meeting quality and performance indicators as well as for forming group practices, Croatia.	Adjustments made to traditional provider payment mechanisms to incentivize integration. Designed to complement, not replace, traditional provider payment mechanisms. The add-on payments encourage higher enrollment and treatment of chronic care patients; delivery groups or networks for providing integrated care; provision of desired services, such as prevention, follow-up, etc.
Bundled payments	
For chronic conditions: HIV and multiple sclerosis, Portugal; type 2 diabetes, chronic obstructive pulmonary disease, and vascular risk management, the Netherlands.	Single payment made to multiple providers for all services associated with an acute or chronic episode of care, such as knee replacement or diabetes care over a specified time period.

[53] Kruk et al (2018).
[54] Tangcharoensathien, V., Witthayapipopsakul, W., Panichkriangkrai, W., Patcharanarumol, W., & Mills, A. (2018). Health systems development in Thailand: a solid platform for successful implementation of universal health coverage. *The Lancet*, *391*(10126), 1205-1223.
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[56] Kruk et al (2018).
[57] Turcotte-Tremblay, A. M., Spagnolo, J., De Allegri, M., & Ridde, V. (2016). Does performance-based financing increase value for money in low-and middle-income countries? A systematic review. *Health Economics Review*, *6*(1), 1-18.
[58] De Walque, D., Kandpal, E., Wagstaff, A (2022). *Improving Effective Coverage in Health: Do Financial Incentives Work?* World Bank. https://openknowledge.worldbank.org/bitstream/handle/10986/37326/9781464818257.pdf
[59] Somanathan, A., Finkel, E., & Arur, A. (2019). *Strengthening Integrated Care in Central and Eastern Europe*. World Bank, Washington, DC. https://doi.org/10.1596/33405

For entire care episodes: Medicare's (USA) ACE initiative for inpatient cardiac and orthopedic procedures, Sweden, UK.	Providers constituting a "delivery group" assume financial risk for the cost of services for a defined episode, as well as costs associated with preventable complications. As risk is shared between payers and health care, this results in system-level efficiencies: It encourages more collaboration between providers within and across settings; greater standardization of care through the development of guidelines and protocols.
Population-based payments	
Shared revenue model, GK, Germany.	Regional health management company is co-owned by the physicians' network in the region; part of the generated profits is reinvested in training of local physicians, and another part is available to physicians as increased income. Promotes health improvements by incentivizing prevention activities and efficiency savings processes.
Alternative Quality Care contract, Massachusetts, USA, and CareFirst Patient-Centered Medical Home program, Maryland, USA.	Fixed payment for the care of a patient during a specific time period. Explicit link between payments and achieving quality goals; defines rate of increase for each contract group's budget over a five-year period.
Guaranteed budget for a region in the Integrated Care Pilots, Belgium.	Creates incentives to organize health and social care together. When a region has fewer expenditures than planned, efficiency gains are reinvested in the region.

5.27 **A strong strategic purchasing system can improve quality of care by aligning incentives across the health system.** Strengthening strategic purchasing includes purchasers agreeing on an evidence-based and patient-centered benefits package, as well as the use of health technology assessments to review it periodically and ensure its cost-effectiveness. The use of provider payment mechanisms such as performance-based contracts in a deliberate manner can also improve the quality of services. These payment methods can also be used for non-facility-based services, such as for community health workers. The use of these methods also has the potential to further improve equity in the health system: providers in remote areas treating underserved populations could receive a higher payment for the same service to incentivize the provision of services, and these extra payments could further be invested in the health facility to improve the availability of resources. Finally, selection of providers also has a direct impact on quality of care through the implementation of accreditation to ensure that only providers that fit specific quality criteria are contracted. Therefore, while the current focus of the reform is on integration of the different schemes and enrollment of additional population, a parallel focus on strategic purchasing will be needed to ensure expanded coverage of health insurance translates into better health outcomes and citizen satisfaction. Box 1 demonstrates experiences from other countries that could be relevant for Morocco and highlights the importance of a phased approach in strengthening strategic purchasing.

Box 1: A phased approach to strategic purchasing: international evidence[60]

While strategic purchasing reforms are mainly a health financing intervention, they impact many dimensions of the health system, ranging from institutional arrangements to information systems. Based on international experience, it is possible to phase strategic purchasing interventions across three stages, learning from the success of different countries as they implemented these reforms to improve quality of care:

- **Phase 1: Preparation**: At this stage, the priority is to a) select and capacitate a single national purchaser, such as the Social Security Institute (*Sosyal Guvenlik Kurumu*) in Turkey; and b) incentivize the collection of data from providers, through linking a set of reimbursements and additional performance-based payments to the satisfaction of various criteria, such as the *Plan Nacer* (later renamed *Programa Sumar)* in Argentina which implemented a results-based financing strategy across all provinces. Notably, the provinces were offered resources to scale up information systems with a key set of indicators as well as hardware, creating a virtuous cycle between information systems and strategic purchasing reforms.
- **Phase 2: Implementation:** This phase incorporates a) the gradual expansion of benefits, such as Chile's AUGE scheme which did so within the public sector based on financial sustainability and cost-effectiveness, ensuring the availability and quality of services in health facilities, and b) alignment of provider payment mechanisms across the health system, with different methods used for different types of services. For example, in Colombia and the United Kingdom, primary care providers, who serve as gatekeepers, are paid through a blended system of fee-for-service, capitation, and performance bonuses. Use of patient-centered provider payment methods such as diagnosis related groupings can reduce length-of-stay, readmission, and improve quality, as can be seen in South Korea. Provider payment methods can also be leveraged to incentivize districts and health centers to promote better access and quality, as is the case with Argentina's *Plan Nacer/Programa Sumar* program.
- **Phase 3: Full scale-up and integration:** Once the scheme is fully functional in public facilities, it is important to expand the same arrangements to the private sector to align incentives across the health sector, as has been the case in Turkey where private providers were contracted following on the success of the scheme in public facilities. This stage also encompasses the integration of strategic purchasing schemes with other data systems, such as in South Korea, where the integration of the civil registration system with patient records resulted in the ability of using risk adjustments for health insurance. A crucial area to prioritize in this stage is the use of digital decision support systems and

[60] References for cases described in Box 1: Sumer, Safir; Shear, Joanne; Yener, Ahmet Levent. 2019. Building an Improved Primary Health Care System in Turkey through Care Integration. World Bank, Washington, DC. © World Bank.; Martin, Zanazzi, Leonardo, Sparkes, Susan & Mathauer, Inke. (2020). Strengthening the purchasing function on through results-based financing in a federal setting: lessons from Argentina's programa sumar. World Health Organization. https://apps.who.int/iris/handle/10665/332489. License: CC BY-NC-SA 3.0 IGO; Glassman A, Giedion U and Smith PC. What's In, What's Out: Designing Benefits for Universal Health Coverage. 2017; Kim HS, Shin JW, Woo JS. Patient Cost Analysis in one general hospital for an enhancement of the Korean Diagnosis Related Group (KDRG) system. Korean J Health Econ Policy. 2014;20(2):67–89; Vončina, Luka; Arur, Aneesa; Dorčić, Fedor; Pezelj-Duliba, Dubravka. 2018. Universal Health Coverage in Croatia: Reforms to Revitalize Primary Health Care. Universal Health Coverage Studies Series; No. 29. World Bank, Washington, DC. © World Bank.; Smith, Peter C. 2018. Advancing Universal Health Coverage: What Developing Countries Can Learn from the English Experience? Universal Health Coverage Studies Series; No. 40. World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/29183 License: CC BY 3.0 IGO

full digitization of health information systems, which often takes at least a decade, as seen in Argentina, South Korea, and Turkey.

5.28 **Comprehensive health information systems are essential for enabling the delivery of patient-centered care and evaluating the health system's performance.** Deployment of integrated patient-level medical records is the prerequisite to enabling coordination between providers, improving the availability of health sector data, and transitioning towards a learning health system.[61] Reviews have identified various barriers to robust implementation and use of electronic health records and district health information systems in LMICs: restricted ownership by end users, scarce training on data skills, lack of motivation and engagement by overburdened health workers, large numbers of indicators required, inadequate functionality of electronic platforms, and a focus on vertical disease programs.[62,63,64] Evidence from Europe points to the importance of integrated medical records for improving quality of services and increasing access. In Croatia, the e-prescription system has enabled referrals, improved access to quality drugs, but also strengthened the gatekeeping role of family medicine doctors, who are the only ones who can prescribe medicines.[65] In Turkey, the Central Physician Appointment System has reduced long waiting times at clinics by allowing patients to schedule physician visits online.[66]

5.29 **A learning health system, with institutionalized coordination, knowledge exchange, and feedback sharing loops, has the potential to improve quality of care through improved responsiveness and accountability.** Learning health systems are those in which improvement and innovation are institutionalized through feedback loops, information sharing, and policy making mechanisms at all levels of the health system; these measures enable engagement at all levels, resulting in pathways to improve quality of care and performance.[67] Accountability mechanisms can act as catalyst to initiate and sustain quality improvements and to support the "progressive realization" of the right to health and quality health care.[68] Social accountability refers to approaches that involve communities, citizens, and service users directly and includes attempts to increase community involvement, awareness, and demand generation for high-quality care.[69] Multiple tools have been found to be effective in fostering social accountability; citizen reports cards, community monitoring, social audits, participatory budgeting, citizens charters, and health committees have been used around the world to report quality-related indicators. The creation of information exchange spaces and sharing success stories can motivate front-line health workers to continue providing

[61] Kruk et al (2018).

[62] Mbondji, P. E., Kebede, D., Soumbey-Alley, E. W., Zielinski, C., Kouvividila, W., & Lusamba-Dikassa, P.-S. (2014). Health information systems in Africa: Descriptive analysis of data sources, information products and health statistics. *Journal of the Royal Society of Medicine*, *107*(1 Suppl), 34–45. https://doi.org/10.1177/0141076814531750

[63] Akanbi, M. O., Ocheke, A. N., Agaba, P. A., Daniyam, C. A., Agaba, E. I., Okeke, E. N., & Ukoli, C. O. (2012). Use of Electronic Health Records in sub-Saharan Africa: Progress and challenges. *Journal of Medicine in the Tropics*, *14*(1), 1–6.

[64] Kumar, M., & Mostafa, J. (2019). Research evidence on strategies enabling integration of electronic health records in the health care systems of low- and middle-income countries: A literature review. *The International Journal of Health Planning and Management*, *34*(2), e1016–e1025. https://doi.org/10.1002/hpm.2754

[65] Somanathan et al. (2019)

[66] Ibid

[67] Witter, S., Sheikh, K., Schleiff, M., 2022. Learning health systems in low-income and middle-income countries: exploring evidence and expert insights. BMJ Glob Health 7, e008115. https://doi.org/10.1136/bmjgh-2021-008115

[68] Kruk et al (2018).

[69] Van Belle, S., & Mayhew, S. H. (2016). Public accountability needs to be enforced–a case study of the governance arrangements and accountability practices in a rural health district in Ghana. *BMC health services research*, *16*(1), 1-14.

quality care. Other effective interventions include sharing information on health system performance with the public and promoting transparency of quality measurements; institutionalizing mechanisms for grievance redress; and developing multipronged strategies for accountability for quality of care.[70]

Soundness

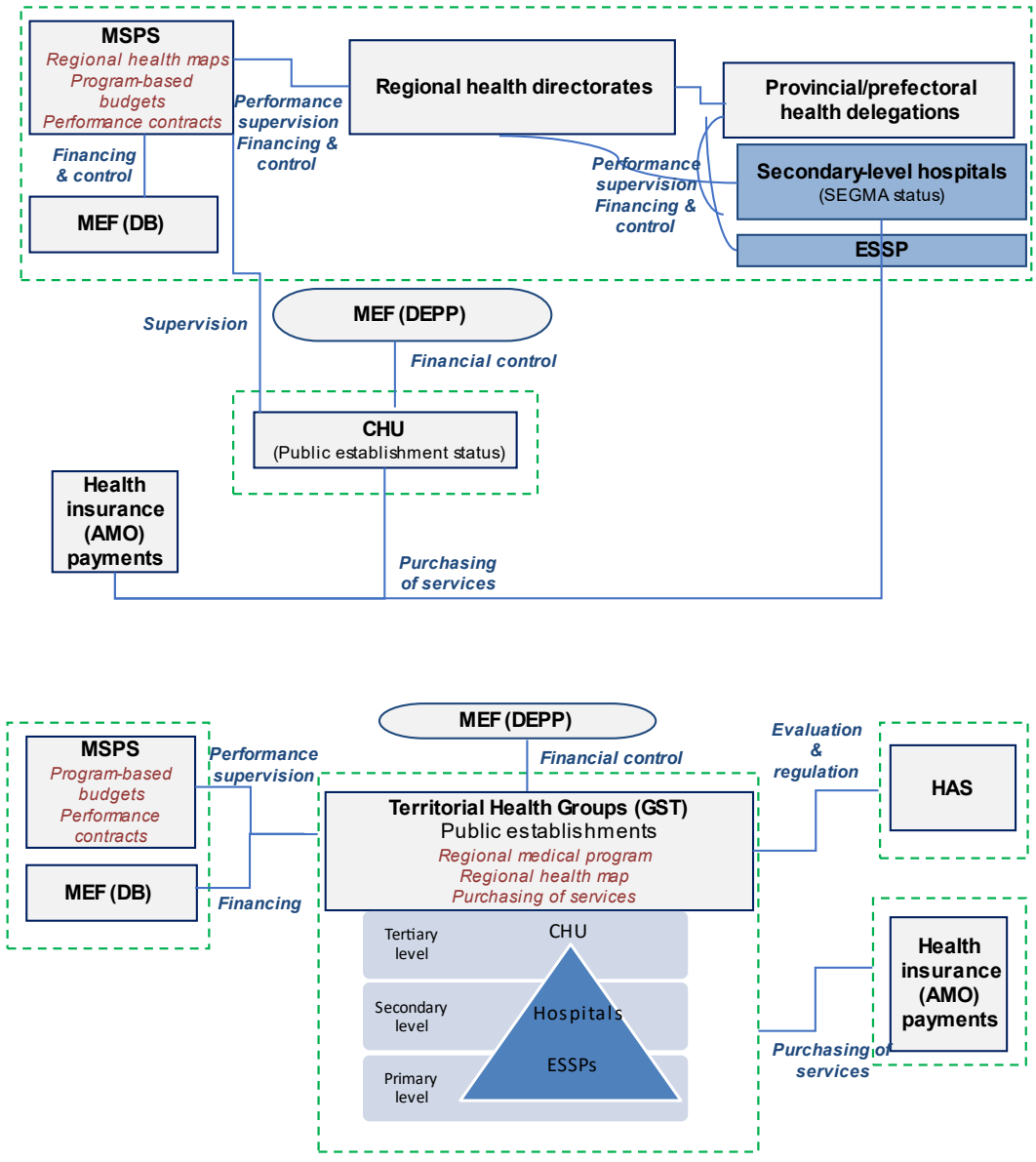
5.30 Given the essential role of strengthened governance in improving the quality and availability of health services, the Program supports aspects of the health system redesign program which are going to be implemented in the next five years, as outlined in Framework Law 06-22 and Draft Law 08-22 as well as the PBT. Strengthened governance at every level of the health system, or governing for quality, is a prerequisite for improved availability and quality of health services. Recent work points to the role of poor-quality care in high mortality and morbidity, demonstrating that system-wide, "macro" reforms are more effective in improving quality and averting deaths than "meso" or "micro" interventions. [71] Governing for quality includes several elements: (i) adopting and implementing a quality policy and strategy; (ii) improving capacity for management at all levels of the health system; (iii) strengthening regulation and accountability, and (iv) collecting and learning from health system data, all of which are reflected in the design of the first result area.

5.31 The health system redesign program introduces a full reorganization of institutional roles and responsibilities in the health sector. Figure 22 Figure 4 summarizes the anticipated changes as a part of the health system redesign program through the establishment of new institutions. The current governance structure results in limited autonomy, strategic planning and accountability at the regional, provincial, and facility levels, with minimal incentives or decision space to be able to take decisions to improve the availability or quality of health services. While the health sector has deconcentrated in recent years, this has taken place without substantial autonomy for deconcentrated entities. The reforms are expected to improve the enforceability and scope of performance-based management and decision space for regions, as they shift from being deconcentrated entities without autonomy, towards public establishments with increased managerial and financial autonomy. As such, these entities will be able to take decisions and implement interventions to improve availability and quality of services. Once established as financially autonomous structures, GST will receive funding mainly through the services they receive as AMO payments, as well as through direct transfers from the MHSP, which they will then allocate to the health facilities within their jurisdiction: this transition is expected to take place gradually, with the goal being full GST financing through AMO payments. Given the current limited use of planning and budgeting tools under the deconcentrated system, strengthened implementation of this modality with the introduction of GSTs as public establishments entails a substantial shift and will need to be accompanied with a proactive focus on trainings and capacity building, as well as the strengthening of control and accountability measures. The current legislative context indicates that all GST will be established at the same time, with the promulgation of Law 08-22, as well as relevant application decrees, by the end of 2023.

[70] Kruk et al (2018)

[71] Kruk, M.E., et al, 2018. High-quality health systems in the Sustainable Development Goals era: time for a revolution. The Lancet Global Health 6, e1196–e1252. https://doi.org/10.1016/S2214-109X(18)30386-3

Figure 25 Governance of the health sector current (top) and post health system redesign (bottom)



Blue text: responsibility; red text: planning and accountability tools[72]

5.32 **The Program supports the establishment and implementation of key institutional functions and planning tools for GSTs, which will also strengthen climate resilience.** Strong implementation of deconcentration has the potential to improve equity, efficiency, and resilience of the health system, developing a strong institutional framework for quality improvements, through three pathways: i)

[72] Compiled by authors based on the current legislative frameworks. ESSP: primary health centers; HAS: High Authority for Health; CNSS: National Social Security Fund. Secondary-level hospitals include proximity, provincial, regional, and inter-regional hospitals.

bringing governance closer to people and allowing for the use of local initiatives and feedback, as well as improving responsiveness particularly in areas with poorer health outcomes; ii) distributing people and resources to improve outcomes; and iii) institutionalizing mutual accountability and support between different levels of government and community.[73] In this context, a key tenet of the health system redesign program is to establish GST as autonomous public establishments governed by a Board of Directors and managed by a Director[74], combining the existing regional directorate and CHU structures. Based on Moroccan and international experiences, strengthened implementation of these arrangements take a considerable period to be implemented successfully: as such, the Program supports the initial and essential building blocks for successful deployment of new institutional arrangements, with a focus on the two following domains:

(i) The establishment of functional internal governance mechanisms, including the Board, and the adoption of an organigram to delineate the territorial and institutional organization of GST. The Program will support the adoption of basic management tools such as the definition of a Board, an organogram, status of the personnel and internal regulations, which will enable the codification of roles and responsibilities. The procedure manual will include further details on fiduciary arrangements within the GST. These mechanisms will enable successful roll-out of deconcentration as a first stage, and pave the way for increased autonomy at a second stage, which would include the adoption of additional management tools focusing on financial accountability, procurement, and program contracts between MHSP and GST. The publication of internal regulations will set the stage for strengthened FM and procurement capacity of GST.
(ii) The development of essential data and planning functions and tools at the regional level through two tools: the regional medical program (*programme médical regional,* PMR*)* and the regional health map, which will enable proactive planning and reallocation of health sector resources – financial, physical, and human – to respond more equitably and proactively to population demands and expectations, therefore providing a concrete pathway to quality-of-care improvements.

- The PMR would be determining the epidemiological profile of each region, and defining patient care pathways within the primary, secondary, and tertiary facilities within a GST for each of the priority epidemiological conditions, including a focus on adapting and mitigating to climate change through focusing on climate-sensitive conditions and bringing health services closer to the population, mitigating gender inequalities, and strengthening care pathways for women and children survivors of violence. PMR would only cover public facilities within the GST.
- The regional health map would cover all public and private facilities within the GST, provide an inventory of healthcare services to respond appropriately to the needs of the population and serve as a unified planning tool for physical and human resources, with the intention of informing an equitable distribution of resources within a GST. The

[73] Abimbola, S., Baatiema, L., & Bigdeli, M. (2019). The impacts of decentralization on health system equity, efficiency and resilience: a realist synthesis of the evidence. *Health policy and planning*, *34*(8), 605-617.

[74] The Board of Directors, which has a wide and diversified representation, will include among its essential missions the approval of the annual program, the regional health map, the organizational structure, the status of civil servants, and the group's internal regulations. The Board is expected to meet at least twice a year to take stock of achievements and set the provisional budget for the following year. The Director of the GST has, for his part, broad prerogatives, as manager of the group. It executes the decisions of the Board and prepares the projects submitted to it, including thr group's annual workplan, the regional health map, the regional medical programme, the group's annual program and its organizational chart. It ensures the management of all the structures of the group and the health establishments that compose it, as well as the coordination of their activities

regional health maps will provide a substantial lever for the reorganization of service delivery including for health conditions that will be exacerbated by the impact of climate change, enabling proactive deployment of financial, physical, and human resources. In particular, regional health maps will form the basis for the distribution of the health workforce within a GST, with the definition and implementation of incentive structures to enable the movement of staff to high-need areas, as described under the second result area.

5.33 The Program will strengthen management capacity of deconcentrated entities through the development and deployment of a comprehensive training plan, fostering the health system's adaptation to climate change. The role of strong managerial capacity across all levels of the health system is a key enabler to improvements in quality of care, with managerial training interventions proven to be substantially impactful across a wide range of contexts.[75,76] This is particularly important for the Moroccan context, given the substantial changes that will be introduced with the roll-out of the GST model across all governance functions, including strategic planning, policymaking, and coordination, public financial management, communication, and performance management. In this context, the Program will support the development and implementation of a comprehensive training plan at the GST level. These trainings will be an opportunity to strengthen understanding of gender gaps and include potential activities related to improved integration of gender in the budgeting as well as the importance of collecting and reporting gender disaggregated data. In a context of increased vulnerability to climate change and in line with government priorities, the training plan will include a substantial focus on improving the resiliency of the health system to climate change, through enabling the development of specific interventions and their integration into PMR, supporting adaptation to the risks of climate change as trained GST staff will be able to integrate adaptation considerations into PMR, as well as strengthening preventive and curative care around health conditions exacerbated by the impact of climate change, such as cardiovascular and respiratory diseases. With deconcentrated governance and human resources management, GST administrators will oversee financial, physical, and human resource allocation, within their respective regions. The knowledge gained through the training on the health impacts of climate change, in terms of both specific conditions exacerbated by climate change as well as adaptation measures, will allow GST administrators to make resource distribution and other decisions with the intent of addressing climate risks and vulnerabilities, strengthening the preparedness and resilience of the healthcare system, and more generally attending to the most vulnerable populations and most at risk in the face of climate shocks. The training program will also include a focus on preventing and responding to gender-based violence, ensuring strong health system responsiveness to a national priority.

5.34 **The implementation of demand- and supply-side health sector reform will require updates to current provider payment modalities, and the Program will support the transition towards a strategic purchasing system.** The implementation of the health system redesign program will entail a substantial shift in purchasing arrangements, with the GST unifying the totality of service delivery under a single entity and billing the institutions managing AMO (such as CNSS and CNOPS) collectively for services delivered at public facilities within its integrated network. Provider payment arrangements between the institutions managing AMO and GST, as well as from the GST to the individual facilities within the network, are not yet defined. A range of options, such as capitation for

[75] Bradley, E. H., Taylor, L. A., & Cuellar, C. J. (2015). Management matters: a leverage point for health systems strengthening in global health. *International Journal of Health Policy and Management*, 4(12), 411-415.;

[76] Lega, F., Prenestini, A., & Spurgeon, P. (2013). Is management essential to improving the performance and sustainability of health care systems and organizations? A systematic review and a roadmap for future studies. *Value in Health*, *16*(1), S46-S51

public PHC facilities and diagnosis-related groupings for secondary and tertiary hospitals, are being considered. The Program will accompany the transition toward a system where GST budgets are fully financed from AMO payments, enabling financial sustainability and alignment of financial incentives for quality service delivery. The integration of the purchasing function has the potential to improve efficiency, through higher visibility by the purchaser on service utilization and productivity patterns and conditioning payments on a range of modalities. The Program will support the development of a roadmap for the progressive financing of GST by the AMO, including the interoperability of the billing system with the CNSS. It will also support the development of a roadmap for choosing provider payment methods for GST, which will enable a transition towards strategic purchasing, one of the key enablers of a high-quality health system. The roadmap would diagnose the current status of provider payment modalities, and propose a new modality to improve the quality, efficiency, and equity of payments from the institutions managing AMO to GST and from GST to health facilities, likely focusing on a range of methods such as capitation, fee-for-service, or global budgets. The roadmap would also include specifications on related implementation modalities, and how the proposed payment modality would ensure improved quality of care as well as health facility productivity.

5.35 **The Program will support the third and final phase of the government's roll-out of an integrated, digitalized health management information system at public PHC facilities in Program area.** Deployment of integrated patient-level electronic medical records is the prerequisite to enabling coordination between providers, improving the availability of health sector data, and transitioning towards a learning health system.[77] Over the past decade, Morocco has made substantial progress, first having developed a detailed strategy and rolled out facility-level information systems at hospitals, and second, having phased this in public PHC facilities while launching integrated patient-level electronic medical records at the hospital level. The Program supports the third and final phase through the finalization of the deployment of integrated patient-level electronic medical records at remaining GST in Program area; and publication of an annual health sector report including data on effective coverage indicators and other quality metrics, disaggregated by GST and gender, at most a year after the generation of the data. The government has allocated of the required budget for the implementation of this initiative and started the procurement processes, ensuring sustainable implementation of the integrated health information system. The information system would include detailed patient-level information on demographics, conditions, and treatments, with coding mechanisms developed to bill the CNSS and with interoperability across providers and payers. The rollout of facility-based health information systems and gender disaggregated data collection will allow to capture gender gaps and regional disparities in health service delivery and facilitate decision making at lower levels. Through dematerialization of data, the integrated health information system will contribute to climate change mitigation by reducing the carbon footprint associated with paper health registers. The integrated health information system would also serve as a mechanism to improve data availability during climate shocks, through both remote access to data as well as by preventing possible loss of paper health registers during floods or wildfires, and will enable timely publication of an annual health sector report including actionable information on climate exacerbated conditions and diseases. As 60 percent of the disease burden in Morocco is attributable to conditions that are set to be impacted by climate change[78], the deployment of a patient-level medical records system will enable the health system to adapt to the conditions that are caused by climate change, through enabling evidence-based planning across regions and seasons.

[77] Kruk et al (2018).

[78] IHME Global Burden of Disease data, 2019. This includes: nutritional deficiencies (1%); chronic respiratory diseases (3%); relevant cancers (8%); neglected tropical diseases and malaria (0.25%); sense organ diseases and other non-communicable diseases (10%); skin diseases (1%); respiratory infections and tuberculosis (4%); cardiovascular diseases (26%); and diabetes and kidney diseases (6%).

5.36 **Supporting a transition towards a learning health system, the Program incentivizes the institutionalization of an information and policy exchange and coordination platform between all stakeholders in the health sector, and supports the routine collection of patient satisfaction indicators.** The health system redesign program touches every aspect and involves every stakeholder in the system and is being implemented in the context of low rates of patient satisfaction with the health system. This demonstrates the substantial need to organize both horizontal and vertical information sharing platforms, which are associated with improvements in health sector quality through increased accountability and a transition towards a learning health system.[79] To support this, the Program will support the development of a digitalized information exchange and coordination platform for information sharing and learning between central and regional entities. The new platform, which will be in the format of a discussion forum, will institutionalize such information sharing, and enable constant exchange and coordination between stakeholders at the MHSP, HAS, Moroccan Agency for Medicines, all the GSTs which will be established, as well as health facilities. The exchange will therefore strengthen feedback loops between facilities, GSTs, and central government. Implementation of this platform will complement with the integrated patient-level electronic medical records system and the *Chikaya.ma* citizen engagement and grievance management system, enabling a platform between health system decision-makers to acknowledge and rectify health system challenges faced by citizens. At the same time, given the substantial changes expected with the health system redesign program, it is essential to track feedback from patients, particularly given the absence of an institutionalized modality to regularly track aggregate levels of patient feedback. MHSP is planning to design and implement annual rounds of patient satisfaction surveys both centrally and through the GST, through a range of rapid survey methods. Through supporting these activities, the Program seeks to institutionalize a learning health system across all levels.

5.37 **This result area is supported by four DLIs and two intermediate results indicators.** The Program supports the achievement of results pertaining to each of the dimensions of this approach, and will enable a transition towards governing for quality, through supporting the achievement of the following results: DLI 1 (US$75 million, also a PDO indicator), strengthened institutional capacity through the new deconcentrated governance system; DLI 2 (US$28.875[80] million), updating of provider payment methods particularly for hospitals to improve quality of care; DLI 3 (US$37.5 million), improving the content, quality, accessibility and utilization of health data;, and DLI 4 (US$30 million, also an intermediate result indicator), organization of exchange and coordination platforms between regions and the central level. An additional intermediate results indicator measures improvement in patient satisfaction.

Results Area 2: Improved availability, motivation, and competence of human resources for health

Situation

5.38 **Constraints in the availability, distribution, and performance of the human resources for health pose one of the most substantial bottlenecks to the delivery of quality health services in Morocco.** There are currently about 27,881 doctors in Morocco[81] (13,682 and 14,199 respectively in the public

[79] Witter, S., Sheikh, K., Schleiff, M., 2022. Learning health systems in low-income and middle-income countries: exploring evidence and expert insights. BMJ Glob Health 7, e008115. https://doi.org/10.1136/bmjgh-2021-008115

[80] Front-end fee of 0.25 percent of total amount has been subtracted from DLR 2.1 (originally US$7,500,000; new amount US$6,375,000) under this DLI.

[81] http://cartesanitaire.sante.gov.ma/dashboard/pages2/index_2021.html

and private sectors) and a total of 35,789 paramedic resources (including 15,772 general-purpose nurses and 5,757 midwives). The government estimates a need for an additional 32,000 doctors and 65,000 nurses across the country, which is a substantial share of the current available capacity. This deficit is further aggravated by regional inequalities: according to the distribution of health professionals by region as published in the health map, the density of health care personnel per inhabitants is not equitable and decreases with the regions and provinces' remoteness, with some provinces being under-resourced in terms of doctors, nurses, and technical health staff. Recruitment, accountability, and performance management for human resources for health rests centrally, with limited levels of redistribution and performance management for staff at health facilities.

5.39 **When benchmarked with comparator countries, Morocco performs below average on indicators of human resources for health (HRH) availability**. The number of physicians per 1,000 people in Morocco stands at 0.7, a measure below the LMIC average of 0.9 physician per 1,000 people and below some comparator countries in the region.[82] Similarly, the number of nurses and midwives per 1,000 people in Morocco stands at 1.4 per 1,000 people; below the LMIC average of 2.3 per 1,000 people.

5.40 **The human resource gaps in Morocco vary according to the level of care and medical specialty.** Primary health care is particularly understaffed, and medical specialties such as mental health, cardiovascular, neurosurgery, radiotherapy, hematology, and geriatric are experiencing workforce deficits.[83] There is also a shortage of qualified managers. Additionally, the health workforce is ageing; in 2015, 37% of health personnel were over 51 years old, and by 2025 1,923 physicians (approximately 20%) and 11,160 other health professionals are expected to retire. This will have a direct impact on the staffing of some medical specialties such as general surgery, obstetrics, pediatrics, and anesthesiology, which account for a high proportion of practitioners close to retirement age.[84]

5.41 **The distribution of health workers is uneven.** On average across the country, there is 1 physician (including both private and public physicians) per 1,420 persons. The region of Casablanca-Settat has the most physicians available per population with 1 physician available for each 951 persons, whereas Drâa-Tafilalet has the lowest, with 1 physician available for each 3176 persons. In the public sector, the average rate of public physician per 1,000 people in Morocco is 0.34 according to 2019 data from the MOHSP. The distribution of private physicians is different however with the national average being equal to 0.38 private physician per 1,000 people and with Casablanca-Settat and Rabat-Salé-Kénitra having the highest rates of private physicians per 1,000 people (0.67 and 0.59 respectively). The majority of public physicians in Morocco are employed by the hospital network (70 percent), with the remaining divided between the primary healthcare network (28 percent), the network of medico-social establishment (1 percent), and the integrated network of emergency medical care (1 percent). The distribution of public nurses and midwives across Morocco's regions is comparatively inverse to that of physicians. The national average availability of nurses and midwives per 1,000 people stands at 0.89 with Oriental having the highest ratio (1.13 nurses and midwives per 1,000 people) and Casablanca-Settat having the lowest ratio (0.67 nurses and midwives per 1,000 people).

5.42 In order to rectify these challenges, the government established a three-step approach to improve the availability and quality of human resources through motivating health workers, reforming the

[82]World Bank. (2021). *World Development Indicators – Based on latest available year data*.
[83] Health workforce snapshot, Morocco, WHO MENA, 2017
[84] Health workforce snapshot, Morocco, WHO MENA, 2017

training system and opening the practice of medicine to foreigners and Moroccans residing abroad as described. Framework Law 06-22 and Law 09-22 operationalize the special status for health workers which would allow health workers to be paid based on performance, as well as incentivize the recruitment of foreign doctors or Moroccan doctors residing abroad. In addition to these financial incentives, the Law also stipulates for the expansion of training capacity, particularly for priority cadres that face substantial shortages, as well as the opening of new training programs for specialists. In order to improve clinical competency, the Law includes measures to update training curricula, scale up continuous in-service training, and improve inequalities in the distribution of health workers within and across regions.

5.43 The Ministry of Health and Social Protection has adopted a human resources development strategy (2021-2026) based on six main pillars of improvements, with (1) improved satisfaction and motivation of health professionals; (2) staff development and capacity building; (3) regionalization and digitalization of human resources management; (4) public-private partnerships; (5) introduction of a special status for health workers as stipulated under the Law 09-22, and (6) the communication and social dialogue. The first strategy includes facilitating the integration of professionals into the health system, promoting gender equality, improved working conditions and occupational health, as well as recognizing and rewarding performance. Through the second axis, the strategy supports major health system reform projects through training plans at central and regional levels, promotes regionalization of training and promotes the adaptation of training to the new needs of the health system, and new specialist cadres. The third axis looks at strengthening human resources management structures at the decentralized level, generalizing the use of the unified human resources information system, and establishing regional competition to improve distribution of staff. On public-private partnership, the strategy seeks to implement the integration of training and compensation across public and private sectors, through ensuring improved competitiveness for the public sector. The fifth axis on the special status includes improved compensation for the health workforce, improved accountability through financial incentives, implementation of regional medical programs, and the implementation of a digitalized health information system to allow for the allocation of staff across regions. Finally, the sixth axis promotes communication and transparency, and strengthening social dialogue.

International Experience

5.44 **Financial and non-financial incentives can be leveraged collectively and effectively to improve provider motivation and performance.** Health workers in low- and middle-income settings face challenging conditions, including inadequate and delayed salaries, heavy workloads, ambiguous responsibilities, no opportunities for growth, and poor treatment by colleagues and patients.[85,86,87] These conditions result in burnout (emotional exhaustion, depersonalization, and low personal

[85] El Koussa, M., Atun, R., Bowser, D., & Kruk, M. E. (2016). Factors influencing physicians' choice of workplace: systematic review of drivers of attrition and policy interventions to address them. *Journal of global health*, *6*(2).
[86] Selamu, M., Thornicroft, G., Fekadu, A., & Hanlon, C. (2017). Conceptualisation of job-related wellbeing, stress and burnout among healthcare workers in rural Ethiopia: a qualitative study. *BMC health services research*, *17*, 1-11.
[87] Abimbola, S., Olanipekun, T., Igbokwe, U., Negin, J., Jan, S., Martiniuk, A., ... & Aina, M. (2015). How decentralisation influences the retention of primary health care workers in rural Nigeria. *Global health action*, *8*(1), 26616.

achievement), mental distress, but also in poorer quality of care.[88,89,90] Motivated providers are less prone to poor judgement or medical errors and are less likely to show empathy towards patients.[91] Interventions focused on improving working conditions, ensuring regular pay, improving interpersonal relationships, building supportive clinical supervision including mentorship and coaching, and providing opportunities to learn and grow can help maintain a motivated workforce committed to providing high-quality care; though evidence around the effectiveness of these from LMICs is often lacking.[92,93] When it comes to financial incentives, raising the compensation of primary care workers so that it is comparable with other specialties, is another important strategy. This enhances recruitment, retention, and motivation of primary care workers. For example, Australia, Canada, Croatia and the United Kingdom have included incentives in their reimbursement programs to promote the employment of nurses and administrative staff by primary care physicians and the formation of group practices.[94]

5.45 **Financial incentives have the potential to improve quality and motivation, if they incorporate metrics based on context.** International experience demonstrates that performance defined as productivity or volume of services, without accounting for quality, can result in overprovision of certain services: unless payment systems at both individual and facility levels are carefully calibrated, there is a high risk of unnecessary and potentially harmful use of drugs, diagnostics, and interventions.[95] For example, in China, a pricing policy that financially rewarded doctors and hospitals for the quantity of services provided led to increases in costs, reductions in safety of care through unnecessary procedures and overuse of drugs, as well as false positives from poor tests.[96] To avoid incentivizing overprovision, performance should be defined as a combination of the quantity of services delivered as well as the competency of the providers and their clinical outcomes, with the weights of each carefully calibrated. It is also crucial to ensure that healthcare workers have the necessary tools that enable them to perform i.e., a fair employment package including a mix of financial (for e.g., performance-based bonuses for adherence to guidelines or competence, upward career mobility), and non-financial (for e.g., recognition, reasonable workload) incentives, and an enabling environment with sufficient physical resources, including medical supplies and equipment. A review of experience from OECD countries demonstrates that financial incentives to health workers which focused on reimbursements per achievements (or 'positive incentives'), such as those incentivizing increases in the number of controlled hypertension patients, had the potential to

[88] Dugani, S., Afari, H., Hirschhorn, L. R., Ratcliffe, H., Veillard, J., Martin, G., ... & Bitton, A. (2018). Prevalence and factors associated with burnout among frontline primary health care providers in low-and middle-income countries: a systematic review. *Gates open research*, *2*.

[89] Selamu et al (2017).

[90] Kazmi, R., Amjad, S., & Khan, D. (2008). Occupational stress and its effect on job performance. A case study of medical house officers of district Abbottabad. *J Ayub Med Coll Abbottabad*, *20*(3), 135-139.

[91] Kumar, S. (2016, June). Burnout and doctors: prevalence, prevention and intervention. In *Healthcare* (Vol. 4, No. 3, p. 37). MDPI.

[92] Dugani et al (2018).

[93] Kruk et al (2018).

[94] Somanatahn et al (2019).

[95] Josephson, E., Gergen, J., Coe, M., Ski, S., Madhavan, S., Bauhoff, S., 2017. How do performance-based financing programmes measure quality of care? A descriptive analysis of 68 quality checklists from 28 low- and middle-income countries. Health Policy and Planning 32, 1120–1126. https://doi.org/10.1093/heapol/czx053

[96] UNRISD, 2014. Universal Health Coverage: The Case of China—William Hsiao, Mingqiang Li and Shufang Zhang.

improve outcomes.[97] Another systematic review of interventions aimed at improving healthcare provider performance found that practices varied substantially, although some approaches were consistently more effective than others; for example, while training is effective in improving quality of care, the effect is larger if training is combined with supervision.[98]

5.46 **These incentives can also be leveraged for improving healthcare worker retention in rural and remote areas.[99]** World Health Organization developed 17 strategies organized across the education, regulation, incentives, and support categories which should be interconnected, bundled and tailored to the local context (table 2). Improvements in developing a high-quality health care workforce in Brazil, Ghana, Mexico, and Thailand reveal that employing more staff in underserved areas is a necessary but not sufficient conditions to improve quality and access: this deployment would need to be bundled with the right mix of financial and non-financial incentives so that healthcare workers are attracted, recruited and retained in rural and remote areas.[100]

Table 2: Overview of health worker retention incentives

Education

1. Use targeted admission policies to enroll students with a rural background in health worker education programs [recommendation]	
Strength of recommendation – strong	Certainty of evidence – moderate
2. Locate health education facilities closer to rural areas [suggestion]	
Strength of recommendation – conditional	Certainty of evidence – low
3. Exposing students of a wide array of health worker disciples to rural and remote communities and rural clinical practices [recommendation]	
Strength of recommendation – strong	Certainty of evidence – low
4. Include rural health topics in health worker education [recommendation]	
Strength of recommendation – strong	Certainty of evidence – low
5. Design and enable access to continuing education and professional development programs that meet the needs of rural health workers to support their retention in rural areas [recommendation]	
Strength of recommendation – strong	Certainty of evidence – low

Regulation

1. Introduce and regulate enhanced scopes of practice for health workers in rural and remote areas [suggestion]	
Strength of recommendation – conditional	Certainty of evidence – low

[97] Lin, T.K., Werner, K., Witter, S., Alluhidan, M., Alghaith, T., Hamza, M.M., Herbst, C.H., Alazemi, N., 2022. Individual performance-based incentives for health care workers in Organisation for Economic Co-operation and Development member countries: a systematic literature review. Health Policy 126, 512–521. https://doi.org/10.1016/j.healthpol.2022.03.016

[98] Rowe, A. K., Rowe, S. Y., Peters, D. H., Holloway, K. A., Chalker, J., & Ross-Degnan, D. (2018). Effectiveness of strategies to improve health-care provider practices in low-income and middle-income countries: a systematic review. *The Lancet Global Health*, *6*(11), e1163-e1175.

[99] World Health Organization. (2021). *WHO guideline on health workforce development, attraction, recruitment and retention in rural and remote areas*. World Health Organization. https://www.ncbi.nlm.nih.gov/books/NBK570763/pdf/Bookshelf_NBK570763.pdf

[100] Campbell, J., Buchan, J., Cometto, G., David, B., Dussault, G., Fogstad, H., ... & Tangcharoensathien, V. (2013). Human resources for health and universal health coverage: fostering equity and effective coverage. *Bulletin of the World Health Organization*, *91*, 853-863.

2. Introduce different types of health workers for rural practice to meet the needs of communities based on people-centred service delivery models [suggestion]	
Strength of recommendation – conditional	Certainty of evidence – low
3. Many Member States have compulsory service agreements. When compulsory service in rural and remote areas exists, it must respect the rights of health workers and be accompanied with fair, transparent and equitable management, support and incentives [suggestion]	
Strength of recommendation – conditional	Certainty of evidence – low
4. Provide scholarships, bursaries or other education subsidies to health workers with agreements for return of service [suggestion]	
Strength of recommendation – conditional	Certainty of evidence – low

Incentives

1. Employ a package of fiscally sustainable financial and nonfinancial incentives for health workers practising in rural and remote areas [recommendation]	
Strength of recommendation – strong	Certainty of evidence – low

Support

1. Invest in rural infrastructure and services to ensure decent living conditions for health workers and their families [recommendation]	
Strength of recommendation – strong	Certainty of evidence – low
2. Ensure a safe and secure working environment for health workers in rural and remote areas [recommendation]	
Strength of recommendation – strong	Certainty of evidence – low
3. Provide decent work that respects the fundamental rights of health workers [recommendation]	
Strength of recommendation – strong	Certainty of evidence – low
4. Identify and implement appropriate health workforce support networks for health workers in rural and remote areas [suggestion]	
Strength of recommendation – conditional	Certainty of evidence – low
15. Adopt a policy of having career development and advancement programs, and career pathways for health workers in rural and remote areas [recommendation]	
Strength of recommendation – strong	Certainty of evidence – low
5. Support the development of networks, associations and journals for health workers in rural and remote areas [suggestion]	
Strength of recommendation – conditional	Certainty of evidence – low
6. Adopt social recognition measures at all levels for health workers in rural and remote areas [recommendation]	
Strength of recommendation – strong	Certainty of evidence – very low

5.47 **Financial incentives, in particular, positively impact the recruitment and retention of health workers in rural areas.**[101,102,103,104,105] A review from 2009 demonstrates that local involvement to reflect needs and context was a prerequisite to the success of financial incentives for retention and quality improvement. [106] Salaries and allowance have been found to be positively linked to health workers' decisions to locate in (or remain in) a rural area across several countries and health worker occupations.[107,108,109,110] Discrete choice experiments and health labor market analysis can help design incentive schemes and understand the demands and preferences of health workers. Monitoring and evaluating incentive programs to ensure their fiscal sustainability and equity across different health professions is important. In addition to supplementing basic salaries and allowances, other incentives such as loans or grants for housing and transportation, additional leave, postgraduate sponsorship, expediting promotion, insurance coverage, tax relief, and education subsidies for health workers and their families, as well as employment opportunities for their spouses, can be used to encourage health workers to work in rural areas. To maximize impact, policies could target certain groups more positively influenced by incentives, such as recent graduates[111,112] and unemployed or underemployed health workers. Potential unintended consequences of incentives include increases in cost and administrative burden, issues of lack of transparency and awareness of eligibility for schemes, payment delays, and equity, including possible lack of fairness and creating divisions within teams or within the community.

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[101] Dieleman, M., Cuong, P. V., Anh, L. V., & Martineau, T. (2003). Identifying factors for job motivation of rural health workers in north Viet Nam. *Human Resources for Health*, 1(1), 10. http://human-resourceshealth.biomedcentral.com/articles/10.1186/1478-4491-1-10

[102] Iipinge, S. N., Hofnie, K., van der Westhuizen, L., & Pendukeni, M. (2006). Perceptions of health workers about conditions of service: A Namibian case study. Regional Network for Equity in Health in Southern Africa (EQUINET). http://www.albacharia.ma/xmlui/bitstream/handle/123456789/31905/DIS35HRiipinge.pdf

[103] Mangham, L. J., & Hanson, K. (2008). Employment preferences of public sector nurses in Malawi: Results from a discrete choice experiment. Tropical Medicine and International Health, 13(12), 1433–1441. http://doi.wiley.com/10.1111/j.1365-3156.2008.02167.x

[104] Martineau, T., Lehmann, U., Matwa, P., Kathyola, J., & Storey, K. (2006). Factors affecting retention of different groups of rural health workers in Malawi and Eastern Cape Province, South Africa. Geneva: World Health Organization, Alliance for Health Policy and Systems Research.

[105] Kotzee, T. J., & Couper, I. D. (2006). What interventions do South African qualified doctors think will retain them in rural hospitals of the Limpopo province of South Africa? Rural and Remote Health, 6(3), 581.

[106] Dieleman, M., Gerretsen, B., van der Wilt, G.J., 2009. Human resource management interventions to improve health workers' performance in low and middle income countries: a realist review. Health Res Policy Sys 7, 7. https://doi.org/10.1186/1478-4505-7-7

[107] Humphreys, J., Wakerman, J., Pashen, D., & Buykx, P. (2009). Retention strategies and incentives for health workers in rural and remote areas: What works? Canberra: Australian Primary Health Care Research Institute. https://rsph.anu.edu.au/files/international_retention_strategies_research_pdf_10642.pdf

[108] Ashkenazi, Y., Gordon, M., & Rosen, B. (2019). Using financial incentives to attract medical residents to the periphery: The Israeli experience. Health Policy, 123(1), 80-86. https://linkinghub.elsevier.com/retrieve/pii/S0168851018305827

[109] Solowiej, K., Upton, P., & Upton, D. (2010). A scheme to support the recruitment and retention of allied health professionals to hard to fill posts in rural areas. International Journal of Therapy and Rehabilitation, 17(10), 545-555. http://www.magonlinelibrary.com/doi/10.12968/ijtr.2010.17.10.78813

[110] Lisam, S., Nandi, S., Kanungo, K., Verma, P., Mishra, J., & Mairembam, D. (2015). Strategies for attraction and retention of health workers in remote and difficult-to-access areas of Chhattisgarh, India: Do they work? Indian Journal of Public Health, 59(3), 189. http://www.ijph.in/text.asp?2015/59/3/189/164656

[111] Reid, S. (2004). Monitoring the effect of the new rural allowance for health professionals.

[112] Yong, J., Scott, A., Gravelle, H., Sivey, P., & McGrail, M. (2018). Do rural incentives payments affect entries and exits of general practitioners?. *Social Science & Medicine*, *214*, 197-205.

5.48 **In addition to the implementation of financial and non-financial incentives, improvement of training capacity and quality is a prerequisite to improved human resources for health capacity.** The Lancet Global Health Commission on High Quality Health Systems highlighted the healthcare workforce gaps and the threats it poses on health-care quality in LMICs.[113] Providers often do less than half of recommended evidence-based care measures and the rate of discharge accuracy are low; this is also true of providers in their first 3 years of practice, suggesting a probable role of poor pre-service education in provider performance. Reforms to preservice training capacity and competency are needed to rectify this.[114,115] Suggested policies include focusing health professionals' education on achieving competence through active learning, early clinical exposure, and problem-solving learning; addressing the chronic under-staffing of many health-care professional schools in LMICs and supporting high-quality teaching to improve the quality of clinical education through increased salaries, improvement of professional development opportunities or small incentives like free housing or telecommunications;[116,117] and establishing student recruitment and retention policies to increase the representativeness of the student population, as evidence points to higher perceived quality of care, satisfaction, and improved medical communication when providers and patients share similar cultural or linguistic characteristics.[118,119,120,121]

Soundness

5.49 **To rectify the challenges in the availability, distribution, and performance of the health workforce in Morocco, the health system redesign program seeks to improve the availability and quality of the health workforce.** Framework Law 06-22 and Draft Law 09-22 seek to improve the availability, motivation, and performance of the health workforce through five actions: (i) improving the availability and distribution of the health workforce, through improved training capacity and the recruitment of foreign doctors or Moroccan doctors residing abroad; (ii) tasking GST with recruiting and managing the performance of the health workforce in their respective catchment areas; (iii) improving the compensation of the human resources working in the health sector by establishing the health service to define health worker entitlements and to improve the quality of service delivery; and (iv) strengthening the quality of pre- and in-service training for health workers at both training institutions and regional levels.

5.50 **The Program will improve the quality of health services through incentivizing the design and implementation of a new financial incentive structure and improving the distribution of the health workforce.** Draft Law 09-22 has been adopted by the council of government in December 2022, and by the parliament on April 26, 2023, building on the decree 2.22.682 to change the salary structure of

[113] Kruk et al (2018).
[114] Ibid.
[115] Leslie, H. H., Gage, A., Nsona, H., Hirschhorn, L. R., & Kruk, M. E. (2016). Training and supervision did not meaningfully improve quality of care for pregnant women or sick children in sub-Saharan Africa. *Health Affairs*, *35*(9), 1716-1724.
[116] Mullan, F., Frehywot, S., Omaswa, F., Buch, E., Chen, C., Greysen, S. R., ... & Neusy, A. J. (2011). Medical schools in sub-Saharan Africa. *The Lancet*, *377*(9771), 1113-1121.
[117] Kruk et al (2018).
[118] Ibid.
[119] Frenk, J., Chen, L., Bhutta, Z. A., Cohen, J., Crisp, N., Evans, T., ... & Zurayk, H. (2010). Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *The lancet*, *376*(9756), 1923-1958.
[120] Thornton, R. L. J., Powe, N. R., Roter, D., & Cooper, L. A. (2011). Patient–physician social concordance, medical visit communication and patients' perceptions of health care quality. *Patient education and counseling*, *85*(3), e201-e208.
[121] Cooper, L. A., Roter, D. L., Johnson, R. L., Ford, D. E., Steinwachs, D. M., & Powe, N. R. (2003). Patient-centered communication, ratings of care, and concordance of patient and physician race. *Annals of internal medicine*, *139*(11), 907-915.

the health workforce and introduce a variable component in the compensation based on performance including on quality. The incentive model will outline the adaptation of the payment model, through the introduction of differing coefficients of medical procedures within regions, and through mechanisms to measure performance of health workers and teams through a focus on both productivity and quality. The financial incentive structure will be implemented in addition to the base salary of health workers, and the payment would come from the AMO payments received by the GST, within a range taking into account the health and economic context of the region. This structure will be codified through one of the implementation decrees of the Draft Law 09-22. Through introducing a financial incentive to improve performance, which can incentivize reduced absenteeism or increased adherence to clinical guidelines, the Program will support improvements in provider motivation, helping close the know/do gap and strengthen quality of care. Considering the higher representation of women in the health sector, the Program will also support the definition of performance criteria through a gender lens, ensuring that they take gender equality into account, benefiting labor perspectives and conditions for women especially as they move to harder-to-reach areas. Given the role of GST in managing the health workforce within a region, performance payments will also be used for ensuring mobility within a GST, through incentivizing health workers to provide services not only in urban areas but also in underserved rural areas within a particular region. Particular attention will be given to preventing over-treatment and unnecessary care which could be unintended consequences of fee for service or volume-based incentives, through the integration of quality of health care delivery in the definition of the human resources incentive model. Financial incentives have the potential to improve quality and motivation, if they incorporate metrics based on context. These incentives can also be leveraged for improving healthcare worker retention in rural and remote areas.[122] International experience demonstrates that performance defined as productivity or volume of services, without accounting for quality, can result in overprovision of certain services: unless payment systems at both individual and facility levels are carefully calibrated, there is a high risk of unnecessary and potentially harmful use of drugs, diagnostics, and interventions.[123] The World Bank will seek opportunities to mobilize technical assistance to support the collation of relevant global experience as well as the development of policy options for the development of this payment modality.

5.51 **The Program supports the establishment of building blocks for the deployment of health workforce to reduce regional inequalities.** The finalization of the human resources health information system and its deployment by all GSTs will allow for instant tracking of filled/vacant positions and continuous monitoring of human resources gaps and need. This administrative reform, combined with the human resources incentive model, would contribute to a better availability of human resources, particularly in the provinces and municipalities that are currently under-resourced in terms of doctors, nurses, and technical health staff, therefore improving quality of care, particularly in rural areas, including the ones most vulnerable to climate change risks. Leveraging information from the climate health vulnerability assessment to identify climate vulnerable facilities, the human resources for health information system will help anticipate needs in the most underserved facilities and those most vulnerable to climate change, and therefore address shortage through improved distribution adapted to the increased demand. Once GSTs have operationalized the human resources

[122] World Health Organization. (2021). *WHO guideline on health workforce development, attraction, recruitment and retention in rural and remote areas*. World Health Organization. https://www.ncbi.nlm.nih.gov/books/NBK570763/pdf/Bookshelf_NBK570763.pdf

[123] Josephson, E., Gergen, J., Coe, M., Ski, S., Madhavan, S., Bauhoff, S., 2017. How do performance-based financing programmes measure quality of care? A descriptive analysis of 68 quality checklists from 28 low- and middle-income countries. Health Policy and Planning 32, 1120–1126. https://doi.org/10.1093/heapol/czx053

health information system and implemented the human resources incentive model, they would be able to increase the percentage of vacancies filled in provinces and communes with current insufficient health workforce.

5.52 **Improving the availability of human resources for health and the quality of the health system is not possible without increased training capacity and quality, which is supported by this Program.** To rectify the low levels and inequitable distribution of the health workforce, the MHSP, the MEF and the Ministry of Higher Education and the Scientific Research and Innovation have signed a framework agreement to increase the training of health professionals, improve the availability of specialized training programs, and improve the quality of training content by 2030. With an objective of having a workforce of 177,000 health professionals by 2030, the MHSP has developed an action plan to train 64,000 nurses and health technicians. In this context, the Program will support improved training capacity for nurses and health technicians at the ISPITS. In addition to improved training capacity, the Program will support the improved quality of the pre-service and in-service training curricula for nurses and health technicians, both in terms of the introduction of new specialties as well as ensuring alignment with the current epidemiological context and the health system redesign program. Together with financial incentives, these updates to training curricula will ensure improved relevance and quality of the health workforce.

5.53 **This result area is supported by two DLIs and an intermediate results indicator.** DLI 5 supports the operationalization of the health service to define health worker entitlements and to improve the quality of service delivery, specifically through an increased share of GSTs in Program area that have increased and equitably distributed their human resource capacity (US$45 million). DLI 6 supports increased training capacity in ISPITS (US$45 million, also an intermediate results indicator). An additional intermediate results indicator measures updates to training curricula for nurses and technical staff at both central (pre-service training) and regional (in-service training) levels.

Results Area 3: Strengthened and reorganized health services

Situation

5.54 **While access to health care cannot prevent all mortality, evidence shows that Morocco has a higher share of mortality due to low quality of care than lack of utilization.** According to a cross-country study from 2018, 55 percent of all amenable deaths[124] to Morocco were due to poor quality: there were 22,005 deaths that were preventable by population level interventions, and 34,996 amenable to health care; of the deaths amenable to health care, 19,241 were due to poor quality and 15,755 due to non-utilization, demonstrating that poor quality is a more significant[125] driver of mortality in Morocco as opposed to non-utilization.

5.55 **While there is a wide range of initiatives in Morocco to ensure quality of care, there is no single unified systematic approach or architecture to evaluate quality of care or implement recommendations.** One of the responsibilities of the Direction of Hospitals and Ambulatory Care

[124] Amenable deaths are defined as deaths which would have been prevented in the presence of access to quality health services.

[125] There were 56 deaths per 100,000 in Morocco due to poor quality; Kruk, M.E., Gage, A.D., Joseph, N.T., Danaei, G., García-Saisó, S., Salomon, J.A., 2018. Mortality due to low-quality health systems in the universal health coverage era: a systematic analysis of amenable deaths in 137 countries. The Lancet 392, 2203–2212. https://doi.org/10.1016/S0140-6736(18)31668-4

(DHSA) is "technical planning for the improvement of quality of care," and there is no other directorate within the Ministry of Health or in regional and district health offices that is primarily charged with quality of care. A key lever that has been used by the DHSA over the past decade is the quality competition (*concours qualite),* which has had seven rounds between 2007-2018, and ranks participating health centers and hospitals across domains of accessibility, security, satisfaction, ethics, rational resource use, improvements, technical competency, leadership, and community engagement (only for health centers), across a total of 23 dimensions and 78 indicators for hospitals and 14 dimensions and 42 indicators for health centers. Participation rate is low at 15 percent, indicating that the results are not necessarily nationally representative. Box 2 highlights key results from the quality competition, which demonstrates low scores across all indicators and facility types. While the indicators in the competition are rigorous, and while results are publicized and workshops are held at the district-level for improvement strategies, the scores from the assessment are not associated with any sort of financial or non-financial incentive, which reduces the potential impact and accountability of this initiative. Another potential bottleneck in effective responsiveness and quality improvement is the fact that neither health districts nor hospitals have full autonomy: in the context of this centralized system, communication at the regional level remains incomplete. As an example, while a gatekeeper role and formal processes exist for referrals, only 35 percent of patients are registered at primary health care facilities, and only about 8 percent of cases are referred to secondary care, indicating the prevalence of bypassing and pointing to the difficulty in moving towards a patient-centered health system. Results from the quality competition, as highlighted in box 2, further demonstrate the salience of the reforms designed to empower health districts and hospitals through autonomy, so that they have the managerial and financial means to act upon the challenges they face in delivering high-quality health services. The upcoming establishment of the High Authority for Health would prove instrumental in establishing a centralized system of quality evaluations through the launch of accreditation. Further, the implementation of regional medical programs (PMR) within each of the decentralized, autonomous GST will enable a focus on quality of care, with the implementation of evaluations and the institution of processes to learn from the results of evaluations.

Box 2: Key insights from the sixth edition of the quality competition, 2015-2016[126]

- There is significant variation within regions on the performance of health facilities, as well as on the average performance across regions; highest performance being at Souss (69 percent) and the lowest being Meknes (28 percent). Urban areas have significant inequality across hospitals; for example, the average score in Casablanca is 50 percent, with the minimum at 23 percent and the high at 80 percent; similar trends are seen in Rabat as well.
- Regarding hospitals, the average performance for all indicators is below 50 percent, with the highest performance on rational resource use (48 percent) and lowest on patient satisfaction (38 percent) as well as technical competency (44 percent). Performance score for various indicators for almost all dimension has declined, notably with patient satisfaction declining from 51 percent in 2007 to 38 percent in 2015.

[126] Data will be updated once the seventh edition results are received. Source for the data for the bullet points and graph: Ministry of Health, March 2016 "Concours qualite, 6eme edition, rapport global"

- Only 32 percent of hospitals have a quality improvement process or strategy, and less than a third of hospitals correctly implemented social assistance schemes nor had measures allowing for collecting patient feedback.
- Only about 40 percent of hospitals have financial or non-financial incentive mechanisms for their health workers, or have a human resource management strategy.
- Results were stronger for health centers, but mirrored hospitals in terms of the variation and inequalities, with the highest performance in Casablanca (57 percent) and lowest in Chaouia (32 percent). Patient satisfaction had the highest average (52 percent), but community engagement had the lowest (33 percent).
- Technical quality and health workforce indicators were higher at health centers, with a 56 percent average for health workers being motivated, and 51 percent for rational drug utilization.
- While the indicators are comprehensive, there are no indicators on adherence to clinical guidelines, or on provider competence, which provides an opportunity for expansion and improvement, particularly as standardized clinical guidelines exist across both hospitals and health centers.

5.56 **Primary care and hospital infrastructure in Morocco are inequitably distributed and remain below comparator countries, negatively impacting quality of care.**[127] While availability of these inputs does not imply quality, sufficient infrastructure is a prerequisite to the delivery of quality services. There are 0.37 public and private primary care facilities per 1,000 people in Morocco; these include public PHCs, private clinics, and private medical offices. The regions with the highest ratio of primary care facilities per 1,000 people are Casablanca-Settat and Rabat-Salé-Kénitra; this high ratio is driven mostly by the large presence of private sector providers as opposed to public PHCs (**Error! Reference source not found.**). On the other hand, the regions with the lowest primary care facilities per 1,000 people are the predominantly rural Drâa-Tafilalet region has about a quarter of the capacity of Casablanca and Rabat. The low ratio is primarily driven by low presence of private sector facilities in these regions. With about 13,000 individuals per primary health center nationally, sufficient primary care capacity is likely to be a bottleneck in the implementation of the family medicine system. Hospital capacity is also low, and Morocco has lower hospital bed capacity than almost every country in MENA (at about 1 bed per 1,000), and the figure has not changed on a per-population basis since 2017. The majority of beds are in public hospitals, with 0.70 public hospital beds per 1,000 and 0.30 private hospital beds per 1,000. While there is no breakdown of private hospital beds by region, public hospital capacity is inequitably distributed. 99 percent of hospitals are in urban areas, highlighting access difficulties for individuals living in remote rural areas. An analysis of other private infrastructure, including private pharmacies and capital medical equipment, also demonstrates the concentration of most of these assets predominantly in urban areas. Hemodialysis machines pose an exception, where urban centers such as Casablanca, Rabat, Fes, and Marrakech have less than half the capacity per capita as Oriental. Data from the Vital Signs Profile (VSP) for Morocco's primary health system, as compiled by the World Health Organization in 2020 under the Primary Healthcare Performance Initiative (PHCPI), demonstrates that about 10 percent of the population having to travel over 5 kilometers, or an hour, to arrive to the nearest primary health care facility, highlighting

[127] Data presented throughout this note on Moroccan health system capacity is from an internal policy note prepared by the team assessing the publicly available Moroccan *carte sanitaire* data as well as benchmarking it to peer countries using publicly available World Bank World Development Indicators data; this policy note is available upon request.

important access bottlenecks. According to the VSP, most primary health facilities have the necessary equipment, and over 90 percent of primary health centers deliver maternal and newborn health services. The low levels and the inequitable distribution of public and private health service delivery capacity is a significant bottleneck in service delivery, even as data is missing on other aspects of platforms and tools, such as the availability of functional medical equipment and essential medicines at hospitals to enable high-quality service delivery.

5.57 **A guide for epidemiological surveillance standards was developed in 2002 to normalize and standardize case definitions of all reportable diseases in Morocco but needs to be updated.** Epidemiological surveillance in Morocco is carried out by the Direction of Epidemiology and Disease Control (DELM) under the Ministry of Health of Social Protection (MHPS) through various programs and strategies, The law governing the surveillance of notifiable diseases dates back to 1967 (Royal Decree n° 554-65 of 17 Rabii I 1387 June 26, 1967) with a decree of the Minister of Public Health n° 683-95 of 30 Chaoual 1415 (March 31, 1995) setting out the modalities of application of this Royal Decree. A guide for epidemiological surveillance standards was elaborated in 2002 to normalize and standardize the definitions of cases of all the diseases subject to a declaration in the country.[128] The national surveillance system includes both passive and active surveillance. Passive surveillance involves the routine collection of data on notifiable diseases from health facilities and laboratories, while active surveillance involves targeted data collection for specific diseases or outbreaks. In addition to disease surveillance, Morocco also conducts environmental and food surveillance to monitor for potential health hazards. Morocco also participates in global surveillance programs, such as the World Health Organization's Global Influenza Surveillance and Response System and the Global Polio Eradication Initiative. Furthermore, the country has implemented specific surveillance measures in response to COVID-19 pandemic, including contact tracing, laboratory testing, and isolation and treatment of cases. Overall, the aim of epidemiological surveillance in Morocco is to detect and respond to disease outbreaks in a timely manner to prevent their spread and protect public health.[129]

5.58 **The Moroccan epidemiological surveillance system is based on several key principles, including timely detection, rapid response, and the use of reliable and standardized surveillance methods.** The system monitors a range of infectious and non-infectious diseases, including respiratory infections, diarrheal diseases, vaccine-preventable diseases, and sexually transmitted infections[130]. The MHSP through the DELM has created a new system of management of health emergencies under the Decision of the Minister of Health No. 0130064 of September 16, 2019, creating a National Public Health Emergency Operations Center (CNOUSP), Regional Public Health Emergency Operations Centers (CROUSP). The CNOUSP was recognized as the main coordinator of health operations during the Covid-19 pandemic. It was the first point of contact at the central level for all matters related to

[128] Bulletin d'épidémiologie et de santé publique N°79 _ DELM, https://www.sante.gov.ma/Publications/Bullten_pidmiologique/BESP%20N%C2%B0%2079%20-%20DELM.pdf

[129] Direction de l'Epidémiologie et de Lutte contre les Maladies, Ministère de la Santé, Royaume du Maroc. (2019). Plan Stratégique de Surveillance et de Riposte aux Maladies Epidémiques et Pandémiques. http://www.sante.gov.ma/Publications/Plans_strategiques/PSSRMEP-2019-2023.pdf

[130] World Health Organization. (2019). Technical Report on the Assessment of the Moroccan Epidemiological Surveillance System. https://apps.who.int/iris/handle/10665/325322

the pandemic response, responsible for the daily collection of epidemiological data and available information. The CNOUSP coordinates with the CROUSPs on the technical aspect of the preparation and response and the management of specific situations reported by the CROUSPs, as well as its health monitoring and early warning activities. Regional Directorates of Health (DRS) are responsible for implementing disease surveillance and outbreak response activities within their region. They collect and analyze epidemiological data and report to the CROUSP and manage the data collection at the level of the health district, including district hospitals and primary healthcare facilities. Health districts are responsible for disease surveillance, outbreak investigation, and response at the local level and report to the CROUSP and the DRS.

5.59 **To ensure improved disease control and management, the MHSP through the DELM signed Performance Contracts with the DRS focusing on Epidemiological Surveillance, Monitoring and Health Safety, Prevention and Disease Control**. The performance contract program (government program n° 703) [131] seeks to ensure an improved needs-based allocation of resources from the central administration to the regional directorates, optimizing resources and improving management tools, resulting in improved disease control and management, facilitating in turn the mobilization of additional resources to meet local priority needs. Under these performance contracts, the DELM establishes specific targets, objectives, and performance indicators that the DRS must meet in order to receive funding and support from the central level. These targets are based on four strategic objectives: (1) strengthening the capacity for detection and response to public health emergencies and improving epidemiological surveillance performance based on indicators for responsiveness, representativeness, simplicity, and data quality; (2) improving population access to services of prevention and control of communicable diseases, including prevention, screening and assumption of responsibility, with the aim to reduce the rates of mortality and morbidity due to the priority communicable diseases by 2024; (3) strengthening prevention and management of non-communicable diseases at the level of health centers and hospitals, including promotion of oral health, prevention and control of chronic eye diseases, strengthened oncology care services, development of palliative care services, and fight against mental disorders; (4) strengthening monitoring and evaluation of risks related to the environmental determinants, including health risks related to air quality, food, drinking water, bathing water and sanitation, evaluation of emerging health risks related to disease vectors, and development of communication on environmental health risks. Through these performance contracts, the DELM and DRS collaborate to strengthen the national disease surveillance system and improve the overall health of the population in Morocco.

5.60 **As climate change continues to be a threat to the health of the population in an already climate vulnerable country, the Program will ensure epidemiological surveillance addresses adaptation to climate change**. A study was recently conducted by the DELM to assess the capacity of the epidemiological surveillance. Based on the results of this study, the Program will ensure a roadmap is defined, adopted and validated to restructure the epidemiological surveillance on the basis of the priority areas highlighted. In this regard, the Program will support the inclusion of climate change related diseases to the list of notifiable diseases. This will include notably asthma crisis due to air pollution.

[131] Contrat de Performance 2022-2024 Entre La Direction de l'Epidémiologie et de Lutte contre les Maladies Et La Direction Régionale de la Santé et de la Protection Sociale Rabat-Salé-Kénitra, Décembre 2021

5.61 **Morocco continues efforts to reduce preventable maternal, newborn, and infant deaths through a focus on scaling up audits.** As part of the many strategies and action plans to improve maternal and neonatal health outcomes, the MHSP established the first Maternal Mortality Surveillance System (MMSS) in 2009 as part of the 2008-2012 action plan for the reduction of maternal mortality, with the objective to monitor and reduce maternal deaths in the country. The MMSS is a component of the national health information system and is coordinated by the DELM. It aims to provide reliable and timely data on maternal deaths, identify the causes of these deaths, and monitor trends over time. The system collects information on maternal deaths from multiple sources, including hospitals, health centers, and community health workers. It uses a standardized maternal death notification form to capture data on the demographic characteristics of the deceased woman, the circumstances surrounding her death, and any contributing factors. The form also includes questions to help determine the cause of death and identify opportunities for prevention. Data collected through the MMSS is analyzed at the regional and national levels to identify patterns and trends in maternal mortality. The findings are used to inform policies and programs aimed at reducing maternal deaths and improving the quality of maternal health care in Morocco. The information collected is also used to develop targeted interventions to improve the quality of care for newborns. These interventions may include improving skills of health workers in neonatal care, strengthening referral systems, and providing equipment and supplies to health facilities. The platform has also provided a solid basis for conducting surveys and monitoring maternal mortality and its causes. A survey on maternal deaths and causes was conducted in 2015, and the survey team recommended a new computerized system for monitoring maternal deaths called “the maternal death surveillance system, neonatal death audit and response” (SSDMAR). The surveillance system identified 38% of the estimated deaths of women of reproductive age (WRA) in these areas. The SSDM system identified 187 pregnancy-related deaths, or 45% of estimated deaths. 87% (163 cases) of the deaths were audited by the regional confidential audit committees (CRACs), which retained 152 maternal deaths of direct or indirect cause that occurred less than 42 days after the termination of pregnancy. The audits therefore concerned only 41% of the estimated maternal deaths in the six regions. 84% of deaths occurred in the health facilities or during transfer between two facilities. Three quarters of the deaths occurred postpartum/post-abortum. Of the 116 women who died during or after delivery and for whom information on the status of the newborn was available, 79% of the children were discharged alive from the maternity ward (11% were fresh stillbirths). Three quarters of the deaths were of direct cause, 16% of indirect cause and 10% unspecified. Hemorrhage was the leading cause of death (58%), followed by hypertensive diseases (26%) and infections (8%). Most deaths (80%) were considered avoidable (89% when the cause was direct), 0.7% were considered unavoidable, and for 18.4%, avoidability could not be established. In 87% of hospital deaths, there was at least one preventable factor present. Three or more preventable factors were identified in 60% of home deaths and in 44% of hospital deaths. The most frequently identified factors among hospital deaths were: 1) inappropriate treatment decision (47%); 2) under-appreciation of severity (43%); 3) delay/misdiagnosis (35%); and 4) delay in management at the health service level (30%). At home, the most frequent factor was underestimation of severity (28.5%). Although the SSDMAR is an essential tool for identifying the circumstances of maternal deaths and raising awareness among health professionals on preventable deaths, it remains insufficient in its ability to identify all causes of death of women of childbearing age. The MSPS carried out a test pilot phase of the new information system on causes of death at the level of the Municipality of Rabat in 2019, whose evaluation revealed

promising results. Subsequently, it was extended and implemented at the level of the Municipality of Casablanca and is now used by 7 regions in Morocco; in alignment with the MHSP health reform strategy, the SSDMAR should be expanded to cover all the regions by 2026.

5.62 **Early diagnosis of congenital hypothyroidism specially in the neonatal period avoids severe and irreversible complications**. Congenital hypothyroidism (CH) is a significant health problem in Morocco. The incidence of CH in Morocco is estimated to be between 1:1,500 and 1:2,000 live births, which is higher than the global average of 1:3,000-4,000 live births according to the WHO, with a particularly high burden in neonatal intensive care units due to low levels of uptake of preventive interventions.[132] This condition is characterized by disorders of morphogenesis and hormonogenesis of the thyroid with total or partial insufficiency of thyroid hormone secretion. The disease progresses to severe and irreversible mental development defects, associated with dwarfism and other clinical and metabolic manifestations, which constitutes a heavy burden for the family and society[133]. The main risk factors for CH in Morocco include consanguineous marriage, iodine deficiency, and exposure to environmental toxins. [134] The diagnosis of CH is based on the measurement of thyroid hormone levels in newborns. Treatment involves lifelong hormone replacement therapy, which is effective in preventing the development of intellectual and developmental disabilities. [135] Maniar et al[13], has led pilot study in 2018 for the early diagnosis strategy in the Health structures of Fes- Meknes region, that showed the frequency of HC is 1 for 1952 births in the Fes- Meknes region, and that early HC diagnosis will avoid all the difficulties associated with the disease development and its complications which can be severe and irreversible. Despite the success of the CH screening program in Morocco, there are still challenges that need to be addressed, including the need to improve access to screening services in rural areas, to enhance the quality of screening and diagnostic services, and to increase awareness among healthcare providers and the general population. The third axis of the MHSP 2012-2016 action plan for accelerating the reduction of maternal and neonatal mortality relates to the strengthening of neonatal surveillance during the postpartum period, with the twelfth measure stipulating the introduction of neonatal screening for congenital hypothyroidism in the health care system. This resulted in the creation of specialized diagnosis centers for HC in five regions in Morocco.

5.63 **The adoption of Human Papillomavirus (HPV) vaccine prevents cervical cancer in Morocco.** Cervical cancer is the second women's cancer behind breast cancer, with an estimated 3,388 new cases and 2,465 deaths annually in Morocco [136]. The last decade has been marked by the introduction of a vaccine against this infection and over 80 countries have introduced the HPV vaccine into their

[132] A. Oulmaati, F. Hmami, M. Hida, A. Bouharrou. L'hypothyroïdie congénitale est une cause fréquente d'hospitalisation en réanimation néonatale au Maroc, https://doi.org/10.1016/j.arcped.2015.10.010

[133] Maniar S; Amor C; Bijjou A. Dépistage de l'hypothyroïdie congénitale au Maroc : étude pilote. East Mediterr Health J. 2018;24(11):1066-1073. https://doi.org/10.26719/2018.24.11.1066

[134] Naja, F., El Ansari, N., Belghiti, H., and Menezes, R. (2019). Congenital hypothyroidism in Morocco: A review of the current status of screening, diagnosis, and management. International Journal of Pediatrics, 2019, 1960956. doi: 10.1155/2019/1960956

135 World Health Organization. Congenital Hypothyroidism: Estimated global incidence, mortality and prevalence of congenital hypothyroidism in 2020. Retrieved from https://www.who.int/health-topics/congenital-hypothyroidism#tab=tab_1

[136] 1. Arbyn M, Weiderpass E, Bruni L, de Sanjosé S, Saraiya M, Ferlay J, et al. Estimates of incidence and mortality of cervical cancer in 2018: a worldwide analysis. The Lancet Global Health. 2020. Feb 1;8(2):e191–203. doi: 10.1016/S2214-109X(19)30482-6

national immunization program. The MHSP has adopted the HPV vaccine into its national immunization program in 2022, and its availability is being scaled up.

5.64 **The program of care of women and children victims of violence needs to be reinforced**. The 2017-2021 strategic action plan for the national health program for the care of women and children victims of violence (FEVV) is aligned with the WHA69 resolution, adding a specific component related to the evaluation of quality of care for women and children who are victims of violence in the MHSP integrated units (IU). IUs are generally well equipped, have means of transport, telecommunication and communication; however, they face certain challenges. The units are often located outside of the emergency room and difficult to locate due to the absence of any signage, and the required medicines are often stocked out. Decision-making is structured at the central level, but it is disorganized at regional or territorial levels. While three of the four regions have actions related to the IUs in the field in their contracts, the actions are often not implemented properly.

International Experience

5.65 **Integrated care reforms seek to redesign health service delivery around the needs of patients, and are often associated with improvements in access and quality of health services.** Integrated care approaches entail providing care in the appropriate settings, and ensuring seamless coordination and continuity of care across providers and settings. Emphasis is placed on each patient's unique needs and on ensuring that patients are fully engaged participants in the management of their own health.[137] It means moving away from fragmented and episodic care, towards a more holistic approach to care and is used synonymously to terms like *coordinated care* and *seamless care*.[138,139] Definitions of integrated care also focus on process-based, user-led, and a system-based approach.[140] In many LMIC, this approach implies a launch of gatekeeping reforms which result in the patient seeking care first through the primary health care (PHC) level, as well as the reorganization of PHC services around integrated care delivery (or family health) teams. While there are not many studies on the impact of integrated care from LMIC, there are studies on implementation aspects of transitioning towards integrated care: early evidence from Turkey highlights several challenges such as lack of clearly defined objectives for integrated care, limited access to patient data, a shortage of the primary care personnel required to address the working modality change as a result of integrated care, and a lack of financial models for dealing with non-communicable diseases at the primary care level. Changes in the upper management at the Ministry of Health have also made long-term program planning and implementation difficult, due to discontinuous top-level engagement to commit and engage for possible integrated care initiatives. Despite these challenges, good practices at both the central and local levels, include flexible health information systems, small-scale care coordination efforts for certain diseases, and local attempts to draft and reshape care coordination processes, as well as

[137] Somanathan, A., Finkel, E., & Arur, A. (2019). *Strengthening Integrated Care in Central and Eastern Europe*. World Bank, Washington, DC. https://doi.org/10.1596/33405

[138] WHO Regional Office for Europe. (2016). *Integrated care models: An overview*. WHO Regional Office for Europe, Copenhagen, Denmark. https://www.euro.who.int/__data/assets/pdf_file/0005/322475/Integrated-care-models-overview.pdf

[139] Somanathan et al. (2019)

[140] WHO Regional Office for Europe. (2016). *Integrated care models: An overview*. WHO Regional Office for Europe, Copenhagen, Denmark. https://www.euro.who.int/__data/assets/pdf_file/0005/322475/Integrated-care-models-overview.pdf

regular data collection procedures for integrated care.[141]A systematic literature review on the effects of integrated care (167 studies included across several high income countries) found that evidence was stronger across three outcomes: that integrated care increased patient satisfaction; that it leads to increased perceived quality of care (staff perception in the UK studies; staff and patient perception in the non-UK studies); and that integrated care can lead to increased/improved patient access.[142] Evidence from another systematic literature review in the US suggests that integrated health systems have favorable relationship with quality of care, such as optimal care for a specific condition (often diabetes), cancer screening, immunization rates and smoking cessation.[143]

5.66 **Routine quality evaluations, either in the form of accreditation or other routine evaluations, have the potential to improve patient safety and quality of care.** Most high-income countries use accreditation to guarantee quality of care and improve patient safety.[144,145] With the exception of negative effects of accreditation on self-reported parameters by healthcare workers and in particularly on job stress, a recent systematic literature review (76 studies from 22 countries) found a consistent positive effect of accreditation on safety culture, process-related performance measures, efficiency and patient length of state.[146] At the same time, employee satisfaction, patient satisfaction and experience, and 30-day hospital readmission rate were found to be unrelated to accreditation, while heterogenous results on mortality and healthcare-associated infection prevented the authors from drawing conclusions about these outcome measures.[147] While earlier research on the impact of accreditation on quality of care has been mixed,[148,149,150] studies have found that accreditation often leads to other quality-improvement interventions at the facility level,[151] as preparing for accreditation leads to substantial advancements during the pre-accreditation period. For example, a study in UAE shows that although the speed of progress slows down after the accreditation is obtained, the accreditation still has a lasting impact, with hospitals performing better three years after the accreditation, compared to their baseline performance.[152] This points to the importance of routine and institutionalized processes for evaluating and improving quality of care more than the presence

[141] Sumer et al. (2019).
[142] Baxter, S., Johnson, M., Chambers, D., Sutton, A., Goyder, E., & Booth, A. (2018). The effects of integrated care: A systematic review of UK and international evidence. *BMC Health Services Research*, *18*(1), 350. https://doi.org/10.1186/s12913-018-3161-3
[143] Machta, R. M., Maurer, K. A., Jones, D. J., Furukawa, M. F., & Rich, E. C. (2019). A systematic review of vertical integration and quality of care, efficiency, and patient-centered outcomes. *Health care management review*, *44*(2), 159-173.
[144] Desveaux, L., Mitchell, J. I., Shaw, J., & Ivers, N. M. (2017). Understanding the impact of accreditation on quality in healthcare: a grounded theory approach. *International journal for quality in health care*, *29*(7), 941-947.
[145] Afifa, H., Rifat. (2019). *Final Technical Assessment—Tamil Nadu Health System Reform Program—P166373*. World Bank, Washington, DC. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/779161550882182944/Final-Technical-Assessment-Tamil-Nadu-Health-System-Reform-Program-P166373
[146] Hussein, M., Pavlova, M., Ghalwash, M., & Groot, W. (2021). The impact of hospital accreditation on the quality of healthcare: a systematic literature review. *BMC health services research*, *21*(1), 1-12.
[147] Ibid.
[148] Alkhenizan, A., & Shaw, C. (2011). Impact of accreditation on the quality of healthcare services: a systematic review of the literature. *Annals of Saudi medicine*, *31*(4), 407-416.
[149] Brubakk, K., Vist, G. E., Bukholm, G., Barach, P., & Tjomsland, O. (2015). A systematic review of hospital accreditation: the challenges of measuring complex intervention effects. *BMC health services research*, *15*, 1-10.
[150] Greenfield, D., & Braithwaite, J. (2008). Health sector accreditation research: a systematic review. *International journal for quality in health care*, *20*(3), 172-183.
[151] Desveaux et al (2017).
[152] Devkaran, S., & O'Farrell, P. N. (2014). The impact of hospital accreditation on clinical documentation compliance: a life cycle explanation using interrupted time series analysis. *BMJ open*, *4*(8), e005240.

of one-off accreditation processes. Evidence from LMIC demonstrates to the importance of setting up sustainable and self-sufficient institutions prior to the launch of accreditation, indicating sustainability challenges in various contexts where accreditation arrangements took place prior to the clear definition of roles and responsibilities.[153] In this context, a multi-track quality-enhancing strategy, which focuses less on the legal implications of accreditation but more on the establishment of a continuously learning health system through the definition of clinical guidelines, performance indicators, benchmarking activities, annual quality-enhancing projects and platforms, with the intention of instituting a culture of routine quality improvements.[154]

5.67 **Improvement of quality of care requires concerted efforts at all levels of the health system, and district-level quality collaboratives have the potential to improve accountability and performance.** Recent research highlights the inclusion of quality improvement collaboratives (QICs) in any comprehensive strategy to sustainably improve service quality.[155,156] Kruk and collogues (2018) argue that the district level is well positioned to enable group learning among similar facilities and across different tiers of the health system. Through district-led area-based learning and planning, healthcare providers and administrators responsible for a catchment area can work together to address clinical and system issues, coordinate their efforts, make the most of limited resources, and improve communication and referrals between facilities.[157] A systematic review on QICs in LMICs (53 reports from 29 studies in 12 LMICs), the majority of which from Africa, found no solid evidence to support the effectiveness of QICs LMICs. [158] However, there are situations where QICs could be useful, and they can be adapted in various ways to achieve their stated goals, such as generating new ideas and empowering healthcare providers; further, combining QICs with training might be the most effective way to implement them, although this conclusion is based on a limited number of studies and the quality of evidence is low. Recent evidence from Cambodia, demonstrate the catalytic effect of QICs for accelerating UHC when combined with performance-based financing.[159] QICs fostered a culture of continuous improvement and collaboration within and among public and private health facilities, supported the operationalization of quality management principles, peer-to-peer exchanges and adoption of changes, and patient-centered approaches, all of which are deemed essential for attaining

[153] Mansour, W., Boyd, A., Walshe, K., 2020. The development of hospital accreditation in low- and middle-income countries: a literature review. Health Policy and Planning 35, 684–700. https://doi.org/10.1093/heapol/czaa011

[154] Saleh, S.S., Alameddine, M.S., Natafgi, N.M., 2014. Beyond Accreditation: A Multi-Track Quality-Enhancing Strategy for Primary Health Care in Low-and Middle-Income Countries. Int J Health Serv 44, 355–372. https://doi.org/10.2190/HS.44.2.k

[155] Rowe, A. K., Rowe, S. Y., Peters, D. H., Holloway, K. A., Chalker, J., & Ross-Degnan, D. (2018). Effectiveness of strategies to improve health-care provider practices in low-income and middle-income countries: A systematic review. *The Lancet Global Health*, *6*(11), e1163–e1175. https://doi.org/10.1016/S2214-109X(18)30398-X

[156] Kruk, M. E., Gage, A. D., Arsenault, C., Jordan, K., Leslie, H. H., Roder-DeWan, S., Adeyi, O., Barker, P., Daelmans, B., Doubova, S. V., English, M., García-Elorrio, E., Guanais, F., Gureje, O., Hirschhorn, L. R., Jiang, L., Kelley, E., Lemango, E. T., Liljestrand, J., … Pate, M. (2018). High-quality health systems in the Sustainable Development Goals era: Time for a revolution. *The Lancet Global Health*, *6*(11), e1196–e1252. https://doi.org/10.1016/S2214-109X(18)30386-3

[157] Ibid

[158] Garcia-Elorrio, E., Rowe, S. Y., Teijeiro, M. E., Ciapponi, A., & Rowe, A. K. (2019). The effectiveness of the quality improvement collaborative strategy in low- and middle-income countries: A systematic review and meta-analysis. *PLOS ONE*, *14*(10), e0221919. https://doi.org/10.1371/journal.pone.0221919

[159] Perry, K. E., Rakhmanova, N., Suos, P., Nhim, D., Voeurng, B., & Bouchet, B. (2022). Lessons learnt from quality improvement collaboratives in Cambodia. *BMJ Global Health*, *7*(3), e008245. https://doi.org/10.1136/bmjgh-2021-008245

high quality health services.[160] Results show that a larger proportion of health centers enrolled in the QIC intervention achieved scores of at least 80%, considered an acceptable level of quality in the National Quality Enhancement Monitoring (NQEM) system, compared with health centers that did not implement QICs. QICs also improved the TB, maternal child health and family planning service areas as measured by pre- and post-implementation indicators in these areas.[161] The formation of quality collaboratives in South Africa promoted coordination, collaborative networks, and resulted in improvements in service delivery: enhanced screening in community and PHC settings, with early identification of problem in women and children, better referral systems across levels of care and between players within hospitals. Improved clinical practices within health facilities, and better continuity of care. [162]

5.68 **Strengthening of maternal and neonatal death registries is a prerequisite for improved quality and outcomes of these services.** Routine recording and monitoring of births and deaths within a population – provides a critical and ongoing picture of the health status of that population.[163,164] Accurate reporting of births, stillbirths, neonatal deaths, maternal mortality, and measures of obstetric and neonatal care is critical for building quality improvement initiatives aimed at improving pregnancy outcomes, care practices, and women's and children's health.[165] However, vital registration systems are still absent in most LMICs.[166] In an effort to improve maternal, fetal and newborn health in countries with poor outcomes, the Global Network Maternal and Newborn Health Registry (MNHR) established sites in Bangladesh, Guatemala, India, Pakistan, Democratic Republic of Congo, Kenya, and Zambia.[167] The MNHR has achieved a measured birth weight for 98.5% of all births in recent years, and has served as a key source in describing the methods to ensure quality of data collection, and in better understanding trends and causes of stillbirth and maternal and neonatal mortality. In Sweden, using data from the Swedish Pregnancy Register, Stephansson and colleagues (2018) found large regional differences in quality of antenatal and delivery care, and highlighted the importance of the registry for benchmarking, quality improvement and research in pregnancy, fetal diagnosis and delivery.[168]

5.69 **Strengthening epidemiological surveillance and early warning systems, with a focus on improved availability and utilization of data, is a prerequisite for strengthened quality of health**

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[160] World Health Organization. (2020). *Quality health services: A planning guide*. World Health Organization. https://www.who.int/publications-detail-redirect/9789240011632

[161] Perry et al. (2020).

[162] Schneider, H., George, A., Mukinda, F., & Tabana, H. (2020). District Governance and Improved Maternal, Neonatal and Child Health in South Africa: Pathways of Change. *Health Systems & Reform*, *6*(1), e1669943. https://doi.org/10.1080/23288604.2019.1669943

[163] Setel, P. W., Macfarlane, S. B., Szreter, S., Mikkelsen, L., Jha, P., Stout, S., & AbouZahr, C. (2007). A scandal of invisibility: making everyone count by counting everyone. *The Lancet*, *370*(9598), 1569-1577.

[164] Espey, D. K., Jim, M. A., Richards, T. B., Begay, C., Haverkamp, D., & Roberts, D. (2014). Methods for improving the quality and completeness of mortality data for American Indians and Alaska Natives. *American Journal of Public Health*, *104*(S3), S286-S294.

[165] McClure, E. M., Garces, A. L., Hibberd, P. L., Moore, J. L., Goudar, S. S., Saleem, S., ... & Goldenberg, R. L. (2020). The Global Network Maternal Newborn Health Registry: a multi-country, community-based registry of pregnancy outcomes. *Reproductive Health*, *17*, 1-11.

[166] Say, L., Chou, D., Gemmill, A., Tunçalp, Ö., Moller, A. B., Daniels, J., ... & Alkema, L. (2014). Global causes of maternal death: a WHO systematic analysis. *The Lancet global health*, *2*(6), e323-e333.

[167] McClure, E. et al. (2020).

[168] Stephansson, O., Petersson, K., Björk, C., Conner, P., & Wikström, A. K. (2018). The Swedish Pregnancy Register–for quality of care improvement and research. *Acta obstetricia et gynecologica Scandinavica*, *97*(4), 466-476.

services. A recent systematic literature review on the implementation of Integrated Disease Surveillance and Response (IDSR) in the African region (47 studies representing 17 countries) identified data reporting as the most commonly reported challenge for effective IDSR implementation.[169] Challenges included inaccuracies, zero reporting, incomplete data, and reporting delays, as well as lack of resources.[170] Other concerns included ineffective priority disease detection, lack of knowledge around case definitions, terms of reference for staff and personnel, surveillance procedures, and the lack of documentation of preparedness and response plans. Timely and complete reporting is critical to successful surveillance systems, but limited resources and capacities together with lack of information often hamper these efforts.

5.70 **Climate change-related diseases will pose an additional burden on the health system as well as epidemiological surveillance systems, demonstrating the need to impact these conditions into routine surveillance systems.** According to the WHO, between 2030 and 2050, climate change is expected to cause approximately 250,000 additional deaths per year, from malnutrition, malaria, diarrhea and heat stress alone, with most of these deaths in developing countries.[171] The direct damage costs to health (i.e., excluding costs in health-determining sectors such as agriculture and water and sanitation) is estimated to be between $2 - $4 billion per year by 2030.[172] For Morocco specifically, under a high emissions scenario, heat-related deaths in the elderly (65+ years) are projected to increase to almost 50 deaths per 100,000 by the 2080s compared to the estimated baseline of just under 5 deaths per 100,000 annually between 1961 and 1990.[173]Under a high emissions scenario, and without large investments in adaptation, an annual average of 187,400 people are projected to be affected by flooding due to sea level rise between 2070 and 2100.[174] Under a high emissions scenario, the mean relative vectorial capacity for dengue fever transmission is projected to increase to about 0.33 by 2070 compared to the estimated baseline value of 0.22. [175] This demonstrates the need to strengthen epidemiological surveillance capacity for communicable and non-communicable diseases which will be exacerbated by the impact of climate change.

Soundness

5.71 **This result area of the Program supports the third pillar of the health system redesign program, upgrading health infrastructure and reorganizing health service delivery.** To rectify the insufficient physical resource capacity, to improve spatial and gender equity in health outcomes, to address climate vulnerabilities of health infrastructure, and to improve the quality of health services, a substantial reorganization of the health service delivery system is needed. Framework Law 06-22 and Draft Law 08-22 address this through several components, including the reorganization of care pathways to introduce gatekeeping (primary health care institutions for public sector, generalist or attending physician for the private sector); institutionalizing of quality evaluation and improvement

[169] Wolfe, C. M., Hamblion, E. L., Dzotsi, E. K., Mboussou, F., Eckerle, I., Flahault, A., Codeço, C. T., Corvin, J., Zgibor, J. C., Keiser, O., & Impouma, B. (2021). Systematic review of Integrated Disease Surveillance and Response (IDSR) implementation in the African region. *PLOS ONE*, *16*(2), e0245457. https://doi.org/10.1371/journal.pone.0245457

[170] Ibid.

[171] *COP24 special report: Health and climate change*. (2018). World Health Organization. https://www.who.int/publications-detail-redirect/9789241514972

[172] Ibid.

[173] WHO (2015). Climate and Health Country Profile – Morocco. URL: https://apps.who.int/iris/bitstream/handle/10665/208864/ WHO_FWC_PHE_EPE_15.10_eng.pdf?sequence=1

[174] Ibid.

[175] Ibid.

modalities; and the rehabilitation and upgrading of public primary health facilities and public hospitals to improve their structural quality.

5.72 **This result area supports the reorganization of service delivery to improve quality of care through strengthening referral systems, strengthening climate resilience, institutionalizing quality improvements, and enabling timely action to current and emerging health risks.** The Program specifically supports the achievement of results related to (i) rehabilitation of public PHC facilities to comply with energy and thermal efficiency standards and address climate vulnerabilities; (ii) development and implementation of recommendations by the GST on improving quality of care at hospitals and public PHC facilities ; (iii) strengthened epidemiological surveillance capacity including for climate change related health issues; (iv) scale-up of the maternal and neonatal death surveillance, audit, and response system; (v) strengthening of treatment for women and children survivors of GBV; and (vi) the implementation of priority prevention strategies including for congenital hypothyroidism screening.

5.73 **Rehabilitation of public PHC facilities is a crucial enabler of service delivery reorganization and climate change adaptation.** A key aspect of the GST reform is the establishment of integrated care networks within each region, with public PHC facilities serving a gatekeeper role such that patients can only access higher level facilities with a referral from them, with the exceptions of emergency care and specialized care such as gynecology. Bringing services closer to the beneficiaries represents an opportunity to narrow the gap in access to health services between urban and rural women as well as between male and female-headed households. Public PHC facility rehabilitation, among other things, includes easy physical accessibility, especially for people with reduced mobility and special needs. Public PHC facilities' rehabilitation is a key lever of climate change adaptation through improving service delivery for the most vulnerable populations, including those living in rural and hard to reach areas and in areas most vulnerable to climate change. Strengthened health service delivery in these areas will further improve the emergency preparedness and responsiveness of the health system against climate-induced hazards and the increased disease burden, as public PHC facilities form a key aspect of health sector response against health conditions that are to be exacerbated by climate change. Currently, many public PHC facilities lack the basic medical equipment and sufficient infrastructure to respond to patient needs. Further, there are various constraints at the PHC level regarding the implementation of national guidelines on health security for medical and pharmaceutical waste management, which poses an environmental concern.[176] At the same time, in line with government guidelines, there is a substantial need to reinforce the climate resilience and energy efficiency of all public infrastructure, including public PHC facilities. The rehabilitations, which include minor civil works together with the purchase of corresponding medical equipment, will be conducted according to specifications agreed upon with the contractors, in accordance with ANEP's guide on energy efficiency of public equipment and guide for sustainable construction, as well as government guidelines to address identified climate vulnerabilities and implement both adaptation and mitigation measures. This includes strengthening thermal regulations in buildings aligned with national standards (*Règlementation Thermique de Construction du Maroc*, RTCM) adopted in 2014 to rationalize the energy consumption of buildings, by setting thermal requirements and energy performance. Rehabilitations will target facilities that will bring services closer to climate vulnerable populations, provide workarounds around climatic patterns, maximization of natural ventilation and minimization of heat exposure, especially during hot periods. In terms of mitigation against climate change, rehabilitations will also focus on thermal and energy efficiency regulations, thermal

[176] Sécurité Sanitaire des Établissements de Soins de Santé Primaires, Guide du Professionnel, 2021

insulation, choice of construction products, materials and technical equipment with low energy consumption (e.g., heating and cooling equipment, smart Light Emitting Diode (LED) light fixtures, energy efficient sanitary appliances, biomedical equipment) as well as introduction of renewable energy solutions with solar hot water. All climate adaptation and mitigation measures are expected to go beyond business as usual and are explicitly designed with the intent to address assessed climate risks on health of the population.

5.74 **The strengthening of epidemiological surveillance capacity based on the priority areas will include a deliberate focus on climate change related health issues.** The epidemiological surveillance system in Morocco includes both passive surveillance involving routine data collection on notifiable diseases from health facilities and laboratories, and active surveillance involving targeted data collection for specific diseases or outbreaks. The surveillance system aims to detect and respond to disease outbreaks in a timely manner to prevent their spread and protect public health[177], and is based on several key principles, including timely detection, rapid response, and the use of reliable and standardized surveillance methods. The system monitors a range of infectious and non-infectious diseases, including respiratory infections, diarrheal diseases, vaccine-preventable diseases, and sexually transmitted infections. To strengthen the disease surveillance system and ensure improved disease control and management, the MHSP, through the Directorate of Epidemiology and Disease Control (Direction de l'Epidémiologie et la Lutte Contre les Maladies, DELM), has signed performance contracts with the DRS focusing on epidemiological surveillance, monitoring and health safety, prevention and disease control, for a humanized, secure and quality care for the citizen. The performance budget program 703 aims at supporting the deconcentrated services to achieve performance objectives for better disease control and management, notably through a better match between regional needs and centrally available resources available, management based on accountability and responsibility, and improved resources and management tools.[178] A study was recently conducted to assess epidemiological surveillance capabilities and the Program will ensure the DELM has defined, adopted and validated a roadmap for the restructuring of epidemiological surveillance capacity based on the priority areas highlighted by the study results, focusing on regulations, revision of epidemiological standards, laboratories, digitalization and training. As climate change continues to be a threat to the health of the population in an already climate vulnerable country, especially for the most vulnerable populations including children and the elderly, the Program will ensure epidemiological surveillance addresses adaptation to climate change, and will support the inclusion of climate change related emerging and re-emerging diseases to the list of notifiable diseases, such as asthma crisis due to air pollution, vector- and water-borne conditions like malaria or diarrhea, and NCDs notably strokes, cardiac and respiratory conditions. This focus on climate change related health issues on the epidemiological surveillance will facilitate access to data on climate-change induced health impacts, which can ultimately be used for targeted assistance programs during climate-related emergencies.

5.75 **Scaling-up maternal and neonatal death surveillance, audit, and response system will be of critical importance to reduce regional disparities and improve maternal and neonatal health outcomes**. Despite recent declines, Morocco still has a high maternal mortality rate, especially in rural areas. As part of the 2008-2012 action plan for the reduction of maternal mortality, the MHSP

[177] Ministry of Health, Epidemiology and Disease Control Directorate (2019). Strategic Plan for Surveillance of Communicable Diseases and Pandemics. http://www.sante.gov.ma/Publications/Plans_strategiques/PSSRMEP-2019-2023.pdf

[178] Performance Contract between the Epidemiology and Disease Control Directorate and Regional Health Directorate of Rabat-Sale-Kenitra. December 2021.

established the first Maternal Mortality Surveillance System (MMSS) in 2009, with the objective of monitoring and reducing maternal deaths in the country. The MMSS, coordinated by the DELM, is a component of the health information system and aims to provide reliable and timely data on maternal deaths, identify the causes of these deaths, and monitor trends over time. The system collects information on maternal deaths from multiple sources, including hospitals, health centers, and community health workers. It uses a standardized maternal death notification form to capture data on the demographic characteristics of the deceased woman, the circumstances surrounding her death, and any contributing factors. The form also includes questions to help determine the cause of death and identify opportunities for prevention. Data collected through the MMSS is analyzed at the regional and central levels to identify patterns and trends in maternal mortality. The findings are used to inform policies and programs aimed at reducing maternal deaths and improving the quality of maternal health care in Morocco, as well as develop targeted interventions to improve the quality of care for newborns, which range from improving skills of health workers in neonatal care, strengthening referral systems, and providing equipment and supplies to health facilities. The MMSS has provided a basis for conducting surveys and monitoring maternal mortality and its causes; a survey on maternal deaths and causes was conducted in 2015 and, as part of the survey's recommendations, the maternal death surveillance, neonatal death audit and response system (SSDMAR) was developed to identify the reasons behind maternal and neonatal deaths. The SSDMAR is currently allowing for surveillance of maternal mortality in 7 regions. The Program will support the SSDMAR scale-up in Program area by 2026, as well as the integration of neonatal death audit into the existing system. On this basis, the Program will also support the production of complete maternal and neonatal death audit reports by GST through an intermediate results indicator.

5.76 **Health prevention and promotion are crucial for the success of the health system redesign program, and the PforR focuses on strengthening prevention capacity for priority conditions.** The MHSP is currently implementing a strategy for congenital hypothyroidism (CH), screening. The CH is a national priority condition as hypothyroidism is the most common endocrinopathy in Morocco, after diabetes, with a prevalence of 1 per 1,950 live births.[179] The CH is a serious disease with complicated consequences not only on the health of the individual but also by the social support of the handicap that it generates.[180] In the absence of early diagnosis and rapid treatment, newborns are exposed to mental and growth disabilities, but the condition remains preventable with timely diagnosis. As clinical signs are often invisible at birth, systematic and generalized neonatal screening for all newborns will allow early CH diagnosis and the provision of child adapted therapy. Early diagnosis and treatment will allow to avoid certain secondary handicaps due to late diagnosis and the absence of early treatment. The introduction of CH neonatal screening in the in the health care system as part of the MHSP 2012-2016 action plan resulted in the creation of specialized diagnosis centers for CH in five regions in Morocco, and the adoption of a specific pathway for the diagnosis and therapeutic management of confirmed cases. The Program will support the implementation monitoring and scale-up of CH neonatal screening through an intermediate results indicator.

5.77 **The reform will enhance the health sector's focus on gender equity, including prevention and response to gender-based violence (GBV), as well as violence against children.** According to the 2019 National Survey on Violence against Women and Men, carried by the Higher Planning Commission in Morocco (Haut Commissariat au Plan, HCP), out of a population of 13.4 million women and girls aged 15-74, more than 8 out of 10 have experienced at least one form of violence in their lives (82.6

[179] A pilot study on congenital hypothyroidism conducted in Fes between 2001 and 2003, involving a sample of 15,000 newborns, showed a frequency of one case of congenital hypothyroidism per 1952 births. Dépistage Néonatal de l'Hypothyroïdie Congénitale

[180] Dépistage Néonatal de l'Hypothyroïdie Congénitale, Guide à l'usage des professionnels de santé, 2016

percent). In the 12 months preceding the survey, more than 7.6 million women aged 15 to 74 years old, or 57.1 percent, experienced an act of violence, this prevalence being the highest among girls and women under 50 years of age, for young people aged 15-19 (70.7 percent) and 20-24 (65.8 percent). With a prevalence of 46.1 percent (5.3 million women), the marital context remains the most marked by violence in both urban and rural settings. The educational environment ranks second, where 22.4% (20.7% in urban areas and 31.2% in rural areas) of students have experienced violence.[181] The prevalence of economic and sexual violence has increased sharply between 2009 and 2019, with economic violence increasing from 8 to 15 percent and sexual violence from 9 percent to 14 percent. GBV remains significantly underreported in Morocco (and globally) due to a host of overlapping factors (for example, stigma, social and gender norms, lack of knowledge and/or access to services). Training and curriculum content on GBV care for the frontline health workforce can ensure that current and future generations of the health workforce are equipped to provide empathic, high-quality care to those subjected to or affected by violence. Public authorities have adopted several consecutive strategies, programs and plans to combat violence against women and girls over the past two decades. Law No. 103-13 on combating violence against women became effective in 2018. Response to violence against women and children is among the top policy priorities of the MHSP, as reflected by the 2017-2021 strategic action plan for the health program for the care of women and children victims of violence. Through improved deconcentration, the Program aims to improve the reach of the program, notably by increasing the number of women and children survivors of GBV treated in integrated units for women and children survivors of violence in public health facilities (currently 113 at hospital level). To ensure greater understanding and quality care for women and children survivors of GBV, the Program will also support integration of GBV in both in-service and pre-service training, through training of trainers to improve service providers' ability to identify, refer and care for women and children survivors of GBV, as well as through the integration of a human rights and gender component, including GBV, in the ISPITS pre-service training.

5.78 **This result area is supported by three DLIs and three intermediate result indicators.** DLI 7 (US$75 million) supports the rehabilitation of 395 public PHC facilities to comply with energy and thermal efficiency standards green building criteria to address climate vulnerabilities. DLI 8 (US$45 million, also a PDO indicator) incentivizes the evaluation and improvement of quality of care at public hospitals and public PHC facilities in Program areas. DLI 9 (US$67.5 million, also an intermediate result indicator) supports the strengthening of epidemiological surveillance capacity including for climate change related health issues. An intermediate results indicator supports the scaling up of the maternal and neonatal death surveillance, audit, and response system; and a second one supports the strengthening of the governance and organization of preventive health services for screening of CH. Another intermediate results indicator captures the percentage of pregnant women in Program area who have completed four antenatal care visits.

6. Institutional Arrangements and Capacity

6.1 The MHSP will be the implementing agency for the Program, with the involvement of GST in Program areas, and seven directorates. Within the MHSP, the Planning and Financial Resources Directorate (DPRF) will be the implementation focal point for various activities, and will also oversee coordination, through the Cooperation Division. This division has implemented this role effectively in the previous World Bank health PforR without the need for an additional Project Management Unit, and the same arrangements will be preserved, with a focus on the implementation of technical,

[181] Rapport sur les violences faites aux femmes et aux filles. Enquête Nationale sur la Violence à l'encontre des Femmes et des Hommes, HCP, 2019

fiduciary, environmental and social capacity enhancement activities outlined in the Program Action Plan (PAP). In addition to the DPRF, seven other directorates are tasked with implementation of activities, focusing on strengthening health information systems, reinforcing human resources for health, quality evaluations and rehabilitation of primary health centers. GSTs, which will be under the oversight of the MHSP with public establishment status, will also be implementing activities. As in the previous PforR, a steering committee will be constituted through the secretariat of the Cooperation Division within the DPRF, and meet regularly regarding Program activity implementation progress, with representatives from directorates as well as GST. The steering committee would include not only MHSP stakeholders, but also the HAS to advise on quality-of-care related areas, as well as the CNSS to advise on provider payment-related areas. Prior to the establishment of the GST, stakeholders from CHU and regional directorates will be involved in Program management. An additional technical committee can also be established for additional supervision. Given the implications of the comprehensive health sector reform, various roles and responsibilities are expected to change during Program implementation, and the POM would be updated to reflect these arrangements, including the roles and responsibilities of MHSP, GST, and other entities in the health sector as a result of the redesign. Verification processes from the previous health PforR will be retained, with independent verification and auditing ensured by the IG of the MHSP, utilizing the extensive verification protocols and infrastructure which has been developed with World Bank technical assistance. The Program will benefit from the fact that the implementation of the health system redesign program is one of the top royal priorities, and that MHSP has prior substantial experience implementing a successful PforR.

Table 6 Summary of Roles and Responsibilities with respect to DLI and Program Functions

DLI & Program Function	Responsible Directorates and Institutions
Disbursement-Linked Indicators and PDO Indicators	
DLI 1: Strengthened institutional capacity through the new deconcentrated governance system	• Each of the *Groupements sanitaires territoriaux* (Territorial Health Groups – **GST**) • Coordination at the central level with the *Direction de la planification et des ressources financieres* (Planning and Financial Resources Directorate – **DPRF**) and its divisions pertaining to different management functions, as well as with the *Direction des ressources humaines* (Human Resources Directorate – **DRH**) regarding the development and implementation of training curricula
DLI 2: Health financing system reformed to reflect the context of the reform and improve quality of service delivery	**DPRF**
DLI 3: Improved content, quality, accessibility and use of health data	*Division de l'informatique et des méthodes* (Division of Information Systems and Methods – **DIM**)
DLI 4: Exchange and coordination platforms between central and regional entities organized	**DIM** *Division de la communication* (Division of Communication – **DICom**)
DLI 5: Health service operationalized to define health worker entitlements and to improve the quality of service delivery	***Direction des Ressources Humaines*** **(Division of Human Resources - DRH)**
DLI 6: Improved training capacity at ISPITS	**DRH**
DLI 7: Number of public PHC facilities rehabilitated in Program area to comply with	*Direction des Equipements et de la Maintenance* (Equipment and Maintenance Directorate – **DEM**)

energy and thermal efficiency standards to address climate vulnerabilities	
DLI 8: Quality of care at public hospitals and public PHC facilities evaluated and improved	**DPRF** Each of the **GST**
DLI 9: Epidemiological surveillance capacity strengthened including for climate change related health issues	*Direction de l'Epidemiologie et de Lutte contre les maladies* (Epidemiology and Disease Control Directorate **– DELM**)
Program Implementation	
Steering, Coordination, Reporting	**DPRF** (through the Cooperation Division)
Environmental and Social Focal Points	**Environmental: DEM** **Social: DRH**
Fiduciary Focal Points	**Financial Management: DPRF** **Procurement:** *Division de l'Approvisionnement* en médicaments et produits de santé (Medicine and Health Product Procurement Division – **DAMPS**)
Verification	*Inspection Générale du Ministère de la santé et la protection sociale* (General Inspection Directorate for the Ministry of Health and Social Protection – *IG*)

7. Program Expenditure Framework

7.1 Morocco's health budget for 2023 is MAD 28.1 billion (US$2.7 billion)[182], reflecting recent growth to account for investments associated with the health sector reform. This constitutes about 7 percent of the general government budget. The government health budget grew by 17 percent compared to 2022 to account for additional recruitment and investments to strengthen the health system for the reform, and the PBT for 2023 through 2025 assumes an annual growth rate of 8 percent for this period, demonstrating funding predictability, commitment and sustainability. Additional information on the macro-fiscal context is included in the technical assessment, demonstrating an improved commitment to the success of a comprehensive social reform agenda with health as its focus.

Table 5 Summary of MOHSP PBT, 2022-2025, in millions MAD

	Program name	2022	2023	2024	2025
700	Human resources and health system capacity strengthening	11,472	13,657	14,862	15,232
701	Planning, programming, coordination	1,849	2,913	2,907	2,985
702	Reproductive, maternal, newborn, and child health	250	259	319	329
703	Epidemiological surveillance, health security, prevention, and disease control	148	144	163	168

[182] The amount excludes the budgets of five Central University Hospitals (CHU). Throughout this section, an exchange rate of USD/MAD of 1/10.32 is used.

704	Service delivery at primary, secondary, tertiary levels	3,654	3,839	3,379	3,489
705	Upgrading of health infrastructure and medical equipment	6,171	7,320	7,511	7,556
	Total	**23,543**	**28,132**	**29,142**	**29,759**

7.2 The expenditure framework of the Program includes relevant line items from the MHSP budget, with the exclusion of large-scale civil works, lines outside of the scope of the Program, and contracting of activities that exceed World Bank thresholds. The expenditure framework is based on the relevant budget lines for the MHSP across each of the six programs and activities in the program-based budget. Relevant lines and the expenditure framework are summarized in Table 8Table 6, primarily including investments on health information systems, epidemiological surveillance, operating budgets for training institutions, and service delivery related costs such as procurement of medicines and consumables. The expenditures included for individual activities are commensurate with their scale and complexity, and facilitate efficient execution. The expenditure framework strikes a balance between operating costs, procurable items, and non-procurable items. Investments with potential to cause significant adverse impact on the environment and/or affected people as defined in the World Bank Policy and Directive on PforR financing, as well as investments involving works, goods, and consultancy contracts above the World Bank thresholds, are excluded. As such, construction and major rehabilitation works were excluded. The budgets of tertiary- and secondary-level hospitals, as well as that of other SEGMA institutions, have been excluded given the difficulty of tracking them as well as given the fact that they will no longer exist as independent institutions following the launch of GSTs.

Table 6 8 Summary of Program expenditure framework

Results Area	Budget Category	Program Budget	Activity	Total for 2023, MAD
1	Investment	705	Health information systems	500,000,000
1	Operating budget	701	Surveillance, health information systems, and other interventions	300,000,000
2	Investment budget	705	Operating and investment budgets of ISPITS	107,000,000
3	Investment budget	705	Rehabilitation of primary care facilities	71,245,623
3	Special accounts	702	Purchase of medicines and consumables	1,287,785,505
			Total, 1 year, MAD	**2,266,031,128**
			Total, 1 year, USD	**$ 217,469,398**
			Total, 5 years, USD	**$ 1,296,056,624**

Based on the expenditure framework, a 5-year cost for the Program was estimated, with various assumptions (Table 8). The overall expenditure framework of the Program is estimated at US$1.3 billion, out of which the World Bank is financing US$450 million, or 34.72 percent. Given the uncertainty associated with various dimensions of the reform, the five-year Program cost was calculated based on the

average year-on-year growth rate of 8.79 percent from 2023-2025, and this figure was used for the remaining duration of the Program. Risks to the Program Expenditure Framework arising out of budget constraints are low as the Program expenditure constitutes a small portion of the overall program cost, and as the Moroccan macroeconomic framework remains strong, with sufficient predictability with high budget execution rates. Further, the Program is fully aligned with government priorities, and only provides a sub-set of a comprehensive and ambitious government program, which is reflected in the continuity of health budgets providing space for increased expenditures.

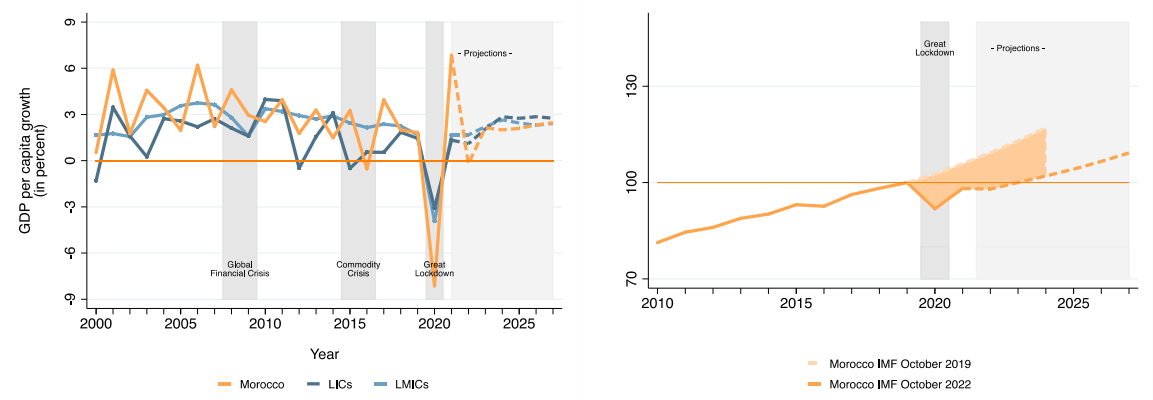
Table 87 Program financing

Source	Amount (US$, million)	% of Total
Government financing	846.06	65.28%
PforR IBRD financing	450.00	34.72%
Other development partners	0	0.00%
Total Program costs	1,296.06	100.00%

8. Macro-fiscal Context and Sustainability for Reform

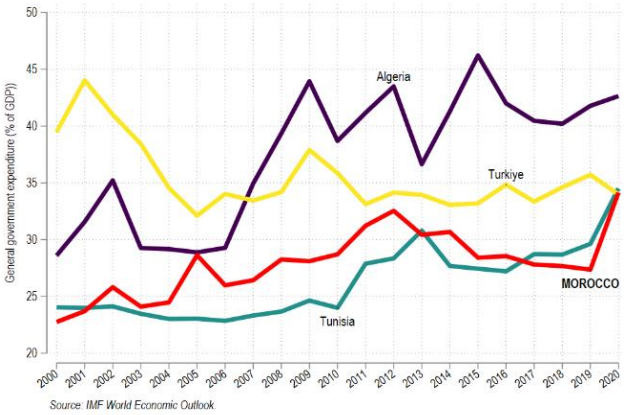
8.1 **While Morocco's economy bounced back from the COVID-19 pandemic and climate shocks, economic growth is projected to remain modest in the next few years and increases in public revenues are likely to remain limited.** The COVID-19 pandemic and a climatic shock triggered an abrupt recession in 2020. Recovery gained pace in 2021, partly due to an extraordinary agricultural campaign. After the 2021 rebound, real GDP growth slowed to 0.8 percent in 2022, pulled down by a contraction of the primary sector caused by a new drought. Pre-COVID GDP per capita growth (averaging 2.4% during the years 2010-2019) in Morocco was similar to average growth in LICs (1.6%) and LMICs (2.6%). Post-COVID GDP per capita growth, projecting to average 1.8% between 2022-2027, is projected to be lower than the LIC (2.4%) and LMIC (2.3%) averages. The GDP per capita decrease in 2020 and recovery in 2021 were more pronounced than the average in LICs and LMICs. GDP per capita during post-COVID years is projected to be permanently below the pre-COVID trend. The GDP per capita scar in Morocco is deeper than the LMIC average (14% growth vs. 4% growth). Unlike the majority of lower-income countries Morocco is projected to return to its pre-COVID GDP per capita level only in 2023 and stay above this level permanently.

Figure 26 Trends in GDP per capita (left), and pre- and post-COVID trends in GDP per capita (right)



8.2 **Morocco is engaged in a wide array of reforms aimed at accelerating growth and improving government expenditures.** These include bold measures to improve human capital, tax reforms to correct distortions in the system, and measures to improve the business climate among others. The New Development Model recently laid out by the authorities sets the goal of doubling per capita GDP by 2035. While such growth is unlikely in the next few years, it is not unlikely that ongoing reforms will pave the way for a structural break. General government expenditures as a share of GDP have been declining since 2015 and are lower than in comparator countries in the region (below 30%). The pandemic triggered a sharp increase in government spending. Morocco's general government expenditures (GGE) per capita growth pre-COVID was equal to the LMICs average (3.0%) and is projected to grow significantly slower post-COVID. Its 2027 GGE per capita is projected to be higher than its 2019 GGE per capita (a projected increase of 8%). The tax reform, which should include the rationalization of tax exemptions, the broadening of the tax base, and the strengthening of tax administration could generate additional revenue. Specifics on the tax reforms are not communicated yet so no quantitative projections can be made at this time.

Figure 27: Trends in General Government Expenditures as % of GDP



8.3 **While health expenditures remained flat in the last decade, budgets allocated to the Ministry of Health have increased significantly since 2020 and are expected to continue doing so.** Morocco spends less per person on health than peer middle-income countries. This is driven by a combination of relatively low public expenditures and a low health budget share (around 7%). The COVID-19 pandemic triggered a sharp increase in government health expenditures in 2020. Increases in government health expenditures were aligned with general government budget increases until 2018, however the government health budget increased by 14, 6, 19 and 17 percent respectively in 2020, 2021, 2022 and 2023 compared to the previous year, exceeding the rates of increase of the general government budget. Furthermore, the health investment budget has more than doubled from 3 billion MAD in 2021 to 7.9 billion MAD in 2022, which will be utilized for the rehabilitation of over 1,500 health centers and hospitals to support the upcoming implementation of the reorganization of health service delivery. The Program Based Budget for 2023 through 2025 assumes an annual growth rate of 8 percent for this period, demonstrating funding predictability, commitment and sustainability. The biggest increases are expected in spending on human resources for health, highlighting the plans to recruit additional health workers as well as to improve compensation.

Figure 28: Trends in per capita current health expenditure (left), and public health expenditures as % of GGE (right)

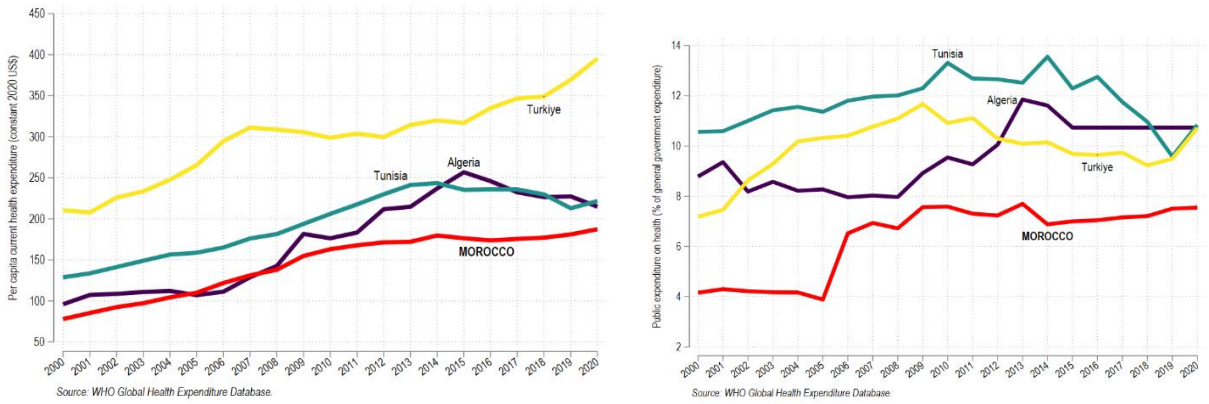
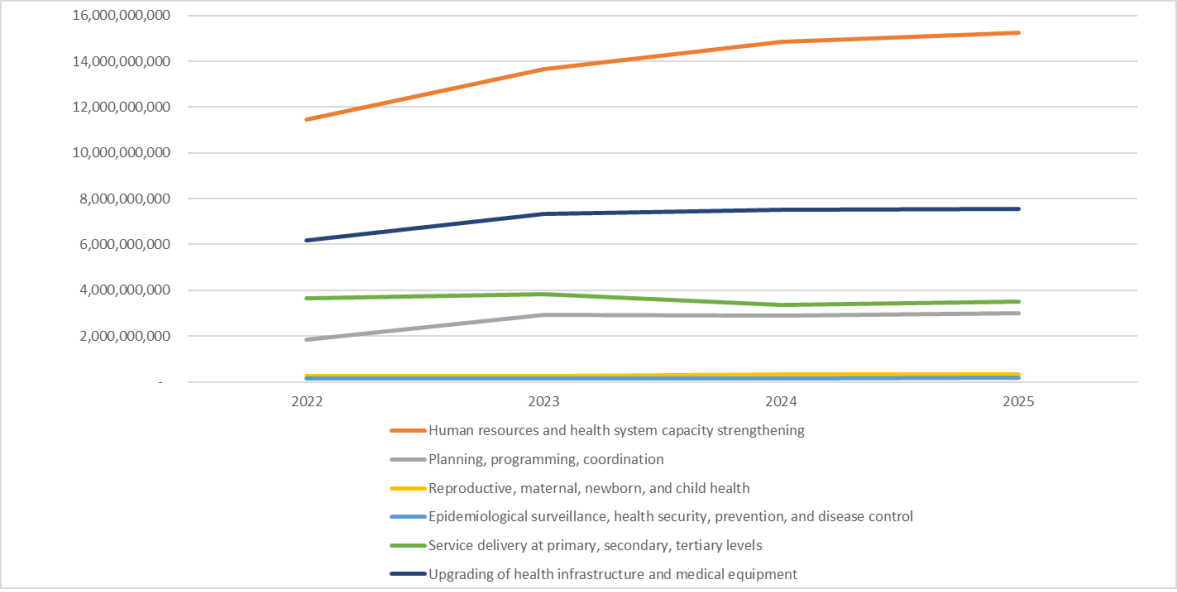


Figure 29: Trends in budget categories according to the Loi de Finances 2023



9. Economic Analysis

9.1 **This Program is expected to lead to substantial health and economic benefits in the Moroccan health sector, estimated to reach US$18.5 billion over a 10-year period.** Given the difficulty of attributing the impact of individual health system reform interventions on the reduction of mortality or quantifiable economic benefits, this economic analysis adopts a holistic approach to estimate the health and economic benefits of health system reform program interventions supported by the Program. Based on the literature reviewed in the technical assessment, this quantifies the impact of four pathways: a) economic benefits of investing in quality of care; b) economic benefits of investing in maternal and neonatal care; c) investments in primary health care strengthening through rehabilitation and definition of care pathways; and d) establishment of epidemiological surveillance systems. The US$18.5 billion amount is based on the lower end of the estimates presented in the paragraphs below, and entails potential double-count between the overall economic benefits emerging from quality improvements, as well as the specific improvements from the remaining three

pathways; however, given the relatively low percentage benefits assumed for the quality of care improvements, this double count should be minimal.

Economic benefit of investing in quality of care

9.2 **Investing in improving quality of care in this Program is expected to have the highest return on investment, as there is compelling evidence that the cost of low quality of care is high worldwide.** While investments in health systems strengthening and universal health coverage can affect amenable mortality, there are also macroeconomic consequences of limited access to high-quality health care. Kruk et al. estimated the excess mortality for conditions targeted in the Sustainable Development Goals (SDG) amenable to health care and the portion of this excess mortality due to poor-quality care in 137 LMICs, in which excess mortality refers to deaths that could have been averted in settings with strong health systems[183]. Using data from Morocco, it has been estimated that 19,241 people died from poor quality care in Morocco in 2016. Assuming that the quality of care could be improved by between 5 to 10 percent through Program activities supporting improvement of quality of care, it is therefore that the number of deaths averted could range between 8,850 and 9,820 over a 10-year period.

9.3 **Improving quality of care can avert GDP losses between US$1.2-US$3.7 billion.** Inadequate access to high-quality health care results in significant mortality and imposes a macroeconomic burden that is inequitably distributed, with the largest relative burden falling on low-income countries. Given that these deaths are unnecessary and the projected GDP losses are avoidable, there is a strong ethical and economic case for promoting high-quality health care as an essential component of universal health coverage. A study analyzed the macroeconomic consequences of deaths amenable to low-quality care globally and estimated that the GDP lost yearly for Morocco reaches US$2.5 billion[184]. Assuming a proportional relationship between quality and GDP gain, this demonstrates that improving quality of care would save between US$1.2 billion and US$3.7 billion over a 10-year period.

Economic benefit of reducing maternal mortality

9.4 **High level of savings will also be achieved by reducing maternal and neonatal mortality rates, with an estimated saving of US$15 billion**. The impact of maternal and neonatal mortality on economic growth is well documented, as maternal mortality and morbidity have negative effects both on the dependency ratio and on labor productivity, and ultimately on economic growth. Studies have suggested that a one-percentage decrease in infant mortality rate per 1000 live births, or maternal mortality rate contribute to roughly a one-percentage increase in the GDP per capita[185]. Assuming a maternal mortality rate reduction by between 1 to 3 percent through the implementation of maternal and newborn death audits as well as other cross-cutting governance and quality improvements, the

[183] Kruk et al, 2018. Mortality due to low-quality health systems in the universal health coverage era: a systematic analysis of amenable deaths in 137 countries. The Lancet; 392: 2203–12.
[184] Alkire BC, Peters AW, Shrime MG, Meara JG. The Economic Consequences Of Mortality Amenable To High-Quality Health Care In Low- And Middle-Income Countries. Health Aff (Millwood). 2018 Jun;37(6):988-996.
[185] Karl Wilhelmson, Ulf-G. Gerdtham. Impact on economic growth of investing in maternal-newborn health

corresponding estimated savings in GDP over a 10-year period could reach between US$15-US$42 billion.

Economic benefit of investing in surveillance systems

9.5 **There is conclusive evidence demonstrating that investing in surveillance systems to prevent future epidemics produces substantial returns on investment, estimated to reach US$300 million in this Program.** High return on investment is expected with improvements in surveillance systems, as systems which can quickly find, stop and prevent outbreaks can drastically reduce human and economic losses. These highly cost-effective investment for protecting both health and economic well-being display ROI several orders of magnitude greater than traditional population-level health interventions. Based on a systematic review of relevant studies, a US$1 investment has a median of US$14 in returns[186]. Under this assumption and based on the DLI allocation, the corresponding ROI is expected to reach US$300 million in this Program.

Economic benefit of strengthened primary health care and improved NCD coverage

9.6 **Evidence from around the world demonstrates the ability of primary health care (PHC) to improve health outcomes, health system efficiency and health equity, resulting in substantial economic benefits, estimated to reach US$2 billion with this Program.** The Lancet Global Health Commission on Financing Primary Health Care has emphasized the central role of PHC in health systems in improving health outcomes worldwide[187] and argues that all countries need to both invest more and invest better in PHC. PHC investments leverage economic benefits through improving life expectancy, all-cause mortality, maternal, infant and neonatal mortality as well as mental health outcomes. PHC investments also improve efficiency by reducing total hospitalizations, avoidable admissions, and emergency admissions and hospitalizations, as well as to improve health equity by improving equitable access to health care and equitable health outcomes.[188] The ability of PHC to improve efficiency is also well documented, as primary care physicians use fewer resources in terms of hospitalizations, prescriptions and common tests and procedures. In addition, there is compelling evidence of significant economic benefit from the provision of preventive services in PHC; for example, the return on investment from childhood immunizations in LMIC has been estimated as US$44 for each US$1 spent.[189] Through multiple DLI focusing on strengthening the governance and service delivery of the PHC system, the Program includes a range of activities to improve PHC. Assuming that the ROI sits between 0 and 1:45, the ROI under this Program associated with PHC investments is expected to reach US$2 billion.

[186] Masters R, et al. J Epidemiol Community Health 2017;71:827–834. doi:10.1136/jech-2016-208141

[187] Hanson, Kara et al. (2022). Introducing The Lancet Global Health Commission on financing primary health care: putting people at the centre. The Lancet Global Health

[188] "Barış, Enis; Silverman, Rachel; Wang, Huihui; Zhao, Feng; Pate, Muhammad Ali. 2021. Walking the Talk : Reimagining Primary Health Care After COVID-19. World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/35842 License: CC BY 3.0 IGO."

[189] Ozawa S, Clark S, Portnoy A, Grewal S, Brenzel L, Walker DG. Return on investment from childhood immunization in low- and middle-income countries, 2011–20. Health Affairs.