Kingdom of Morocco

Data Collection Survey on Health Care Services Delivery System in Morocco

Final Report

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Table 1 French/English correspondence table

Français	Acronyme	Anglais	Acronyme
Agence Nationale de l'Assurance Maladie	ANAM	National Health Insurance Agency	
Centre Hospitalier Universitaire	CHU	University Hospital Center	
Centre de Santé Rural, niveau1	CSR-1	Rural Health Center level 1	
Centre de Santé Rural, niveau2	CSR-2	Rural Health Center level 2	
Centre de Santé Urbain, niveau1	CSU-1	Urban Health Center level1	
Centre de Santé Urbain, niveau2	CSU-2	Urban Health Center level2	
Dispensaire Rural	DR	Rural Dispensary	
Direction de l'Approvisionnement en Médicaments et en Produits de Santé	DAMPS	Directorate of Medicines and Medical Supplies Procurement	
Direction de l'Epidémiologie et de Lutte contre les Maladies	DELM	Directorate of Epidemiology and Disease Control	
Direction des Equipements et de la Maintenance	DEM	Direction of Equipement and Maintenance	
Direction des Hôpitaux et des Soins Ambulatoires	DHSA	Directorate of Hospitals and Ambulatory Care	
Direction de l'Information Médicale	DIM	Directorate of Medical Information	
Direction des Médicaments et de la Pharmacie、	DMP	Directorate of Medicines and Pharmacy	
Direction de la Population	DP	Directorate of Population	
Direction de la Planification et des Ressources Financière	DPRF	Directorate of planning and financial resources	
Direction de la Protection Sociale des Travailleurs	DPST	Directorate of Workers'Social Protection	
Direction des Ressources Humaines	DRH	Directorate of Human Resources	
Directions Régionales de la Santé	DRS	Regional Directorate of Health	
Ecole Nationale de Santé Publique	ENSP	National School of Public Health	
Etablissements de Soins de Santé Primaires	ESSP	Primary Health Care facilities	
Groupements de Santé Territoriaux	GST	Regional Health Groups	
Haute Autorité de Santé,	HAS	High Authority of Health	
Instituts Supérieurs des Professions Infirmiers et Technique de Santé	ISPITS	Higher Institute of Nursing Professions and Health Technician	
Ministère de la Santé et de la Protection Sociale	MSPS	Ministry of Health and Social Protection	
Réseau des Etablissments Hospitaliers	REH	Hospitals Network	
Réseau des Etablissements Médico-Sociaux	REMS	Health and Welfare Facilities Network	
Réseau des Etablissements de Soins de Santé Primaires	RESSP	Primary Health Care Facility Networks	
Réseau Intégré des Soins d'Urgence Médicale	RISUM	Emergency Medical Integrated Network	
Agence Nationale des Equipements Publics	ANEP	National Agency of Public Equipment	
Caisse Nationale des Organismes de Prévoyance Sociale	CNOPS	National Fund of Social Security Organizations	
Caisse Nationale de Sécurité Sociale	CNSS	National Social Security Fund	
Haut Commissariat au Plan	HCP	High Commission for Planning	
Initiative Nationale pour le Développement Humain	INDH	National Initiative for Human Development	
Ministère de l'Economie et des Finances	MEF	Ministry of Economy and Finance	
Office National de la Sécurité Sanitaire des Produits Alimentaires	ONSSA	National Office of Food Security	
Assurance Maladie Obligatoire	AMO	Mandarory Health Insurance	
Agence Nationale des Registres	ANR	National Registration Agency	

Carte Sanitaire		Health Card	
Couverture médicale de base	CMB	Basic Medical Coverage	
Enquête Nationale sur la Population et la Santé Familiale	ENPSF	National Population and Family Health Survey	
Nouveau Modèle de Développement	NMD	New Development Model	
Régime d'Assistance Médicale	RAMED	Medical Assistance Scheme	
Registre National de la Population	RNP	National Population Register	
Registre Social Unifié	RSU	Unified Social Register	
Le salaire Minimum Interprofessionnel Garanti	SMIG	Minimum Guaranteed Wage	
Tarification National de Référence	TNR	National BaselineFee	
Travailleurs Non-Salariés	TNS	Non-salaried Worker	
Allocation Familiale		Family Allowance	FA
Compte National de la Santé	CNS	National Health Accounts	NHA
Couverture Sanitaire Universelle	CSU	Universal Health Coverage	UHC
Dépense tTtale de Santé	DTS	Total Health Expenditure	THE
Maladies non transmissibles / Affections de Longue Durée	MNT/ ALD	Non Communicable Diseases	NCDs
Panier de Soins		Healthcare Service Package	
Parcours de Soins		Clinical Pathway	
Objectifs de Développement Durable	ODD	Sustainable Development Goal	SDG
Règlement Sanitaire International	RSI	International Health Regulation	IHR
Reste à Charge des Ménages		Household Expenditure on Health	
Soins de Santé Primaire	SSP	Primary Health Care	PHC
Système d'Information Intégré des Hopitaux		Integrated Hospital Information System	IHIS
Agence Française de Développement	AFD	French Development Agency	
Banque Africaine de Développement		African Development Bank	AfDB
Banque Mondiale		World Bank	WB
Union Européenne		European Union	EU
Organisation Mondiale de Santé	OMS	World Health Organization	WHO
Cadre de Partenariat National		Country Partnership Framework	CPF
Pret de Politique de Développement		Development Policy Loan	DPL
Dirham Marocain	MDH	Moroccan Dirham	MAD
Moyen-Orient et Afrique du Nord		Middle East and North Africa	MENA

1 General information[1]

In 2023, the total population of Morocco was 37.8 million, an increase of 32.6% from 28.5 million in 2000. Urbanization is progressing, with an urban population rising from 55% in 2004 to 65% in 2023[2].Gross National Product is 134.18 billion USD, National Income per capita is 3,526 USD, economic growth rate is 1.1%, price inflation rate is 6.7% and unemployment rate is10.5% (2022).

2 Overview of the health situation

2-1 Demographics

Life expectancy at birth in Morocco was 75 years, 77 years for women and 73 years for men, in 2022. The proportion of the population aged 65 and above has risen from 3% in 1990 to 7.2% in 2020, became an aging society. It should exceed 14% in 2044, thus transitioning progressively to an aged society[3][4]. The transition from 7% to 14% of the proportion of the population of older people will take 24 years, a speed similar to that of Japan (24 years between 1970 and 1994), which is considered to have the fastest-aging population in the world. In a report published by the Economic and Social Commission for Western Asia (ESCWA), Morocco is ranked with Lebanon, Tunisia and Algeria as the Arab world's fastest-aging country[5]. The total fertility rate was 2.3 % in 2022; a rate that has tremendously decreased from a peak of 7.1 % in 1962.[6]

2-2 Epidemiology

Non-communicable diseases (NCDs) are the leading cause of death in Morocco today, with cardiovascular diseases (47.2%), malignant tumors (cancer) (6.9%) and diabetic diseases, including chronic renal failure (6.8%), as the main causes of death[7]. The percentage of communicable diseases causing death is declining, but respiratory diseases and tuberculosis were the second leading cause of death in 2021, partly due to the COVID-19 pandemic. The share of non-communicable diseases as a cause of death rose from 65.3% (2000) to 84.0% (2019), above the global average of 74.0% and the Middle East and North Africa (MENA) average of 79.0%.[8]

In terms of NCD risk factors, the STEPwise approach to NCD risk factor surveillance (STEPS) conducted in 2017, revealed that 22.8% of the population suffered from hypertension (22.1% in urban areas and 24.2% in rural areas) and 5.7% of the population suffered from diabetes (7.1% in

[1] Ministry of Foreign Affairs, Kingdom of Morocco, Situation générale, https://www.mofa.go.jp/mofaj/area/morocco/data.html#section1 (accessed October 2024).
[2] World Bank, World Bank Open Data (accessed on August 27, 2024).
[3] World Bank, World Bank Open Data (accessed on August 27, 2024).
[4] https://population.un.org/dataportal/data/indicators/71/locations/504/start/1990/end/2060/line/linetimeplotsingle
[5] ESCWA.REGIONAL PROFILE OF THE ARAB REGION DEMOGRAPHIC OF AGEING: TRENDS, PATTERNS, AND PROSPECTS INTO 2030 AND 2050. Available at https://archive. unescwa.org/sites/www.unescwa.org/files/page_attachments/demographics-ageing-arab-region-final-en_0.pdf
[6] World Bank Open Data (accessed August 27, 2024).
[7] Institute of Health Metrics and Evaluation (IHME), University of Washington. GDB (Global Disease Burden) Compare. https://vizhub.healthdata.org/ gbd-compare/ (accessed on August 27, 2024).
[8] World Bank Most recent open data available (2,019) Note that data for the Middle East and North Africa and the MENA region do not include high-income countries (as in the rest of this report). https://data.worldbank.org/indicator/SH.XPD. CHEX.PC.CD?locations=MA (consulted October 2024).

urban areas, 3.3% in rural areas). The prevalence of hypertension in rural areas is slightly higher than in urban areas.[9]

In terms of maternal and child health, the maternal mortality ratio was 72.0 (per 100,000 live births), the neonatal mortality rate was 11.0 (per 1000 live births) and the under-five mortality rate was 17.0 (per 1000 live births), and these indicators have improved significantly over the past two decades[10]. On the other hand, regional disparities between urban and rural areas are significant. According to the National Population and Family Health Survey (ENPSF), conducted in 2018, the maternal mortality ratio was 44.6 in urban areas and 111.1 in rural areas (per 100,000 live births), the neonatal mortality rate was 11.2 and 16.3 respectively, and the under-five mortality rate was 18.8 and 26.0 respectively (per 1,000 live births). In particular, regional disparities in maternal mortality rates have tended to widen, with differences in mortality rates between regions rising from two (urban/rural = 73/148, 2010) to 2.5 times (urban/rural = 44.6/111.1, 2016) over the past decade.

Table 2: Major health indicators[11]

Key health indicators	Morocco	MENA	LMIC	Year
Life expectancy at birth	75	72	67	2022
Death caused by non-communicable diseases (% of total)	84	79	61	2019
Prevalence of hypertension in adults aged 30 to 79, %	35,3		33,5	2019
Prevalence of controlled hypertension in adults aged 30-79 with hypertension, %	10,1		14,3	2019
Diabetes prevalence, % (ages 20-79)	9,1	12,2	10,7	2021
HIV prevalence, total (% of population aged 15-49)	0,1	0,1	0,6	2022
Incidence of HIV, all (per 1,000 uninfected people)	0	0	0	2022
Tuberculosis case detection rate (%, all forms)	88	77	70	2022
Incidence of tuberculosis (per 100,000 people)	93	28	206	2022
Maternal mortality rate (modelled estimate, per 100,000 live births)	72	59	261	2020
Under-5 mortality rate (per 1,000 live births)	17	21	44	2022
Prevalence of stunting, height-for-age (modeled estimate, % of children under 5)	12,8	16,1	28	2022
Pregnant women receiving antenatal care (%)	89	N/A	85	2019 (Morocco 2018)
Births attended by skilled health personnel (% of total)	87	N/A	77	2019 (Morocco 2018)

2-3 Health service delivery [12]

The number of doctors and paramedics (nurses, midwives, etc.) per 1,000 population is 0.77 and 0.99 respectively, which is not only below the 4.45 required to achieve the SDG, but also extremely low compared to neighboring countries. With regard to the number of beds, the current number of

[9] STEPwise approach to NCD risk factor surveillance, Morocco.2017
[10] World Bank open data (2022, 2020 for MMR) https://data.worldbank.org/indicator/SH.XPD.CHEX.PC.CD?locations=MA (accessed October 2024)
[11] The prevalence of hypertension is from the Global Health Observatory; all others are open data from the World Bank (accessed October 2024).
[12] Cooperation strategy between Morocco and WHO for the period 2023-2027

beds is 10.8 per 10,000 population (both public hospitals and private clinics), which is below the WHO recommendation of 20 beds per 10,000 population. On average, only 90% of beds in the public sector are in service, with a disproportionate distribution in urban areas, a shortage of healthcare staff and aging facilities.

With regard to medicines, the supply for public health facilities is managed centrally by the Directorate of Procurement of Medicines and Medical Supplies (Direction de l'Approvisionnement en médicaments et en Produits de Santé,DAMPS) of the Ministry of Health and Social Protection (Ministère de la Santé et de la Protection Sociale, MSPS. hereafter, MoH). Medicines, that can be prescribed in primary health care facilities (PHC facilities), are supplied by the public hospital pharmacy (the regional drug administration service) according to the needs (inventory control) of the PHC facility. No supply shortages were identified in the visited PHC facilities (data on essential drug shortage rates and other corresponding data were not available).

Table 3: Main healthcare indicators [13]

	Morocco	MENA	Lower average income	Year
Hospital beds (per 1,000 people)	0,7	1,4	1,4	2019 (Morocco 2020)
Physicians (per 1,000 people)	0,7	1,2	0,7	2019 (Morocco 2017)
Nurses and midwives (per 1,000 people)	1,4	1,9	1,6	2019 (Morocco 2017)
Specialist surgical workforce (per 100,000 population)	4	21	8	2015 (Morocco 2016)

Table 4: Number of healthcare facilities[14]

	Type	Number
Tertiary hospital	University Hospital Center (CHU)	26
Secondary hospital	Regional hospitals (CHR)	26
Primary hospital	Provincial and district hospitals	78
Primary health care facilities (3,174 sites in total)	Urban Health Centers Level 2 (CSU-2)	185
	Urban Health Centers Level 1 (CSU-1)	684
	Rural Health Centers Level 2 (CSR-2)	433
	Rural Health Centers Level 1 (CSR-1)	876
	Rural Dispensary (DR)	837
	Center for Diagnosis and Treatment of Respiratory Diseases, CDTMR	69
	Reproductive Health Reference Center, CRSR	49
	Public Health Laboratory	41

[13]World Bank open data https://data.worldbank.org/indicator/SH.XPD.CHEX.PC.CD?locations=MA (latest available) (accessed October 2024).

[14] Number of PHC facilities: Distribution of primary healthcare facilities by category 2022. Number of non-PHC facilities: Fiche sur l'offre de soins de la sante existante (2021)

2-4 Health financing

In 2021, the share of out-of-pocket expenses (household expenditures) in Morocco's Total Health Expenditure (THE) was 44.8% and is trending slightly downward. According to the World Bank (WB), the percentage of households in Morocco, with health care expenditures as a percentage of household expenditures exceeded 10%, is 20.5%, but there is a large discrepancy in the figures published by the Moroccan government. The Higher Commissariat of Planning (Haut Commissariat au Plan, HCP) published 8.2% for the same indicator in 2018, which dropped from 13.4% in 2014.[15]

Table 5: Health financing indicators[16]

	Morocco	MENA	Lower-middle income	Year
Current health expenditure per capita (current USD)	221	257.39	90.25	2021
Current health expenditure (% of GDP)	5.74	5.47	3.92	2021
Domestic general government health expenditure (% of current health expenditure)	38.85	48.53	34.83	2021
Out-of-pocket expenditure (% of current health expenditure)	44.76	42.17	49.43	2021
Domestic general government health expenditure (% of general government expenditure)	7.18	N/A	5.04	2021(LMIC 2018)

Table 6: Out-of-pocket expenditure etc.[17]

	2000	2006	2012	2019	2021 (Latest)[18]
GDP per capita (USD	1,350	2,228	2,956	3,282	3,672
Health Care Expenditures per Capita (USD)	53.7	110	170	174	221
Out-of-pocket expenditure (% of current health expenditure)	54.1	58.7	53.6	46.8	44.8

3 Health administration

3-1 Public health administration structure

3-1-1 Central level

[15] Haut Commissariat au Plan, HCP (based on information provided by the Ministry of Health; 2022 field survey).
[16] World Bank open data https://data.worldbank.org/indicator/SH.XPD.CHEX.PC.CD?locations=MA (accessed October 2024)
[17] World Bank open data https://data.worldbank.org/indicator/SH.XPD.CHEX.PC.CD?locations=MA (accessed October 2024)
[18] GDP per capita is a 2023 value.

MoH undergoes a reorganization every few years the organizational chart for September 2023 is shown below. However, due to the health sector reform described below, the Directorate of Medicines and Pharmacy (DMP) will become the Moroccan Agency for Medicines and Health Products, and the University Hospital Center (CHU) will become under the jurisdiction of the Territorial Health Groups (GST) in the regions where they are located.

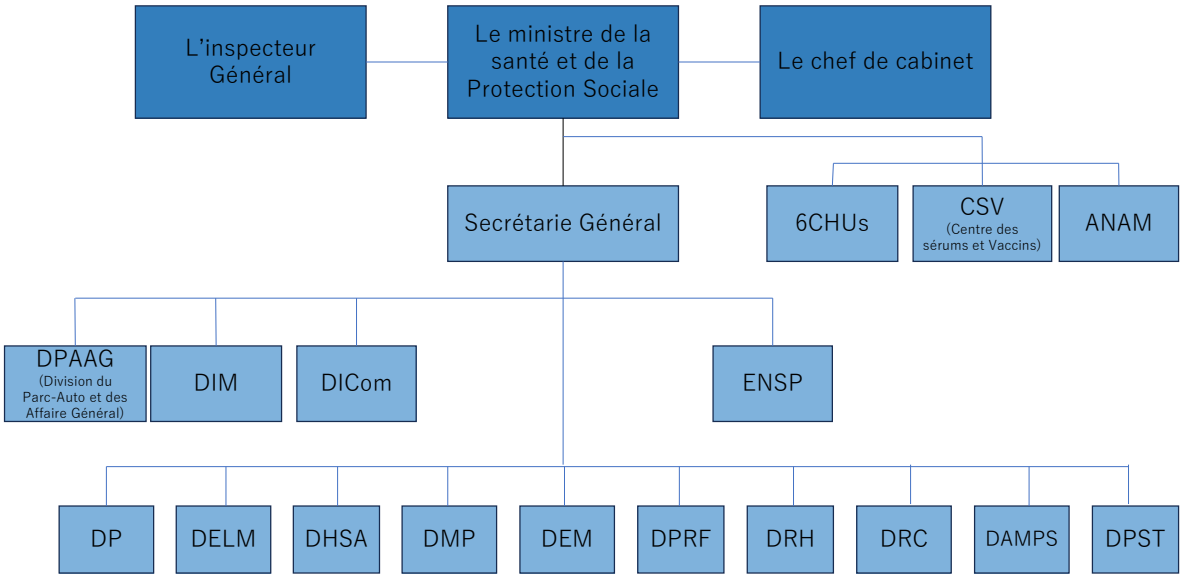

Fig. 1 MoH organizational chart [19]

3-1-2 Regional level

Each region of the country has a Regional Health Directorate (DRS), which is responsible for health administration in its area of jurisdiction. The DRS prepares regional healthcare supply plans (SROS), analyzing the current situation of the population's access to healthcare facilities and, on the basis of this analysis, planning the number of healthcare facilities and equipments required, as well as the budget needed (the DHSA is responsible for drawing up the SROS). On the basis of the plans submitted by each DRS at the central level, the Planning and Financial Resources Department (DPRF) analyzed the upgrading needs of PHC facilities at the national level and reflected them in the MoH budget plan. Following the health system reform described below, it was decided that the GST would replace the DRS.

[19] Prepared by Consultant team based on The New Organizational Chart of the Moroccan Ministry of Health. https://www.youtube.com/watch?v=V0F77b4Z6MM (due to no access to the Ministry of Health web page).

3-2 Health budget

3-2-1 National budget[20][21]

The state budget for 2023 was 600,472 million MAD (equivalent to 9,361 billion JPY), of which the general budget was 486,386 million MAD (equivalent to 7,582 billion JPY). The total budget for 2024 was 638,298 million MAD (equivalent to 9,951 billion JPY), an increase of 6.3% compared with the previous year. According to Public Finance Act No. 55.23, the 7.11% increase in revenues along with a 6.3% increase in expenditures mean that the Budget Deficit/GDP Rate for the fiscal of 2024 will be around 4%, and the downward trend in the budget deficit is expected to continue. In addition, public debt as a percentage of total expenditure in the fiscal year 2024 is expected to be 20.2%; meaning that total debt will be lower than the previous year.

The MoH budget for 2024 is 31,000 million MAD (equivalent to 483 billion JPY), which is an increase of 2,600 million MAD (equivalent to 40 billion JPY) compared with year 2023. [22]Key budget items include the construction of university hospitals, the upgrading of PHC facilities and the creation of 5,500 new human resources positions.

3-2-2 Health sector budget[23]

According to the Finance plan of MoH 2024, the priorities of the health sectoral strategy are composed of the following three pillars:

Pillar 1: Organization and development of healthcare provision with a view to improving access to health care services

Pillar 2: Strengthening national health and disease control programs

Pillar 3: Improving governance and rationalizing the allocation and use of resources

In addition, the budget request focuses on the National Plan of Surveillance and Response for SARS-CoV-2, the National Strategy for COVID 19 Vaccination and Health System Reform. It is based on the following four guiding principles: Establishing new governance for the healthcare system, developing human resources, upgrading and decentralizing the health service delivery system, and implementing an integrated information system.

For the general budget, 30,689 million MAD (equivalent to 478,442 million JPY) has been requested for 2024, compared with 28,130 million MAD (equivalent to 438,547 million JPY) in 2023, an increase of 9.1%. The budget is divided into five categories (programs), with major activities included in the program as follows. At the time of the budget request, 1,000 million MAD

[20] Ministère de l'économie et des finances, Loi de Finances 2024, p19.
[21] Calculated in this chapter at 1.0 MAD=15.59, 1.0 US$=153.94 (exchange rate on November 6, 2024).
[22] Finance Act 2024 p14
[23] Ministry of Health and Social Protection. Performance project. Finance bill 2024 Vers. French

(equivalent to 15,590 million JPY) was allotted for the PHC facility upgrade program and 119.3 million MAD (equivalent to 1,855 million JPY) for the ISPITS extension program.

It should be noted that the Finance Law (loi de finances) requires ministries to integrate a gender approach into their budget plans (including evaluation indicators); thus, a gender perspective has been integrated into the MoH's budget plan.

Table 7: MoH programs and budgets (2024 in millions of MAD)[24]

Program name	Major activities	Manager	2019	2020	2021	2022	2023	2024
700: Human resources and strengthening the health system	Human resources career management	DRH	8 676	11 006	10 529	11 477	13 657	14 659
	Supporting ISPITS missions							
	Continuing education							
01: Planning, programming, coordination and support of health system missions	Health system reform and basic medical coverage	DPRF	1 415	563	547	663	2 910	1 166
	Information System, Studies, Surveys and Statistics							
	Support for the missions of the regional health administration							
702: Reproductive health, health of mothers, children, adolescent and people with special-need	Immunization and nutrition	DP	515	516	840	617	258	692
	Support for health program missions							
	Mobile strategy and support for the rural health plan							
703: Epidemiological surveillance, monitoring and health security and, disease prevention and control	Epidemiological surveillance	DELM	141	324	216	284	144	263
	Prevention and control of communicable diseases							
	Prevention and control of non-communicable diseases							
	Support for public health laboratories and missions program							
	Health & Environment							
704: Action and service delivery in primary care and in hospital	Supporting the missions of public facilities under supervision	DHSA	3 248	4 416	4 871	4 846	3 838	4 726
	Organization and monitoring of primary health care services							
	Support for missions and training on PHC							

[24] (For year 2019-2022) JICA Information gathering and confirmation study for UHC support in Morocco (2022)
(For year 2024) Ministry of Health and Social Protection. Projet de Performance. Projet de loi de finances 2024 Vers. French.

705: Strengthening, upgrading and preserving health infrastructures and equipment	Support for UHC, hospital and ESSP programs	DEM	2 337	2 352	3 176	6 071	7 320	7 387
	Reinforcing equipment							
	Agreements with local authorities							
Total amount			16 331	19 176	20 178	23 958	28 130	30 689

4 Health service delivery

4-1 General situation

In Morocco, the health service delivery system, including health facility standards (e.g. number of facilities per population) and clinical pathways, was previously defined in the former framework law on the health system (law 09-34). This law will be repealed with the law on the health system reform (law 22-06), described below. After amendment of the law, the GST will be responsible for preparing regional health plans and regional health maps (law 22-08) and should determine the location of health facilities according to regional characteristics. In addition, under the old framework law, patients requiring medical examination and treatment are first referred to PHC facilities, and if they are deemed to require advanced medical treatment, such as specialist examination and treatment, they are referred to a higher-level hospital. After the health system reform, it is planned that the GST will plan these clinical pathways independently according to regional characteristics.

Health services in Morocco include formal services (public services and private for-profit and non-profit services) and informal services (e.g. traditional medicine). The public health service delivery system is based on tertiary hospitals (University Hospital Center, etc.), secondary hospitals (Regional Hospital Centers), primary hospitals (Provincial Hospital Center) and PHC facilities networks. PHC facilities networks constitutes of an integrated emergency care network, including emergency medical care centers networks), as well as a rehabilitation centers network and other medical and social facilities. The MoH classifies areas according to their distance from PHC facilities (0–3 km, 3–6 km, 6–10 km and over 10 km), with areas over 6 km away targeted by the mobile strategy.

4-2 Primary health care facilities

4-2-1 General situation

Primary health care facilities (PHC facilities) include urban health centers (CHU) and rural health centers (CHR), each with or without delivery services: level 1 (without healthcare services for delivery) and level 2 (with healthcare services for normal delivery). Urban health centers are established in urban communes, and rural health centers in rural communes. According to article 9 of

the former framework law on the health system (law 09-34 article 09), an urban health center level1 (CSU-1) is established for every 25,000 population, an urban health center level 2 (CSU-2) for every 50,000 population, a rural health center level 1 (CSR-1) for every 7,000 population and a rural health center level 2 (CSR-2) for every 25,000 population. Other types of PHC facility include reproductive centers (adolescent care) and addiction care centers, but there are no clear criteria for their creation, and their status varies from region to region.

PHC facilities provide basic treatment, prevention and health promotion services, among others, as described below. All these health services are provided free of charge to Moroccan citizens and migrants.[25]

Table 8: PHC facility types[26]

Type		Function	By population
Urban health centers	Level 2 (CSU-2)	In addition to the functions of a CSU1, it offers basic emergency obstetric care (BEmOC), etc.	50,000
	Level 1 (CSU-1)	It offers preventive and curative care services, health promotion services, and epidemiological surveillance	25,000
Rural health centers	Level 2 (CSR-2)	In addition to the functions of CSR1, it offers basic emergency obstetric care (BEmOC), etc.	25,000
	Level 1 (CSR-1)	It offers preventive and curative care service, health promotion services, and epidemiological surveillance	7,000
Rural dispensary (DR)		PHC facility designed to provide non-medical essential health care services, and health promotion services and preventive activities	When the catchment area of the CSR-1 is extended, it is possible to create one or two rural dispensaries attached to the center

4-2-2 PHC facility construction standards

The design, the layout criteria, the configuration and the conceptual drawings of the PHC facility, are contained in the Reference Framework for Primary Health Care Facilities- Buildings and Equipment (Cadre Référentiel des Établissements de Soins de Santé Primaires, 2018) and published by the Direction des Équipements et de la Maintenance (DEM), in alignment with the former framework law on the health service delivery (law 09-34). The most basic requirements are provided for the construction of a PHC facility. (Note that, according to the DEM, there are no standard design drawings for PHC facilities).

At present, the MoH is in the process of implementing health sector reform (law 22-06), and it has not been possible to obtain any information on how the design guidelines of the old framework law

[25] Plan stratégique national santé et immigration, Ministry of Health, Government of Morocco. https://www.sante.gov.ma/Publications/Guides-Manuels/Documents/2021/PSNS. .pdf Due to lack of access to the Moroccan Ministry of Health Web site, the description in this article is based on the following article. El Houcine Akhnif et al. Migrants and refugees' health financing in Morocco: How much Health Econ Rev. 2024 Nov 26;14(1):97. doi: 10.1186/s13561-024-00579-3.

[26] Ministry of Health. Sheet on the existing health care offer year (2021).

will be handled. However, given that design guidelines are fundamental in nature, and that any further reduction in the size of facilities could hamper healthcare activities, no major changes are expected in the future.

4-2-3 Universal design and humanization

The design guidelines indicate the mandatory service packages for universal design and humanization[27]. The elements to be included in the design are as follows:

- Family medicine: communication rooms, public consultation rooms with complementary consultation rooms, promotion of an architecture that encourages teamwork and coordination of patient care between doctors and nurses.
- Service approach: user-friendly architecture, reception, signage, meeting rooms, training rooms, health awareness and education rooms.

The elements to be included in the design with regard to humanization are as follows:

- Designed to provide a comfortable space for quality work
- Humanization of the main entrance, reception area and building exterior.
- Physical access for people with disabilities
- Respect for privacy and confidentiality
- Improved working conditions for staff (space and equipment)

4-2-4 Climate change and greenhouse gas reduction measures

Public facilities are designed in accordance with the Guide for sustainable construction and the Guide for energy efficiency in public facilities (Guide de Construction Durable et Guide d'Efficacité Énergétique dans les Équipements Publics). These guides were drawn up by the ANEP on the basis of the Moroccan Construction Thermal Regulations (RTCM), established in 2014. The guides include issues relating to the reinforcement of thermal regulations for buildings. The design of public facilities must specify and comply with the following aspects of these guides in the specifications for PHC facilities, which are:

- Thermal requirements and energy efficiency, when selecting architectural and technical solutions in the design of PHC facilities, the energy performance of the building envelope and energy efficiency measures in line with thermal regulations and energy efficiency must be taken into account.
- Building orientation, natural light, insulation, choice of building products and materials

[27] The design guidelines define it as follows. Universal design is a concept that aims to design products, environments, etc. that can be used by all people, regardless of age, gender, physical condition, nationality, language, knowledge, experience and other differences. Humanization refers to efforts to create a society that recognizes diversity, where each individual can play an active role at home, at work and in society while confirming his or her existence, i.e. the creation of an environment where people respect the "human rights" of others.

- Selection of energy-efficient equipment and materials (lighting, sanitary equipment, biomedical equipment, etc.).
- Choice of renewable energy solutions (e.g. solar panels, photovoltaic panels)

4-2-5 Energy efficiency

According to the DEM, PHC facilities are not considered energy-intensive facilities, and the main focus is therefore on energy efficiency (roof insulation, choice of lighting fixtures, use and interception of solar energy) [28], which requires designs that can significantly reduce energy requirements for heating and cooling. The World Bank's health reform projects are also expected to support for upgrading of PHC facilities that meet the thermal efficiency standards mentioned above.

4-2-6 Seismic zones and seismic design[29]

Morocco has divided its high-risk seismic zones into five levels (5 Level Zones). Zone 1, the highest risk zone, is located in the north and south of the country. In this zone, many houses are built of sun-dried bricks, which caused significant damage during the Al Haouz earthquake in 2023. PHC facilities, on the other hand, did not use sun-dried bricks and, therefore, suffered only minimal damage.

The design standards, currently in use and published by the Ministry of Housing and Urban Development, were established in 2011; since the Al Haouz earthquake, new revised design standards have been prepared, but are still awaiting for the government's approval. The implementation date has not yet been determined, as the government is implementing structural reforms and the implementation of this revised design standard will have a significant impact on the economy, such as higher construction costs.

4-2-7 Current state of PHC facilities

The current status and challenges of the health service delivery system in the regional level, including PHC facilities, are compiled by the DRS in the SROS and reported to the MoH under the former framework law on the healthcare system (law 09-34). It is based on a health map containing the list of existing health infrastructures, the location of health facilities, the number of beds, the specialties, the identification of public and private clinics, the outreach program, their equipment and their distribution. It also analyzes the current state of the population's access to health infrastructures in the region (per capita, disparities by province, etc.) and the state of maintenance of infrastructures (closures, dilapidation, etc.), and identifies the needs in terms of construction and rehabilitation of

[28] Interviews conducted in September 2024.
[29] Interviews at ANEP in September 2024.

health infrastructures. As part of the ongoing health sector reform, the GST is expected to produce health maps instead of the DRS in the future.

Here is a summary of the SROS (2017-2021) for Fez-Meknes region (comprising two prefectures and eight provinces; Fez, Meknes, El Hajeb, Ifrane, Sefrou, Moulay Yacoub, Boulemane, Taza and Taounate) created under law 09-34. SROS of Fez-Meknes region (2017-2021) showed that even within the same region, which the case for Fez-Meknes region, there are disparities in the population's access to healthcare depending on the province/prefecture. Although these results cannot be generalized across Morocco, it would be possible that a similar situation occurs in other regions, albeit to varying degrees.

- Some PHC facilities did not meet the criteria of establishments (target population): 7.41% of DRs had a target population of over 7,000 and 8.0% of CSU-1 had a target population of over 50,000.
- A number of PHC facilities are non-functional (closed), 94.32% in the Fez-Meknes region; as for the DRs, 14.8% are closed.
- Deterioration of the facilities are also a problem, with 21.24% of them deemed dilapidated in the Fez-Meknes region. Of these, 31% of closed PHCs are considered dilapidated, and 21% of PHC facilities in operation are also considered dilapidated. This situation varies from region to region, with all PHC facilities in the Moulay Yacoub province being in good condition.
- Medicalized PHC facilities vary according to the type of structure: in the Fez-Meknes region, all CSU-2 have a doctor, while many CSR do not. On the other hand, some facilities in the DRs have doctors. The percentage of facilities with a doctor by typology of PHC facilities is as follows: CSU-2: 100%; CSU-1: 96.55%; CSR-2: 81.13%; CSR-1: 56.19%.
- The distribution of medicalized PHC facilities varies by region: in the Fez-Meknes region, CSR-2 facilities with doctors are concentrated in four provinces/prefectures (Ifrane, Sefrou, Moulay Yacoub and Fès). On the other hand, 82% of CSR-1 facilities without doctors are located in three provinces/prefectures (Boulemane, Taza and Taounate).

5 Laws, policies and plans relating to the health sector

5-1 New development models[30]

Morocco's long-term national development strategy, named the New Development Model (NMD), aimed to be achieved by 2035, was drawn up by the Special Commission on the New Development Model (CSMD) (established in 2019). The NMD comprises four areas: economy, human capital, inclusion and solidarity, local government and sustainability.

[30] The Special Commission on the Development Model. The New Development Model General Report

5-2 Health Plan 2025

Health Plan 2025 is the health sector plan drawn up by the MoH. It comprises three sectors, 25 items and 125 activities. According to MoH, there are no other plans to develop, as all MoH activities are currently carried out in line with the health sector reform mentioned above and are not in line with the Health Plan 2025.

5-3 Health sector reform

5-3-1 Framework law on health systems (law 22-06)[31]

Framework law on health systems (law no. 06-22)was published with the aim of revising the content of the previous law on the health system (law no. 34-09) and creating a new health system (published in December 2022) in light with the Royal Declaration “The need to improve inequalities and the weak administration of the health system” (July 30, 2018), the Constitution “Guaranteeing citizens' right to health” (July 1, 2011) and the NMD “Reducing regional disparities”. This law is promulgated in the context of international trends such as Sustainable Development Goals (SDGs) and Law No. 09-21 on social protection, including the generalization of Compulsory Health Insurance (AMO) and the government program.

The law provides for improving access to the healthcare service with quality, reducing disparities in healthcare services, establishing a GST to decentralize the healthcare delivery system and thus improve governance, ensuring the safety and quality of medicines and food, strengthening prevention, restructuring clinical pathways and digitalizing the healthcare system, strengthening human resources in healthcare, introducing public-private partnerships and promoting research and development.

5-3-2 Overview of health sector reform[32]

MoH has identified four pillars for the health sector reform on the basis of this law: (i) new health governance, (ii) strengthening human resources, (iii) upgrading health delivery system and (iv) the development of an integrated information system.

(i) New health governance.

In addition to the GST (see below), the new governance arrangements for health delivery system include the High Authority for Health (Haute Autorité de Santé, HAS), the Moroccan Agency for Medicines and Health Products (Agence Marocaine des Médicaments et des Produits de Santé, AMCS) and the Moroccan Agency for Blood and Blood Derivatives (Agence Marocaine du Sang et de ses Dérivés).

[31] Framework law No. 06-22 on the national health system
[32] M. Abdelouahab Belmadani: La refonte du système de santé Etat d'avancement (Meeting of health sector partners in Morocco, June 7, 2024)

The HAS's role will include issues relating to national indicators, standards and guidelines for independent quality assessment of services in healthcare facilities, health technology assessment, as well as the technical framework of the AMO system, quality assessment of services provided by healthcare organizations and advice on public policy in the healthcare sector.

(ii) Human resources development

It aims to improve working conditions for healthcare professionals by introducing a new appraisal system, allowing additional remuneration for performance and overtime work, proceeding to the conclusion of direct contracts with the GST, employing foreign doctors and outsourcing certain tasks etc.

(iii) Upgrading the health service delivery system.

Law 22-06 stipulates that 1) the GST must prepare regional the health plans, as well as the health map and develop the health service delivery system on this basis, 2) the regional health map must be prepared on the basis of the national health map provided by the government, 3) the GST must develop clinical pathways so that patients are examined by PHC facilities in the public sector and by general physicians in the private sector. To achieve this, projects to build and rehabilitate CHU as well as the PHC facility upgrade program, etc. will be implemented.

(iv) Development of an integrated information system

An integrated information system of data from public and private healthcare facilities will be developed, and the administration of this integrated data into a "shared medical file" must enable the monitoring of patients' clinical pathways.

Law 09-34 will be void with the present law being enforced, the implementation structures of regional health administration and health financing will be as follows:

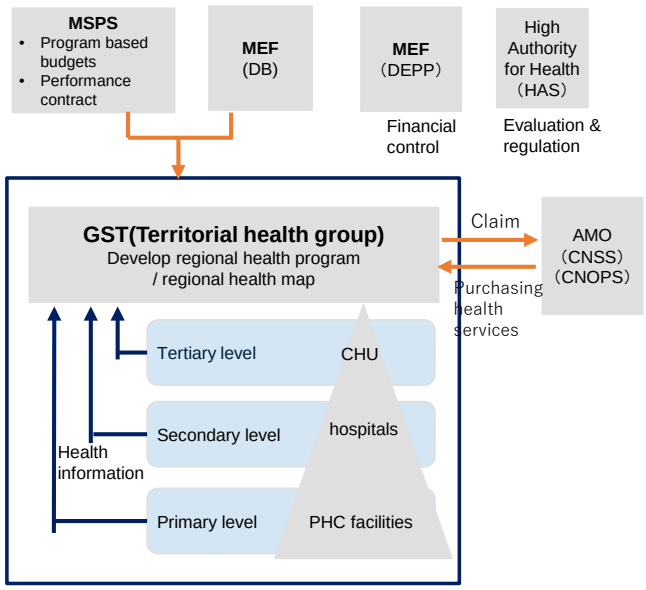

Fig. 2 Implementation of regional health administration and health financing (plan)[33]

5-4 MoH program

5-4-1 Health service delivery (including PHC facility upgrade programs)

(1) PHC facility upgrade program (phase 1)

1) Summary

Between 2022 and 2024, 1,334 PHC facilities nationwide will be targeted for upgrading in three tranches (tranche 1: 460 PHC facilities; tranche 2: 445 PHC facilities; tranche 3: 429 PHC facilities). PHC facilities need to be rebuilt are not included. Following this program, phase 2 of the upgrading program is planned.

2) Project implementation schedule

The status of the program (phase 1) is as follows. Data by region, facility size and budget have not been provided. According to MoH, all budgets for this plan have been secured.

Table 9: Number of planned PHC facilities [34]

PHC facility type	Number of sites excluding the three Southern Regions*	Number of PHC facilities planned in phase 1**	Number of PHC facilities planned in phase 2***
CSR-1.	840	1,336	737
CSR-2.	415		
CSU-1.	641		

[33] Prepared by the consultant team based on the appraisal report on Morocco's health reform program by WB.
[34] Prepared by the consultants team

CSU-2.	177		
	2,073	1,336	737

* The data quoted from 'Répartition des Établissements de Soins de Santé Primaire par catégorie(2022)', excluding the three Southern Regions.

** Data provided by MoH.

*** The three Southern Regions are not included.

Table 10: Progress of the PHC facility upgrade program (phase 1)[35]

tranche	expected number	inaugurated and put into service	completed, equipped and ready for inauguration	completed, equipped with office furniture and medical equipment in progress	completed and under construction	in the course of completion	under construction	works contracts launched	under study - work to start in 2024	being evacuated	to be demolished or modified/extended	cancelled (will be replaced)
I	460	134	26	179	65	70	416	72	299	5	40	28
II	445											
III	429											
total amount	1334	134	26	179	65	70	416	72	299	5	40	28
Ratio		10.00%	1.90%	13.40%	4.90%	5.20%	31.20 %	5.40%	22.40 %	0.40%	3.00%	2.10%
					30.30 %		36.40 %		27.80 %			5.5 %

In October 2024, the status of the PHC facility upgrade program (phase1, tranche 1-3) was 30% complete, 36% under construction, 28% not started and 6% not considered for construction. This means that around 1/3 for the facilities covered by PHC facility upgrading program (phase1), have been completed, 1/3 are under construction and 1/3 are under investigation or ready for tender. Over a three-year period, this means that the construction of around 400 facilities can be completed. In other words, the project has the capacity to complete around 400 facilities in three years. It should be noted that during our visit in February 2024, MoH explained that all PHC facilities in the country were to be rehabilitated and that the remaining facilities would be the subject of the PHC facility upgrading program (phase 2). However, no specific information was provided in October 2024, including a list of facilities covered by the PHC facility upgrade program (phase 2) and the budget.

[35] Prepared by the consultants team on the basis of figures provided by the Ministry of Health.

3) Examples of work

The following is an analysis of the tender documents submitted by the MoH in February 2024 for the upgrading of PHC facilities in Morocco. The documents analyzed are part of the PHC facility upgrading program in the North (four targeted structures).

(a) Contents of tender documents

① Drawings

The drawings include the following elements (almost the same structure for all four facilities): elevations (instructions for installing perforated panels, grids, etc. for insulation purposes on exterior walls), layout plans, floor finish plans, sub-floor plans (lighting layout), site plan, structural plans, planned rehabilitation plans for insulation purposes on exterior walls, completed rehabilitation plans, owner, project manager, engineering firm, plans completion date.

② Construction contract

Construction contracts are provided for four facilities in a single batch. The tender documents include the general contract text, tender conditions, material specifications, cost estimates (with quantity study) and design drawings, which are the same as in Japan. The material specifications provide details of the type of legal provisions applicable to each type of work, the method of construction and the names of the materials to be used. A major difference from Japan is that each building element is assigned a price number. This makes it possible to determine the price and the quantity (number of parts, surface area, units, etc.) of the construction work by comparing the price of each element with the estimated price. By entering the amount on the quotation, the building contractor can determine the amount of the bid by adding up the prices quoted.

(b) Climate change actions undertaken as part of rehabilitation

The material specifications identified the following elements as measures to combat climate change:

- Price n° 50: Aluminum composite material (insulation panels for exterior walls)
- Price n° 51: Perforated UNPC panels (insulation panels for exterior wall installation)
- Price n° 121: Telephone wiring (this item contains specifications for LED lighting)
- Price n° 131: Video surveillance equipment
- Price n° 153: Western-style toilets (water-saving toilets)
- Price n° 154: Toilets for the people with disabilities (water-saving toilets)
- Price n° 167: Split wall air conditioner 9000 BTU
- Price n° 168: 12000 BTU split wall-mounted air conditioner
- Price n° 169: 300-liter solar water heater

The rehabilitation work was completed in July 2023, which means that these climate change measures have already been implemented as part of the MoH rehabilitation work.

These measures to combat climate change are based on the Moroccan Construction Thermal Regulations (RTCM) adopted in 2014, as well as the Guide for Sustainable Construction and Energy Efficiency in the public facilities. They were considered by the current WB financing projects which has been carrying out PHC facility upgrading.

4) About medical equipment

The list of standard medical equipment is included for each type of primary healthcare facility in the Guidelines Framework for Primary Health Care Facilities-Buildings and equipment (Cadre Référentiel Etablissements de Soins de Santé Primaire-Bâtiments et équipements), as well as in the facility's establishment criteria CSU-1 and CSU-2 with a complete equipment configuration of health centers providing primary healthcare.

It was explained that a different equipment list than the standard one had been used for the upgrading project for four facilities in northern region mentioned above, and that this was the supply list for the PHC facility upgrade program. This equipment list was simpler than the design guidelines, but was deemed appropriate for PHC facility activities, and included sphygmomanometers, vital signs monitors and ultrasound machines that would be useful for the examination and diagnosis of non-communicable diseases. The main items of equipment are listed below. The original list was in French, but the equipment names were not consistent, and the same names were written in different ways. The terminology was therefore standardized during translation to make it comparable, and the list was organized and analyzed.

Table 11: Major equipment on the standard list of the first PHC facility upgrade program[36]

No.	Company name	Number of items	Name of main equipment
1	**DR**	39	Tabletop sterilizers, distilled water production equipment, 12-lead electrocardiographs, aspirators, scales (adult and pediatric), nebulizers, stretchers, wheelchairs, oxygen inhalation sets, examination tables, pulse oximeters, blood pressure gauges, miscellaneous medical furniture, medical equipment, etc.
2	**CSR-1**	41	In addition to the CSR-1, ultrasound equipment, fetal cardiograph, mobile incubator, etc., we are also able to offer a wide range of services.
3	**CSR-2**	73	In addition to the CSR-1, ultrasonic devices, patient monitoring devices, etc. are also available.
4	**CSU-1**	39	In addition to the CSR-1, blood cell counters, ultrasonic devices, patient monitoring devices, etc. are also available.

[36] Prepared by the consultant team base on the document provided by DEM, Ministry of Health.

5	**CSU-2**	62	Tabletop sterilizers, distilled water production equipment, 12-lead electrocardiographs, aspirators, scales (adult and pediatric), nebulizers, stretchers, wheelchairs, oxygen inhalation sets, examination tables, pulse oximeters, blood pressure gauges, miscellaneous medical furniture, medical equipment, etc.
6	**CTDMR**	39	In addition to the CSR-1, ultrasound equipment, fetal cardiograph, mobile incubator, etc., we are also able to offer a wide range of services.

MoH provided the table below as a list of equipment required for the diagnosis and treatment of non-communicable diseases in PHC facilities. Some of this equipment is already included in the standard equipment list of the PHC facility upgrade program, depending on the facility in question. Equipment not included in the list but deemed essential by the Department of Epidemiology and Disease Control (Direction de l'Epidémiologie et de Lutte contre les Maladies, DELM), is a cholesterol test kit and portable spirometers (respiratory functional exploration devices).

Table 12: List of equipment required for DTM diagnosis and processing[37]

Equipment name
Cholesterol test kit, blood pressure monitor, ECG, stethoscope, thermometer, tape measure, weight and height scale, blood glucose test kit, blood glucose/urine ketone test kit, monofilament test tool/brush, lancet.

Procurement as part of the project implementation requires revision of the standard equipment list in line with site conditions, and the addition of supplementary equipment. The procurement equipment list needs to be modified when DEM conducts procurement according to the additional equipment required.

5) Project implementation schedule

During the discussions between the DEM and the consultant, on 30th September 2024, the DEM noted that the project launch phase is the most time-consuming. For this reason, first year of the program was planned as a year of the design consisted with the selection of design consultants, site surveys and the preparation of tender documents for all planned rehabilitation facilities. This would mean that, from the following year onward, no design period would be required and all construction work can be completed in around three months**.**

As the tender constitutes the construction process, the decision on the contractor must be made within the remaining nine months.

[37] Prepared by the consultants team on the basis of information provided by the Ministry of Health.

Table 13: PHC facility upgrade program (phase 1) Year 1 - Year 3 Implementation schedule[38]

Financial year	Project implementation schedule	Period
1st year: Design	Selection of consultants	2 months
	On-site survey	1 month
	reparation of survey reports	
	Preparation of tender documents	9 months
	Preparation of design drawings	
	Preparing quotations	
	Preparation of specifications	
	Preparation of contractual documents	
	Confirmation of products to be delivered	
2nd year: Construction	Construction offer	3 months
	Construction notice (approx. 21 days)	
	Estimated construction time (approx. 40 days)	
	Submission	
	Contract negotiation	
	Repair work	9 months
3rd year: Construction	Construction offer	3 months
	Construction notice (approx. 21 days)	
	Estimated construction time (approx. 40 days)	
	Submission	
	Contract negotiation	
	Repair work	9 months

6) Project implementation system

(a) Project implementation

In the past, the contracting authority was the DEM, but the project management for the rehabilitation work was delegated to the ANEP. ANEP selected a consulting firm through a public tender (electronic call for tenders) to carry out the field survey of the project and prepare a study report. This report then serves as the basis for the preparation of tender documents (rehabilitation plans, contract documents, specifications and estimates). In the case of this project, tender documents for all the facilities to be rehabilitated will be prepared over a period of one year.

- In years 2 and 3, a construction company is selected through a public tender (electronic bidding), and supervision of the rehabilitation work carried out by the contractor is regularly and jointly executed by the DRS and the ANEP regional staff office. The design office supervisors will carry out the day-to-day supervision of the construction work separately, according to all contractual details; as ANEP is ISO 9000 (quality administration system)

[38] Prepared by the consultant team on the basis of interviews with DEM, September 2024.

certified, it is possible to base the work on ISO quality l standards and monitor the work using control sheets for each stage. Control sheets can be used to verify work at each stage.

- The purchase of medical equipment is carried out by DEM, DRS or the provincial health delegation.

(b) About ANEP[39]

ANEP was created in 1980, then it became an independent administrative body under the name of ANEP in 2020. Each of Morocco's 12 regions has its own regional agency (Agence régionale de l'établissement public, AREP), which is responsible for managing the regional affairs.

The total workforce is made of 428 employees. The number of employees is expected to rise to 509 by the end of 2024; technical staff are design engineers and technicians account for around 30% (128 people) of, architects account for around 10% (42 people).

(c) Flow of implementation on construction

Construction planning is based on a bottom-up approach. A health map is produced annually by the provincial health delegation in each region. This report includes the health situation in the area under their jurisdiction, a report on health facilities and a supply plan for the following year. This report is submitted to the DRS, who takes charge of compiling it into the SROS (Schéma Régional de l'Offre de Soins) and submiting the final version to the MoH. On the basis of this request, the DPRF prepares a construction budget plan and instructs the DEM to acquire it; the DEM follows these instructions and instructs the ANEP to prepare a construction plan; the ANEP carries out a survey of the target facilities for which a construction plan has been requested and prepares a final construction plan. The study is carried out through a tendering procedure, entrusted to a number of architectural firms throughout the country. Tenders will be issued electronically via the public procurement portal. Once the study has been completed, the architectural firm will prepare a tender document. On the basis of these documents, the construction company is selected by the ANEP through a tender process, and the construction work is carried out. Contracts are also signed with a number of construction companies across the country. Once the construction contract has been signed, quality and delivery times are monitored during the construction period and on completion, through inspections carried out by the ANEP and the DRS. Inspections are carried out by engineers from ANEP and AREPs (ANEP regional offices) at 12 sites (one agency per region).

[39] See the organization chart on the official website https://anep.ma/. (Not accessible from Japan).

(d) Medical equipment acquisition procedures

A bottom-up approach is adopted for the acquisition of medical equipment. Following a process similar to that for construction, requests are sent to the DPRF. The DPRF obtains a budget and, once the budget has been approved, gives purchasing instructions to the DEM for equipment procurement, and to the ANEP for construction. For medical equipment, the BME (Bio Medical Engineer) in DEM's equipment section prepares the equipment list and specifications, and proceeds to tender after checking the request, the standard equipment list, the facility's conditions and the budget. All tenders are submitted electronically via the public tendering portal.

Laboratory reagents, drugs and medical consumables used for laboratory equipment installed in PHC facilities are requested by the provincial health delegation through the DRS (the laboratory equipment dealt with the program is simple portable equipment). This equipment is not listed in the SROS but is requested through a system called CANVAS. The DPRF gives instructions to the Department of Drugs and Health Products Supply (Direction d'Approvisionnement des Médicaments et Produit de Santé, DAMPS) for procurement of inventory and facilities' equipment. It should be noted that testing equipment is purchased by the DEM, and that DAMPS is responsible for the subsequent replenishment of reagents.

7) Operation and maintenance administration system

(a) Facilities

PHC facility upgrading needs are assessed annually by provincial and prefectural health departments, and the results are compiled by the DRS in the SROS. On the basis of the SROS, the DPRF prepares a budget plan for the buildings, which forms the basis of the budget request issued to the Ministry of Economy and Finance. Once the budget is allocated, the DEM prepares a list of PHC facilities to be renovated, and the rehabilitation work is implemented.

With regard to maintenance and administration at the PHC facility level, in the example of the site visited (in Rabat), outsourced cleaning agents are coming to the facility to carry out daily cleaning work. At the secondary hospital level, two medical equipment engineers, two technicians and six outsourced IT technicians are assigned to equipment administration. X-ray machines, sterilizers and other equipment are maintained under maintenance contracts with suppliers.

(b) Medical equipment

Medical equipment purchased by DEM generally comes with a manufacturer's warranty period of one to three years. If the free warranty period is short, a maintenance administration contract is attached to cover the three-year period. This free warranty or this maintenance and administration contract is carried out by the medical equipment supplier's technicians at the request of the medical facility. After the third year, the maintenance administration contract is implemented by the

prefectural/provincial health department by concluding a maintenance administration contract with a similar medical equipment supplier.

(c) Infrastructure (Case of Rabat)

According to information gathered in Rabat, the infrastructure situation is such that there are no electricity or water supply problems, and few power blackouts or water outage.

(d) Monitoring and supervision system

Construction work is supervised weekly by the DRS and the ANEP regional representative, while the design office supervisor checks the advancement of construction in the field. The duration of rehabilitation work is estimated between six and nine months, depending on the scope of the work, but MoH, ANEP and the design office can jointly confirm completion of the work when the construction report is prepared every three months.

(2) Program to reduce territorial and social disparities in rural and mountainous areas (2017-2023)[40]

The program, which has already been completed, has planned to be upgraded 590 PHC facilities. Upgrading is currently underway on 329 facilities. In addition, ambulances (528) and vehicles for outreach program (181) have been maintained. No information is available on target areas.

(3) Outreach program

In the Health Plan 2025, one of the objectives is to "organize and develop the health service delivery system in order to improve access to healthcare services", to "strengthen primary healthcare structures and the network of medico-social facilities (REMS)", and to "develop outreach program in rural areas".

Strengthening outreach program is a key element of the national strategy for primary health care (PHC), described later in this report.

One of the objectives of the national strategy is to plan according to local conditions in order to "ensure equitable and quality access to primary care". According to the regional PHC plans, implementation rate of outreach program varies from 0 to 100% depending on the prefecture and the province.[41]

[40] Revue de la santé 2022-2023

[41] The national primary healthcare strategy was initially implemented in four regions (Tanger-Tétouan-Al Hoceima, Marrakech Safi, Béni Mellal-Khénifra and Souss Massa) and, as these four regional plans were DPL deliverables, they were communicated to the study team via the Ministry of Health.

5-4-2 Quality of care

In accordance with law 22-6, it is planned to develop a system of independent assessment of the quality of services provided by healthcare facilities in order to guarantee the quality and safety of healthcare. Assessments will be carried out in accordance with national indicators, standards and guidelines defined by the aforementioned HAS.

5-4-3 Human resources

(1) Training and employment

By 2023, 53,000 healthcare professionals will be employed nationwide (9,000 doctors, 32,000 nurses and other technical staff, and 12,000 administrators and assessors). However, 96% of them are working in hospitals or healthcare facilities outside the MoH's jurisdiction. In response to the situation,, a budget has been earmarked for the hiring of 5,500 new healthcare staff (all positions combined) in 2023 (a 37% increase in capacity over the five-year period 2018-2023); a plan has been signed to increase the number of healthcare staff by 2030, with the Ministry of Economy and Finance (MoF), the MoH and the Ministry of Higher Education, Scientific Research and Innovation (MESRSI), in the same framework agreement.[42]

(2) Higher Institutes of the Training for Nursing and Technical Health Professions (ISPITS)

1) The roadmap for education and the report on its achievements

According to the ISPITS Education Roadmap (2022-2023) compiled by the Human Resources Department (DRH) and the ISPITS Annual Review (2022–2023), the ISPTS is working on Law 06-22, and the signing of a framework agreement on increasing enrollment as mentioned. The ISPITS has implemented the following three policies and activities in 2022-2023: Increasing the capacity, Diversifying the options, Mapping of ISPITS. [43][44]

The plan for 2022-2023 has set the number of courses to be offered, (including the reopening) in the 24 ISPITS head and branches campuses nationwide, at five courses and 24 options, with a capacity of 6,200 students in all campuses, and a final admission of 6,274 students. The five courses are nursing, medical technology, rehabilitation, midwifery and social work. No information was available on admission capacity and results by stream. In addition, a capacity increase of 800 students is planned for 2023-2024.

[42] M. Abdelouahab Belmadani: La refonte du système de santé Etat d'avancement (Meeting of health sector partners in Morocco, June 7, 2024)
[43] Roadmap for the development and implementation of nursing and health technology training for the 2022-2023 academic year
[44] MoH. Annual review of training (2022-2023), Execution of the roadmap for the development and implementation of nursing and health technology training for the year 2022-2023.

In order to strengthen the educational capacity of the regions, new options for bachelor's and master's courses in family and community health, orthopedics, anesthesia, etc. have been planned by the Central Commission for the Coordination of the ISPITS.

Table 14: ISPITS' capacity (plan and actual in 2022-2023, plan in 2023-2024)[45]

Institutes	Head and branch campuses	2022-23 Plan	2022-23 Actual	2023-24 Plan
total amount		**6,200**	**6,274**	**7,000**

2) Investigation into the current state of the ISPITS simulation center.

MoH is investigating the current status of simulation centers in 2022[46]. Throughout the discussions with MoH, we concluded that simulation centers are facilities providing high-level clinical training in medical institutes, using advanced computer-controlled mannequins to simulate the medical practice setting. These are considered to be simulation centers. It is worth noting that, according to the same study in 2021, the MoH, with the support of the World Bank, opened simulation centers in three of the main ISPITS affiliated institutes-Agadir, Fez and Marrakech- and provided training to trainers to enhance the practical capacity of healthcare staff.

According to the survey mentioned above, the following challenges were mainly raised by the ISPITS' trainers who participated in the survey.

- Surplus of students/participants using simulation centers
- Lack of technical staff in the simulation centers
- Lack of simulation centers' management
- Lack of trainers involved in simulation exercises
- Lack of simulation training opportunities
- Restricted operating budgets for simulation centers (lack of equipment, devices and various mannequins)

On the basis of the above results, the following elements are included in the plan for the generalization of simulation centers. With regard to result 1"Establisheing and equipping simulation centers", the plan and evaluation indicators do not mention the specific number, target campuses, equipment and instruments.

[45] Prepared by the consultants team based on the ISPITS Education Roadmap (2022-2023) and the ISPITS Annual Review (2022-2023).

[46] DRH, MoH. Rapport d'Etat des lieux des centers de simulation au sein des Instituts Supérieurs des Professions Infirmières et Techniques de Santé relevant du Mlinistère de la Santé et de la Protection Sociale,2022

Table 15: ISPITS simulation center objectives generalization plan, etc.[47]

Objective	Contribute to the generalization of simulation centers in ISPITS.
Expected results	Establishing and equipping the ISPITS' simulation centers
	Best practices' guide for ISPITS simulation centers is drawn up
	A simulation capacity building program will be developed for ISPITS' staff
Monitoring indicators	Number of simulation centers created and equipped under ISPITS
	Number of operational simulation centers
	Number of beneficiaries of simulation and capacity-building programs
	Number of monitoring and evaluation visits to simulation centers

3) ISPITS extension program

There is a total of 25 ISPITS in Morocco, training nurses and midwives, as well as laboratory technicians, radiology technicians and others. MoH plans to expand and renovate school buildings and educational and medical facilities to accommodate the increasing admission capacity of ISPITS. ISPITS extension programs includes as the creation of a simulation center. MoH aims to put in place simulation centers in all existing ISPITS. At present, three ISPITS have simulation centers (Tangiers, Casablanca and Marrakech) [48]. The creation of these simulation centers is partially funded by the World Bank.

The following information was obtained during a visit to ISPITS Casablanca: the construction of ISPITS in Casablanca is scheduled for completion in 2024, but the campus is partially open to students.

(Status and information on ISPITS Casablanca simulation centers)

- Guidelines for simulation centers have already been drawn up and are awaiting MoH approval. Once approved, they will be published on the website.
- The simulation program was also developed with the help of nursing trainers from all over the country.
- The mannequins (simulators) used in simulation centers are purchased and used in two forms: advanced computer-controlled mannequins and general type mannequins.
- General type mannequins are mainly the usual hand-operated mannequins and are still used for practical training in various institutes. They can also be used in classrooms. In many institutes, normal mannequins are deteriorating and are in short supply.

[47] DRH, MoH. Rapport d'Etat des lieux des centers de simulation au sein des Instituts Supérieurs des Professions Infirmières et Techniques de Santé relevant du Mlinistère de la Santé et de la Protection Sociale,2022

[48] According to the documents submitted by the Ministry of Health, this is Fez and not Marrakech. However, interviews with the DRH provided different information.

- Advanced computer-controlled mannequins, which can simulate patient care procedures, using scenarios, are controlled by a PC.
- The university has a department that teaches teaching methods using medical simulators, where teachers receive a certificate in medical simulation teaching methods. It is planned to teach by the trainers with a certificate to teach at the institute ISPITS Casablanca.
- A simulator demonstration by a teacher is presented to students using images, followed by group practical exercises. Audiovisual equipment is required for this.
- It would be desirable to have separate rooms for general patient care simulation and perinatal care simulation, but due to space constraints there is currently only one room. The room is large enough.

The target campuses and extension content listed in “ISPITS simulation centers situation” are eight sites (see below). Plans and equipment details vary considerably from center to center. The plans are divided into construction and development/extension plans, but the content does not correspond to the names of these plans. The names and contents of the medical and simulation equipment to be acquired vary considerably.

Table 16: ISPITS simulation centers [49]

Project	Name of ISPITS
Existing	Marrakech, Casablanca, Tangier
Construction	Fez (Annexe of IBN KHATIB Hospital) Laayoune, Marrakech / Safi, Oujda, Tangier, Tetouan,Guelmim, Tiznit
Extension	Agadir

5-4-4 Information on health and medical care

Digitalization of data is currently underway in Morocco in all sectors, not just healthcare. The Agence de Développement du Digital (ADD) has been set up as an agency to promote DX in different governmental departments. Within MoH, the IT and Methods Division (DIM) is in charge.

Setting up interoperability platforms is an essential part of digitalization. [50]According to the Moroccan white paper on e-health, the ADD is putting in place a secure data interoperability platform between various ministries.

According to the Moroccan e-health white paper, a number of projects have been implemented, since 2008, to introduce integrated computerized health information systems in all health facilities. However, in 2022, the system was still incomplete, fragmented and non-integrated, and system accessibility has not improved. MoH has therefore responded to this by postponing the planned completion of the integrated health information system to year 2030.

[49] Summary of MoH: Situation of ISPITS simulation centers
[50] MoH et al, White paper on e-health in Morocco.

(1) Introduction of an integrated health information system.

Integrated health information systems are currently being implemented throughout the country. The integrated systems are planned to include information systems for public healthcare facilities (from primary to tertiary level), systems for private healthcare facilities such as clinics, and systems for users (E-PHR, electronic personal health record). Among these systems, four types of hospital information systems have been introduced and differ from region to region (HOSIX, SIH-ENOVA and other national systems). However, all system adapts to the HL7 FHIR (Fast Healthcare Interoperability Resource); a standard for the exchange of medical information. This ensures interoperability and compatibility between the systems.

Information systems have already been installed in the hospitals and, at the time of the survey (October 2024), the installation of computers in each PHC facility (a minimum of six computers, according to the DIM) had just been completed with the aim of implementing information systems in the PHC facilities. Staff training on the integrated information system is planned for the future.

In addition, a platform is being developed to promote data interoperability including private sector solutions and promoting the use of data at a national level. During the October 2024 survey, tenders for the operation of an interoperability platform were underway.

In the future, the aim is not only to improve public access to healthcare services (medicines and medical treatments) by integrating them into the Care Pathway and linking them to the national identity card, but also to prevent healthcare fraud.[51]

At CNSS, the computerization of health insurance claims (introduction of a system) is also underway. As of February 2023, the system has not yet been integrated into healthcare facilities' information systems, but it is planned in the future by putting in place an integrated health information system. Certain healthcare facilities are testing receipt-based medical invoices at the CNSS.[52]

(2) Telemedicine

According to the DIM, there is currently no national policy on telemedicine, and telemedicine is being introduced using different approaches in different regions, depending on regional characteristics. For example, the provincial hospital of Essaouira, where the field visit was carried out, promotes telemedicine and has set up a telemedicine room within the hospital. So far, the public hospital has sought instructions from specialists belonging to higher-level hospitals, but in the future the hospital plans to accompany lower-level health centers. Currently, it is limited to advices given

[51] Revue de la santé 2022-2023
[52] SOCIAL SECURITY SYSTEM MANAGED BY CNSS (data collected by the survey team in February 2024)

by doctors in higher-level hospitals to doctors in lower-level hospitals (doctor to doctor) and does not touch upon teleconsultation (doctor to patients).

5-4-5 Primary health care (PHC)

(1) National primary health care strategy

The national primary healthcare strategy was drawn up by a working group made of officials from the DPRF, the DELM, the DP, the ENSP and the WHO, under the leadership of the Department of Hospitals and Ambulatory Care (Direction des Hôpitaux et des Soins Ambulatoires, DHSA).

The national strategy defines strategic objectives (5 items) and actions (23 actions in total, 3 to 7 actions per objective) for strengthening PHC, and each region plans the means and specific activities (measure and activity) for implementing these actions, according to regional characteristics (Regional PHC Plan).

It should be noted that plans relating to primary healthcare and health care delivery systems, including PHC facility upgrades, outreach program, healthcare staff employment (performance-based remuneration), quality of healthcare provided and implementation of health information integration systems, are included in "objective 2: ensure quality primary care and equitable access".

(2) Regional action plans for primary healthcare

In line with the national primary healthcare strategy, four regions have become pilot sites in 2023 and have drawn up regional plans to strengthen primary healthcare. The pilot regions were Tanger-Tétouan-Al Hoceima, Marrakech Safi, Béni Mellal-Khénifra and Souss Massa.

As mentioned above, the means and activities of all undertaken actions vary from region to region. However, according to the Tangier-Tetouan-Al Hoceima plan, concerning "objective 2: ensure quality primary care and guarantee equitable access", the GST is responsible for identifying PHC facilities in need of renovation, while the MoH is designated as the entity responsible for upgrading PHC facilities that are already in construction.

5-4-6 Communicable diseases

According to the DELM, individual plans exist for communicable diseases such as HIV/AIDS and tuberculosis (no individual documents were shared at the time of the July 2022 survey). According to the DELM's Strategic Plan Implementation Report 2017-2021, which aims to report progress on the Health Plan 2025 (public document), hepatitis C, HIV/AIDS, tuberculosis and drug-resistant bacteria, has been implemented. In addition, activities related to tuberculosis, zoonotic diseases and antimicrobial resistance (AMR) are also being implemented.

(1) National strategic plan for the prevention and control of antimicrobial resistance 2019-2022[53]

The plan was prepared in 2018 by MoH and the Office National de Sécurité Sanitaire des Produits Alimentaires (ONSSA), with support from the WHO. [54]The plan was ongoing until 2022, but the MoH has not developed a plan succeeding this and continues to implement activities based on the initial plan. The objectives and targets are as follows. For each objective, between three and five specific activities have been planned:

Goal	Reduce mortality, morbidity and direct and indirect costs associated with antimicrobial resistance.
General objective	Guarantee the efficacy of antimicrobials to safeguard human and animal health.
Strategic objectives	・ Enhancing knowledge through monitoring and research ・ Optimizing the use of antibiotics for human and animal health ・ Reducing the incidence of infections through prevention and control ・ Improving awareness and competence in antimicrobial resistance ・ Strengthen governance in the fight against antimicrobial resistance

According to the Review of MoH 2022/2023, a surveillance system for AMR has been set up to monitor and track them [55]. In addition, the following three studies were carried out to analyze problems in this area.

- Current knowledge, attitudes and behaviors regarding drug-resistant bacteria
- Cost-effectiveness of pharyngitis screening.
- Assessment of the prevalence of healthcare-associated infections.

(2) Surveillance system

1) Health surveillance and Early Warning and Response System[56]

MoH is working to address the international health crisis by strengthening the functions of the National Center for Public Health Emergency Operations and its regional centers, as well as setting up the response teams. In addition, the Ministry's National Hygiene Institute has established strategic partnerships with Mohammed VI Polytechnic University and the Moroccan Institute for Advanced Science, Innovation and Scientific Research to strengthen surveillance and control systems, promote innovation and scientific research, and develop relevant technologies.

As part of the security and prevention of epidemics and health crisis, the MoH, through the National Center for Public Health Emergency Operations, provides surveillance and monitoring of COVID-19 and other epidemiological indicators of international pandemics and communicable

[53] https://www.who.int/publications/m/item/morocco-national-strategic-plan-for-prevention-and-control-of-antimicrobial-resistance-(en)
[54] According to DELM, as of the October 2024 survey date, there are no plans to develop the next plan.
[55] Revue du ministère de la santé et de la protection sociale réalisation phares 2022/2023, https://www.sante.gov.ma/Documents/2023/2_Conf%C3%A9rence/Documents/Revue%20Fr.pdf
[56] Revue du ministère de la santé et de la protection sociale réalisation phares 2022/2023, (p30.Surveillance sanitaire et alerte précoce et rapide).

diseases. It has also set up a national surveillance system to ensure continuous monitoring. The system includes several institutions, such as the Poison Control Center, the National Blood Transfusion Center and the National Radiation Protection Center, which work together to ensure a rapid response to any health crisis and the implementation of appropriate preventive measures.

The following represents the functions of the National Center for Public Health Emergency Operations:

- Surveillance and response to COVID-19 at the national and international level
- Update surveillance and response plans/procedures of SARS-CoV-2/COVID-19 versions 4 and 5
- Mpox surveillance and response at the national and international level
- Development and updating of the Mpox monitoring and response plan
- Development of procedures' manual for monitoring and responding to 6 viral hemorrhagic fevers
- Regular coordination meetings at the regional and provincial levels
- Support for the operational teams at the regional and provincial levels
- Training of the regional and provincial rapid response teams
- Training in public health risk assessment methodology
- An internal assessment of the national center, regional health emergency centers and rapid response teams.
- Implementation of electronic intelligence in all regions of the kingdom via the "Epidemic intelligence Source", which is an electronic intelligence platform.

2) Monitoring the effects of climate change on health[57]

Surveillance systems comprise both active surveillances, initiated by the relevant MoH agencies in the event of epidemics, and passive surveillance, whereby information on specific diseases is regularly collected and analyzed from medical facilities. The original aim of surveillance (timely data collection, analysis, interpretation and provision of information) is not being achieved in Morocco, as the country relies on data obtained from outdated hospital information systems to monitor the effects of climate change on health (for example, asthma caused by air pollution and the incidence of non-communicable diseases such as strokes, heart diseases and respiratory illnesses).

In response to this situation, the World Bank is currently supporting the strengthening of surveillance systems, in particular via capacity building to monitor the effects of climate change on health, in line with the development of an integrated information system to be implemented as part of the health sector reform. More specifically, it is planned to develop and approve a roadmap for strengthening surveillance capacity (under the jurisdiction of the DELM) and to ensure training, data

[57] World Bank. Appraisal report on Morocco's health reform program, p9, 18, 33.

digitalization and related legislation and regulation (e.g., registration of emerging and re-emerging communicable diseases related to climate change as reportable communicable diseases).

(3) National health crisis response plan (2017-2022)[58]

1) Assessment of basic RSI capabilities.

The International Health Regulations (IHR) were established by the World Health Organization (WHO) in 2005 with the aim of preventing disease pandemics. The IHR stipulate the minimum requirements ("core capacities") for regional and national preparedness for both normal times and emergency cases.

In 2016, an external evaluation system called "Joint External Evaluation" was introduced as an evaluation and monitoring framework to promote core capacity development. Morocco was the ninth country in the world to conduct an external evaluation of IHR core capacities, and one of the first countries in the world to develop a national health crisis response plan based on the evaluation results. Following this, the priority was given to 44 activities in the following 12 areas that scored low in the “Core Capacity Assessment.”

However, it has been reported that during the outbreak of new coronavirus infections, developed countries that had been assessed as being well under the IHR's basic capacity, were also severely affected. Consequently, since 2022, studies have been carried out by the relevant bodies to revise the IHR, and a draft amendment was adopted at the 77th WHO general assembly in May 2024. It should therefore be noted that the following results are those obtained in 2017, prior to the IHR amendment:

2) Priority areas

- National legislation, policies and funding
- Antimicrobial resistance (AMR)
- Zoonosis (disease transmissible from animals to humans or vice versa)
- Biosafety and biosecurity.
- National inspection systems
- Staff training
- Real-time monitoring
- Emergency response activities
- Risk communication
- Point of entry
- Chemicals’ incident
- Nuclear and radiological emergencies

[58] MoH: National Health Safety Plan 2018-2022, 2017

5-4-7 Non-communicable disease

(1) National Multisectoral Strategy for the Prevention and Control of Noncommunicable Diseases

Currently, the Moroccan government is working on the National Multisectoral Strategy for the Prevention and Control of Non-Communicable Diseases 2019-2029. The document has been prepared with technical and financial support from the WHO, and the DELM is responsible for its implementation. The strategy aims to develop an integrated, multi-sectoral approach to reduce the prevalence of NCDs and their risk factors, as well as premature deaths due to NCDs.

The national strategy is a ten-year plan, with action plans (every two years) to implement it. The action plan (2023-2024) is currently being implemented.

The target values of the national strategy, the four individual objectives for achieving these goals and the strategies for each objective are as follows. In addition, 13 to 24 measures are planned for each objective in order to implement the strategy.

Table 17: Target values of the National Multisectoral Strategy for the Prevention and Control of NCDs[59]

Target values (implementation period: 2019-2029)
Reduction of tobacco consumption among the population aged 15 and above by approximately 20% by 2029.
Reduction of insufficient physical activity (sedentary lifestyle) by approximately 10% by 2029.
Reduction of salt consumption in the population by approximately 10% by 2029.
Reduction of hypertension in the population aged 20 and above by 10% by 2029
Reduce the increase in the prevalence of diabetes by 15% by 2029 (currently 30% over 10 years).
80% of patients treated for diabetes and hypertension have access to essential medicines in primary care facilities
50% of people who need treatment to prevent myocardial infarction and stroke receive it
Reduction of the harmful alcohol use by 10% by 2029.
Reduction of NCD-related premature mortality by 25% by 2029

Objective 1: Strengthening healthy lifestyles and NCDs prevention

Objective 2: Ensuring quality treatment for NCDs

Objective 3: Improving governance for NCDs and their risk factors

Objective4: Strengthening surveillance, assessment and monitoring, and research and development for NCDs and their risk factors.

[59] National Multisectoral Strategy for the Prevention and Control of Noncommunicable Diseases 2019 - 2029

Among these, objective 2 aims to strengthen the health system to implement NCD treatment and prevention by defining the functions related to NCD prevention and treatment at each level of the health system. Activities to achieve this goal include: the ability to provide highly specialized medical care at the highest level (regional/inter-regional level), the ability to become a reference center for diagnosis, treatment and follow-up of NCDs at the prefectural and provincial level, the early detection and diagnosis of NCDs at the primary level, the health education on specific health care of NCDs and the follow-up treatment of NCDs'.

(2) Health services related to diabetes and hypertension at the primary level

In the national multi-sector strategy for the prevention and management of NCDs 2019 – 2029, the followings are measures relating to diabetes and hypertension health services at the primary level:

- Measure 18: Development of NCD treatment methods through GST (e.g. development of treatment procedures)
- Measure 22: Development and revision of NCD treatment protocols (e.g. generalization of diabetes treatment protocols (latest version))
- Measure 23: Implementation of the HEARTS approach (evaluation of the approach's experimental deployment in the Tangier-Tetouan-Al-Hoceima region, implementation in two other regions, etc.).
- Measure 24: Development and implementation of health education programs (e.g., development of health education materials on diabetes).
- Measure 30: Improvement of access to medicines, equipment and technologies related to NCDs (e.g., supply of medicines and medical equipment related to diabetes and hypertension to PHC facilities).
- Measure 31: Capacity-building for health professionals in programs relating to non-communicable diseases, etc.

The table below also shows the current algorithm for diagnosing hypertension and diabetes.

Table 18: Screening methods for diabetes, etc.[60]

Diabetes mellitus (type 1 and type 2)	
Screening	Blood glucose tests are carried out on people at risk who visit a health facility (venous blood sampling in hospitals, simple glucometers in health centers) and a response is decided based on an algorithm developed by the MoH (DELM).
	The diagnosis can only be made by a doctor on the basis of the results of a venous blood sample.

[60] Prepared by the consultants team from documents provided by the Ministry of Health.

	High risk: hypertensive patients, over 45 years of age, overweight/obese, history of gestational diabetes, family history of type 1 diabetes, pregnant women with babies weighing over 4 kg.
Treatment and follow-up	Oral or injectable treatment according to protocols developed by the Department of Health (DELM)
	EGFR values are used to determine modifications to medication regimens.

Table 19: Screening methods for hypertension, etc.[61]

High blood pressure	
Screening	Blood pressure is measured for high-risk individuals visiting a healthcare facility, and medication and follow-up are provided in accordance with protocols developed by the MoH (DELM).
	High-risk individuals and others: people aged 60 and over, people aged 40 and over with risk factors (obesity, smoking, kidney disease, dyslipidemia (hyperlipidemia), diabetics, pregnant women).
Treatment and follow-up	Treatment should be aimed at blood pressure above 130/80 or systolic blood pressure above 140 and diastolic blood pressure above 90.

(3) Other NCD strategy achievements (interviews with section managers, as of March 2024).[62]

The main activities and results implemented under the strategy are as follows:

1) Measures to combat cancer

In terms of cancer prevention, HPV vaccination is offered in PHC facilities.

To strengthen the cancer diagnosis and treatment system, 46 centers (18 public and 28 private) have been set up across the country.

2) Reducing risk factors for non-communicable diseases.

Several activities were undertaken to reduce the risk factors for non-communicable diseases: smoking, physical inactivity and nutrition (including the consumption of sugar and salt).

3) Mental health

As far as mental health is concerned, there are mental health programs, addiction prevention and treatment programs (e.g. opiate substitution therapy) and suicide prevention strategies (not yet in force). Besides, the legislation, that has been in place since 1959, is currently being revised. An analysis of the current situation of non-communicable diseases, including mental health, and the preparation of a multi-sectoral strategic plan for mental health (with the WHO support) are ongoing.

[61] Prepared by the consultants team from documents provided by the Ministry of Health.
[62] Latifa Belakhel.National Multisectoral Strategy for the Prevention and Control of Non-Communicable Diseases in Morocco

5-5 Social Protection

5-5-1 Related activities and their progress

Morocco is reforming its social protection system since 2021, in accordance with the framework law on social protection (law 21-09). The areas covered and the timetable for implementation are as follows:

Table 20: Reform plan for social protection[63]

Implementation period (year)	Target area
2021/2022	Generalization of AMOs
2023/2024	Introduction of family allowances (AF).
2025	Introduction of unemployment benefits
2025	Generalization of pensions (retirement benefits)

According to MoH, the following progress has been made with regard to the generalization of AMO[64]:

- Medical insurance coverage rate is around 90% of the population with 22 million additional beneficiaries by the end of 2022
- Around 2.4 million self-employed workers (Travailleurs Non Salariés, TNS) are registered with AMO. Including dependents, this makes a total of around 6 million.
- 3.8 million RAMED beneficiary households, including over 7.4 million dependents, bringing the total to 11.2 million, have been switched over to the AMO system.
- Introduction of the AMO Achamil system (2024)

Former RAMEDists are classified as AMO Achamil or AMO TADAMON depending on the score determined by the Unified Social Registry (Registre Social Unifié, RSU). People and their dependents who are unemployed but considered able to pay are classified as AMO Achamil and must pay a premium when using AMO. People and their dependents considered in precarious situation are classified as AMO TADAMON[65].

With regard to the registration status of the Unified Social Registry and National Population Registry (Registre national de la population, RNP), the following information was available in 2023[66].

- Unified Social Registry: 1.8 million households
- National population registry: over 9 million people (a quarter of the total population)

[63] JICA Information Gathering and Confirmation Study to Support UHC (2022).
[64] AMO numbers and percentages: activity report of the Ministry of Health 2022, others: Mr. Abdelouahab Belmadani. La refonte du système de santé Etat d'avancement (health sector partners' meeting in June 7, 2024)
[65] CNSS website https://www.macnss.ma/fr/
[66] Revue de la santé 2022-2023.

5-5-2 Progress of CNSS activities.

(1) General situation of CNSS

CNSS was created in 1961 as the governing body for social protection for salaried workers (travailleurs salaries, TS), employees of private companies. CNSS also provides the following services as insurer for the self-employed from 2020, AMO TADAMON from December 2022 and AMO Achamil from 2024:

- Family allowances
- Short-term benefits (sickness benefits, unemployment insurance, maternity leaves and death benefits)
- Long-term benefits (old-age pensions, disability pensions, survivors' pensions, reimbursement of social security premiums)
- Compulsory health insurance (AMO)

However, only self-employed workers, who meet certain conditions, are eligible for other benefits apart from AMO. In the future, family allowances (by 2024), unemployment insurance and pensions (by 2025) will progressively be extended to self-employed workers.

(2) Premium for AMO[67]

AMO is not a simple subscription; it is only available to those who meet the required conditions. The premium rate is a flat rate of 6.37% of salary, whether it is related to a TS, TNS or AMO TADAMON (the AMO TADAMON corresponds to 6.37% of the national minimum wage). Of this amount, the actual burden for the TS is around 2% due to the employer's premium (however, the TS is subject to deductions for family allowances and other premium in addition to the AMO premium). The AMO TADAMON premium is covered by the State.

The current condition for access to insurance is the payment of 54 days' premium over a six-month period; many TNS, who have registered with AMO (immatriculation of AMO), cannot access AMO benefits due to non-payment of premium (in January 2024, among the TNS registered with AMO, only 15% are considered as beneficiary). There are also significant differences in terms of by professions: 65% of lawyers and other liberal professions, 60% of doctors and other medical professions, compared with 2% of agricultural workers, 6% of craftsmen, 7% of drivers, etc.). Faced with this situation, the CNSS has developed an application which allows users to create an account and include banking information for reimbursement purposes. The CNSS is also carrying out campaigns to raise an awareness about AMO to collect the premium.

[67] CNSS.SOCIAL SECURITY SYSTEM MANAGED BY CNSS (data collected during survey in February 2024).

(3) Health services covered by insurance[68]

1) Covered services

Concerning the health service covered by AMO (Parnier de Soins), between 70% to 90% of the national reference tariff are paid by the CNSS (the percentage varies according to whether the healthcare facility is private or public). In the case of serious or illness requiring long-term care or costly treatment, the insured person may be partially or fully exempted from the cost of the remaining portion (it should be noted that all health care treatments provided in PHC facilities are free of charge).

2) Reimbursement

Certain health services and drugs are reimbursable, with 70% of the national reference tariff paid by the CNSS insurance in the case of drugs, and 30% is co-paid by the insured person.

3) CNSS billing by service providers

Hospitals bill the CNSS directly for medical expenses incurred for diagnosis and treatment. ESSPs are paid on a capitation basis. Billing, based on data exchange between CNSS and MSPS, is currently being tested in certain health establishments.

5-6 Policies and plans of other sectors involved in healthcare

5-6-1 Climate change

(1) National Strategic Adaptation Plan (PNSA 2030)

1) Summary

The action plan, to combat climate change, was prepared by the Ministry of Energy Transition and Sustainable Development, Sustainable Development Department, for the year 2022.

According to the action plan, Morocco is one of the countries that are the most affected by climate change and its impacts. Between 1960 and 2018, Morocco not only saw a decrease in rainfall and an increase in temperatures but is expected to experience further warming in the future. In terms of economic losses, the damage caused by natural disasters such as floods, droughts and heat waves between 1900 and 2019 is estimated at 10 billion USD. Floods between 1995 and 2005, in particular, are estimated to have killed more than 1,165 people, affected more than 232,896 people and caused more than 295 million USD in damage. Against this backdrop, the plan prioritizes sectors and ecosystems vulnerable to climate change, and the health sector has been identified as one of the priority sectors, alongside agriculture, forestry and fisheries. The plan contains 5 objectives, 25 strategies and 128 priority responses, with the aim of " decision-makers and stakeholders at all levels

[68] https://www.cleiss.fr/docs/regimes/regime_maroc.html#maladie-maternite

(national, regional and local) will adapt to the effects of climate change and strengthen the resilience of natural ecosystems and social and economic sectors through a cooperative, coordinated and people-centered approach, using sustainable, coherent and effective policies and measures by 2030".

2) The health sector and climate change

The plan underlines that climate change will not only exacerbate existing health problems (deaths from extreme weather events, cardiovascular disease, respiratory illnesses and malnutrition), but will also have a significant impact on water and food supplies, infrastructure, health and social protection systems. As a matter of fact, COVID-19 has amplified the effects of climate change on health-related issues. The.lessons learned from this pandemic led to the development of a new climate change policy. These lessons show the importance of robust health systems (including human resources) to protect the population against threats of health crises, including climate change.

According to the plan, the MoH analyzed the impact of climate change on healthcare in 2017, indicating that the following three health issues are of high priority:

- Infection transmitted by mosquitoes
- Cardiovascular diseases
- Diarrhoeal and respiratory diseases

Other challenges include the lack of established methods for monitoring the effects of air on health and the lack of scientific evidence (research) on the effects of climate change on health.

In the action plan, content related to health is presented in objective 3: "assessing (understanding), preventing and reducing the risks of climate change", and “reducing the vulnerability of the health sector to climate change", which is mentioned in strategy 3.4 (p44).

Four specific activities are listed below. In addition, strategy 3.5, which aims to "identify critical infrastructures in the region and strengthen their resistance (resilience) to natural disasters", mentions the vulnerability assessment of health centers and hospitals as one of the main activities.

Table 21: Health-related measures under the NHSP[69]

measures	Content
Measure 3.4.1.	Design and implementation of information and monitoring systems to detect, alert and monitor the effects of climate change on the healthcare sector.
Measure 3.4.2.	Adapt and strengthen the implementation of the plan in health programs for the prevention and control of diseases that are the most vulnerable one to the effects of climate change.

[69] national strategic adaptation plan, PNSA 2030.

Measure 3.4.3.	Strengthen the health sector's capacity to cope with extreme weather events and develop a health emergency response plan.
Measure 3.4.4.	Increase the resilience of healthcare infrastructures and services by updating and strengthening design standards for healthcare infrastructures.

(2) Roadmap for the development of climate-resilient healthcare systems[70]

1) Overview of the roadmap.

The DELM has drawn up a roadmap for the health sector's climate change activities in 2023. In Morocco, an assessment of greenhouse gas emissions in the healthcare sector was carried out in 2010. In addition, a comprehensive study was recently conducted, which demonstrated the vulnerability of the healthcare sector to climate change and revealed the state of greenhouse gas emissions in healthcare facilities. Therefore, the MoH has announced that a sustainable and resilient healthcare system to climate change was to be put in place by November 2021, with reference to the WHO guidelines.

The roadmap for healthcare system development outlines eleven steps needed over the next five years to improve healthcare facilities in terms of climate resilience, climate sustainability and carbon neutrality. It also aims to improve healthcare sector vulnerabilities identified in the assessment results.

2) Summary of the study

The survey covered the following 420 healthcare facilities:

- University and regional hospitals (all)
- Public hospitals (50%)
- PHC facilities (15%)

The results are summarized in other reports. The main conclusions are as follows:

- The level of vulnerability of healthcare facilities nationwide ranges from low to medium
- 44% of healthcare facilities experienced at least one climate event, and 20% of them experienced more than one event
- Impact level was high in all four assessed areas (infrastructure, energy, water, sanitation and human resources)
- Most of the measures recommended by the WHO are not optimally implemented in healthcare facilities

[70] MoH. roadmap for a sustainable, climate-resilient healthcare system, 2023

3) Plan objectives

- Establishing health sector governance for the transition to sustainable, climate-resilient health systems
- Adopting specifications and standards to ensure that all healthcare facilities are sustainable, climate-resilient and inclusive
- Promoting the transition to sustainable consumption
- Developing sustainable mobility
- Investing in training, innovation and research

4) Process

Twelve processes are listed to achieve the above objectives. It is also specified that a long-term vision (10 years) must be adopted for the implementation of this plan.

5-6-2 Human development

The National Initiative for Human Development (INDH) was announced by the King Mohammed VI in May 2005, with the aim of focusing mainly on human development by combating poverty and reducing regional and social disparities. This initiative, which is overseen by the Ministry of Interior, is placing human development at the heart of its concerns.

The INDH projects are examined by provincial and state human development committees. Project proposals are submitted by non-public sector actors, such as associations, who prepare a proposal and submit it to the provincial or regional human development committee, which in return allocates a budget for the adopted proposal. The budget obtained was used to purchase a vehicle for the outreach program.

6 Support from technical and financial partners

6-1 World Bank

The World Bank is currently implementing the Program for Results (PforR) to support the health system reform in Morocco. A summary of the program is presented below:

Table 22: WB- Support program to health system reform in Morocco[71]

Period	2023-2028
Anticipated loan amounts (total)	409.8 million EUR (equivalent to 450 million USD)[72]
Target regions	9 regions: Tangier-Tetouan-Al Hoceima

[71] Prepared by the consultant team on the basis of the appraisal report of Morocco's health reform program for results, World Bank (P179014) and interviews conducted during the February 2024.

[72] JPY 65 billion (August 28, 2024)

	Orientale Fez-Meknes. Rabat-Salé-Kénitra. Béni Mellal-Khénifra. Casablanca-Settat Marrakech-Safi Draâ-Tafilalet. Souss-Massa.
Program development objectives	Strengthen institutional capacity and governance for better delivery of quality public health services in the program area (1) Strengthening organizational and institutional capacities for health system governance (2) Improving the availability, motivation and skills of healthcare human resources (3) Improving and reorganizing the delivery of healthcare services
DLIs	DLI 1: Strengthening institutional capacities through the new deconcentralized governance system DLI 2: Reform of the healthcare system to take account of the reform context and improve the quality of provision services DLI 3: Improving the content, quality, accessibility and use of health data DLI 4: Exchange and coordination platforms organized between central and regional entities DLI 5: Creation of a health function setting out the necessary guarantees for healthcare professionals to improve the quality of their work. quality of health service delivery DLI 6: Increasing the training capacity of the ISPITS (Instituts Supérieurs des Professions Infirmières et des Techniques) DLI 7: Number of PHC facilities rehabilitated in the program area to comply with energy and thermal efficiency standards to address climate vulnerabilities DLI 8: Assessing and improving the quality of care in public hospitals and PHC facilities DLI 9: Strengthening epidemiological surveillance capacity, including health issues related to climate change

6-2 African Development Bank

The African Development Bank (AfDB) is currently implementing the Support Program to improve social protection (Programme d'Appui à l'Amélioration de la Protection Sociale, PAAPS) and the Support Program for inclusive access to healthcare infrastructures (Programme d'Appui à l'Accès Inclusif aux Infrastructures de Santé, PAAIIS). A summary of the program is presented below.

Table 23: AfDB - Support program to improve social protection[73]

Period	2020 – 2023 (approved in 2019, signed in 2020, disbursement to be made in 2026) [74]

[73] African Development Bank Group. Maroc - Programme d'appui à l'amélioration de la protection sociale - PAAPS - MapAfrica https://mapafrica.afdb .org/en/projets/46002-P-MA-I00-010 (accessed December 2, 2024).

Estimated loan amount	204 million USD (150 million UA)[75]
Target regions	Beni Mellal-Khénifra, Draâ-Tafilet, Guelmim- Oued Noun.
Program development objectives Budget to each result	(i) Reducing disparities in access to primary healthcare (149.49 million USD) (ii) Improving governance of major social assistance programs (50 million USD) (iii) Sustaining social assistance funding and ensuring investment efficiency (4 million USD)
DLI	DLI.1: Annual increase in the number of people covered by AMO (all products); DLI.2:Number of women benefiting from DAAM; DLI.3:Compliance of social welfare institutions with law 65-15 ; DLI.4: PHC facilities and rehabilitated rural hospitals in three target regions (Béni Mellal -Khénifra, Draâ-Tafilaleand Guelmim-Oued Noun); DLI.5:Signing of the Entraide Nationale Program contract with targeted regions; DLI.6:Training human resources through the MS continuous training plan in targeted regions (Beni Mellal-Khénifra, Draâ Tafilelt, Guelmin-Oued Noun); DLI.7:Implementation of the Ministry of Health's Integrated Hospital Information System (SIHI); DLI.8:Support for the MS through delegated project management for the program's 3 major projects.

Table 24: AfDB - Support program for inclusive access to healthcare infrastructure [76]

Period	2023-2026.
Anticipated loan amounts (total)	120 million euros (97 million UA)[77]
Region	Nationwide However, support for PHC facilities, such as the introduction of telemedicine equipment, will focus on inland regions. In addition, the following three regions, which were the target areas of the previous project (PAAS), are excluded:Beni Mellal -Khénifra, Draa-Tafilalet, Guelmin-Oued Noun
Program development objectives and budget for each result (as a percentage of the total amount).	Helping improve the living conditions of vulnerable population groups, particularly women and rural populations, by guaranteeing access to quality healthcare services: (1) Reducing disparities in access to healthcare infrastructure (primary and secondary) (84 million EUR(70%)). (2) Improving connectivity with innovative solutions for better healthcare services (5 million EUR (4.16%)). (3) Strengthening governance through better allocation of human and financial resources (31 million EUR (25.84%)).

[74] The appraisal report indicated 2024 as the last year for disbursement, but the above-mentioned website states that the file is ongoing and that 2026 is the planned year for compression.

[75] The currency unit used by the African Development Bank (AfDB) and the African Development Fund (AfDF) is the equivalent of the SDR. SDR stands for Special Drawing Rights and is a "special drawing right" held by member countries of the International Monetary Fund (IMF). 204 million USD = 307 Equivalent to 100 million yen (from November 26, 2024).

[76] AfDB.RESULTS-BASED FINANCING EVALUATION REPORT.PROGRAMME D'APPUI A L'ACCES INCLUSIF AUX Preparé par l'équipe de recherche basée sur INFRASTRUCTURES DE SANTE (PAAIIS).

[77] EUR 120 million = equivalent to USD 123 million = equivalent to JPY 19.1 billion (November 26, 2024)

DLI	DLI.1: Operationalization of integrated care units for women and children victims of violence at the new Guelmim Regional Hospital and the Fkih Ben Salah Hospital DLI.2: Hospitals built and equipped in targeted regions/provinces (construction of the Beni-Mellal CHR (80%) and the Azilal CHP (80%) and equipping the Fkih Ben Salah CHP) DLI.3: Installation of medical equipment on the medico-technical platforms of hospitals in target regions DLI.4: Landlocked sites (PHC facilities) equipped with telemedicine/teleconsultation equipment DLI.5: Amount of budget allocated to the Ministry of Health and Social Protection and to the Groupements Sanitaires territoriaux (GSTs) as soon as they are implemented DLI.6: Increasing in the number of graduates from higher institutes of nursing and health technology DLI.7: Implementation of the environmental and social action plan

6-3 EU

6-3-1 Health sector support program, phase 3

(Health Sector Support Program, PASSIII) (2020-2023).[78]

This program aimed to support the reform of Morocco's healthcare sector, with a focus on decentralization and hospital management, and succeeds PASS II (2017-2021).

The projects have already been completed and, according to the MoH, targets have been achieved for all performance indicators.

Table 25: EU - Health sector support program, phase 3

Period	2020-2023
Total amount expected (breakdown)	Financial support at 90% Technical cooperation at 6.4% Equipment at 3% Other (appraisal, audit) at 0.6%
Target regions	Tangier-Tetouan-Al Hoceima Orientale Fez-Meknes Rabat-Salé-Kénitra Béni Mellal-Khénifra Casablanca-Settat Marrakech-Safi Draâ-Tafilalet Souss-Massa
Output	・ Accreditation, standardization and management mechanisms to guarantee the quality and safety of healthcare ・ Gender and legal mainstreaming in regional health administration ・ Adequate distribution of health personnel (number and capacity) ・ Improved services for victims of violence among women

[78] https://www.eeas.europa.eu/node/79113_en

6-3-2 Health sector support program phase 3 (technical cooperation)[79]

Under PASSIII, the following technical cooperation activities were carried out in the program areas by the external contractor “Institutions et Développement.” The total budget is 895,750 EUR[80].

Table 26: EU - Health sector support program, phase 3 (technical cooperation component)

(1) Support for the implementation of Groupements Sanitaires de Territoire (GST)	・ Support for the empowerment of GST General Management ・ Setting up a management chart and governance bodies ・ Revision of the Hospital Internal Regulations (RIH) ・ Support for the implementation of organizational care programs (PMSP)
(2) Support and empowerment of Regional Health Departments (DRS)	・ On an organizational and institutional level: development of a standard organization chart, job descriptions, mission statements, support in setting up governance bodies; identification of human resources and building teams’skills and capacities ・ In terms of regional planning and coordination: support in drawing up a regional health plan, deployment of and training on the use of regional coordination tools
(3) Continued implementation of hospital accreditation system	・ Testing of accreditation standards, support in setting up quality teams and training of visiting experts ・ Support for the institutionalization of the system at central, regional and local levels
(4) Continued implementation of the hospital billing system.	・ Developing the financial capacity of GST ・ Support for the implementation of "common structure files" (FICOM) and training of referents for their implementation
(5) Continued gender mainstreaming	・ Implementation of the "gender and health" practical guide produced during PASS II, and development of an ad hoc reference tool ・ Continued training in human rights, gender and health
(6) Continued capacity-building for the sector's operational managers	・ Conducting action training courses for senior executives in strategic management, new governance and regional coordination and enhancing skills of middle managers in local management

6-3-3 Social protection program, phase 2

(Programme d'Appui à la Protection Sociale au Maroc (Phase II) - Programme KARAMA) (2022-2026).

The program aims to contribute to social cohesion, development, protection of human dignity and elimination of inequalities, and constitutes phase 2 of the social protection program. This program is known under the name of KARAMA program (Dignity in Arabic).

Table 27: EU -Social protection program, phase 2

Period	5 years (2022-2026): financial aid will end after 4 years (end of payments) and the final year will be dedicated for the implementation of the remaining

[79] Institutions and Development website. https://www.ietd.net/references/reference202204
[80] 144,359,070 equivalent (August 28, 2024)

	activities to achieve all indicators (technical assistance will be provided).
Budget	120 million EUR of general financial aid, 10 million EUR of additional aid, including technical cooperation, with a maximum total aid amount of 130 million EUR EU support is not a loan, but a grant that depends on the achievement of indicators. The briefing note defines the indicators on which the grant is based and, after approval by EU headquarter, the sub-indicators (for each period) and the weighting of each indicator (weighting according to the importance of the indicator and the difficulty of achieving it) If the overall grant is set at 100%, 15% of the grant's amount will be provided if the most important indicators are achieved, 5% of the amount if indicators are achieved quickly, etc.). As a result, the agreed amount of aid is not always granted in full, since the final payment amount is determined by the achievement of the indicator.
Expected results	・ Guaranteed access to integrated social protection for all population ・ Generalization of contributive social protection for all socio-professional categories ・ Ensuring access to quality social activities for all vulnerable groups

6-3-4 Emergency aid grant for Results

There was a construction of PHC facilities in 9 provinces affected by the Al Haouz earthquake in September 2023. The grant is linked to results and will be disbursed upon confirmation of the reopening of 25 to 50 PHC facilities by the end of 2025.

6-3-5 Al Haouz comprehensive package of measures to assist in post-earthquake reconstruction[81]

The loan is provided by the European Bank for Reconstruction (EIB). Total aid amounts to 1 billion EUR, not only for PHC facilities, but also for other infrastructures affected by the earthquake (bridges, schools, etc.). These will be built with respect to earthquake-resistant standards. Construction is scheduled to take place between 2024 and 2028.

6-4 WHO

6-4-1 Cooperation Strategy

WHO has developed a support strategy for Morocco (La stratégie de coopération Maroc-OMS, 2023-2027). According to this strategy[82], the four priority issues for the five-year period (2023-2027) are:

- Support for strengthening national health systems to achieve universal health coverage.
- Strengthening the resilience of healthcare systems.
- Support for strengthening governance as part of the health sector reform

[81] Results of interviews conducted in February 2023.
[82] Cooperation strategy between Morocco and WHO for the period 2023-2027

- Promoting health, well-being and equity by strengthening multi-sectoral approaches to address the social determinants of health.

6-4-2 Supporting the fight against non-communicable diseases[83]

Integration of measures against NCDs into primary care: the integration of measures against NCDs into PHC facilities has been underway since a few years ago. Treatment protocols, guides and tools have been developed. Training has been provided at the MoH in the form of a cascade, wherein trained staff rolled out the training to each primary care facility. Treatment of diabetes and hypertension has already been integrated into PHC facilities but that of mental health has not.

HEARTS strategy: Pilot projects were carried out in Tangier, Fez and Oujida. Evaluation of the projects has not been carried out due to lack of funding. As national versions of global guidelines are generally developed to fit the national context and go through a national approval process, a Moroccan version was developed in Morocco in collaboration with the DELM.

STEPS survey: carried out in 2017 with partial technical and financial support from WHO. The implementation structure on the Moroccan side involved various ministries, including the MoH and the Department of Statistics. The budget was around 1 million EUR and biomarkers (urine and blood) were also collected.

6-5 AFD

6-5-1 Development Policy Loan [84]

The Development Policy Loan (DPL) " Generalization of AMO Support Project (Projet d'appui à la généralisation de l'assurance maladie obligatoire)" consists of two pillars, the first being the "generalization of AMO" and the second "strengthening of the health service delivery system" (development of action plans for NCDs, approval of action plans for mental illnesses, research into peritoneal dialysis, telemedicine). The last payment was made in December 2023, for a total cost of 450 million EUR.

Technical cooperation on "supporting the generalization of AMO" included (i) the development of a dashboard for decision-making by insurers, (ii) the setting of appropriate premium rates for each profession, which is being implemented in collaboration with the ILO, and (iii) price control and other controls for appropriate health expenditure (including prevention of corruption for the CNSS). All these measures aimed to establish a sustainable AMO system.

With regard to "health service provision", this was implemented in two regions: Béni Mellal-Khénifra and Fès-Meknès. The project included the development of a national mental health strategy, support for the establishment of a referral system and the possibility of home dialysis (peritoneal

[83] Results of interviews with managers, February 2024.
[84] Interview with the manager, February 2024.

dialysis). The diagnosis of diabetes by telemedicine is considered to be introduced. Morocco currently has no legal provisions, technical platform or governance system for telemedicine, and is only at the demonstration stage.

Table 28: AFD-AMO generalization support project (DPL)[85]

Period	2022-2025
Budget (at the time of signing)	150 million EUR + 4 million EUR technical cooperation
Target regions	National (technical cooperation in Béni Mellal-Khénifra and Fès-Meknes).
Objective.	Promoting compulsory medical insurance (Assurance Maladie Obligatoire, AMO) and strengthening the healthcare system in Morocco through: Pillar 1: Operationalize the generalization of AMO Pillar 2: Strengthen healthcare provision as part of the reform of AMO
DLI (process and results indicators, 20 indicators in total) [86]	1-1 Establishing effective governance of the reform 1-1-1 Defining the framework for steering the reform and the new governance of the AMO system 1-2 Defining the tools needed to operationalize the generalization of AMO 1-2-1 Finalizing the extension of AMO coverage to uninsured populations (including non-salaried workers - TNS) and non-contributing populations (RAMED) within a harmonized AMO 1-2-2 Strengthening insurance management and expense control tools 2-1 Strengthening governance of the national healthcare system 2-1-1 Strengthening national health system strategies 2-1-2 Rehabilitating healthcare provision by strengthening the regional dimension 2-2 Strengthening the care of patients suffering from non-communicable diseases and mental disorders as part of a coordinated care pathway in the regions benefiting from the program. 2-2-1 Improving the accessibility and quality of care for patients suffering from non-communicable diseases and mental disorders throughout their life cycle. 2-2-2 Deploying e-health solutions to improve patient care in the two beneficiary regions
Project management	Project managers are MoFs. Setting up of a steering committee under the aegis of the MoF and organizing joint meetings with stakeholders (MoH, CNSS, ANAM, etc.). A technical cooperation program coordination unit has been set up within MoF.

Of these, the DLI 2-1-2, wherein "PHC facility upgrading program aims to complete 88 sites by 2021 and 62 sites by 2022", would result in a disbursement of 5 million EUR (79.3 million JPY) Following our interviews with government officials in September 2022, the target areas were Béni Mellal-Khénifra and Fès-Meknès. The status of implementation is not known.

[85] Groupe des PTF Santé et Protection Sociale 09/03/2022

[86] AFD also defines the DLI as the target value to be achieved each year. The structure consists of two pillars, two results objectives for each pillar, and one or two sub-objectives for each results objective.

6-5-2 Loan for results (PforR)[87]

In September 2024, the AFD was in the process of forming a new project for the social protection loan (PforR) (to be signed with the MoF in the beginning of October 2024)[88]. The proposed project at the time of the survey was as follows: (no information was provided on the project's name or other details).

Table 29: AFD-Pay for Results

Period	2024-2027 (implementation period: 2025-2027)
Budget	100 million euros (approx. 16.3 billion JPY), including 2.5 million EUR (approx. 400 million JPY) for technical cooperation.[89]
DLI	22 indicators split in 3 pillars : ・ Pillar 1: Development of governance through the establishment and strengthening of HAS functions, promotion of decentralization of health administration (health mapping by the GST) ・ Pillar 2: Promoting the use of AMO by increasing the number of TNS qualified for AMO (open entitlement), promoting the use of AMO Tadamon health services (especially for women). ・ Pillar 3: Increase in CNSS expenditure
Project management	Of these activities, Pillar 1 is the responsibility of MoH, while Pillars 2 and 3 are the responsibility of the Ministry of Finance (CNSS). An inter-ministerial steering committee will therefore be set up to monitor these activities.

6-5-3 Digital health

In 2019, AFD supported the MoH in drawing up an e-health roadmap. In addition, a survey on the digital health and provision of equipment for operating telemedicine in PHC facilities were carried out. Based on the results of the survey, a proposal was made to the MoH but was not adopted.

6-6 KOICA

Support for strengthening the skills and knowledge of healthcare staff in maternal and neonatal health in PHC facilities is provided in limited areas (Northern region: Tangier-Tetouan-Al Hoceima) [90].

6-7 Support from development partners in the program of upgrading PHC facilities

The following table is showing the trends of support from development partners in upgrading PHC facilities. According to the MoH, 3,174 PHC facilities are eligible for rehabilitation nationwide, and it was stated that PHC facility upgrade program (phase 1) will cover 1,334 facilities (wherein 134 facilities are already completed), the remaining covered by the PHC facility upgrade program

[87] Interview results, February 2024.
[88] We then checked the progress of the work with the person in charge but received no reply.
[89] On 2 October.
[90] M. Abdelouahab Belmadani: La refonte du système de santé Etat d'avancement (Meeting of health sector partners in Morocco June 7, 2024)

(phase 2) [91]. Based on the progress of PHC facility upgrading program and the status of previous rehabilitations, it is necessary to confirm the plan for the PHC facility upgrading program (phase 2).

Table 30: Support for PHC facility upgrading program by development partners

	BM	AFDB	AFD	MoH
	Program of the health sector reform	**Support program to improve social protection[92]**	**AMO generalization support project (DPL)[93]**	**Program to reduce geographical and social disparities in mountainous regions.[94]**
Periods	2023-2028	2020-2023	2022-2025.	2019-2023
Number of sites covered	395	154[95]	150 (current status is unknown)	590 (329 completed)
Budget (planned disbursements based on completion of DLIs for PHC facility upgrades).	75 million USD	149.49 million USD (including the construction of three hospitals).	10 million EUR	N/A
Tangier-Tetouan-Al Hoceima	✓			
Orientale	✓			
Fez-Meknes.	✓		✓	
Rabat-Salé-Kénitra.	✓			
Béni Mellal-Khénifra.	✓	✓	✓	
Casablanca-Settat	✓			
Marrakech-Safi	✓			
Draâ-Tafilalet.	✓	✓		
Souss-Massa.	✓			
Guelmim-Oued Nom.		✓		
Laâyoune-Sakia El Hamra.				
Dakhla-Oued Ed-Dahab.				

[91] Interview with MSPS, February 2024

[92] As part of the project, telemedicine equipment was installed in the primary healthcare facilities to be renovated. On the other hand, the current Programme d'appui à l'accès inclusif aux structures de soins de santé does not renovate primary healthcare facilities, but only installs telemedicine equipment, and the target areas are the (inland) regions with the exception of the three regions covered by the Programme d'appui à l'amélioration de la protection sociale (Beni Mellal - Khénifra, Draa - Tafilalet, Guelmin - Oued Noun), but not the three (inland) regions covered by the Programme d'appui à l'amélioration de la protection sociale. Tafilalet, Guelmin-Oued Noun), but not the three inland regions covered by the Programme d'Appui à l'Amélioration de la Protection sociale.

[93] The state of implementation needs to be confirmed.

[94] The implementation structure, budget (including financial resources) and target regions must be confirmed.

[95] On https://mapafrica.afdb.org/en/projects/46002-P-MA-I00-010 (consulted on December 4, 2024), the target is 154 installations, whereas in the assessment report the target was 100 installations (25 in 2021, 53 in 2022 and 22 in 2023). 22 installations in 2023).

7 Recommendation on the ODA Loan project/ program

7-1 Current situation and challenges in the Moroccan health sector

Morocco's major health indicators have improved over the past two decades, with all major indicators meeting the SDG targets, particularly with regard to maternal and child health. On the other hand, the burden of non-communicable diseases is increasing, partly due to a rapidly aging population. In addition, growing regional disparities in health constitutes a major challenge. In particular, rural areas continue to face health problems linked to primary health care, such as maternal and child health and communicable diseases. In addition, the risk of non-communicable diseases is also increasing in rural areas. In particular, the prevalence of hypertension is higher in rural areas compared to urban areas, with 22.1% and 24.2% in urban and rural areas respectively.[96]

The number of doctors and paramedical (nurses, midwives, etc.) per 1,000 population in Morocco is 0.77 and 0.99 respectively, which is not only below the 4.45 required to achieve the SDGs, but also extremely low compared to neighboring countries. The number of beds is 10.8 per 10,000 population (public and private), which is below the WHO recommendation of 20 beds per 10,000 population. On average, only 90% of beds in the public sector are in service, with a disproportionate concentration in urban areas, a shortage of health professionals and deterioration of the facilities. In addition, Morocco had a limited AMO coverage until recently, and the out-of-pocket expenditure is 44.8%, which is a high percentage compared to neighboring countries. In addition to geographical and economic factors, social and cultural factors[97] combine to limit access to healthcare.

Table 31: Current status of the health sector in Morocco (resilient, equitable and sustainable)[98]

Resilient	In terms of resilience to communicable diseases, Morocco suffered from a shortage of hospital beds (including intensive care unit beds to accommodate critically ill patients) and health professionals even before the COVID-19 pandemic, which demonstrate its vulnerability when facing a pandemic.[99] The Al Haouz earthquake in 2023 did not significantly affect the health system, although many citizens were affected, and loans from development partners have been mobilized to restore the system as quickly as possible. However, the state prepared new seismic construction standards following the earthquake, but these have not yet been applied, and public facilities such as health facilities are still designed according to the standards established in 2011.
Equitable	There are discrepancies in the deployment of health facilities and health professionals between regions and even within the same region, and equity of access is not ensured. In addition, there are differences in AMO coverage (the proportion of people who have actually benefited from insurance) according to profession, and differences in socio-economic levels affect economic access to

[96] STEPwise approach to NCD risk factor surveillance (STEPS) 2017.
[97] In Morocco, 82.6% of women have experienced some form of violence at least once in their lives.WB.Program Appraisal Report on Morocco Health Reform Program for Results (original data from Haut Commissariat au Plan,HCP 2019)
[98] Prepared by the consultants team on the basis of the contents of this report.
[99] EMEA.Assessment of the resilience of health systems and the consequences of the COVID-19 pandemic.Cases of Algeria, Egypt, Jordan, Lebanon, Morocco, Palestine and Tunisia. Palestine and Tunisia https://euromed-economists.org/wp-content/uploads/2022/03/Assessing-Healthcare-Systems-Resilience-and-Consequences-amidst-the-COVID-19-Pandemic.pdf

	healthcare services. In addition, the insured is the head of the family, and the usage rates of beneficiaries (particularly for women) have not been sufficiently analyzed.
Sustainable	Healthcare expenditure as a percentage of GDP was 5.74% and the out of pocket was 44.8% in 2021. Both are high compared with neighboring countries. In the future, healthcare costs are set to rise further due to the growing burden of non-communicable diseases. Reform of social protection and the healthcare sector are aimed at reducing state expenditures and increasing that of insurers, such as CNSS, but the introduction of AMO Achamil, the former RAMEDist which has been transferred to AMO, has just begun, and the collection of premiums from TNS has not progressed enough. It is therefore essential to secure sustainable financial resources and reduce healthcare costs (prevention of non-communicable and other diseases, and promotion of healthy life). In response to this situation, plans are currently underway to extend the functions of university hospitals and other self-governing organisations (Les Services de l'État Gérés de Manière Autonome, SEGMA), through the reorganization of the healthcare sector, to promote their integration into regional healthcare financing and to adopt new forms of employment for healthcare professionals (direct employment under the GST). This could lead to the development of a sustainable local healthcare system independent of the national budget. In response to climate change, health facilities in Morocco (nationwide) have been assessed as having low to medium vulnerability to climate change [100]; therefore, health sector reforms are currently underway for the construction and rehabilitation of UHCs and PHC facility upgrade programs nationwide. With regard to the latter, it has been confirmed that construction is being carried out in line with guidelines (prepared in 2018) that meet certain climate change criteria.

With regard to prevention, preparedness and response (PPR) to public health crises, Morocco was one of the first countries to carry out an external assessment of the IHR's core capacity. However, according to the results of the external assessment, 44 activities in 12 areas were deemed problematic, with a particularly low score of 1 for activities relating to the appropriate use of antimicrobials. In addition, developed countries that had been assessed as fully meeting basic IHR capacity during the COVID-19 pandemic were severely affected; thus, a reassessment based on the current situation is necessary. Surveillance and early warning systems are currently being put in place in Morocco and, thanks to support of the World Bank, a surveillance system incorporating information on climate change-related diseases is being developed. In addition, a national strategic plan for the prevention and control of AMRs has been drawn up including activities and monitoring plans (annual reports), as well as an assessment of the prevalence of AMR-related infections (e.g. at hospital level). In the future, it will be necessary to formulate and implement measures to modify the behavior of healthcare staff and patients based on the results of these assessments.

Table 32: Prevention, preparedness and response (PPR) to public health crises[101]

Prevention	Morocco carried out an external evaluation of its IHR core capabilities earlier

[100] Roadmap for the development of climate-resilient healthcare systems.
[101] Prepared by the consultants team on the basis of the contents of this report.

	than other countries and has drawn up a national health crisis response plan. It has also developed and implemented a national strategic plan to combat antimicrobial resistance. However, core capacity scores are low with particular challenges in the appropriate use of antimicrobials. In terms of vaccine coverage, access and supply, immunization coverage (DPT, measles and hepatitis B) has reached 100%, and Morocco is considered to be high vaccine coverage rate compared to neighboring countries during the COVID-19 pandemic (131.60/100 live births, as of December 2021)[102][103] . In addition, the recent health sector reform has led to the creation of a new agency for medicines and medical devices, which is promoting the development of locally manufactured vaccines and other products.
Preparedness	A surveillance and early warning system is in place, led by the National Center for Public Health Emergency Preparedness[104]. An analysis showed that Morocco had testing, surveillance and monitoring capacities in place during the COVID-19 pandemic, in comparison with neighboring countries.
Response	Overall, the health service delivery system and the response to communicable diseases are weak, with a national shortage of healthcare professionals and obvious regional disparities. The poor quality of healthcare also contributes to the inability to prevent premature deaths.[105]

The fragility of the health service delivery system, in particular the disparities between and within rural areas, is a common challenge for both the UHC and the PPR. Thereby, and it is essential to improve the health service delivery system to ensure that all the population have access to quality healthcare.

7-2 Relation to the government program and justification for cooperation

In response to this situation, the national long-term development plan, "New Development Model (2021-2035)", has made the reduction of regional disparities a priority issue and is striving to "strengthen access and quality of healthcare services and establish healthcare security" as one of its objectives. In response, the MoH is currently working on the health sector reform (law 22-06), which includes four areas: (i) New health governance, (ii) Human Resources Development, (iii) Upgrading the health service delivery system and (iv) Development of an integrated information system, and the Reform of the social protection system including the generalization of AMO (law 21-09). These reforms form the policy and basis of all current MoH projects. Consequently, supporting policy implementation, to ensure that there is a progress in the ongoing health sector reform, will help to address the country's new health challenges, such as regional disparities in access to healthcare, the burden of non-communicable diseases and the fight against emerging communicable diseases.

[102] WorldBank Opendata https://data.worldbank.org/indicator/SH.XPD.CHEX.PC.CD?locations=MA (accessed October 2024).
[103] EMEA.Assessment of the resilience of health systems and the consequences of the COVID-19 pandemic.Cases of Algeria, Egypt, Jordan, Lebanon, Morocco, Palestine and Tunisia. Palestine and Tunisia https://euromed-economists.org/wp-content/uploads/2022/03/Assessing-Healthcare-Systems-Resilience-and-Consequences-amidst-the-COVID-19-Pandemic.pdf
[104] Same as above
[105] Margaret E Kruk,Anna D Gage,Naima T Joseph et al.Mortality due to low-quality healthcare systems in the era of universal health coverage: a systematic analysis. of amenable deaths in 137 countries The Lancet Volume 392, Issue 10160, 17-23 November 2018, Pages 2203-2212 https://doi.org/10.1016/S 0140-6736(18)31668-4

In supporting health sector reform of Moroccan government, it is necessary to coordinate or divide area to support with development partners that have already intervened such as the World Bank, African Development Bank and AFD. It would be also effective to invest heavily in strengthening health systems at the primary level in order to reduce premature deaths.[106]

Based on this review, the following recommendations are made for JICA's cooperation in each area of health system reform:

Firstly, with regard to "upgrading the health service delivery", the PHC facility upgrading program not only contributes to strengthening primary health care, but also contributes to improving the climate change resilience and energy efficiency of medical infrastructure in relation to the government's climate change measures. Therefore, it is appropriate to decide the PHC facilities upgrading as one of the indicators of project of JICA financial cooperation. In this case, since the AfDB and the World Bank are already supporting this program, it is necessary to check on progress and share relevant information such as monitoring systems in order to ensure effective and complementary support.

With regard to "human resources development", the MoH has agreed with other ministries to increase the number of health professionals by 2030, which is one of the key elements in the realization of the health sector reform. To achieve this goal, the MoH is currently undertaking an ISPITS extension program to strengthen the training capacity of ISPITS. JICA financial assistance could provide effective support for the rehabilitation and extension of ISPITS including strengthening the functions of the simulation centers and their equipments and the development of standards respecting international norms.

With regard to the "Development of an integrated information system", it is essential that information systems are introduced in PHC facilities throughout the country. When introducing the system, it is necessary to strengthen not only the infrastructure, such as computers, but also the capacity of the healthcare staff using them. Computers have already been introduced in the country's PHC facilities, but the introduction of telemedicine and teleconsultation equipment has not progressed outside the area covered by the AfDB[107]. Therefore, it would be useful to support the introduction of equipment outside the areas covered by the AfDB programs (PAAS and PAAIIS), the development of a training program and courses and the deployment of these capacity building programs among human resources.

Finally, with regard to the "New health governance", the MoH is currently in the process of setting up the HAS as one of the new governance structures. By doing so, the AMO system and the quality of healthcare would significantly improve. Since the establishment and strengthening of the HAS

[106] The Lancet Commissions. global health 2050: the path to halving premature death by mid-century Volume 404, Issue 10462p1561-1614October 19, 2024

[107] In three provinces (Beni Mellal-Khénifra, Draa-Tafilalet and Guelmin-Oued Noun) covered by the Programme d'appui à l'amélioration de la protection sociale (PAAS), 154 primary healthcare centers have been renovated and telemedicine and teleconsultation equipment installed at the same time. In the PAAIIS currently being implemented, support for primary healthcare structures, such as the introduction of telemedicine equipment, is focused on inland areas. However, the three provinces covered by the PAAS are not.

will be supported by the AFD, it would be effective for JICA to focus on supporting the quality of diagnosis and treatment of non-communicable diseases, which a are a major concern in Morocco, with a view to improving the quality of healthcare at the primary level. More specifically, support for the distributed implementation of the HEARTS initiative, a strategic and practical approach aimed at reducing early deaths from cardiovascular disease would contribute to improving the quality of care by enhancing the prevention of cardiovascular disease and the control of its risk factors at the primary level.

Lastly, the MoH is currently working on sectoral programs that are aligned with the health sector reform. In particular, one of the key areas is the reorganization of epidemiological surveillance capacity by learning from the COVID-19 experience. Therefore, in order to strengthen surveillance capacity, it would be useful to collaborate with the World Bank, which is already supporting this area, to develop a roadmap and proceed with the implementation and evaluation of an epidemiological surveillance system.

The World Bank and other technical and financial partners are also providing support to MOH to aim at promoting the health sector reform. Thus, in providing assistance to the Moroccan health sector, it is essential to cooperate with other development partners such as the WB, AfDB and EU, that are already implementing different cooperation programs. In particular, a close collaboration with the World Bank would tremendously contribute in the effectiveness of the assistance provided by the Japanese government. For this reason, a cooperation plan consisting of results-based loan is proposed below.

7-3 Implementation schedule(tentative)

2025-2028.

7-4 Target regions(tentative)

9 regions (same as the World Bank program)

7-5 Disbursement-linked indicators

7-5-1 Disbursement-liked indicators and results matrix (tentative)

Disbursement-linked indicators (DLIs) and monitoring indicators are proposed as follows.

Table 33: Results framework matrix (project)[108]

Outcome 1: Strengthening and improving primary healthcare provision				
DLI 1. Increase in the number of PHC facilities rehabilitated in the Program Area to comply with energy and thermal efficiency standards in order to address climate vulnerabilities **(DEM)**	40 PHC facilities under study	60 PHC facilities being studied and 40 PHC facilities being rehabilitated	60 PHC facilities rehabilitated and 40 PHC facilities rehabilitated and equipped	100 PHC facilities rehabilitated and equipped
DLI 2. Improving the quality of care for non-communicable diseases (diabetes and hypertension) at the primary healthcare level. **(DELM)**	25% of provinces in the Program Area have implemented the HEARTS initiative at the primary healthcare level (2024)	30%.	40%.	48%
Outcome 2: Strengthening the capacity of health professionals				
DLI 3. Reinforcing the quality of training in Instituts Supérieurs des Professions Infirmières et des Techniques de Santé (ISPITS) **(DRH and DEM)**	Drawing up the technical and functional program for upgrading ISPITS.	1 ISPITS	2 ISPITS (+1)	3 ISPITS (+1)
Outcome 3: Strengthening of integrated information systems in PHC facilities.				
DLI4. Strengthening the skills of healthcare professionals in primary healthcare facilities (PHC facilities) on integrated information systems **(DIM)**	Development of training programs	Implementation of 1st training module for all target regions	Implementation of 2nd training module for all target regions	Implementation of 3rd training module for all target regions
DLI 5. Increase in the number of	20 PHC facilities in the program	40 PHC facilities	60 PHC facilities	80 PHC facilities

[108] Prepared by the consultants team based on the results of discussions with the Ministry of Health, October 2024.

PHC facilities in the Program Area installed the telemedicine system **(DIM**)	area have installed the telemedicine cart			
Result 4: Strengthening of epidemiological surveillance capacities				
DLI6. Strengthening epidemiological surveillance capacities, including health issues related to climate change **(DELM)**	MoH adopts new epidemiological surveillance system	MoH adopts updated epidemiological surveillance regulations and updated list of notifiable diseases, including those related to climate change	-	100% of GST in the Program Area published an epidemiological bulletin based on updated surveillance regulations

Among the DLIs, the following should be considered for DLI 1 (PHC facility upgrade program), DLI 3 (ISPITS extension program) and DLI 5 (introduction of telemedicine systems in PHC facilities).

7-5-2 DLI 1 related to PHC facility upgrade program

(1) Construction standards

The PHC Upgrading Program is currently using the national building thermal regulation standards adopted in 2014 (Règlement Thermique de Construction au Maroc ,RTCM), as well as the energy efficiency guide for public facilities and the sustainable construction guide elaborated by ANEP, as design guidelines. The WB project also requires that facilities designed and upgraded in accordance with these guidelines meet the requirements of the Disbursement. For this reason, it would be appropriate to adopt the Ministry of Health's plan, which is based on the two guides produced by RTCM and ANEP. However, reinforcement work on the building structure due to the aging of the facilities will need to be addressed on a facility-by-facility basis.

(2) Energy efficiency is the only way to tackle climate change

According to the MoH, PHC facilities are not the energy-extensive facility. Therefore, measures to combat climate change include retrofits focusing primarily on energy efficiency (e.g. roofing, lighting, solar power generation, hot water, etc.). As part of this loan project, it is deemed necessary to identify design specifications focusing primarily on energy efficiency and retrofit them to contribute to energy efficiency.

It should be noted that, with the exception of new healthcare facilities built or rehabilitated after 2018, there are no PHC facilities in Morocco that have been constructed to be energy efficient as part of measures to combat climate change.

(3) Medical equipment

The list of standard equipment used in the PHC facility upgrade program (phase 1) was simpler than that described in the construction guide, Framework for Primary Health Care Facilities-Buildings and Equipment. Although it is simplified, it was deemed appropriate for health services provided at the primary level. In the list, some of the equipment for diagnosis and treatment of non-communicable diseases was included. The standard list did not include cholesterol test kits and portable spirometers (respiratory function testing equipment) decided as the essential equipment by the DELM. However, the national multi-sectoral strategy for the prevention and management of NCDs lists the functions of health facilities at the primary level: early detection and diagnosis of NCDs, health education and, for certain NCDs, follow-up treatment and risk screening for NCDs caused by atherosclerosis, myocardial infarction and stroke. It is considered appropriate to include cholesterol test kits needed for risk assessment of NCDs caused by atherosclerosis, such as myocardial infarction and stroke, and portable spirometers needed for screening for chronic obstructive pulmonary disease in the list of essential medical equipment for PHC facilities.

On this basis, it appears necessary to review the list of standard equipment for procurement for the project, in line with the facility's conditions, and to revise the list of standard equipment by adding necessary equipment.

The DEM will be responsible for drawing up the list since the existing ones presents problems such as inconsistencies in equipment names, so it is appearing that further assistance is needed to enable a smoother procurement.

7-5-3 ISPITS extension program

(1) Building

The MoH has ISPITS extension plan, and the ISPITS Casablanca simulation center will be used as a model. According to the situation of ISPITS Casablanca, followings could be included in the project:

- Use of two rooms with the same structure as a classroom (one is a simulator training room and the other is an audiovisual room).
- A separate room for storing ordinary mannequins (as in an ordinary classroom)

This means that a total of three or, if possible, four rooms are required. It is possible to build new facilities with four rooms, or to renovate existing classrooms and use them as simulation centers if

space is available. Ordinary classrooms can also be retrofitted with audio-visual equipment, power supply, lighting, toilets, desks and chairs, etc.

(2) Enhanced simulation equipment

For equipment, the plan and estimated costs are organized in the appendix, with reference to the equipment of ISPITS Casablanca. During the implementation phase, the equipment plan and quantities will need to be reviewed according to the number of students, the room structure and the simulation teaching plan of each ISPITS.

7-5-4 Installation of telemedicine systems in PHC facilities

The AfDB has already put in place telemedicine/teleconsultation facilities in three regions (Beni Mellal-Khénifra, Draa-Tafilalet and Guelmin-Oued Noun) and is working on a national system with the same specifications as the AfDB in order to establish a unified system.

7-6 Project implementation structure

In this project, the MoH technical departments (DPRF, DEM, DRH and DIM) are responsible for implementing the projects linked to each DLI. The responsible departments are indicated in the matrix. DPRF is also responsible for coordination within MoH and with the Ministry of Finance.

In addition to the responsible departments (DEM and DRH/DEM) for DLI1 (PHC facility upgrade program) and DLI3 (ISPITS extension program), the following structures will help in the implementing of the project.

Project Owner	・ DEM (PHC facility upgrade program). ・ DRH/DEM (ISPITS extension program)
Project manager	ANEP: ANEP's role is as follows: ・ Selection of consulting firms through public tenders (public calls for tender - electronic calls for tender) ・ Project site surveys and preparation of survey reports ・ Preparation of tender documents (rehabilitation programs, contract documents, specifications and estimates) based on the above report. In the case of the PHC facility upgrading project, tender documents for all facilities to be rehabilitated will be prepared over a one-year period. ・ Selection of construction companies through competitive bidding ・ Joint supervision of construction or rehabilitation work carried out by the contractor of the DRS and AREP. staff In the case of PHC facility upgrading programs, supervision is to be made on the second and third years of the project ・ Office supervisors provide day-to-day construction supervision services under a separate contract.
Purchase of medical equipment	・ In charge of equipment for DEM, DRS or provincial office of MoH

7-7 Operating and maintenance system

DPRF monitors the activities of various responsible departments within the MoH. The results and documents are inspected and verified by the internal audit department (Inspector General, IG) set up within the MoH. The IG submits the audit results to the Ministry of Finance.

The definition of goal achievement for each DLI and the method for verifying goal achievement are proposed as follows:

Table 34: Verification protocols (Project) [109]

	Manager	Data source	Frequency
DLI1	DEM	Official documentation indicating that rehabilitation has been completed in accordance with the criteria specified in the Program Operations Manual (POM) by the Inspector General. The loan agreement for this indicator shows cumulative targets and amounts with the scalability formula. Quarterly report: number of facilities rehabilitated, description of rehabilitation (e.g. whether it complies with the standards specified in the POM, whether it takes account of climate change, etc.).	When the PHC facility is operational or has been rehabilitated (submit to IG). quarterly reports
DLI2	DELM	Progress report on "HEARTS" initiative for the prevention and control of cardiovascular disease including number, gender, profile of health professionals trained, and name of the PHC facility and the list of equipment provided.	1 time/1 year
DLI3	DRH/ DEM	Official documentation showing that rehabilitation has been completed in accordance with the criteria specified in the Program Operations Manual (POM) by the Inspector General.	When ISPITS is operational or has been rehabilitated (submit to IG).
DLI4	DIM	Progress report on the implementation of an integrated information system, including the number, gender and profile of healthcare professionals trained, and the name of the PHC facility.	1 time/1 year
DLI5	DIM	List of PHC facilities installed with telemedicine and teleconsultation equipment.	1 time/1 year
DLI6	DELM	Official documents proving the progress and adoption of the new epidemiological surveillance system	1 time/1 year

7-8 Problems to be solved during project implementation

This loan program is implemented on the basis of the health sector reform (law 22-06) implemented by the MoH, with the assumption that relevant measures, in particular the creation of a GST and other new governance mechanisms for the health service delivery system, will be put in place. However, since the law came into force in 2022, the functions of the GST and other bodies have often not been specified, etc. In October 2024, there was a cabinet reshuffle and a change of

[109] Prepared by the consultants team based on the results of discussions with the Ministry of Health, October 2024.

MoH Minister, as well as the appointment of the heads of the HAS, the Medicines and Medical Devices Agency and the Blood Transfusion Agency. Thus, the situation must continue to be closely monitored.

With regard to environmental and social considerations affecting project implementation, only DLI 1 and 3 among other DLIs are likely to affect the natural environment and residents as a result of the project's implementation. Of these, DLI 1 essentially concerns the rehabilitation of an existing building, assuming that the basic infrastructure (electricity, water supply and drainage, etc.) is assured and that there will be no social impacts such as environmental burdens or the relocation of residents living in the region. With regard to DLI 3, on the ISPITS extension program, it is not clear whether it involves rehabilitating existing buildings or expanding outside the site. If extension is planned, it is important to confirm whether land expropriations or other measures have already been taken, etc. Given that eight ISPITS extension sites are planned across the country, it is important to be attentive when it comes to selecting target sites and confirming the overall plan.

7-9 Risks associated with project and mitigating measures

The objective of the fiduciary risk assessment is to analyze whether funds from this results-based financing program will be used for the purposes intended by spending special attention to transparency, accountability, etc.

7-9-1 Budget and administration

Morocco's financial administration system is deemed compliant with the requirements for the implementation of this financial cooperation. (Substantial)

MoH has previous experience in dealing with results-based loans from other development partners, such as the World Bank and AfDB, and is familiar with the operation and management of results-based loan. MoH has established an internal audit and administration system in 2018, with an internal audit department (Inspector General, IG) created for the purpose of inspecting, auditing, investigating and assisting in the implementation of projects. The system had an overall satisfactory performance (Progress Report 2021 and 2022).[110]

The DPRF is responsible for coordination within the MoH and with the Ministry of Finance in the implementation and monitoring of the project. In addition, the DPRF has a track record of coordinating and monitoring such activities with other ministries and departments and compiling results not only for the results-based loans of the other partners, but also for the JICA development policy loan (DPL) relating to Universal Health Coverage (UHC).

[110] WB.Programme Appraisal Report on Morocco Health Reform Programme for Results p92

Regarding the budget allocation, the MoF does not allow the administration of special accounts under other ministries, and loans from this financial cooperation are managed by the treasury. As a result, in 2022, the health sector budget represented 7.18% of the State budget, which is high compared to other low-income and middle-income countries, but it remains insufficient. However, the MoH has formulated budget plans for the health sector reform and submitted requests based on these plans and the MoH budget has increased since 2019. Recently, 30,689 million MAD is required for 2024, which represents 29.1% increase compared to the 2023 budget amount of 28,130 million MAD. In addition, the MoH budget's performance and execution are reported to have exceeded by 85% the expected results in 2020 and 2021. Thus, there is a need to continue providing lateral support to ensure adequate budget requests and reliable budget execution by monitoring the use of funds from this results-based loan program for the intended purposes.

At the program level, the budget of DLI1 (PHC facility upgrade program) and DLI3 (ISPITS extension program) of this financial assistance must be fully taken into account. The WB's PforR allocated an amount of 189,783 USD per building (one PHC facility) by taking inflation into account, to the achievement of DLI 1, however, the double amount of the budget was required based on the report of the program (first phase). As far as the ISPITS extension program, there is no budget document, and it is not clear what the extension will entail (e.g. equipment). Therefore, with regard to PHC facility upgrades and the ISPITS extension program, a concrete plan should first be drawn up; then the budget needs to be reviewed on the basis of actual results, so that the results can be reflected in the budget request for the following year and beyond. In order to deal with these issues, further support to the MoH is deemed necessary.

7-9-2 Procurement

Procurement involves a degree of fiduciary risk. It is therefore necessary to mitigate this risk by implementing a Program Action Plan (PAP), which is discussed below. (Substantial)

The Moroccan government recently adopted a national decree on public procurement (no. 2-22-431). This decree aims to reinforce transparency, competition, efficiency and fairness in public procurement, notably through the introduction of rating criteria, competitive dialogue and the establishment of a public procurement audit body. The law also extends the scope of the decree to public bodies other than ministries and local authorities. With regard to the PHC facility upgrading program, which is the subject of the present results-based financing program, public contracts have already been awarded, in accordance with this decree, under the first program.

According to the World Bank's Integrated Fiduciary System (IFSA) assessment, procurement risks include (i) challenges in procurement planning and execution capacity, (ii) operational challenges related to new procurement legislation, (iii) inadequate systems for handling procurement complaints,

(iv) lack of reporting mechanisms on procurement performance, (v) absence of a suspension verification mechanism, etc. has been identified as a risk. To mitigate these risks, the World Bank has implemented a PAP to monitor procurement plans, build capacity to implement new procurement laws and regulations, set up a public procurement complaints mechanism, ensure financial administration and revise tender documents. It is important to monitor the implementation of these PAPs through WB.

At the program level, the procurement of ISPITS extension program (DLI 3) needs to be examined. The MoH is considering the extension of eight ISPITS campuses nationwide including the simulation centers; however, there is no consistency between the plan and its content, and there are differences in the content depending on the sites (equipment etc.). In addition, names and contents of the simulation and medical equipment to be acquired vary widely. For this reason, as part of the extension of ISPITS, it is deemed necessary to provide further support, such as the preparation of equipment specifications to facilitate the procurement.

7-10 Program action plan (Project)

As indicated above, in addition to following the WB's PAP for procurement, it is advisable to address each of the following DLIs separately.

7-10-1 DLI1 related to the program of PHC facilities upgrading

(1) Preparation of construction cost estimates for each building

The tender documents used in Morocco could also be used for construction supervision and job evaluation, as the material specification numbers are linked to the material numbers in the specifications. In addition, a standardized format would simplify the design process, as tender documents can be used as separate tender documents by simply rewriting certain information according to the nature of the work and the size of the building. On the other hand, in PHC facility upgrade project tenders, up to five facilities can be tendered in a single batch; so quotations are prepared on a batch-by-batch basis. As a result, the renovation details for each facility cannot be determined.

In view of the above, it is considered useful, as part of the implementation of this financial cooperation, to standardize material specifications and quotations (preparation of common specifications and estimates with recording of quantities) by preparing quotations for each facility, in order to ensure effective and efficient design work and construction supervision of PHC facilities in rehabilitation.

(2) Compilation of building specifications incorporating climate change measures adapted to the climate zone.

The PHC facility upgrade program of the MoH (completed in 2023) has already included climate change measures in its rehabilitation work. For rehabilitated facilities, that are about to be designed, it is recommended that building equipment specifications used in recent rehabilitations be reformulated for each of Morocco's five climate zones. This will enable rehabilitated facilities in the same climate zone to use these common specifications; thus, reducing design time and design costs.

7-10-2 DLI3 related to the program of ISPITS Extension

(1) Development of construction guidelines and standard equipment lists

The MoH plans to set up a simulation center that meets international standards, but there are no standardized construction guidelines, equipment lists, etc. In order to implement the plan, it is necessary to revise the layout and equipment quantities according to the number of students, the room structure and the simulation teaching plan of each ISPITS. In order to implement the plan, it is necessary to revise the layout and equipment quantities according to the number of students, the room structure and the simulation teaching plan of each ISPITS. Consequently, it is considered necessary to provide further support, such as the preparation of equipment specifications in order to facilitate the procurement process.

7-11 Cross-cutting themes in the intervention areas of

With regard to climate change, the vulnerability of healthcare facilities in Morocco is an issue. In response to this, the project will provide PHC facilities and ISPITS with climate-change-adapted rehabilitations; thus, directly combating climate change through the project. The installation of telemedicine equipment in PHC facilities can also contribute to combat against climate change by reducing greenhouse gas emissions through reduced travel and commuting expenses incurred by healthcare professionals and other staff.

In Morocco, it was decided that gender considerations would be taken into account at the budgeting stage of each ministry. As a result, the gender perspective will necessarily be integrated when incorporating the project's ILD-related activities into the MoH budget. Furthermore, given the high proportion of women working in the medical field in Morocco (31% men and 69% women) [111], the increased capacity resulting from the rehabilitation of ISPITS will indirectly contribute to reducing gender disparities in terms of increasing the number of women enrolled and employed. In addition, as PHC facilities are the population's first point of contact with health services, rehabilitation will improve access to healthcare for all citizens, including women. In addition, PHC

[111] M. Abdelouahab Belmadani: La refonte du système de santé Etat d'avancement (Meeting of health sector partners in Morocco June 7, 2024)

facility design guidelines include a section on universal design and humanization measures, and rehabilitation will contribute to the health of all residents, including women and people with disabilities.

8 Recommendations on the technical cooperation

In response to the challenges of the Moroccan health sector described in the previous chapter and taking into account the synergies with the loan, technical cooperation for two themes, non-communicable diseases and PPR for public health crises, could be considered as follows.

With regard to non-communicable diseases, a major health challenge in Morocco, activities are being developed in line with the national multisectoral strategy for the prevention and control of NCDs (2019-2029) and the action plan (2023-2025). Initiative HEARTS is one of them, and currently pilot projects are being operated in two regions due to budgetary constraints: there is a need for a standardized capacity building program of healthcare professionals for the diagnosis and treatment of NCDs nationwide, thus the program should be implemented in other regions as well. Therefore, it would be useful to support the establishment of a capacity-building mechanism for healthcare professionals in other regions with regard to the HEARTS initiative, through a technical cooperation project. On the other hand, projects, tailored to the actual situation of each region, are essential for health education aimed at preventing NCDs (primary prevention) and creating a healthy environment (zero prevention). In particular, as part of the health sector reform that Morocco is currently undertaking, the development of a regionalized healthcare provision system managed by the GST is being encouraged. Therefore, for example, JOCVs can be deployed at the target sites of technical cooperation projects, and JICA grassroots technical cooperation can be implemented, and if projects can be developed in a continuum prevention system (from zero, primary, secondary and tertiary prevention), it would be possible to make a comprehensive contribution to solving NCD-related problems in the target regions.

With regard to PPR for public health crises, Morocco was one of the first countries to carry out an external evaluation of the IHR's core capacity and developed a national health crisis response plan based on the results of the evaluation. However, the results of the external evaluation were generally weak, particularly with regard to activities related to antimicrobial use. Although the situation needs to be reassessed on the basis of the current situation, this area is considered to develop some action. The MoH has developed a national strategic plan for the prevention and control of AMR and continues to implement activities and monitoring in line with the plan (elaborating annual reports). On the basis of this plan, assessments of the prevalence of AMR infections have been carried out, but in few hospitals. Therefore, this has not allowed the situation nationwide and formulate concrete solutions against AMR.

Japan has an experience of the support for the appropriate use of antimicrobials and measures to combat antimicrobial resistance in developing countries through different research projects carried out in collaboration with private pharmaceutical companies and research institutes[112]. The provision of similar technical support to Morocco, through collaborative work between industry, academia and government, would contribute not only to the control of antimicrobial resistance in Morocco, but also to the development of international healthcare and industrial promotion of Japanese private companies.

Similarly, with regard to PPR for public health crises, the National Agency for Medicines and Medical Products, which will be responsible for the development and approval of vaccines and treatments, will be responsible for the development of clinical research and other institutional arrangements. Thus, it would be possible to consider supporting the development of the pharmaceutical regulatory system by strengthening the Agency's capabilities through training conducting by JICA. On the other hand, when it comes to clinical research, the budget and human resources devoted to research and development are enormous as it is necessary to recruit a considerable number of patients to take part in clinical trials. It is also important to establish an international network rather than operating in only one country.[113]. Although Japan does not have a sufficient track record of leadership in these areas, it is possible to indirectly support the promotion of research and development and to establish drugs and vaccines production system in Morocco by providing modest support and technical cooperation through several networks (such as the International Clinical Studies Platform) in which Japanese academia and medical organizations participate. This could contribute to strengthening the PPR in Morocco when facing a public health crisis.

https://www.sumitomo-pharma.co.jp/news/20230323.html

[113] The 100-day missions are initiatives aimed at making diagnostics, treatments and vaccines (DTVs) available within 100 days of the onset of a pandemic (WHO emergency declaration), as proposed by experts from various countries (mainly the UK and the USA) at the G7 summit in June 2021. The initiative aims to make diagnostics, treatments and vaccines (DTV) available within 100 days of the onset of a pandemic (WHO emergency declaration).