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R2018-0146/1

June 8, 2018

Closing Date: Wednesday, June 27, 2018 at 6 p.m.

FROM: Vice President and Corporate Secretary

Egypt - Transforming Egypt's Healthcare System Project

Project Appraisal Document

Attached is the Project Appraisal Document regarding a proposed loan to Egypt for a Transforming Egypt's Healthcare System Project (R2018-0146), which is being processed on an absence-of-objection basis.

Distribution:
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The World Bank

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Report No: PAD2850

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US$530 MILLION

TO THE

ARAB REPUBLIC OF EGYPT

FOR A

TRANSFORMING EGYPT'S HEALTHCARE SYSTEM PROJECT

June 6, 2018

Health, Nutrition & Population Global Practice
Middle East and North Africa Region

(Exchange Rate Effective – April 30, 2018)

Currency Unit =	Egyptian Pounds (EGP)
EGP 1 =	US$0.06
US$1 =	EGP 17.65

FISCAL YEAR
July 1 - June 30

Regional Vice President:	Hafez Ghanem
Country Director:	Asad Alam
Senior Global Practice Director:	Timothy Grant Evans
Practice Manager:	Ernest E. Massiah
Task Team Leader(s):	Amr Elshalakani

ABBREVIATIONS AND ACRONYMS

BMI	Body Mass Index
CERC	Contingency Emergency and Response Component
CHI	Comprehensive Health Insurance
CHIS	Comprehensive Health Insurance System
CHW	Community Health Worker
CBA	Cost Benefit Analysis
CPF	Country Partnership Framework
DAA	Direct-Acting Antiviral Agent
DHO	District Health Offices
DHS	Demographic and Health Survey
DLI	Disbursement-linked Indicator
DLR	Disbursement-linked Result
DP	Development Partners
ESMF	Environmental and Social Management Framework
FM	Financial Management
FMIS	Financial Management Information System
GoE	Government of Egypt
GDP	Gross Domestic Product
GHDC	Governorate Health Directorates Committees
GRM	Grievance Redress Mechanism
Hep C	Hepatitis C Virus
HIO	Health Insurance Organization
HQIP	Healthcare Quality Improvement Project
HNP	Health, Nutrition and Population
IBRD	International Bank for Reconstruction and Development
IDF	International Diabetes Federation
IFR	Interim Financial Reports
IO	Intermediate Outcome
IPF	Investment Project Financing
IRR	Internal Rate of Return
IUD	Intra Uterine Device
IVA	Independent Verification Agency
LED	Light Emitting Diode
MCH	Maternal and Child Health
M&E	Monitoring and Evaluation
MENA	Middle East and North Africa
MOF	Ministry of Finance
MOHP	Ministry of Health and Population
NAT	Nucleic Acid Test
NCD	Non-Communicable Disease
NGO	Non-Governmental Organization
OOP	Out-of-Pocket
PDO	Project Development Objective

PFS	Project Financial Statements
PHC	Primary Health Care
PMU	Project Management Unit
POM	Project Operations Manual
QSI	Quality of Services Indicators
RF	Results Framework
RFQ	Request for Quotations
SC	Steering Committee
SDG	Sustainable Development Goals
SHC	Secondary Health Care
STEP	Systematic Tracking of Exchanges in Procurement
SVR	Sustained Virological Response
TAG	Technical Advisory Group
ToR	Terms of Reference
UHC	Universal Health Coverage
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VAT	Value-added Tax
WBG	World Bank Group
WHO	World Health Organization

BASIC INFORMATION

Country(ies)	Project Name	
Egypt, Arab Republic of	Transforming Egypt's Healthcare System Project	
Project ID	**Financing Instrument**	**Environmental Assessment Category**
P167000	Investment Project Financing	B-Partial Assessment

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[✓] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[ ] Fragile State(s)
[ ] Disbursement-linked Indicators (DLIs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternate Procurement Arrangements (APA)	

Expected Approval Date	Expected Closing Date
27-Jun-2018	31-Dec-2023

Bank/IFC Collaboration

No

Proposed Development Objective(s)

The proposed Project Development Objective is to (i) improve the quality of primary and secondary health care services, (ii) enhance demand for health and family planning services, and (iii) support the prevention and control of Hepatitis C.

Components

Component Name	Cost (US$, millions)
Strengthen Primary Healthcare, Family Planning and Community Activities	247.40
Strengthen Secondary Level Healthcare	274.60
Institutional Capacity Building and Project Management	8.00
Contingency Emergency and Response	0.00

Organizations

Borrower:	Ministry of Investment and International Cooperation
Implementing Agency:	Ministry of Health and Population

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	992.50
Total Financing	992.50
of which IBRD/IDA	530.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	530.00

Non-World Bank Group Financing

Counterpart Funding	462.50
Borrower	462.50

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2018	2019	2020	2021	2022	2023	2024
Annual	0.00	60.00	85.00	110.00	110.00	90.00	75.00
Cumulative	0.00	60.00	145.00	255.00	365.00	455.00	530.00

INSTITUTIONAL DATA

Practice Area (Lead)

Health, Nutrition & Population

Contributing Practice Areas

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

Gender Tag

Does the project plan to undertake any of the following?	
a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF	Yes
b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment	Yes
c. Include Indicators in results framework to monitor outcomes from actions identified in (b)	Yes

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Substantial
2. Macroeconomic	Substantial
3. Sector Strategies and Policies	Substantial
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Moderate

6. Fiduciary	High
7. Environment and Social	Moderate
8. Stakeholders	Substantial
9. Other	
10. Overall	Substantial

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	✓	
Performance Standards for Private Sector Activities OP/BP 4.03		✓
Natural Habitats OP/BP 4.04		✓
Forests OP/BP 4.36		✓
Pest Management OP 4.09		✓
Physical Cultural Resources OP/BP 4.11		✓
Indigenous Peoples OP/BP 4.10		✓
Involuntary Resettlement OP/BP 4.12		✓
Safety of Dams OP/BP 4.37		✓
Projects on International Waterways OP/BP 7.50		✓
Projects in Disputed Areas OP/BP 7.60		✓

Legal Covenants

Sections and Description

Schedule 2, Section I, C, 1 (a): The Borrower, through MOHP, shall no later than three (3) months after the Effective Date, or such later date as agreed by the Bank, appoint and thereafter maintain, at all times during the implementation of the Project, an independent verification agent with qualifications and experience and under terms of reference acceptable to the Bank, to verify the data and other evidence supporting the achievement of one or more DLIs, and recommend corresponding payments to be made under Category 2.

Conditions

Egypt, Arab Republic of
Transforming Egypt's Healthcare System Project

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I. STRATEGIC CONTEXT

A. Country Context

1. **Egypt has adopted a bold and transformative reform program to restore macroeconomic stability.** Egypt is a lower-middle-income country with a population of 96 million (Census 2016) and a gross domestic product (GDP) per capita of US$2,048. Following a build-up of macroeconomic imbalances that had resulted in declining growth, rising debt, and a widening current account deficit, the Egyptian authorities undertook decisive policy actions since the launch of the reform program in 2016. In November 2016, the currency was floated eliminating the overvaluation, and the authorities moved forward with important fiscal consolidation measures, including significant energy subsidy reforms, and introducing a value-added tax (VAT). This is in addition to critical pieces of legislation necessary to strengthen the business climate, attract investments, and promote growth, including the adoption of an industrial licensing law, and new investment and insolvency law. The government's reform program is supported by the international donor community, including through the World Bank's programmatic Development Policy Financing (DPF) series (FY16-18) and the International Monetary Fund's three-year Extended Financing Facility approved in November 2016 in the amount of US$12 billion.

2. **Real GDP grew by 4.2% in fiscal year 2017, in line with 4.3% the year before, despite the fiscal consolidation efforts.** Furthermore, growth accelerated to 5.2% in the first half of FY2018, compared to 3.6% in the same period of the previous year. Medium-term growth prospects are favorable, provided growth-friendly policies and reforms continue to be implemented. Downside risks include slower implementation of reforms, which would undermine fiscal sustainability and private investment. Annual headline inflation has fallen to 14.4% in February 2018, from a peak of 33% in July 2017. The rapid decline in inflation over the past six months reflects the unwinding impact of the steep currency depreciation, hikes in administered prices and the introduction of VAT.

3. **While the economy is recovering and macroeconomic imbalances are starting to narrow, social conditions remain challenging**. Poverty rates, based on national poverty thresholds, place about a third of the population below the poverty line in 2015. Regional income disparities are an enduring characteristic, with Upper Rural Egypt lagging behind other regions. The unemployment rate is 12% (at end-FY2017), a decrease from 12.5% the year before, while the youth unemployment rate is 25.7%. The government is strengthening social safety nets through the expansion of cash transfer schemes and increases in social pensions and food subsidy allocations. Although Egypt has made significant strides in human development in the areas of child mortality, life expectancy, primary and secondary school enrollment and literacy rates, there are persistent challenges with large inequalities in access to and quality of basic social services.

4. **Promoting human capital development is one of three priorities under Egypt Vision 2030.** Egypt Vision 2030 was developed in 2015 as a national participatory effort coordinated by the Ministry of Planning and Administrative Reform. It provides a roadmap for inclusive development and for maximizing competitive advantages to achieve the aspirations of Egyptians for a dignified and decent life. It comprises: (i) an economic dimension, which includes economic development, energy, knowledge, innovation and scientific research, transparency and efficient government institutions; (ii) a social dimension, which includes social justice, health, education and training, and culture; and (iii) an environment dimension, which includes environmental and urban development. Egypt Vision 2030 emphasizes that improvements in health outcomes will contribute significantly to Egypt's social transformation over the coming 12 years.

B. Sectoral and Institutional Context

5. **Despite long-term improvements, the rate of progress on health outcomes in Egypt is slowing down**. Since 1990, Egypt has achieved significant improvements in key health indicators. The maternal mortality ratio declined from 106 to 33 deaths per 100,000 live births, and the infant mortality rate has fallen from 60 to 20 deaths per 1,000 births (World Bank, 2015). Despite these improvements, regional disparities persist, and data suggest the rate of progress on indicators is slowing down (Demographic and Health Survey (DHS) 2014). Life expectancy, although having increased from 66 to 71 years over that period, remains below the Middle East and North Africa (MENA) average of 73 years.

6. **Concurrently, demographic pressures are rising.** The total fertility rate has increased from 3 to 3.5 births per women since 1990, contributing to rapid population growth. Egypt's population surpassed 100 million in 2017 and is expected to reach 128 million by 2030 and 150 million by 2050 (UN Population Projections). The government has warned that the rapidly growing population represents a major threat to development and has encouraged uptake of family planning, particularly in rural areas.[1] However, use of family planning by married Egyptian women has plateaued since 2008 (DHS 2017), the rate of long-term use has declined, and 3 in 10 users of family planning in Egypt stop using a method within a year of starting. According to the 2015 Egypt Health Information Survey, although most women have basic knowledge of common contraception methods, there is still a strong preference for larger families, particularly in Upper Egypt, among those with lower educational backgrounds, and among men more than women.

7. **Egypt's health sector is being challenged by disease-specific problems, particularly Hep C Virus (Hep C).** Egypt has the highest prevalence of chronic Hep C Virus in the world; nearly 7% of Egypt's adult population (some 4.5 million people) is infected.[2] Many infections occurred decades ago, the result of poorly sterilized needles used as a part of national schistosomiasis treatment campaign, and are now leading to significant complications and deaths. Over the past decade, evidence suggests unsafe blood transfusions and improper infection control measures within healthcare facilities as the major route of the spread of infection. About 40,000 Egyptians die of Hep C every year, making it the country's third leading cause of death after heart disease and cerebrovascular disease. Moreover, roughly 150,000 new infections occur annually, mostly due to poor medical safety and hygiene, including blood transfusions. The prevalence is significantly higher among adults above the age of 40, the poor, and those living in rural areas. Hep C costs Egypt more than US$400 million annually in direct costs, and total spending is projected to reach US$4 billion by 2030 (World Bank 2017).

8. **Egypt is also facing a mounting burden of non-communicable diseases (NCD), driven by poorly controlled risk factors.** NCDs account for an estimated 82% of all deaths and 67% of premature deaths in Egypt.[3] Since 2005, deaths from ischemic heart disease and cerebrovascular disease, the leading two causes of death, have increased substantially, with nearly half of those attributable to high blood pressure, based upon global estimates.[4] Deaths from diabetes, the sixth-leading cause of death, have increased by more than 50%, driven largely by obesity; Egypt has the highest obesity rate among the world's 20 most populous countries (Global Burden Disease 2017). The economic impact of diabetes alone,

1 https://www.reuters.com/article/us-egypt-population/egypt-promotes-birth-control-to-fight-rapid-population-growth-idUSKCN1BA153

2 Egypt Demographic and Health Survey (2014)

3 IHME, (2016).

4 WHO. 'Global health risks', The World Health Report 2004. WHO, Geneva, Switzerland. 2004.

estimated at US$1.3 billion in 2010, is expected to double by 2030, and chronic conditions have been found to cause productivity losses equivalent to 12% of Egypt's GDP.[5]

9. **The Egyptian health system is not positioned to deliver high quality health services to meet the most pressing needs of its population.** Although more than 95% of Egypt's population lives within 5 kilometers of a health facility, [6] the quality of care at these facilities is often poor, leading to low utilization and reduced health benefits. Medication stock outs, lack of updated and enforced clinical guidelines for managing chronic diseases, and limited specialists have been widely reported (World Bank 2010, 2015). Pharmaceutical supply chains are outdated and inefficient, and primary health clinics and hospitals are often ill-equipped to respond to the real needs of the population in their catchments areas. Basic safety issues remain a major concern. Although the National Blood Transfusion Center (NBTC) is responsible for ensuring adequate safe blood supplies, financial constraints have prevented it from adopting modern technologies (e.g. nucleic acid tests (NAT)) that reduce the risk of infection with Hep C and other bloodborne diseases. Although the government has developed quality accreditation standards for Primary Health Care (PHC) and hospitals based on international guidelines, adoption has been patchy and only project-dependent, owing to the lack of financing.

10. **Moreover, concerns about poor quality lead almost half of patients to seek care in private clinics and hospitals, where they incur higher out-of-pocket costs (OOP) and are at risk of being pushed into poverty** (World Bank 2015). Although an estimated 60% of Egyptians have health insurance through the government's Health Insurance Organization, fewer than a quarter of households use this insurance, due in large part to their concerns about the quality of care at government facilities.[7] Moreover, vulnerable groups, including informal sector workers, the poor, and dependents, are not covered. As a result, use of private sector services is common, and OOP payments in Egypt have remained fixed at 61% of total health spending over the past decade, more than double the MENA average (World Bank 2015, 2016). These payments show significant inequities by income, gender, and geography. Egypt's poorest households spend the largest percent (21%) of their income on healthcare, leading to significant financial hardship,[8] and nearly 7% of households are pushed into poverty each year due to catastrophic health expenditures.[9] Households in rural areas and those with family members with a chronic condition are more likely to experience catastrophic health expenditures.[10]

11. **The delivery of high-quality services is further limited by lack of patient education and demand, poor integration of care, and need for gender-tailored approaches.** Household surveys in Egypt have shown high rates of uncontrolled or undiagnosed chronic conditions, as well as poor community awareness about the risk of complications. Hep C is a particularly dramatic example, as several million Egyptians are infected but lack symptoms or a diagnosis that would prompt them to seek care. NCDs show low care-seeking as well. Spending on diabetes in Egypt is among the lowest in the MENA region, suggesting that many patients forego medications and consultations (International Diabetes Federation Atlas, 2013), and referral networks to ensure diagnosis, follow-up, and appropriate management are lacking. A 2013 study

5 Rocco L, Tanabe K, Suhrcke M, Fumagali E (2011): Chronic Diseases and Labor Market Outcomes in Egypt. Policy Research Working Paper 5575. Washington DC: World Bank.

6 El-Zanaty F, et al. Egypt Demographic and Health Survey (2014). Cairo and Maryland: MOHP, the DHS Program, ICF International; 2014. [Internet]; Available from: http://dhsprogram.com/pubs/pdf/PR54/PR54.pdf; Van Wheel (2018), Primary healthcare policy implementation in the Eastern Mediterranean region: experiences of six countries, Eur J Gen Practice, 24(1).

7 Rashad AS, Sharaf MF. Catastrophic and Impoverishing Effects of Out-of-Pocket Health Expenditure: New Evidence from Egypt. American Journal of Economics, 2015; 5(5): 526-533.

8 Egypt Household Health Expenditure and Utilization Survey (2011).

9 The World Bank, WHO PAYS? Out-of-Pocket Health Spending and Equity Implications in the Middle East and North Africa. (2010).

10 See Rashad and Sharaf (2015).

showed that only 6% of Egyptians in need of outpatient care go to public PHC facilities; most prefer private facilities. Only about a quarter of diabetics in Egypt had good medication adherence, and other research has shown a higher prevalence of complications (e.g. diabetic retinopathy) than global counterparts. Routine community outreach through mass media and public health campaigns also appears limited. Fewer than a quarter of married women report having seen information on family planning on television or in public spaces (European Health Interview Survey 2015). Gender differences in disease burdens and needs must also be acknowledged. Nearly half of Egyptian women who would prefer a female doctor are treated by a male, likely limiting their level of comfort discussing sensitive matters and subsequent uptake of family planning (World Bank 2015). Women in Egypt are also more likely to be uninsured, illiterate, and have risk factors for NCDs, including obesity and hypertension, raising the need for targeted outreach approaches.

12. **Addressing Egypt's major health challenges and achieving broader development goals will require reorienting Egypt's health system toward delivering higher quality care.** Sustainable Development Goal (SDG) 3 calls upon countries to achieve universal health coverage (UHC) by 2030, including ensuring access to quality essential health services that provide effective coverage and improved health outcomes. Given Egypt's burden of chronic and complex conditions, achieving this goal will require a health system that is much more responsive to current population needs. Reflecting current thinking around quality improvement, this shift toward higher quality care will need to ensure not only that the appropriate "structures" (including facility infrastructure, medicines, staffing, etc.) are in place, but also that technical processes and user experiences, as well as the organizational and management structures supporting them, are improved to deliver better outcomes.

13. **To address these challenges the Government of Egypt (GoE) has identified UHC, quality improvement, and specific disease burdens as national priorities, and embarked upon social health insurance reform.** In December 2017, the GoE passed a landmark Comprehensive Health Insurance (CHI) Law to accelerate progress towards UHC. Under the new law, which will be funded through taxes, employer premiums, and subscription fees (with subsidies for the poorest Egyptians), the government will expand insurance coverage to an additional 30% of the population, including those who are unable to pay. The new system will be rolled-out in 6 phases over a 15-year period, with implementation starting in July 2018. The new law is expected to raise demand not only for services in general but also for higher quality. It will require public facilities to meet international accreditation standards (previously voluntary), and family health physicians will serve as gate-keepers for referrals to accredited facilities. In addition to the new law, the GoE has also recently adopted high-profile policies targeting the country's key disease burdens, including the passage of a 2015 Presidential mandate requiring Hep C screening and a new national strategy, Operation Lifeline, to address high fertility rates and family planning needs, particularly in rural areas.

Table 1. Timeline for the roll out of the Comprehensive Health Insurance nation-wide in six phases

Phase	Period	Governorates
1	2018 – 2020	Ismailia, Port Said, Suez, South Sinai and North Sinai
2	2021 – 2023	Aswan, Luxor, Matrouh, Qena and Red Sea
3	2024 – 2026	Alexandria, Beheira, Damietta, Kafr Elsheikh and Sohag
4	2027 – 2028	Assiut, Beni Suef, Fayoum, Minya and New Valley
5	2029 – 2030	Dakahlia, Gharbia, Menoufia and Sharqia
6	2031 – 2032	Greater Cairo (Cairo, Giza & Qalyubia)

14. **Given the importance of community outreach and awareness, the GoE has also taken steps to strengthen the role of community health workers (CHWs).** Egypt's CHW program (Raedat refiyat), created in 1994, currently supports more than 14,000 personnel under the MOHP and has achieved relatively good geographic coverage. However, the program faces several challenges, including a need for more workers, stronger presence in many governorates, broader scope of counseling, and more formalized relations with public, private, and Non-Governmental Organization (NGO) sectors to improve referrals and awareness activities. In recognition of the pivotal role of CHWs, the MOHP has recently launched a national strategy for incorporating CHWs within the health system. The strategy serves as a framework and guide to improve CHWs' capacity to drive behavior change and strengthen links between communities and the health system. The strategy also emphasizes the importance of the CHW program adopting new policies including: (i) developing technical protocols; (ii) gaining political support for CHW activities and media awareness campaigns; (iii) improving coordination among CHWs and public, private, and NGO sectors around awareness activities; and (iv) supporting the institutional and financial sustainability of CHW program services.

World Bank Engagement

15. **The recently completed Healthcare Quality Improvement Project (HQIP), financed by the World Bank, provides a roadmap for the scale-up of healthcare quality improvement.** Egypt has undertaken intermittent quality improvement efforts since the 1990s, but progress was significantly galvanized under the HQIP project, which focused on improving the quality of PHC services offered in Egypt's most vulnerable villages in Upper Egypt. More than 1,000 facilities successfully implemented quality improvement plans, including upgrading equipment and supplies, procuring medicines, and training health workers on clinical guidelines. The MOHP's supervision capacity was strengthened so it could carry out routine facility audits to ensure guidelines are followed, and almost 700 facilities were officially accredited. The end-line client survey showed a 30% improvement in patient satisfaction at project targeted facilities between 2016-2017. These results offer a framework for how such work could be scaled up in Egypt.

16. **The HQIP also supported the GoE in launching its Hep C elimination program, which has achieved remarkable progress thus far and helped position Egypt as a global leader on Hep C elimination**. In recent years, the country has markedly lowered the costs for new Hep C treatments, direct-acting antiviral agents (DAAs), which carry a roughly 96% cure rate. Approximately 5 million Egyptians have been screened and 1.6 million people treated. Also, the MOHP has developed a national electronic registry of screened patients. Nearly a third of these screenings were financed by the Bank in the first six months of 2017 under HQIP. Critically, these screenings were largely organized through PHCs, highlighting the central role of primary care in tackling this disease. However, significant challenges remain: the GoE has determined it still needs to screen an estimated 43 million people and treat an estimated 4 million infected patients to reach its elimination goal, and prevention activities, including ensuring a safe blood supply, need to be strengthened to avoid new infections. Doing so will require additional resources for: (i) expanding the screening program through the PHC level and community outreach; (ii) ensuring quality and affordable treatment; and (iii) making critical investments in other support services at the secondary level hospitals, medicine supply chains, blood banks, etc.

17. **The World Bank is proactively engaging with Development Partners (DPs) to ensure consistency and harmonization in responding to the financial and technical needs of the MOHP.** Although many DPs contribute to Egypt's health sector, coordination has often been weak, leading to isolated vertical programming rather than a comprehensive, consistent package of services. The Bank's engagement seeks to tackle these challenges. This includes regular bilateral and collective meetings with key DPs such as the United Nations Children's Fund (UNICEF), United Nations Population

Fund (UNFPA), World Health Organization (WHO), and other partners. Overall, there is scope for DP support to be better coordinated through the GoE, to align available financial and technical assistance to the National Health Plan, and to harmonize all the efforts to ensure complementarity, reduce duplication, and support government priorities. Major partners include: (i) WHO in the areas of health insurance, infection control, disease surveillance, and management of NCDs; (ii) UNICEF in nutrition and primary healthcare; (iii) UNFPA in family planning, population issues and maternal health(through an European Union grant of US$27 million) focusing on supply side interventions; (iv) United States Agency for International Development (USAID) in a US$24 million multi-phased support to the supply side of family planning and population activities and CHWs (US$5 million); (v) Agence Française de Développement in boosting service provision especially in the delta region (€31 million) and raising awareness of the new Health Insurance system in partnership with the Ministry of Finance (MOF) (€2 million); and (vi) EU in improving quality of health services (€120 million) and family and population grants to UNFPA. Other bilateral funds (especially from the Gulf Cooperation Council offer support to the hospital and primary care infrastructure expansion and rehabilitation. The proposed project will be a catalyst in this process by aligning with the overall government reform agenda, complementing ongoing activities and filling gaps (e.g. demand generation), and coordinating closely with all DPs in the health sector.

C. Link to CPF

18. **The Egypt Country Partnership Framework (CPF) for FY15-19 (Report No. 94554-EG), discussed by the Board of Executive Directors, on December 17, 2015, supports transformational changes to the economic and social space in Egypt.** The CPF is organized under three closely interconnected focus areas which are also fundamental areas under Egypt Vision 2030: improving governance; private sector job creation; and social inclusion. Specifically, the proposed project supports Focus Area 3 on Social Inclusion, Objective 3.2 which calls for a support towards the outer years of the CPF to: (i) expand equitable access to family health services, including better access to family planning to address recent unexpected population growth; (ii) improve health system response to neonatal and obstetric cases; and (iii) improve patient and blood safety. The CPF makes explicit mention of population challenges, noting that fertility rates have rebounded since 2008 and have put tremendous pressure on social services as well as labor markets currently struggling to absorb the youth. Further, the CPF calls for Bank's support to the GoE on its responsiveness to prevent, diagnose, treat, and assess the fiscal impact of Hep C.

19. **The proposed project contributes to the achievement of the World Bank Group's (WBG) strategic goals to end extreme poverty and promote shared prosperity in a sustainable manner.** By strengthening integrated public health service delivery, the proposed project will contribute to the objective of UHC, including the Health, Nutrition and Population (HNP) Global Practice goals of ensuring access to health services and financial protection for everyone by 2030 and ensuring that, by the same year, no one is pushed into or kept in poverty by paying for healthcare. Furthermore, the proposed project is consistent with the strategic principles in the WBG MENA health sector of creating fair and accountable health systems in a sustainable manner. The proposed project will mainstream the WBG's Twin Goals through Egypt's health system on its path to UHC and will feed into the "Renewal of the Social Contract" pillar of the WBG's MENA strategy through supporting the socially demanded interventions in the health sector.

20. **The proposed project also underscores the Bank's growing strategic investments in Human Capital to drive economic growth.** As part of the Human Capital Project and other strategic shifts, the Bank has increasingly committed to investing in health, nutrition, and other essential building blocks of human capital to ensure that more citizens can effectively contribute to economic growth and reap its benefits. The proposed project aims to strengthen human capital

on multiple fronts, including addressing the major burdens of chronic conditions that lead to lost productivity and earnings in Egypt; strengthening preventive care to protect human capital and reduce disability in the future; and improving the quality of health services that serve as safety nets for the most vulnerable.

21. **The proposed project activities align with Egypt's 2014 constitutional mandates, the MOHP Strategy and Vision 2030 and will support the foundations of the government's prioritized health reforms.** The strategy explicitly commits to: (i) implement UHC; (ii) boost quality of healthcare services; (iii) strengthen preventive health programs; (iv) further develop healthcare governance and decentralization; (v) upgrade health informatics systems; (vi) modernize health Human Resource Management; and (vii) upgrade the pharmaceutical sector. The project activities will support the government's efforts to roll-out social health insurance in key areas, including preparing health facilities to meet new quality standards and strengthening institutional capacity on accreditation, supervision, and other required functions.

22. The Bank has carried out a series of consultations with the GoE and key stakeholders to prepare the proposed project and to maintain the dialogue towards a unified vision for transformational reform of the health care sector in Egypt. Furthermore, the Bank is engaged in providing technical advice to strengthen the National Healthcare Strategy given the constitutional mandate, the Vision 2030 plan and the newly enacted CHI Law. The project design has utilized the main goals under the health pillar of the Vision 2030 towards conceiving a set of transformational interventions to the Egyptian healthcare system.

II. PROJECT DESCRIPTION

A. Project Development Objective

23. The proposed Project Development Objective (PDO) is to: (i) improve the quality of primary and secondary health care services, (ii) enhance demand for health and family planning services, and (iii) support the prevention and control of Hep C.

B. Project Beneficiaries

24. The proposed project will benefit, directly and indirectly, the entire population of Egypt as a result of a national campaign to eliminate Hep C, screening for NCDs nation-wide (e.g. diabetes and hypertension), and the effort under the project to improve the operation of the national blood bank system. The project will support nearly 800 mobile teams and hospital-based screening to: (i) screen 35 million people (above 18 years of age), among which 1.5 million people screened positive for viral ribonucleic acid will be treated under the project; (ii) screen 20 million people (above 35 years of age) for blood pressure, blood sugar and Body Mass Index (BMI) where treatment would be financed only for the diagnosed residents of nine governorates at the hospital and PHC level (15% of nation-wide diagnosed patients); estimated 22,000 people diagnosed with moderate/severe hypertension and 37,000 people diagnosed with Type 2 diabetes are to be yearly treated. Furthermore, the project is making substantial investments in disease prevention by improving the blood bank network which will reduce the risk of transmission of various diseases for the whole population and serve nearly 3 million blood recipients during project duration (a blood recipient often utilizing an average of 1.6 units). Additionally, the project will support nation-wide efforts to support the Government's program to increase the use of family planning methods through the Family Planning Centers and the CHWs.

25. Also, the proposed project will target an estimated 14 million people in the 9 target Governorates, of which 54% and 46% are females and males respectively, through improvements in primary, secondary and CHW health services, paving the way for the smooth implementation of the CHI Law during phase I and phase II of the roll-out plan. Lastly, the project is expected to benefit all levels of government administration and health facilities: national, governorate, district, village (PHCs) as well as the CHWs who serve a number of villages. The project will support system development activities at all these levels, but particularly strengthening the referral capacity from the PHC and district level to the secondary level care, as mandated under the new CHI Law.

26. Project interventions will also benefit the health sector staff at all levels (central, governorate, district and village) by strengthening their capacity and making additional resources available to achieve the goals of the Government strategy. The staff at PHCs and hospitals (doctors, nurses and other health facility staff) will also benefit from training, improved working conditions and additional resources to allow them to operate at a higher level and provide better quality care.

C. PDO-Level Results Indicators

27. The following seven PDO indicators will be monitored throughout project duration. In addition, there are also fifteen intermediate outcome (IO) indicators to measure changes in the quality improvement process as well as in other specific areas supported under the project, including one corporate results indicator (See Results Framework (RF)).

28. The indicators related to improvements in quality of PHCs and hospitals reflect three dimensions of quality (see detailed description under project components below): (a) the foundational dimensions necessary to provide care (PDO indicators ii and iv); (b) process/clinical content of care (PDO indicator iii and v); and (c) results from the improved quality of services (PDO indicator i).

Table 2. PDO Indicators

Elements of the PDO	***PDO Indicators***
Improved quality of PHC	(i) Number of PHCs passing Quality of Services Index composite indicators list (ii) Percentage improvement in the average quality of clinical care score at all targeted PHCs, measured through independent direct observations
Improved quality of secondary care	(iii) Percentage improvement in the average quality of clinical care score at all targeted hospitals measured through independent direct observations (iv) Percentage of blood units dispensed at MOHP hospitals that have been screened utilizing the NAT
Enhance demand for health and family planning services	(v) Contraceptive prevalence rate
Prevention and control of Hep C	(vi) Number of people screened for Viral Hep C (vii) Percentage of people who received treatment for Hep C who have taken the final confirmation test for sustained virological response (SVR) using a random sampling methodology

D. Project Components

(I) Project Framework

29. **The proposed project will support the MOHP healthcare sector reform agenda 2030.** Over a five-year period, operating within the framework of the vision 2030 and the newly enacted CHI Law, the project will: (a) support quality improvement of services in selected PHCs and Hospitals in nine target governorates falling under phases I and II of the new Comprehensive Health Insurance System (CHIS); (b) support the mass screening and treatment of the adult population for Hep C towards elimination of disease, as well as screening for NCDs; (c) support the provision of safe blood supply at all public hospitals; (d) strengthen the CHW program; and (e) support the capacity, accountability and autonomy of the decentralized management level. The project will also strengthen the horizontal integration of the different programs at each respective level of care and the vertical integration between the different levels through strengthening the referral mechanisms.

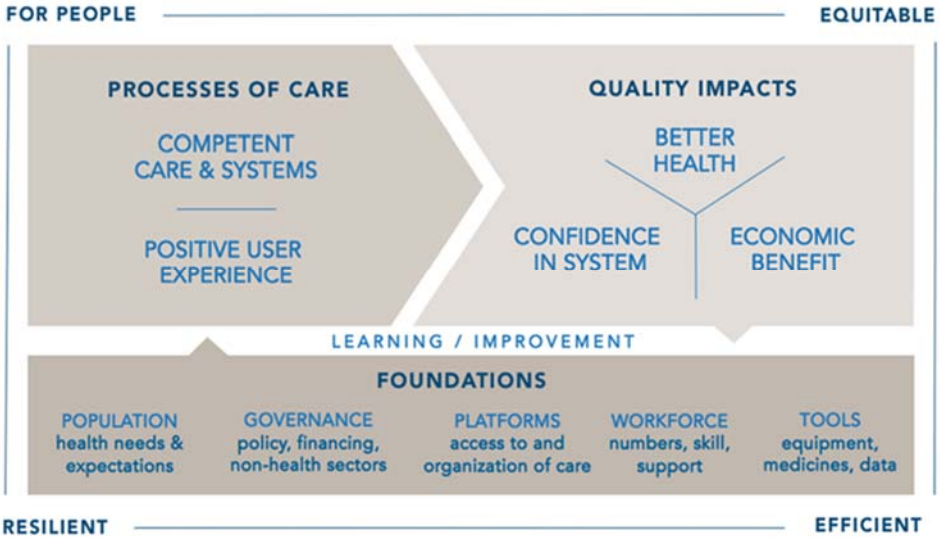
Defining and Measuring Quality

30. **High quality of care is increasingly recognized as a central component of achieving effective UHC**. During the Millennium Development Goals (MDGs) era, efforts to expand UHC focused mostly on expanding coverage per se. In recent years, however, particularly since the adoption of the SDGs, much greater emphasis has been placed on the importance of effective coverage, i.e. ensuring that populations not only have access to services but also receive high quality care.[11,12] This shift in thinking reflects, in part, a recognition that improving outcomes from NCDs and other chronic diseases will require more sophisticated, integrated approaches to service delivery than was required under traditional disease-specific vertical programming.[13]

31. **Although debate remains over how to best define quality, there is growing recognition that it spans multiple domains and goes well beyond basic inputs.** Much of the thinking around quality of care derives from the framework proposed by Donabedian in the 1960-1980s, in which he spelled out structures, processes, and outcomes that define quality. More recently, the Lancet Commission on High Quality Health Systems, which was formed in 2017, has developed a revised, or enhanced, version of this framework. As shown below, this framework defines quality along three domains: (1) foundations, including appropriate supplies, workforce, organizational structures, governance, and policies; (2) processes, including the provision of competent care by clinicians, as well as a positive user experiences; and (3) quality impacts, including better health outcomes and improved confidence in the system.

[11] Akachi,Y and M. Kruk, 2017. Quality of Care: measuring a neglected driver of improved health, Bulletin of WHO, 95:465-72.
[12] Lesie, H et al, 2017. Effective coverage of primary care services in eight high-mortality countries, BMJ Global Health, 2:e000424.
[13] Kruk, M et al, 2017. Measuring quality of health-care services: what is known and where are the gaps? Bulletin of the World Health Organization, 95:389-389A.

Figure 1. Lancet Commission on High-Quality Health Systems Proposed Framework[14]



32. **The Lancet Commission and other global best practices emphasize the need for developing appropriate metrics to benchmark and track quality improvements across all three domains.[12]** Measuring the "foundations," or structural aspects, of quality typically rely upon facility surveys or censuses. Process measures, by contrast, require a different set of tools, including direct clinical observations (often considered the gold standard), as well as medical record reviews, clinical vignettes, or patient exit interviews. Measuring outcomes and impacts are arguably the most difficult aspect of quality to capture, in that they typically require robust health information systems that can link health outcomes to clinical care provided to patients. Noting such challenges, the Commission and other experts have suggested that, in low- and middle-income countries, structure and process measures represent an appropriate starting point for benchmarking quality and monitoring improvement.

33. **The proposed project will measure quality of PHCs and hospitals under Components 1 and 2 (see below) under these three domains of quality.** The detailed metrics by which quality will be measured in the project are presented in the RF, Annex 2, and Annex 3, as well in in the tools that will be developed to directly observe clinical practices (to be included the Project Operations Manual (POM)). The foundation domain of quality, including human resources, medications, equipment, information systems, patient safety, and organizational structures, will be measured using the Egyptian Healthcare Accreditation Program Standards for PHCs and hospitals, developed in accordance with international guidelines (Annex 3). Processes, including adherence to clinical guidelines and safety standards (including hand hygiene, safe needle disposal, etc.), as well as positive user experience, will be measured by direct clinical observations, patient satisfaction surveys, and additional data collection tools. Quality impacts, including estimated changes in Hep C and contraception prevalence, as well as improved referral and follow-up of patients with NCDs and other conditions, will be measured through registry data, Quality of Services Index (QSI) tool (see Annex 2), and other program monitoring data.

[14] Reproduced with a special permission from "the Lancet Commission on High Quality Health Systems as a source of cutting-edge concepts, a framework, evidence, and practical guidance", in Press.

(II) Theory of Change

34. The project was designed following extensive meetings with all the relevant staff of the MOHP as well as several stakeholder consultations that defined the proposed activities, outputs and outcomes to address the challenge of Hep C and to improve the quality of service delivery. The following Table 3 is a simplified presentation of the main tenets of the project and the links between all of its key elements.

Table 3: Theory of Change

Activities (Components)	Outputs	PDOs/Outcomes	Long-term Outcomes
Strengthen community and PHC services and screening for Hep C and NCD risks -PHCs improve the quality of their operations -Training on Grievance Redress System -PHCs which have received the quality index certificate take the accreditation test -Number of Community Health Workers expanded and provided a mobile device	Quality of services index verified - certificate issued Accreditation certificate issued to select facilities Increased awareness on key health risks & prevention measures	The PDO is to (i) improve the quality of primary and secondary health care (SHC) services, (ii) enhance demand for health and family planning services, and (iii) support the Government of Egypt in its prevention and control of Hep C.	-UHC (pre-condition for contracting with the Comprehensive Health Insurance Organization in Egypt) -Higher levels of health outcomes (reduced mortality and morbidity) -More equitable distribution of health outcomes -Reduced total fertility rates -Reduced poverty by decreasing OOP -Elimination of Hep C
Strengthen national capacity to provide family planning and health services -Improve national capacity for management of population growth -expand number of doctors, provide equipment, supplies, counselling and contraceptives for Family Planning centers -communication campaigns and demand generation activities	Increased capacity of the National Population Council Increased capacity at Family Planning Centers Increased use of family planning methods		
Strengthening secondary level care -Hospitals improve the quality of their services, incl. infection control -Support for the national Blood Bank system -Support for pharmaceutical supply chain (PSC)	Accreditation certificate issued to selected hospitals Blood bank network enhanced Strengthened IT infra-structure for PSC mgmt.		
Hep C & risks for NCDs -National screening of adult population for Hep C and NCD risks, per guidelines -Treatment/confirmation tests for Hep C pts. -Referral of NCDs high risk to specialized care	Number of people screened for Hep C & NCD risks Number of patients treated for Hep C Increased NCD awareness		

(III) Component Description

35. **Component 1: Strengthen Primary Healthcare, Family Planning and Community activities (US$247.4 million International Bank for Reconstruction and Development (IBRD) financing).** This component will mainly finance results using Disbursement-linked Indicators (DLIs) achieved and verified by an independent verification agency (IVA). In addition, there are specific activities under this component which will also be financed using the expenditure-based disbursement method. Progress against each DLI will be tracked through measuring achievement against Disbursement-Linked Results (DLRs), each of which will be independently verified prior to disbursements against each DLR. Details on the DLIs and DLRs are provided below and under the project costs and financing section, as well as in Annex 1 (DLI Matrix). This component will support the following:

36. **Sub-component 1.1: Providing for quality services at PHCs (US$69.5 million IBRD financing)**. This sub-component will strengthen improvements in selected 600 PHCs in nine governorates (Ismailia, Suez, North Sinai, South Sinai, Qena, Luxor, Aswan, Alexandria and Matrouh). The goal would be to: (a) update and modernize the quality framework for MOHP through updating the national accreditation guidelines which will subsequently be used nationally to improve PHC quality across Egypt, conduct a mapping and a needs assessment exercise of PHC services in the nine governorates, and ensure Grievance Redress Mechanism (GRM) and district level management are both enabled; (b) ensure the quality of services provided by using a quality index which will measure selected output and intermediate level results; (c) ensure a demonstrable improvement in the quality of the clinical level services offered to patients as evidenced through independent direct monitoring scorecards; and (d) accredit targeted PHCs using quality accreditation standards outlined in the updated National Egyptian Accreditation Guidelines which will provide them with contractual eligibility with the new CHIS. This will lead to enhanced quality of services, including clinical consultations, nutrition services, family planning, routine public health programs, mental health, infection control, strengthening district level management procedures, referral services, and patient education. The following four DLIs will be used to track the results under this sub-component, as follows:

37. **DLI 1: Development of quality tools and mechanisms (US$4 million).** This DLI will be used to monitor that the needed foundational studies and systems required for improving further quality services at the PHC level are achieved. Those would include the completion of the following: (i) two PHC level needs assessment studies that demonstrate the actual needs of the target PHCs. One would be for facilities that have never been accredited before and another for those facilities that will lose their previous accreditation status during project duration; (ii) Service mapping exercise that would set the new envisioned model for allocating different resources and services to population needs; and (iii) Develop and officially issue the revised and updated National Egyptian Accreditation Guidelines that will be used for accreditation purposes under the project support.

38. **DLI 2: Percentage of grievances addressed in project target facilities in accordance with the revised GRM Manual issued in 2017 (US$3 million).** This will include the dissemination of the GRM manual in the nine governorates and training of staff at the PHC and district level and gradually improving the citizen feedback system, increasing the number of grievances addressed in project target governorates.

39. **DLI 3: Strengthening governance and decentralized management (US$2.5 million).** This DLI will incentivize the enhancement of governance activities at central and peripheral level management in project target districts on

fiduciary practices that would strengthen their capacity towards better management of local resources and ensuring the compliance with sound fiduciary governance procedures. Specifically, this DLI will track the percentage of districts participating in the project certified for enhanced governance performance. This DLI will be critical in ensuring more effective use of resources, particularly in view of the results based nature of the project.

40. **DLI 4: Improvement of PHC quality of services (US$60 million).** This DLI will support targeted PHCs to attain incremental levels of higher quality services in terms of process, patient perspective and system perspective. All target facilities will be assessed for results using a two-level approach. First, facilities will have to score at least 80% of the composite QSI that measure selected processes, output and IO functional indicators (see Annex 2). The QSI has been closely designed with UNICEF. Secondly, after passing the QSI composite indicators through a rigorous verification process conducted by the IVA, PHCs will have to work towards reaching accreditation certification through the national system and using the updated National Egyptian Accreditation Guidelines awarded through the national accreditation body for healthcare services. Accreditation certification is a requirement for contractual eligibility under the new CHIS. Of the total DLI amount, 80% of the DLI payment will be paid against PHCs passing the QSI composite level indicators and 20% will be awarded for those PHCs further achieving the accreditation status. Each of the 600 targeted PHCs will undergo this entire process once and some of these facilities may require re-accreditation if they achieve the targets early. However, the process for reaching the 600 PHCs will be carried out in stages with batches of facilities passing the targets each year.

41. **Sub-component 1.2: Strengthen community health worker (CHW) program (US$8.5 million IBRD financing).** This sub-component will support achievement of results linked to strengthening the CHW program to improve health promotion and health education and thereby increasing overall awareness of the public about key health risks and prevention measures. CHWs will provide services using digital tools to deliver real time advice including referrals to higher levels of care. Intervention areas include maternal and child health (MCH), nutrition, encouraging the uptake of family planning, gender-based violence, awareness about NCDs and Hep C, as well as early childhood development at the household level. These activities will include gender-sensitive approaches. DLI 5 will be used to track results under this sub-component, as follows.

42. **DLI 5**: **Increased household visits by CHWs in target Governorates (US$3 million).** This will support improvements toward a strengthened CHW program focusing on better health promotion and health education messaging, focusing on topics related to family planning, nutrition, gender-based violence and Hep C or other identified priorities. The number of visits made by CHWs in targeted communities nationwide will be measured using program records at the PHCs to which CHWs are affiliated and subject to verification by IVA.

43. This sub-component will also finance, through expenditure-based disbursement, the following activities: (a) contracting additional 600 CHWs in project target governorates for the project duration – these CHWs will be retained by the Government subsequently through budget financing as it is the Government intention to gradually close the existing gap in the availability of CHWs; (b) training for approximately 2,800 CHWs as per the new guidelines developed under the new CHW strategy (2017); (c) procuring 2,800 mobile tablet devices that would enable the CHWs to capture real time performance data and provide instant feedback to queries raised by the community.

44. **Sub-component 1.3: Supporting health and family planning activities (US$35.1 million IBRD financing).** This sub-component will be financed using both DLI-based and expenditure-based disbursement. It builds on the successful lessons to promote healthy families as well as family planning under the previous project which supported the 9 Governorates in Upper Egypt. This sub-component will expand the scope of those interventions on a national scale to bridge the unmet needs for such activities in Egypt as discussed in the Context section above, with a focus on addressing both supply and demand-side issues. These interventions will include: (i) provision of institutional capacity strengthening and technical support for the National Population Council to better manage population growth and characteristics; (ii) conduct research activities to further strengthen population programs; (iii) contracting 500 family planning doctors to fill gaps in the provision of culturally appropriate care; (iv) supporting yearly national communication campaigns to deliver family planning messages and strengthening media messaging in public spaces (using different formats for men, women, youth and families, based on a thorough understanding of different needs and demands); (v) strengthening the "Al-Wesam Initiative" by providing one-time performance payments to health facilities offering family planning services in accordance with WHO criteria; (vi) supporting government supervisory visits to facilities; and (vii) procurement of select family planning methods and medical equipment (in complement with other donors and Government). These activities will particularly focus on PHCs in targeted areas with increasing total fertility, especially in rural areas and targeting poor households based on the social safety net program (Takaful and Karama) which has nearly one million females in the child-bearing age. Implementation will utilize available local Civil Society Organizations to complement public capacities. This will be done in close coordination with the ongoing multi-year family planning programming by the EU through UNFPA and USAID focusing on procurement, training, and community outreach by CHWs, nurses, and providers. DLI 6 will be used to track results under this sub-component, as follows.

45. **DLI 6: Increased contraceptive prevalence rate (US$3.2 million).** This will incentivize improvements in the contraceptive prevalence rate on a national scale through greater focus on family planning at the PCH level and through the active engagement of family planning centers to promote long-term contraceptive use.

46. **Sub-component 1.4: Screening for Hep C and risk factors for high burden diseases (US$134.3 million IBRD financing)**. The sub-component will support nation-wide mass screenings for an estimated 35 million people for Hep C and further 20 million people for blood sugar level, blood pressure level, and BMI as calibrated by age groups and geographic disease burden areas. The screenings will use the following modalities: (a) Community screening where more than 900 mobile teams will be deployed according to a prespecified plan set at the district and governorate levels for the various rural villages and urban neighborhoods. Each team consists of smaller sub-teams that would spread in a manner to manner to obtain optimal coverage of the intended geographic target; (b) PHC and hospital levels where continuous screening services will be provided for all visitors and inpatients; and (c) Categorical screenings that would cater for either specific geographic concentrations e.g. factories, offices, or events such as festivals, sports events, etc. A community mobilization campaign will typically precede the screening target area to generate demand on the screening activities. This sub-component will be mainly supported by through DLI. It also includes the procurement and use of 2,000 mobile tablet devices for the mobile screening teams that would enable them to instantaneously capture, transmit and interact with the national MOHP screening system. This activity will be financed using expenditure-based disbursement. The following two DLIs will be used to track the results under this sub-component, as follows:

47. **DLI 7: NCD screening (US$4 million).** This DLI will support screening of blood pressure, random blood glucose level and BMI activities. The DLI disbursement will be linked to the achievement of results in terms of the number of people screened as per the screening and referral protocol outlined in the POM.

48. **DLI 8: Hep C screening (US$129.6 million).** This DLI will support screening of the Hep C virus. The DLI disbursement will be linked to the achievement of results in terms of the number of people screened nationally at the community level, using the rapid test, and at PHCs and hospitals using the laboratory test and/or rapid test. For those who test positive at the initial rapid screening, a confirmatory Polymerase Chain Reaction (PCR) test will be administered to provide for a higher degree of certainty in their infection status and subsequent eligibility for treatment.

49. **Component 2: Strengthen secondary level care (US$274.6 million IBRD financing).** This component will strengthen the integration of services through enhancing procedures, logistics and operations that would empower hospitals to provide comprehensive quality services to the population residing in their catchment areas. Further, the component will finance the costs associated with accreditation activities as per the national accreditation guidelines for hospitals. The component will also enhance activities aiming at maintaining safe blood supply to the population to cut back on one of the highest sources of viral infection for Hep C. Lastly, the component will finance the costs associated with medical treatment of Hep C patients. While the majority of the funds under this component will be disbursed based on expenditures, given the nature of the investments required, this component includes one DLI (No. 9) to incentivize confirmation testing post treatment. This component will support the following sub-components:

50. **Sub-component 2.1: Providing for quality services at hospitals (US$94 million IBRD financing).** The goal will be to improve the quality of services in 24 referral hospitals (general and district hospitals) in the target 9 governorates. This sub-component will strengthen the continuity of quality care for patients treated at PHCs. Further, an emphasis on the quality of direct clinical care will be made and checked regularly through direct independent observational tool (scorecard). The accreditation will be carried out in accordance with the national 2013 Egyptian Accreditation Guidelines for hospitals which puts a substantial emphasis on measuring functionality in terms of process and outputs, as well as, measuring patient satisfaction with the provided services. The support will also make room for treatment of patients who have been screened for blood sugar and hypertension under the project. As per the roll-out plan of the CSHIS, twenty-seven hospitals have been identified in nine governorates under phases I, II and III of the roll-out plan representing the referral centers that are of urgent need for service quality enhancements. Through expenditure-based disbursement, the project proceeds will support hospitals with medical and non-medical equipment, medical and non-medical furniture, consumables, medicines, cleaning and safety personnel services, training of staff, and contracting needed capacities. Hospitals covered under the project will be encouraged to follow principles of self-autonomy during project implementation with direct oversight and hand-holding support provided from their respective GHDCs and the Project Management Unit (PMU). The POM will include detailed costed plans put forward by each hospital towards how it will implement activities that would improve the quality of services and achieve accreditation certification. The detailed procurement packages will be included in the annually updated project procurement plan.

51. **Sub-component 2.2: Improve the blood bank network (US$50 million IBRD financing).** This will finance selected investments needed to ensure safe blood supply at all public hospitals and facilities which comes as a major

pillar in the national strategy for the elimination of Hep C. The aim is to ensure nearly one million units of blood (60% of the national capacity overall) are, with a high degree of certainty, safe of most well-known infection agents (Hepatitis C, Hepatitis B, HIV and Syphilis). The MOHP affiliated National Blood Transfusion Services (NBTS) system will be supported in terms of:

a) Supplementing and replacing the current fleet of specially adapted blood donation and transportation mobile vehicles. 30 new blood donations and 15 blood transportation vehicles will be procured to support the ailing existing fleet. This will help increase the number of new blood units collected (non-remunerated) as per needs.
b) Extending the automated national blood banks networks into the last remaining 11 regional blood transfusion centers through supporting IT infrastructure and operability. This will ensure that all regional NBTS regional centers will be connected to the national network enabling the automated tracking of all blood units from the point of their collection to the point of their dispensing; which helps with: (i) elimination of human related error; (ii) electronic tracking of stocks; and (iii) provide data for management decision making in terms of qualitative, quantitative and geographic availability of blood units and components.
c) Boosting the NAT testing of all dispensed blood units. This is the industry's gold standard in ensuring that all dispensed blood units are free from major infective agents (especially viral). The NAT testing capacity will be strengthened by further supplying the regional and central NBTS centers with 23 NAT machines and their respective testing kits. Testing kits will be enough to process one million units of blood per year during project duration.

52. **Sub-component 2.3: Treatment of Hep C (US$130.6 million IBRD financing).** This sub-component will support the provision of treatment of an estimated 1.5 million patients, of an estimated 3-4 million total patients (depending on the number identified through screening). The government will finance remaining 1.5-2.5 million out of its own budget. Support will be provided towards the procurement and distribution of DAAs included in the treatment protocols approved by MOHP and aligned with WHO recommendations- any updates in treatment protocols will be pre-approved by WHO. Operational support (consumables, kits and administrative expenses) will also be provided to nearly 200 Hep C centers spread all over the country. These centers specialize in receiving patients who have tested positive in the initial screening tests (field or facility based) and who have also been confirmed for infection status using a suitable PCR testing methodology.

53. Hep Centers, in collaboration with their respective GHDCs, will be directly responsible for procurement of the needed medicines according to the World Bank procurement guidelines, and as specified in the project procurement plan. Preference will be given to those medicines which exhibit the following, in order: (a) medicines registered and allowed for use in the local Egyptian market; (b) medicine receiving WHO certificate of pre-qualification for the finished product or at least the Active Pharmaceutical Ingredient used in product manufacturing; (c) product having a proven track record of safety and efficacy in the local Egyptian context as proved through a study supervised/conducted and approved by WHO; (d) medicines produced under strict Good Manufacturing Practices (GMP) standards that are aligned with those of WHO.

54. This sub-component will also support all public hospitals at the national level (700) by providing Hepatitis B immuno-globulin which helps to protect the at high risk groups from infection risks with Hepatitis B following a hazardous post-exposure incident for health personnel or to prevent vertical transmission of disease (mother to child) in pregnant mothers. With no available cure and a national prevalence rate of only 0.8%, the current focus is to reduce

risk of exposure and administer post-exposure protection to the high-risk groups (excluding those below the age of 24 years who have been previously vaccinated through the national vaccination program).

55. **DLI 9: Increased confirmation testing post Hep C treatment (US$2 million).** This DLI will track the percentage of patients taking the confirmation test following treatment for Hep C, of the total number of patients treated under the project. It is critical to ensure that patients are confirmed as fully cured.

56. **Component 3: Institutional Capacity Building and Project Management (US$6.68 million IBRD financing).** This component will support the following:

i. **Project Management and Monitoring and Evaluation (M&E)**. This will include support for the PMU, training for MOHP staff, contracting IVA and financial auditors. The support to the PMU will involve supervision activities, contracting of additional required staff to the PMU and costs of holding supplemental working groups.

ii. **Institutional Strengthening**. To strengthen the institutional capacity of key relevant public-sector agencies, this component will provide selected technical assistance as well as research work on the roll-out of the CHIS and various project activities. Specifically, the component will:

   a) Comprehensive Health Insurance. Provide technical support activities, through contracting specialized technical consultancies, to strengthen institutional capacity and support quantitative and qualitative analysis which will inform the three newly created organizations responsible for implementing the new CHIS, namely: (i) Payer organization; (ii) Public Provider organization; and (iii) Accreditation/Regulator organization.
   b) Conduct three household surveys (year three, year four, and year five) to assess the impact of the CHWs program on various health awareness programs e.g. family planning, nutrition issues, gender-based violence and Hep C infection and control, etc.)
   c) Conduct five implementation research studies to evaluate different aspects of the national screening program for Hep C and NCDs.
   d) Conduct a yearly average quality of clinical care assessment for both PHCs and referral hospitals through an independent direct observational methodology.
   e) Conduct two population surveys to measure improvement in the use of family planning methods, and changes in fertility-related indicators
   f) Conduct a yearly patient satisfaction surveys to measure the progress of patient satisfaction in project target governorates as a result of project implementation activities.

iii. **A Technical Advisory Group (TAG) on Hep C and NCDs, to be established to disseminate lessons from this project globally.** Given the significance of Egypt's role as a global leader in the fight against Hep C and size of the NCD risk factors screening, the TAG will be formed to include leading experts from countries facing significant Hep C challenges and DPs who will act as an advisory board to analyze the experience gained under this project and provide strategic and technical advice to inform other countries on lessons learned from Egypt's experience. The TAG will meet annually, and be chaired by the Minister of Health.

57. **Component 4: Contingency Emergency and Response Component (CERC) (US$0 million).** This component, with a provisional zero allocation, would allow for a quick reallocation of resources within the total project financing envelope to boost the country's response in the event of a national health emergency. If triggered, paragraph 12 of the Bank policy for IPF, regarding "Projects in Situations of Urgent Need of Assistance or Capacity Constraints" would apply. There is a low to moderate probability that during the life of the project, Egypt would experience a natural or a man-made disaster, including a disease outbreak of high public importance or other health emergency. Triggers for the CERC will be clearly outlined in the POM acceptable to the World Bank. Disbursements will be made against an approved list of goods, works, and services required to support crisis mitigation, response and recovery. All expenditures under this Component will be appraised, reviewed, and found to be acceptable to the World Bank before any disbursement is made. A CERC operations manual will be included in the POM.

E. Project Cost and Financing

58. The project is planned to be implemented over a five-year period from the expected date of effectiveness, with a closing date of December 31, 2023. The lending instrument is an IPF of US$530 million provided under IBRD terms. The Government selected a variable spread loan with a total maturity of 35 years, including a grace period of five years.

59. The estimated project costs and financing are detailed in below. World Bank financing will consist of an IBRD Loan in the amount of US$530 million, of which US$211.3 million would be financed using DLIs. The GoE will contribute in parallel an estimated US$462.5 million which includes financing of equipment, supplies and operational costs (excluding salaries and other recurrent expenditures) necessary to deliver PHC and Hospital based care in the nine Governorates, operational costs related to screening for NCDs and Hep C, as well as those related to the operation of the national blood bank network. This figure has been estimated based on an analysis of existing expenditures and trends. Government counterpart funds constitute budget line items which are entirely separate from those to be financed using the DLI modality.

Table 4. Project Financing Breakdown (US$ million)

Project Components	Total Project cost	IBRD Financing	Counterpart Funding
Component 1: Strengthen Primary Healthcare, Family Planning and Community activities	571.9	247.4	324.5
Component 2: Strengthen secondary level care	412.6	274.6	138
Component 3: Institutional Capacity Building and Project Management	6.68	6.68	0
Component 4: Contingency Emergency & Response Component	0	0	0
Total Costs	**991.18**	**528.68**	**462.5**
Front End Fee	1.32	1.32	
Total Financing Required	**992.5**	**530**	**462.5**

60. An estimated 40% of IBRD disbursements will be linked to verified achievement of DLRs, each of which support DLIs directly linked to the achievement of the PDO (see Annex 1 for details). The DLI modality is primarily used under Component 1 (DLIs 1-8) while Component 2 includes DLI 9. Disbursements against DLRs will be (a) contingent on the satisfactory achievement of the set targets, as verified by the IVA; and (b) against selected key MOHP budget line items, referred to as the Eligible Expenditure Program (EEP). The EEP includes sizeable recurrent expenditures under chapter 1 of mainly salaries and wages, but also including other recurrent expenses of the budget allocated to MOHP and its affiliated entities (see Table 5 below). Recurrent training cost budget line items will also be included as part of the EEP. The project includes 9 DLIs with annual results targets over 5 years, for a total of US$211.3 million. Each DLR target is priced at a value that reflects its significance in the results chain and that incentivizes the achievement of the respective result. The WBG financial management guidelines will apply to the selected EEPs underlying DLI financing.

Table 5. Budget Items and Budget Codes

Description	Budget Codes
Recurrent expenditures	**Chapter 1:** Salaries and wages (21100000) **Chapter 2:** • Electricity and water (21210700) • Transport (21220406) • Travel cost (per diems & travel expenses) (21220403) • Communications (21220500) • Rent (21220600) • Other recurrent costs (21221000) • Other recurrent costs goods (21210806)
Training expenditures	(21110318) Chapter 1
	(21220902) Chapter 2

61. The selected financing modality, which includes both results-based financing as well as expenditure-based financing is an appropriate instrument to support the Government's objectives and is based on the experience gained under the previous Bank-financed project which was successfully implemented as results-based approach at the PHC level. The IPF with DLIs will support the achievement of the government's priorities in the best way possible, allowing for both types of approaches under a single operation. The proposed approach to be used under the project is a fit-for-purpose to meet the urgent needs of the government, particularly with respect to Hep C and the needs to begin the process of upgrading and augmenting the healthcare system to meet the needs of the population. The use of IPF with DLIs will allow to define important benchmarks of progress in the implementation of the CHIS and to release the funds, reimbursing project expenditures, to achieve that strategy. This is expected to greatly enhance the ownership of the project by the MOHP and its incentive to achieve results. The selected DLIs are all critical in meeting the CHIS objectives as well as the ultimate objective to eliminate Hep C. The Program-for-Results was explored as an alternative; however, it was not found suitable because the Government's multi-phase program to implement the CHIS is currently being defined.

62. **Retroactive expenditures.** The project includes a provision for retroactive financing of the expenditures up to US$30 million with respect to the EEPs incurred under Components 1 and 2 to achieve a number of critical initial DLIs, as well as project management expenses under Component 3, for expenditures incurred between September 1, 2017

and the date of signing of the Loan Agreement (expected no later than August 2018). An IVA will be appointed in time for verification of the completion of the DLIs for the retroactive financing to be valid and accepted by the Bank.

III. IMPLEMENTATION

A. Institutional and Implementation Arrangements

63. The MOHP will be the main implementing agency for the project and will house the PMU that will be in charge of all day-to-day operations and coordination with all relevant agencies, governorates and districts. The PMU will also be responsible for overall fiduciary activities, documentation, procurement of goods as well as contracting consulting and non-consulting services, monitoring & evaluation and reporting to the MOHP and the World Bank on all aspects of project implementation. The PMU will include the Project Manager (who is presently an official of the MOHP), relevant staff of the MOHP responsible for the various parts of the project (including staff from the Minister's office, Primary Care, Hospitals, Preventive & Hep C, Financial and Administrative departments), and a number of external consultants who will assist the MOHP in areas of M&E, FM, procurement, safeguards monitoring, verification of results, audits, and technical expertise to support the roll-out of the insurance system. A Ministerial Decree no. 142 (dated March 24,2018) was issued to create the project specific PMU for project preparation and implementation period. As part of its responsibilities, the PMU will be preparing and submitting semi-annual progress reports to the Bank that, inter alia, provide detailed reporting on project progress by components, procurement, FM, verification reports received from independent verification and environmental and social issues. In addition, an annual external audit, combining both technical and financial audit components, will be conducted to ensure the appropriate use of funds and to monitor physical progress in the targeted activities and governorates. The detailed roles and responsibilities of the PMU staff will be detailed in the POM acceptable to the Bank. The POM is expected to be completed prior to project implementation and will be adjusted during implementation to reflect any changes made, either in design, implementation arrangements, or fiduciary oversight.

64. **A Steering Committee (SC) will be responsible for overall project stewardship and oversight.** The SC will be headed by the Minister of Health and Population. The SC will include representatives from: (i) sector heads of the Minister's cabinet, Primary Care, Hospitals, Preventive Sector and Family planning sectors (ii) representatives from ministries of International Cooperation and Finance; and (iii) PMU manager. It will be tasked with resolving serious implementation bottle-necks, reviewing implementation progress, deciding on policy-relevant issues and approving the planned activities for the following period. The SC will meet at least on a bi-yearly basis or whenever called upon by the PMU manager. The SC should have the final decision on project course adjustments after consultations with the Bank team. The exact duties and responsibilities of the SC will be detailed in the POM.

65. **TAG on Hep C and NCDs.** The scale and impact of the project supported activities for screening and treatment of Hep C and screening for NCD risk factors are largely viewed as a global public good. The project is expected to yield substantial new evidence and lessons as well as having direct and indirect consequences on global prices of Hep C medicines and screening tools. Therefore, the project supported TAG will be -chaired by the Minister of MOHP. The World Bank and WHO will be members, along with global experts and representatives from countries with high Hep C burdens. The TAG will meet annually. The TAG will serve as a platform for dialogue and will be tasked with the following: (i) providing advice to the project SC and the PMU on relevant updated evidence-based screening and treatment protocols; (ii) reviewing project generated evidence and its potential global implications; and (iii) advising on additional implementation research. All decisions and recommendations stemming from the TAG will be submitted to MOHP for public disclosure.

66. **Governorate Health Directorates Committees (GHDCs) will be strengthened at the level of the respective Governorate Health Directorates targeted under the project.** These committees will be tasked with reviewing progress, providing District Health Offices (DHOs) and hospitals within their respective Governorates with the needed oversight, coordination and technical support during implementation period. The GHDCs include directorate level staff mirroring the respective sectors involved in project implementation. The GHDCs will meet monthly and will report to the MOHP and the PMU with project implementation progress and decisions. The composition and the Terms of Reference (ToR) of the GHDCs will be described in the POM.

67. **DHOs will be responsible for direct control of implementation for its affiliated PHCs and related community-based activities**. Adequate fiduciary training will be supported under component 1 of the project to serve this purpose. Hospitals included under the project will enjoy full autonomy for project related activities with direct reporting to their relevant GHDCs and PMU. The NBTS will be responsible for project activities implemented within the central and peripheral affiliated regional blood transfusion centers for all financial, procurement and administrative activities.

68. **Screening activities will be carried out in different modalities.** Nationwide screenings for Hep C and NCDs will be carried out through: (i) Mobile teams at the village and neighborhood levels, whereby each team will have a suitable number of sub-teams that spread to cover the geographical area of intended village and/or neighborhood using rapid tests; (ii) PHC and hospital levels whereby is fixed and is offered in a continuous basis using either rapid or lab based testing; and (iii) Targeted campaigns for remote areas, categorical groups (e.g. factories, office complexes, etc.). The detailed screening plans, team compositions, tests used will be described in detail in the POM.

69. **The World Bank will provide continuous implementation support.** The Bank team will provide regular supervision missions to ensure that the PDOs are met and that the RF and independent verification of DLIs are adequately measured. Further, the Bank team based in Cairo will be providing support on various project aspects, especially on technical, safeguards and fiduciary issues.

70. **Citizen engagement is embedded in the project design and will be implemented through:** (i) gender differentiated consultations; (ii) mechanisms to assess patient satisfaction; (iii) the establishment and/or strengthening of GRM; and, (iv) the dissemination of a patient's rights charter and citizen charters (publicized service standards) at various levels. Several consultations will be carried out at primary and secondary healthcare facilities, with both service providers and service users, and sectoral NGOs. Mechanisms such as citizen satisfaction surveys will be used to monitor service delivery performance and implement corrective measures for service failures. The MOHP has an existing GRM, building on prior activities financed under the recently closed HQIP. While the MOHP has a system in place, its effectiveness varies widely across governorates and levels. The existing GRM system will be strengthened through the roll-out of a User's Guide with standardized procedures and forms, and will include training for frontline staff.

71. **Follow-up consultations will be conducted during project implementation**. These mechanisms will primarily help communicate the needs of patients, staff, officials, and other stakeholders to the relevant levels of the MOHP for review and action. Additional activities supported by the project, particularly for provision of data on primary and secondary healthcare facilities, are expected to further enhance participation of, and accountability to, health system stakeholders. How feedback will be analyzed and considered in the government program was agreed upon during project preparation.

Since citizen engagement and participation of project beneficiaries are crucial to the success of the program, one of the indicators under the QSI list is linked to stakeholder participation and grievances.

B. Results M & E Arrangements

72. The project will be monitored and evaluated based on the systematic use of data, indicators and targets set out in the attached RF and DLIs verification protocol. The PMU will have a dedicated M&E staff who will be responsible for: (a) regular data collection, analysis of data and regular reporting on the status of the RF indicators; (b) managing the IVA responsible for the independent verification of DLI achievement; (c) contribute to the semi-annual Progress Report for the Bank which would include updates on the latest progress against RF indicators as well as DLIs; and (d) operational research for learning and disseminating lessons from the project. The project will also use the regular existing MOHP information in terms of clinical and utilization data. Community and primary care level aggregated at the district and subsequently at the governorate level will be monitored on a monthly basis to track progress and infer evaluations. Hospital data will be tracked directly for each hospital. As for national level screenings, data will be tracked through their automated systems and disaggregated as per need. A detailed M&E system and plan will be developed and included in the POM. The M&E system will provide for a feedback loop to other members of the PMU to help with implementation course adjustments. The ministry staff at the central, governorate and district level will also be supported to carry out implementation support and supervisory missions to various facilities supported under the project.

73. Under Component 1, the automated national screening reporting system as well as the automated CHW automated system will be strengthened to provide real-time accurate data for monitoring progress and provide for relevant patient referral. Under Component 2, the automated systems for the NBTS will be extended in the last remaining 11 regional centers to provide adequate monitoring of all blood units supplied through the public facilities on the national level. The support to the automated systems will provide for evidence-based real-time data for managerial decision making and patient tracking. Under Component 3, the project will support: (a) baseline, midterm and end-line evaluations by the independent IVA; (b) impact evaluations and field studies; (c) two population surveys; and (d) three household surveys on the impact of improved CHW services in relations to family planning, nutrition, gender based violence, Hep C and NCDs.

74. **Verification of DLIs**. The project will finance the services of the IVA which will have the necessary level of independence from project implementation, and the credibility and authority to lead the verification process. The IVA will verify results achieved at the PHC, hospital level and the work of mobile teams and CHWs through the random sampling of data. The verification arrangement will be subject to continual review. The verification will involve tasks at three levels: (i) reviewing evidence at the central government level that certain actions and processes have taken place; and (ii) applying the existing MOHP quality audit methodology as well as IVA verification processes at the PHC and hospital levels. In addition, the IVA will need to verify progress made in screening for NCDs and Hep C as well as increased used of the confirmation tests post treatment; and (iii) tracking the awareness of the population as a result of CHW work. Specifically, DLIs No.1 and 3 reflect actions/processes and will be verified based on administrative reports from the MOHP. DLIs No.5, 7 and 8 reflect outputs related to improved service delivery capacity in terms of screening resources, requiring data to be reported at the PHC level and at the Hep C centers in hospitals. DLIs No.2, 4, 6 and 9 measure improvements in the quality of services delivered and utilized, which will similarly require data reported at the PHC level and hospitals through the government's health management information system as well as site visits by the MOHP Quality Department staff to track awareness of health risks and satisfaction with services.

IV. PROJECT ASSESSMENT SUMMARY

A. Economic and Financial Analysis

75. The project aims to improve the quality of the healthcare services and thus, improve the health status of the project beneficiaries, in general. Improving health has a broad positive effect on the social and economic wellbeing of the country. The effects could be observed through higher labor productivity, demographic changes and educational attainment. Furthermore, poor health generates economic complications for Egyptian families, where an illness in a family with no savings can force its members into hardship or even extreme poverty. In addition, better health status is linked to better education with lower absenteeism and improved cognitive performance.

76. The Cost Benefit Analysis (CBA) aims to weigh the benefits and costs of a large-scale investment in the Egyptian healthcare sector. It proceeds from an intervention logic that increasing the quality of care in the targeted PHC units and hospitals would lead to a decrease in morbidity, maternal and infant, Hep C and NCDs related mortality. Societal perspective is employed based on a time horizon of twelve years with an optimistic seven percent discount rate (see Annex 4). Almost 90% of the project benefits are owed to the screening and treatment of Hep C, a national priority supported by the project. The estimated savings of the project total US$4.4 billion, reflecting gains from reduced morbidity, maternal and infant mortality, Hep C and NCDs mortality. Additionally, the project is investing in controlling population growth by stimulating the family planning demand, which is estimated to yield a return of US$600 million as government savings while offering public services to a smaller population base. The overall Internal Rate of Return (IRR) is calculated at 54% with a Net Present Value of US$2.29 billion. This calculation is based on relatively conservative assumptions and yet the cost-benefit ratio is estimated at 5.7. Moreover, the project benefits outweigh the NPV of the costs for all the discount rates as proved in the sensitivity analysis.

B. Technical Soundness

77. The soundness of the overall design of the project is reflected both in its alignment with country health priorities and political commitments and in its incorporation of lessons learned and recommendations from recent work and global experiences.

(i) Alignment with key needs and priorities: In 2015, the Bank analyzed key barriers to improving Egypt's health system performance and enhancing equitable health outcomes for poor families, children, and women. Both the need to eliminate Hep C, the need to improve quality of health services at the first and second levels of care and to reverse the increasing trend of fertility rates were found to be top priorities. The political commitment to eliminating Hep C in Egypt, which is felt at the highest levels of government, is expected to drastically reduce the burden of disease resulting from chronic infections. Another key milestone in health system governance, the passing of the CHI Law last year, along with the commitment to eliminate Hep C, opens a unique window of opportunity to improve health system performance by investing in improving the quality of health services in the public sector. Egypt also relies on utilizing its population dividend and reduce the alarmingly population growth rate for it to reap the fruits of any economic reforms.

(ii) Leveraging successful implementation strategies: The soundness of the project design is further supported by successful strategies that have achieved concrete results in the country over the past two years. The launch of Egypt's Elimination of Viral Hep C Plan, and systematic investments in quality improvement at MOHP facilities, both of which were financed by the Bank and conducted by the GoE, have begun the transformation of

key aspects of health system performance. Moreover, the project's approach to quality improvement aligns with ongoing work the Lancet Commission on High Quality Health Systems, which is developing recommendations focused on improving quality of care in low and middle-income countries. Among the Commission's initial recommendations is that health systems should focus on measuring a targeted set of quality metrics, including what service providers do (relative to standard guidelines) and how patients perceive the care they receive, to ensure that countries are making progress toward providing effective coverage for their citizens.

78. Below is a brief review of the main reasons for the soundness of the project's technical design and targets.

Screening, treatment and control of Hep C and selected NCDs

79. The project supports the prevention and control of Hep C by building upon the lessons learned and success of the National Viral Hepatitis Plan (NVHP) 2014 - 2018, which the Bank helped finance and augment through rigorous additional technical work in the last two years. The NVHP 2014-2018 developed sound strategic goals and policies for eliminating the disease in Egypt, drawing upon technical advice and endorsements from the World Bank, as well as of the WHO and other international and national organizations and experts. Furthermore, the government demonstrated its capacity to conduct large-scale, community-based screening activities, reaching roughly five million people in just one year. The proposed project is designed to take full advantage of the existing resources and planned expansion of logistics and infrastructure for mass screening and treatment of Hep C.

80. Given that there is a strong political commitment from the highest levels of the GoE and a demonstrated institutional capacity to screen and treat large populations, the team deems that it is technically and financially feasible to support a nation-wide rapid expansion of the Hep C screening process at a national scale. Therefore, the project design will focus on linking disbursements to results. Using indicators, milestones, and targets based on the experience of the first years of the Hep C elimination interventions, the project has designed a set of DLIs to disburse against independently verified results. The project also includes substantial financing to support M&E and verification processes to closely monitor project implementation, which will allow for early identification of needed implementation changes or areas for additional technical support, including technical assistance.

81. Taking advantage of the infrastructure, human resources, and logistics planned to be deployed for the elimination of Hep C, the project will also finance the introduction of mass-scale screening for diabetes and hypertension, which are leading drivers of Egypt's burden of NCD. Relevant quality improvement activities at the first and second levels of care, and additional resources such as medicines, will also be financed by the project. Based upon the results of these efforts, and working closely with stakeholders, a long-term plan will be developed for the eventual inclusion of screening as part of the preventive package of services covered by health insurance.

82. The screening outcomes projected using the latest prevalence rates of the hypertension and diabetes in Egypt provide a solid evidence that controlling the NCD will not burden the public system which consists of 5200 PHC units and 700 hospitals; NCD screening and treatment for the population aged 35+ are estimated to cost the government a total of US$76 million (US$19 million per year). The Diabetes/ Hypertension screening unit cost is estimated at 0.20 cents, therefore, screening 30 million people (Nationwide aged 35-100+) will cost nearly US$6 million of which project will provide two-thirds of the required funding to screen 20 million people nationwide while 10 million people will be screed using government sources (US$2 million). Moreover, while the project will finance the screening for NCDs, the Government will need to finance the treatment of Hypertension and diabetes at the Public facilities, estimated at a total of US$74 million.

83. A nationwide mass blood pressure screening for the population aged above 35 is expected to result in 5.5 million mild[15], 1.6 million moderate, and 0.7 million severe hypertension cases (EDHS, 2014)[16]. Thus, the government would need to treat the previously undiagnosed moderate and severe hypertensive patients (1.5 million). Among these patients, 30% are covered by the Health Insurance Organization (HIO) and another 30% are covered by the Program for Treatment on the Expense of the State. Thus, the remaining 585,831 nation-wide patients would require a treatment at public facilities for a 4-year period with a total cost of US$28 million (US$7 million per year)[17]. This would only cost the government US$24 million (US$6 million per year) as the project would provide two-thirds of the required funding to screen 20 million people nationwide and to treat moderate and severe hypertensive patients in the 9 governorates at the hospital & PHC level with a cost of US$4 million (US$1 million per year).

84. Likewise, a nationwide mass blood sugar screening for the population aged above 35 is expected to result in 5.7 million diabetic type 2 patients of which 2.5 million are likely to be previously undiagnosed and would require interventions. Among them, 30% are likely to be covered by the HIO, another 30% are covered by the Program for Treatment on the Expense of the State. Thus, the remaining 980,400 diabetic nation-wide patients would require treatment at public facilities for a 4-year period with a cost of US$59 Million (an average of 15 million per year)[18]. This would only cost the government US$50 million (US$13 million per year) as the project would provide two-thirds of the required funding to screen 20 million people and treat diabetic T2 patients in the nine Governorates with a cost of US$9 million (US$ 2.2 million per year). Moreover, the project will fund a mass screening for BMI with the goal of promoting a lifestyle modification and aid in preventing the prevailing cardiovascular diseases. According to the key findings of the STEPS NCD Risk Factor survey (2012), among the 30 million people, 19 million are likely to be over weight (BMI ≥ 25) and 9 million are likely to be Obese (BMI ≥ 30).

Improving quality of health services at the first and second levels of care of public system, as well as family planning

85. The project's focus on improving quality of care in PHC facilities and referral hospitals is strongly aligned with global best practices. As noted above, the Lancet Commission has noted that processes and outcomes at PHCs and hospitals in many LMICs are often lacking, with limited integration between levels of care leading to poor management of complex or chronic conditions. Moreover, international evidence suggests that the most efficient and effective way to transforms health systems and pave the way for UHC is by strengthening services at PHC facilities and referral hospitals. Successful experiences emphasize improving household outreach and shifting paradigms from mostly curative, inpatient-based care to health promotion and prevention. This project aligns with such experiences by expanding the role of CHWs, embedding screening within the primary health system, and enhancing system's capacity to absorb new patients. As part of this focus on prevention, the project also makes substantial investments in key areas such as blood bank safety to reduce the risk of transmission of various diseases. These investments will complement other Hep C elimination interventions, improving care not just for high-risk groups but also for the general population. Lastly, a shift from an input support to a more focused demand creation on family planning services would accelerate the efforts to achieve the optimal desired balance between population and economic growth rates.

[15] WHO recommends initiation of drug treatment in patients with blood pressure above the mild hypertension range where Lifestyle modification with follow up can be the only therapy (WHO, 2006).
[16] Mildly elevated (stage 1): Systolic 140-159 / Diastolic 90-99, Moderately elevated (stage 2) Systolic 160-179 / diastolic: 100-109 and Severely elevated (stage 3) Systolic ≥180 and diastolic ≥110.
[17] This is arrived to by estimating the treatment cost per capita at 12 US$585,831 x US$12/per year x 4=US$28 million.
[18] This is arrived to by estimating the treatment cost per capita at 15 US$; 980,400 x US$15 x 4 = US$59 million.

86. The Lancet Commission and other prominent groups, including the Institute of Medicine, have also stressed the importance of measuring quality to improve health system performance. The Lancet Commission has developed preliminary recommendations calling for a "parsimonious" set of indicators that prioritize clinical standards, patient experience, and outcomes, and for investing in country data collection and analysis capacity. The Bank's support for accreditation of PHCs and hospitals aligns with these goals. Under the proposed project, the Bank would support accreditation activities assessing adherence to international standards and guidelines; capture information on patient experience through monitoring activities; and build capacity within the government to undertake appropriate data collection and analysis to monitor health system performance.

C. Lessons Reflected in Project Design

87. The project design is based on key lessons learned from the global experience in addressing quality of care, the approach to prevention of NCDs as well as lessons from previous Bank-financed operations, including the experience from the most recent Bank financed HQIP which closed in June 2017. These lessons have been incorporated in the design of the proposed new operation, as follows:

88. Improving and measuring quality of care is a multi-faceted process. Global evidence increasingly suggests that supporting inputs alone does not guarantee quality improvement. Studies in many countries have found that there is often a low correlation between well-stocked facilities and healthcare workers providing care according to recommended clinical guidelines.[19] Accordingly, global best practice calls for measuring quality through multiple domains, including structures, care processes, and outcomes, using appropriate tools to monitor each domain. Moreover, quality should be measured frequently and at regular intervals to ensure that quality improvements are maintained. The proposed project reflects these considerations by measuring quality across multiple domains (including clinical processes of care) with appropriate tools and metrics, at well-defined intervals, in accordance with international recommendations and expert consensus.

89. The project includes interventions on NCD screening to address high burden of cardiovascular diseases and diabetes. Global evidence suggests that hospital based care has played a much smaller role in the prevention and management of NCDs than is commonly thought. PHCs and CHWs can play a critical role in addressing the growing NCD burden by screening for key risk factors and raising awareness about these conditions to improve overall health management. Therefore, the proposed project includes NCD screening by mobile teams which will also screen for Hep C. In this way, NCD screening would be a positive synergistic side-effect of Hep C screening, which is an opportunity provided under the project and highly supported by clinical evidence.

90. **Government commitment needs to be translated into concrete measures to ensure effective implementation**, including strong top and middle level leadership for project oversight, coupled with a dedicated PMU team, composed of Government staff and external consultants who have an explicit mandate to work on the project. This was certainly the lesson learned under HQIP with the intense involvement and stewardship from both the Minister of Health and the Project Manager that enabled the restructured project to be implemented in a record time, with almost full disbursement. The

[19] Leslie HH, Sun Z, Kruk ME (2017) Association between infrastructure and observed quality of care in 4 healthcare services: A cross-sectional study of 4,300 facilities in 8 countries. PLoS Med 14(12):e1002464.

design of implementation arrangements of the proposed project, therefore, specifically includes a provision for a strong PMU established within the MOHP with key staff already appointed in various MOHP departments to lead relevant parts of the project as well as many highly trained professional (contracted staff) to mainly focus on the core fiduciary and monitoring functions. These contracted staff will be in place latest by project approval. Notably, the MOHP Minister has already signed a decree formally establishing the PMU, both for preparation and implementation. The project will also include strengthening of DHOs which will have a primary role in project implementation as well as Governorate Health Directorates Committees (GHDCs) that will oversee project progress and provide the necessary technical support during implementation. Details on these arrangements are provided in the relevant section below. The proposed arrangements will also address another lesson of ensuring that the complexity of project design is commensurate with existing implementation capacity. In this case, there will be clearly defined roles and responsibilities for each component and sub-component.

91. **Legislative and regulatory framework must be in place.** The previous project suffered from major delays, in large measure, because the CHI Law was not passed while the project was meant to support the implementation of a system to be provided under the law. By contrast, the proposed project will be implemented within a mandate provided under the CHI Law which was passed in December 2017 to support the Government's 15-year strategy which will begin its official implementation starting in July 2018. Accreditation of health facilities which the project will support in nine governorates is a requirement for these facilities to enter into contracts with the new insurance agency.

92. **Decentralized implementation works effectively and achieves results**. This was the experience under HQIP where support was provided to improve the quality of services at the 1,000 PHCs, managed at the district level that allowed for rapid implementation and surpassing targets. Also, UNICEF provided key support to ensure improvements in quality by using a set of operational and clinical indicators which were followed by facilities and verified. The proposed project expands on this experience of decentralized implementation and on the piloted quality improvement program supported by UNICEF. Under this project, an agreed set of quality indicators would be used to track quality improvements at PHC and hospital levels as a pre-requisite to the formal accreditation process which is also an important lesson from projects implemented in other country settings where it was found that accreditation alone cannot guarantee quality improvements.

93. **Rapid screening and treatment is possible for Hep C**. The experience of HQIP and that of the GoE has shown that national health commitments at the highest levels can be implemented rapidly. Under HQIP, 1.6 million people were screened and 35,000 treated within a 4 months period. This was also financed using a per capita approach and the same will be applied under this project through under DLI 7. To make this possible, the project will support the existing 800 Hep C mobile teams across the country as well as through the PHC and hospital based screenings and will provide support to Hep C Centers.

94. **In fragile settings, expectations for fast and successful implementation and project timetables should be realistic. Also, flexibility by the Bank is critical to the success of projects and to the Bank's ability to sustain a longer-term dialogue.** These lessons have been at the forefront of the thinking of the Bank and that of the MOHP. To ensure that past mistakes are not repeated, the Bank has engaged closely with all relevant Government counterparts in preparing a detailed cost table, the procurement plan, the DLI Matrix and the RF and have discussed in detail whether the project timetable is realistic so that maximum transparency and preparedness are ensured. The Government and the Bank have

committed to remaining focused but flexible and will continue to work closely to maximize efficiency while maintaining the necessary technical quality of the project design. s

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D. Fiduciary

Financial Management (FM)

95. The project will be implemented by the MOHP through a dedicated PMU. The PMU will be responsible for the day-to-day implementation of the project, including coordinating the achievements of DLIs and other implementation activities with the other units and directorates within the MOHP. It was agreed to create a mechanism to incentivize and reward those MOHP staff who are affiliated to the Implementation Directorates and Units. For this mechanism to be eligible for World Bank financing under the Project, clear guidelines and provisions should be included in the POM and agreed with the World Bank. This mechanism should be fair, efficient and transparent. It was agreed that a ministerial decree will be issued to second, from MOHP finance department, fully dedicated staff to the PMU. Also, it was agreed to appoint an experienced FM consultant according to a ToR acceptable to the Bank to work, train and transfer knowledge to the appointed staff. The PMU director will be responsible to formally evaluate the performance of the seconded staff.

96. The PMU will develop and maintain a POM which will clearly show the staff reporting system in the project and will indicate the separation of responsibilities among staff in the PMU, including the authorized signatories to the WAs, safeguarding assets, record keeping, monthly account reconciliation, etc. The manual is a living document and hence will frequently be revisited and amended to reflect the actual activities of the PMU.

97. One of the activities to be implemented under the umbrella of the project is the establishment of an automated accounting and financial management information system (FMIS) as a pilot which can be replicated at a later stage by MOHP. The system output and the related levels of details which to be generated by the system are to be tailored to the client needs. The envisaged system will be compatible with the current HRMS and PMIS.

98. The fiduciary systems underlying the Health sector's activities are governed by Egypt's laws regulating the state budget, government accounting, and procurement. The annual budget calendar largely provides for orderly and timely budget formulation and appropriation. The enacted state budget and final account reports are made public. A predictive control system is implemented by MOF financial controllers stationed in accounting units of all line ministries. Accounting units across the central government use a FMIS to record budget allocations and modifications, and to execute the budget. MOF has confirmed its plans to complete the automation of the FMIS by end of March 2018, and issued directives no. 2/2018 and 3/2018 with additional instructions on implementation mechanisms and controls in this regard. Monthly budget execution reports detailing expenditures and revenues are produced by budget entities and submitted to the MOF's Final Accounts sector within 10 days after the end of each month. Annual final accounts are produced and audited within six months of fiscal year-end.

99. The project will be implemented using IPF with DLIs, described in this document. The DLIs will be verified by an independent third party (entity/consultant), to be contracted by the government. Meanwhile, the eligible expenditures will be reported semi-annually to the World Bank through Interim Financial Reports (IFRs), whose design and content will be agreed with MOHP, as well as through an annual external audit. The proposed list of eligible expenditures comprises recurrent expenditures under Chapter 1 (salaries and wages) allocated to the ministry and its affiliated entities. Salaries

and wages of each MOHP directorate are reinstated/amended at the beginning of each fiscal year. On an annual basis, and according to article 19 of the general endorsements associated with the Egyptian National Budget, the Human Resources Departments in each directorate requests from the Central Agency for Organization and Administration (CAOD) approval on the numbers, degrees and required funds for its workforce. Upon approval of such request CAOD informs MoF to allocate the approved funds to the requesting units. Directorates can, throughout the fiscal year, request to reduce the allocated funds for salaries and wages; this is based on departure of employees or termination of employment. MoF transfers the requested funds under chapter 1 to the directorates and currently all employees are paid through electronic banking.

100. Given the focus on eligible expenditures only, the key FM risks include the lack of sufficient assurance/due diligence regarding other parts of the program-related expenditures; the payroll controls given the massive and extended nature of the health wage bill, the verification of DLIs, the funds flow, and the sustainability of financing the reform program. The main mitigating measures include the accurate definition of the project scope and funds flow arrangements; focusing on payroll controls in carrying out the internal audit function and in the scope of the project's external audit TOR, and hiring an independent qualified third party to verify the achievement of DLIs.

101. **Eligible expenditures.** While the DLIs were crafted to ensure that reform actions are progressing and systems are developed and functioning, the corresponding eligible expenditures are largely geared to Chapter 1 and 2 budget lines. Therefore, a main challenge remains to be the extent of comprehensiveness and relevance of such selection. Securing the appropriate capacity to undertake this challenging task and its administration competitively and transparently are critical measures for proper governance, effective delivery and quality outputs.

102. **Implementation roles and responsibilities.** The envisaged PMU will be responsible for all day-to-day operations and coordination, including overall fiduciary matters, procurement, monitoring, evaluation and reporting. It will coordinate the achievement of DLIs with the other units and directorates within the ministry. In addition to the challenging coordination role, the various involved units and directorates need to be motivated to deliver on their respective DLIs. This entails a successful communication strategy, change management process, and incentivizing those departments in charge of implementation and achievement of results.

103. **Stakeholders' interests.** The government reform program offers a combination of opportunities and threats to different health sector stakeholders. The project fits in the country's vision to achieving a universal CHIS.

104. **Funds flow.** The proceeds of the loan will be transferred to a Designated Account (DA) which will be opened in a bank acceptable to the Bank. The project will use the DA mainly to manage the financing of expenditures under the IPF component(s). The DA will be denominated in the US dollar and will be used for the sole purpose of implementing the project activities. With the rolling out of electronic payments for all government expenditures through the Treasury Single Account (TSA), payments are now taking place through e-payment requests by the disbursing entity to the central payments unit at the Ministry of Finance. The DA payments must be segregated, traceable, reconcilable and subject to financial audits.

105. For the project eligible expenditures incurred through the state budget, the Bank will reimburse these expenditures per the assigned values corresponding to the DLIs achieved with every verification cycle unless the amount

of such eligible expenditures at the end of the cycle is less than the DLI values. In that case, the Bank will cap the reimbursement to the amount of eligible expenditures. The reimbursement of eligible expenditures will be directed to the government budget account advised by the Borrower.

106. **Accounting and reporting.** The envisaged expenditure list is largely geared to Chapter 1 and 2 budget allocations. One of the activities to be implemented under the umbrella of the project is the establishment of an automated accounting and MIS system as a pilot which can be replicated at a later stage by MOHP. The system will be designed and tailored for the project and will can generate the semiannual Interim Financial Reports (IFRs) and Annual Project Financial Statements Reports (PFSs) required under the Loan Agreement. The project will use the cash basis of accounting and maintains its books of accounts.

107. **The Human Resources Management System (HRMS)** would be broken down into the following:

- Staff Appointment Information System: PHC Units and Hospital's Staff and Contracted Staff Information and Remuneration Information System,
- Health Practitioners' and CHWs Specialization/Degree/Accreditation and Registration (doctor and health practitioners' data bank)
- Training Information System
- Practitioners' Tracking & Mobilization System

108. An HRMS accelerates flow of information between the Ministry of Health and the directorates at the local level, and assists with determining immediate needs by monitoring the services units' human resources capabilities and performance

109. **Pharmaceutical Management Information System (PMIS).** The existing medicine requisitioning system should be upgraded to link barcode numbers of medicines subscribed by medical practitioners and dispensed by pharmacies or PHUs enrolled in the program, to patient national IDs and health insurance numbers. The system should be able to feed the project's FM system with information on costs of medicines procured, medicines dispensed for patient use or medicines that cannot be used by patients and must be discarded. The system should provide medicine dispensing facilities with names of products that can dispensed as a replacement of a product that is out-of-stock. The PMIS should be ideally linked to an e-prescription system.

110. **Internal control.** The MOHP expenditure control system is regulated by the national laws, policies and procedures. Given the extensive volume of salaries and wages financing under the project, a general review of the payroll system and applicable controls will be conducted by the Bank. Ex-ante review is consistently exercised by the assigned financial controller (representing the MOF) who is typically assigned as the second signatory to payments issuance. The complete automation of the records of all accounting units using the FMIS should help apply further controls on budget commitments. Salaries and remuneration breakdowns are governed by local laws and ministerial decrees regulating financial rules applicable to staff compensation. Monthly payroll payments are prepared based on staff records established and maintained by the Personnel Affairs department. All financial and administrative records are subject to internal review and inspection by the Financial and Administrative Supervision department. In addition, external oversight is conducted by the Central Audit Agency as well as the Central Agency for Organization and Administration. The ToR for the annual external audit will also ensure a thorough review of the payroll controls and reporting thereon.

111. **Auditing.** The PMU will appoint an independent external auditor according to a ToR acceptable to the Bank. The auditor will be responsible for auditing the project annual financial statements and review of the semi-annual IFRs. The reviewed semi-annual IFRs are due 45 days after the end of each semester and the audited PFSs are due six months after the end of each fiscal year.

112. To ensure continued control over payroll payments as well as other project expenditures, internal audits will be required with semiannual reports to be submitted to the minister and shared with the World Bank 45 days after the end of each semester alongside with the semiannual IFRs package. An annual financial audit of the PFS is required, by the World Bank, with terms and reference and scope to be agreed between the Bank and the MOHP. The coverage of the audit will include the project eligible expenditures corresponding to the specified DLIs values as well as the expenditures under Component 3. This is in addition to the verification of results by an independent verification agent(s).

113. **FM Risk rating.** Based on the review of the fiduciary arrangements in the health sector, the inherent risks, the nature of the project design, the stakeholders' interests involved, the expanded roles of units and directorates in achieving results and the linkage to wider reform program activities beyond the project scope, the project FM risk is deemed High.

114. **Budget.** The MOH's budget includes the Diwan, 27 directorates and seven service entities. The World Bank reviewed the FY 2017/18 health budget breakdown by expenditure type and entity to identify the line items of recurrent expenditures contributing to the project activities. In addition to the economic classification presented per health entity, the ministry's budget is also classified by program using pro rata estimates of costs based on some proxy indicators. The envisaged eligible expenditures were based on the presented MOHP's budget as well as the compilation of additional financial data by the finance department at the MOHP. The 2017/2018 budget showed the following allocations:

Subcomponent	FY17/18 Budget	Recurrent Expenditure	Project
1.1	Estimated budget allocation for the PHC level of care in 9 target governorates amounted to EGP 1.49 billion, representing 35 % of the total budget allocated to the same target governorates: Ismailia, Suez, Alexandria, Matrouh, North Sinai, South Sinai, Qena, Luxor & Aswan.	Estimated Chapter 1 budget for PHC's and district level employees representing 30% of all workforce amounted to EGP 1.0749 billion for the 9 target governorates	For DLI's 1,2,3 & 4 = EGP 1.223 billion (equivalent to US$ 69.5 million)
1.2	Budget allocation for the Community Health Workers program amounted to EGP 115.6 million representing 0.5% of the total budget allocated to all governorates.	Estimated Chapter 1 budget for CHWs amounted to EGP 92.48 million representing 80% of the total budget of CHWs.	For DLI 5 = EGP 52.95 million (equivalent to US$ 3 million)
1.3	Budget allocation for the family planning program amounted to EGP 924.8 million representing 4 % of the total health budget allocated to all governorates.	Estimated Chapter 1 budget for personnel at Family planning program amounted to EGP 369.92 million representing 40% of the total budget of the family planning program.	For DLI 6 = EGP 56.3 million (equivalent to US$ 3.2 million)

1.4	Budget allocation for the National Screening Program amounted to EGP 1.83 billion nationally.	Estimated Chapter 1 budget for personnel at national screening program amounted to EGP 732.16 million representing 40% of the total budget of the program	For DLIs 7 & 8 = EGP 2.173 billion (equivalent to US$ 123.5 million)
2.3	The budget allocations to the Hepatitis Treatment Centers was EGP 1.51 billion.	Estimated Chapter 1 salaries budget of the Hep Centers was EGP 90.6 representing 6% of the Hep Centers Budget.	For DLIs 9 = EGP 35.2 million (equivalent to US$ 2 million)

Procurement

115. Procurement will be carried out in accordance with the World Bank Procurement Regulations for IPF Borrowers, dated July 2016, revised November 2017; the Loan Agreement; and the Procurement Plan approved by the Bank. The Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants, dated October 15, 2006, and revised in January 2011 and as of July 1, 2016, will apply to project activities. All procurable project activities will be subject to the World Bank Procurement Regulations. A procurement plan covering the first 18 months of the Project period has been prepared by MOHP.

116. The overall responsibility for project procurement will rest with the PMU, which will act as the World Bank's main counterpart for all procurement aspects of the project. A PMU will be established within the Ministry of Health and Population (MOHP) and will be composed of consultants in various fields and designated officials of MOHP including designated procurement staff, to manage/supervise the procurement activities of the Project.

117. To mitigate the procurement-related risks identified on the centralized level, the following measures are proposed: (a) the MOHP will assign qualified and experienced procurement staff within the PMU to be responsible for managing and supervising all procurement activities under the project; (b) the MOHP will hire an external procurement expert (international) on ad hoc basis to support the PMU to prepare the ICB bidding documents and provide training to the procurement staff as needed; (c) the POM will include detailed explanation of all procurement steps, decision making, and management of records to integrate procurement processing; and (d) close hands-holding support will be provided by the Bank Country Office based staff as needed.

Procurement capacity assessment

118. A procurement capacity assessment carried out by the World Bank staff found that the MOHP has limited experience and capacity for procurement under the International approach as most of MOHP procurement activities involved supply of goods under the National approach. On the decentralized level, procurement staff has no experience with the World Bank procurement procedures, and has very limited capacity in procurement using the National and international bidding approach. They are procuring mainly under Request for Quotations (RFQ) method at which the procurement cycle, from issuing RFQs till the contract award, may take four-to-six weeks on average because of fund unavailability and the required different layer's approvals. MOHP has implemented procurement activities for several donors including a World Bank-financed project through the last health project.

Table 6. Risks and Mitigation Measures

Risks	Mitigation measures
Limited experience in International and National Bidding at PMU and District level	The PMU will be supported by hiring procurement officer and procurement consultant with solid experience in the World Bank procurement procedures to support handling the international bidding processes and complex contracts. In addition to day to-day implementation of project procurement, the procurement officer will provide direct supervision and hands-holding support to the district procurement staff.Implementing capacity building program and conducting procurement trainings on the International /National bidding approach to the relevant staff.Providing close hands-holding support by the Bank when needed.
Long time procurement processing due to the need for multi-layers' approvals	The procurement section in the manual will include all procurement steps and decision making to: (i) reduce the processing time and eliminate multi-layers approvals; and, (ii) set out the sequence and timeframe for the completion of procurement decisions including delegation of authority.
Poor contract management	The WBG, if needed, will provide procurement and contract management training to the PMU and MOHP relevant staff. The training will include project procurement arrangements and critical steps for the procurement and contract management process. Based on the Procurement Strategy, a draft Procurement Plan for the first 18 months was agreed. The Procurement Plan will be updated in agreement with the Bank annually or as required to reflect the actual project implementation needs and capacity improvement. The World Bank will provide training and ongoing support to use the STEP system.
Technical specifications/ToRs are vague.	The World Bank will review the technical specifications and TORs prior to launch of the bidding process.
Project delays due to low quality bidding documents.	The Bank Standard Procurement Documents will be used.
Lack of a well-functioning complaint system.	The PMU will establish and implement adequate complaints mechanism

Procurement selection methods and arrangements

119. The envisaged goods and services would be attained from either the local market or the international market. Based on the World Bank Procurement Regulations, the MOHP developed a Project Procurement Strategy for Development that includes: (i) the project overview, (ii) operational context, including governance, economic factors, sustainability aspects, technology factors, (iii) market research, and (iv) implementation capacity. Procurement activities envisaged under the project would include:

120. Procurement of Goods and non-consulting services: The project is expected to procure the blood banks NAT machines with kits for five years and Magnetic resonance imaging (MRI) machines using the international approach bidding. Some procurement activities, at the district level, will be in the form of goods following the national approach

bids and RFQ (shopping); these procurements will comprise several packages such as procuring around 25 cars for mobile clinics, medical equipment, medicines, non-medical equipment, medical furniture, and non-medical furniture.

121. The decentralized procurement will comprise also procurement of medicine for Hep C Virus patients following the (shopping) procurement method for contracts below US$100,000. The GoE has framework agreements with different suppliers for providing medicines to keep low medicine price. Procuring medicine under this project will be conducted through collecting at least three responsive quotations from different suppliers including suppliers other than the contracted through the GoE framework agreements; any prices above the government framework price will be rejected, and the lowest price, even below the framework price, will be accepted. In case that all quotations are above the price of the framework agreement, the shopping process will be canceled and the items will be procured through the active framework agreement.

122. **Selection of Consultants**. Some consultancy contracts will be chosen using the Individual Consultant (IC) method. Other methods for selection of consultants maybe available and will include Quality and Cost-Based Selections, Least-Cost Selection, Selection Based on Consultants Qualifications, and Direct Selection.

123. The applicable procurement rules and procedures are considered fit for purpose because it will ensure efficient procurement processes, more chances of the right bidders participating, better prices being received, and accordingly achieving value for money.

124. **Procurement risk.** The overall procurement implementation risk of this project, having limited experience in the International approach bidding at the centralized level and having limited experience in the National and International approaches bidding at the decentralized level, is High.

125. The World Bank prior review thresholds for high risk operations shall apply to the project. In addition, all ToRs for consultants' services and technical assistance packages will be subject to the Bank's technical review with no objection. The Bank will carry out at least two implementation support missions a year, including one ex-post procurement review that would cover at least 10 percent of the contracts awarded during the review period.

D. Safeguards

126. **Environment (including safeguards).** The project risk is considered low to moderate. The environmental category of the project is B and OP 4.01 is triggered as the project will include minor infrastructure refurbishment, at the primary healthcare level. An Environmental and Social Management Framework (ESMF), including a Medical Waste Management Plan for health care facilities, has been prepared by the MOHP. The ministry has consulted with the beneficiaries, governmental agencies, NGOs and other relevant stakeholders on the draft ESMF. The ESMF includes, inter alia, a mitigation plan for managing any potential environmental and social risks and impacts that might result from this operation, a summary of environmental and social impacts related to the proposed accreditation standards for health facilities and measures suggested in the accreditation guidelines to mitigate these impacts. Similarly, a section in the ESMF has been included for the CERC and impact/risk management of any activity under this component. The final ESMF was disclosed in-country on April 26th, 2018 on MOHP's public website, accessible to all, and on the World Bank external website.

127. Based on the guidance provided in the ESMF, a site-specific Environmental and Social Impact Assessment (ESIA) and Environmental Management Plan will be prepared prior to procurement of simple works for each facility that may include refurbishment or might result in negative environmental impacts. In most cases, the works are expected to be limited to minor rehabilitation, and standard checklists and/or Environmental and Social Management Plan will be used. In addition, and Environmental and Social Impact Assessment will be carried out by MOHP in accordance with the ESMF. The PMU will provide clear environmental management guidelines and training, as deemed necessary, for contractors hired for rehabilitation and outfitting of health care facilities. Attention will be paid to medical waste, waste generated at construction sites and health and safety aspects of public as well as health care providers.

128. **Social (including safeguards). Social risks are rated as Moderate**. The project is expected to deliver substantial positive social outcomes for more than 40 million people through accreditation of PHC units, screening of 35 million citizens for Hep C, administering treatment for estimated 1.5 million people, as well as screening of 20 million citizens for NCDs. The proposed project will not require land acquisition as only indoor rehabilitation is envisioned. As such, land acquisition will not be required, and therefore OP 4.12 on Involuntary Resettlement will not be triggered. Safety issues associated with the handling of waste by health unit staff, waste management staff, and communities will need to be prevented and mitigated. Possible associated risks with the program are concerns regarding cost and satisfaction of service.

129. **Gender**. To address access to and use of health services and health education from a gendered perspective, and support the project initiatives that include mechanisms for reducing gender differences within varying sociocultural context. During implementation the project will: (a) track sex-disaggregated data and gender statistics for the relevant indicators, hence ensuring availability of comparable, gender-disaggregated data as part of project M&E which will be important to maintain and enhance the gender lens within operations; (b) deliver community-based consultations that take into consideration the full and equal participation of women and men, girls and boys; (c) deliver family planning, maternal and reproductive health services, gender-based and domestic violence awareness and childhood marriage (particularly affecting girls) at the community level, through the CHW activities; (d) pay special attention to gender equality in implementation and impact evaluations including mid-term and other evaluations; and (e) improve access and utilization of key public services through creating greater awareness about these services among program patients, specifically women, and facilitating interface between community representatives and local service providers.

130. In addition, the project will focus on improving the quality of PHC services, which have an approximately female to male utilization rate of 60 to 40, and will strengthen MCH and family planning services at both the primary and secondary levels of care, prioritizing poor women under the social safety net program (Takaful and Karama). On the other hand, the project is screening for Hep C and high-risk factors for NCDs which epidemiologically affects more adult males than females. Egyptian women are more likely than men to be obese or overweight (65-80% versus 50%), and Egyptian men are much more likely to smoke than women.[20] This lack of awareness has significant implications for ensuring that positive screening results are effectively communicated to patients and appropriate treatment initiated.

[20] Hegazi, R et al. Epidemiology of and Risk Factors for Type 2 Diabetes in Egypt Annals of Global Health. Volume 81, Issue 6, November–December 2015, Pages 814-820.

131. Furthermore, additional measures will be taken to ensure expanding the provision of services to mitigate the short and medium-term impact of sexual and gender based violence, along with expanding the utilization of a package of health interventions targeted to poor and vulnerable females. Although declining over the past several decades, early marriage rates in Egypt remain high: nearly one is six Egyptian girls marry before the age of 18, and rates are higher among girls living in rural areas and from poorer families, according to the 2014 DHS.21 Rates of gender-based violence are also high. More than a quarter of Egyptian women have experienced physical and sexual violence from a partner, and the practice of female genital mutilation remains commonplace.[22] Although policy reforms have been undertaken to address these issues, including the "National Strategy for Combatting Violence Against Women, 2015-2020", further health and cross-sectoral approaches are needed.

132. Investments in hiring and training CHWs and PHC workers provide a critical entry point for formal employment and career development for women and unemployed youths, and a pathway out of poverty and informality for workers in low income settings. Moving forward, addressing gender equality in the health workforce and supporting more inclusive policies that address gendered labor market challenges. Ultimately, the project will support social and behavioral change in the society that will be reflected in the gender balance measures that will be undertaken to ensure equity in access to services for both men and women, through engaging with communities and their gatekeepers (such as CHWs).

133. **Climate.** The proposed project was screened for climate and disaster risk. Climate change risks on project sustainability are considered "low". The main vulnerabilities to climate change in Egypt are related to: the rise of the Mediterranean Sea level leading to inundation of coastal areas in and around the Nile Delta, change of precipitation patterns leading to heavy rains, causing urban flooding (along coastal areas) and flash floods (in Upper Egypt and Sinai), rise in average temperature, and more frequent heat waves and dust storms. In the short term, extreme heat waves, strong dust storms and urban floods could impact the ability of those in need for health care services to reach health facilities. In the long term, some health care facilities in vulnerable areas in the Northern Delta could be inundated. However, such risks would primarily affect other economic activities, which would be a push factor to citizens' migration to safer places. In addition, the risk of vector-borne diseases is substantial given the potential for flooding.

134. **Climate adaptation and mitigation benefits.** The project will include climate adaptation and mitigation measures as part of the quality check-list and accreditation standards for PHCs and hospitals in order to address vulnerabilities (mentioned above). Passing these accreditation standards will require that each facility provides a climate resilience plan of action to ensure that any climate risks in the relevant areas are taken into consideration. This would entail several innovations. As part of facility quality improvements, the project would support climate-smart interventions to promote the environmentally-positive water efficiency measures which will significantly reduce electricity demands on these facilities and therefore reduce overall energy requirements, leading to positive environmental impacts. These interventions are expected to reduce overall energy and electricity requirements in these facilities by 10% as a result of improved toilet and water facilities and reduced reliance on the water pumps and subsequently reduced consumption of water. This will also lead to reduced need to replace the water tanks. Also, improvements in facilities would reduce

[21] Malé, Chata; Wodon, Quentin T. 2016. Basic profile of child marriage in Egypt (English). Health, nutrition, and population (HNP) knowledge brief: child marriage series. Washington, D.C.: World Bank Group. *http://documents.worldbank.org/curated/en/395841467996683755/Basic-profile-of-child-marriage-in-Egypt.*

[22] UN Global Database on Violence Against Women. Available at: http://evaw-global-database.unwomen.org/fr/countries/africa/egypt.

emissions for waste and water treatment, reduction in aquafer use and associated impact on eco-systems which would additionally reduce risk of exposure to vector-borne diseases.

135. The project will also support climate-smart health facility initiatives which would reduce carbon emissions through the introduction and use of Light Emitting Diode (LED) based lights in 600 PHCs and 27 hospitals. There would be several significant direct benefits from this initiative: (i) LED bulbs require much less wattage than incandescent light bulbs, which makes them more energy efficient, with reductions in electrical consumption between 50-70%, and thus resulting reducing carbon emissions (e.g. a 7 watt LED light can replace a 60 watt incandescent bulb); (ii) LED lights last 20 times longer than incandescent lights thus requiring almost no maintenance and thus increased productivity; (iii) LED bulbs and tubes deliver high quality light but do not generate high temperatures. In medical facility settings, this makes it easier to see body tissue in natural colors, and there is no risk of drying out tissue, which make LED lights safer to use and the surgeons' work easier; (iv) LED lighting leads to significant cost savings. The table below demonstrates the potential costs versus benefits, as well as the savings, which could be generated in the 600 PHCs and 27 hospitals, which the project would support by installing LED lighting. The estimates are based on a standard comparison of 10- and 60-watt light bulbs used, estimating approximately 30 bulbs in PHCs and 1000 bulbs in hospitals. The savings over a 7-year period would be an estimated of US$7.13 million. The LED interventions are expected to reduce overall energy and electricity requirements in these facilities by 40%.

Table 7: Comparison of energy and cost savings of LED vs. Incandescent lighting

	LED light bulb	Incandescent light bulb
Watts	10	60
Initial cost	US$1.5	US$1
Lifespan	25,000 hours	1200 hours
Bulbs needed for 25,000 hours (7 years of operating bulbs for 9 hours per day)	1	21
Total purchase price of bulbs	US$1.5	US$21
Cost of electricity (25,000 hours at $0.15 per kWh)	US$30	US$169
Total cost per 1 location	US$31.5	US$190
Total cost per 30 bulbs, in 600 PHCs	US$567,000	US$3,420,000
Total cost per 1000 bulbs in 27 hospitals	US$850,000	US$5,130,000
Total costs in facilities	US$1,417,000	US$8,550,000
Total savings over a 7-year period	**US$7,133,000**	

136. The CHWs will use mobile tablets for training, awareness raising, strengthening overall community engagement and communication outreach. Households would be empowered to adopt better water use, nutrition practices, hygiene and sanitation practices, and increase their awareness about vector-borne diseases, as well as awareness about the need to reduce energy consumption at home. These will constitute important climate adaptation measures. Under the hospital component (Component 2), a critical mitigation measure will be the reduction of carbon emissions due to more effective referrals from CHWs and PHCs to hospitals. This would reduce the number of unnecessary visits and hence reduce travel of patients to and from hospitals, leading to reduced carbon emissions as more patients would be diagnosed and treated at the PHC level under the new CHIS's goal of more integrated and effective care. Based on the current

utilization rate in 27 hospitals (500,000 patients per year), and considering that at least 20% of current visits to hospitals could be avoided, over a 4-year period, this would translate into 216,000,000 vehicle miles reduced. Further, under the family planning activities (Sub-component 1.3), efforts will be placed on raising awareness about contraception practices. This is expected to impact the number of births in the medium-to-long term. The expectation from improved family planning initiatives is that of an estimated 120,000 births per year, 600,000 will be reduced. This will significantly impact the population growth and lead to a decreased emission footprint. Lastly, life cycle assessments would also be carried out during the project, which would review the sources of materials/products and medicines as well as their distribution to potentially enhance the efficiency of the supply chain.

137. **Citizen engagement.** The proposed project will support MOHP to disseminate and train staff on the GRM which was developed under the previous project. The GRM mechanism to be fully rolled out will ensure greater responsiveness and transparency to the public. Currently, the MOHP relies on grievance specific data reported separately to the citizen's services department hub where grievances are collected, registered, categorized, channeled and results fed back to citizens. There is also a phone-based platform for citizen engagement. The MOHP has a citizen charter available on its website and publicized in facilities, which identifies services to be provided by the MOHP. There is also a citizen charter for the facilities that are usually on display at service delivery points. Support for the roll out of the new GRM is included under Component 3 through a DLI that focuses on gradually improving the system to collect and handle complaints, with regards to both time and process, according to clearly established guidelines, using the new GRM manual. The RF includes an indicator to track the percentage of grievances addressed. Therefore, this project includes a citizen engagement mechanism and a beneficiary feedback indicator. Further, the project will measure patient satisfaction with services offered in project supported facilities on a yearly basis. This will better enhance the stewardship of project implementation towards more patient-centric measures.

F. World Bank Grievance Redress

138. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level GRMs or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project-affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

V. KEY RISKS

A. Overall Risk Rating and Explanation of Key Risks

139. The overall project risk rating is Substantial. Fiduciary risk is rated High. Risks relating to macroeconomy, political and governance, sector strategies, technical design of the project, and stakeholders are rated Substantial.

140. **Fiduciary risks** will be managed through: (i) assigning qualified and experienced procurement staff for the project, supplemented by *ad hoc* external procurement expertise; (ii) preparation and use of the detailed procurement

section of the project operations manual; (iii) strengthening of internal audit in respect of payroll controls; (iv) engaging an independent verification agent to verify the achievement of disbursement linked indicators; and (v) including payroll controls as a special focus of the external audit.

141. **Political and governance; Macroeconomic; Sector Strategies and Policies risks** are all rated Substantial because of an ambitious country-wide agenda that is coupled with difficult political and sectoral challenges. However, this is mitigated by commitments which have been aligned at the presidential, parliamentary, government and public levels, towards a transformational program of reform for the health sector, to overcome health issues that exhibit a high burden on Egyptian society. The 2014 Constitution, Egypt's Vision 2030 program, the recently passed CHI Law, and sectoral strategies, all indicate a sustained will to: (i) transform the Egyptian Health system towards achieving UHC with a package of accessible, quality services, without a financial hardship for citizens; and, (ii) a consistent drive to eliminate and control health issues that are burdening the Egyptian public, productivity and the economy at large. However, this program of reform is an ambitious undertaking and requires sustained political and public backing for it to achieve its intended objectives. Policies, governance structures and sector strategies need to be tackled at different levels of stewardship and provision of care at Government, Ministry of Health, governorate, district and community levels. The risk is substantial because of potential implementation challenges associated with this ambitious program; while those risks would be mitigated through strong capacity building, the sheer volume of investment in the sector over a 5-year period poses a substantial risk.

142. **Technical design and Stakeholder risks.** These risks are rated Substantial. The design of the project incorporates the lessons of the previous Bank-financed operation which focused on quality improvements of PHCs in the 1,000 most vulnerable villages in Upper Egypt. The proposed project will scale up this successful effort to 2,000 PHCs in Egypt. The design also includes several additional critical inputs across Egypt's community and referral hospital levels. The combination of these elements is a deliberate effort to help demonstrate progress in disadvantaged areas, and to respond to demand for access to affordable, quality services, as well as reducing the burden of disease. However, there is a risk that the pace of delivery of community level services may not be satisfactory due to logistical and governance issues. Moreover, the stakeholder risk is considered Substantial as the capacity of the primary and SHC facilities in terms of the quality and functionality remains a concern, as well as the affordability of patients to receive the treatment. These risks are addressed in three ways: (i) participating facilities and teams will receive technical and implementation support from the various resources and technical support established under this project to ensure quality of delivery of key healthcare services; (ii) ensuring the continuation of the ongoing citizen engagement and dialogue with different stakeholders through patients' engagement and participation, to be able to communicate the need of the patients, staff, officials and other stakeholders, thereby, ensuring equity in access to treatment, considering gender aspects, and overall the patients' affordability to receiving the treatment; and (iii) the introduction of a decentralized approach towards planning, implementing and monitoring activities and results at a Governorate Health Directorates Committees (GHDCs) and DHOs will both motivate and strengthen local governance, accountability and stewardship.

143. Lastly, there is also an additional technical design risk posed by the introduction of DLI approach. This a potentially complex set-up which may lead to some initial delays. However, given the already relatively well-functioning MOHP monitoring mechanisms, the DLI approach will ease implementation and add greater focus on results rather than transactions. The design of the DLI schedule also provides maximum flexibility and incentives for the MOHP to meet these targets. While there are a number of DLIs which need to be met before a number of subsequent DLIs can be achieved, these DLI targets are in the process of being achieved, the eligible expenditures incurred would be financed retroactively (year 0 DLIs). The remaining DLIs have yearly indicative targets, but based on best practice, they will not have fixed dates and can be met at any time during the implementation period ("floating" DLIs) although the GoE will be incentivized to

meet these targets in a timely manner in order to be reimbursed. Also, in a number of DLIs, such as those where disbursement is made against a target number of people screened for Hep C, for example, the MOHP will receive funding for the actual number screened (prorated from the full DLI amount per person), i.e. the use of “scalable” DLIs where disbursement is proportional to progress achieved. If the entire target for that DLI is met early or at any time during project, MOHP can be reimbursed for the entire amount. Also, regular technical and advisory support from the Bank will be provided to help the Government in tracking progress against agreed DLIs. In addition, technical support will be provided by a TAG and the IVA will verify the DLI results achieved.

VI. RESULTS FRAMEWORK AND MONITORING

Results Framework

Project Development Objective(s)

The proposed Project Development Objective is to (i) improve the quality of primary and secondary health care services, (ii) enhance demand for health and family planning services, and (iii) support the prevention and control of Hepatitis C.

PDO Indicators by Objectives / Outcomes	DLI	CRI	Unit of Measure	Baseline	Intermediate Targets					End Target
					1	2	3	4	5	
Improve the quality of primary health care services										
Number of PHCs passing Quality Services Index composite indicators list	DLI 4		Number	0.00	80.00	240.00	370.00	500.00	600.00	600.00
Percentage improvement in the average quality of clinical care score at all targeted PHCs, measured through independent direct observations			Percentage	0.00	40.00	50.00	60.00	70.00	80.00	80.00
Improve the quality of secondary health care services										
Percentage improvement in the average quality of clinical care score at all targeted hospitals measured through independent direct observations			Percentage	0.00	40.00	50.00	60.00	70.00	80.00	80.00
Percentage of blood units dispensed at MOHP affiliated hospitals that have been screened utilizing the Nucleic Acid test			Percentage	0.00	0.00	20.00	50.00	70.00	90.00	90.00

PDO Indicators by Objectives / Outcomes	DLI	CRI	Unit of Measure	Baseline	Intermediate Targets					End Target
					1	2	3	4	5	
Enhance Demand for Health and Family Planning Services										
Contraceptive prevalence rate	DLI 6		Percentage	58.00			62.00		65.00	65.00
Prevention and control of Hepatitis C										
Number of people screened for Viral Hepatitis C	DLI 8		Number	0.00	7,000,000.00	14,000,000.00	21,000,000.00	28,000,000.00	35,000,000.00	35,000,000.00
Percent Female			Percentage	0.00						50.00
Percentage of people who received treatment for Hepatitis C who have taken the final confirmation test for sustained virological response (SVR) using a random sampling methodology	DLI 9		Percentage	0.00	70.00	70.00	75.00	75.00	80.00	80.00

Intermediate Results Indicators by Components	DLI	CRI	Unit of Measure	Baseline	Intermediate Targets					End Target
					1	2	3	4	5	
Strenghten Primary Healthcare, Family Planning and Community Activities										
PHC mapping exercise, needs assessments and new accreditation tool completed.	DLI 1		Number	0.00	3.00	3.00	4.00	4.00	4.00	4.00
Increased household visits by CHWs	DLI 5		Percentage	7.00	12.00	17.00	22.00	27.00	32.00	32.00
Percentage of participating districts certified for enhanced governance performance	DLI 3		Percentage	0.00	20.00	40.00	60.00	80.00	100.00	100.00

Client user satisfaction and utilization surveys conducted in project target areas			Number	0.00	1.00	2.00	3.00	4.00	5.00	5.00
Grievances addressed in project target facilities using the GRM in accordance with the revised manual issued in 2017	DLI 2		Percentage	0.00	0.00	20.00	40.00	60.00	80.00	80.00
Average patient satisfaction level			Percentage	0.00	45.00	50.00	55.00	60.00	65.00	65.00
Targeted people screened for NCDs	DLI 7		Number	0.00	4,000,000.00	8,000,000.00	12,000,000.00	16,000,000.00	20,000,000.00	20,000,000.00
Percent Female			Percentage	0.00						50.00
Targeted PHCs applying environmentally-positive energy and water efficiency measures			Number	0.00	80.00	240.00	370.00	500.00	600.00	600.00
People who have received essential health, nutrition, and population (HNP) services		Yes	Number	0.00						3,400,000.00
Number of women and children who have received basic nutrition services		Yes	Number	0.00						3,400,000.00
Strengthen Secondary Level Healthcare										
Targeted regional blood banks that have been connected to the national automated blood network.			Amount(USD)	0.00	0.00	2.00	5.00	8.00	11.00	11.00
Targeted Hep C patients treated			Number	0.00	50,000.00	287,500.00	525,500.00	900,000.00	1,500,000.00	1,500,000.00
Percent Female			Percentage	0.00						40.00
Number of PHCs receiving National Accreditation Certification for healthcare quality			Number	0.00	50.00	200.00	350.00	450.00	600.00	600.00
Number of Hospitals receiving National Accreditation			Number	0.00	2.00	9.00	14.00	20.00	27.00	27.00

Certification for healthcare quality in target governorates										
Institutional Capacity Building ad Project Management										
Project results published regularly on external MOHP website			Text	0.00						Yes

Monitoring & Evaluation Plan: PDO Indicators	
Indicator Name	Number of PHCs passing Quality Services Index composite indicators list
Definition/Description	Measures the number of PHCs that have been confirmed as passing the (QSI) composite indicator list by an Independent Verification Agency in project target governorates.
Frequency	Every 6 months
Data Source	MOHP / Independent Verification Agency
Methodology for Data Collection	Stratified random sampling and varied batches of PHCs by the IVA
Responsibility for Data Collection	MOHP

Indicator Name	Percentage improvement in the average quality of clinical care score at all targeted PHCs, measured through independent direct observations
Definition/Description	Percentage of targeted PHCs meeting average quality of clinical care score, measured through independent direct observation
Frequency	Every 6 months
Data Source	MOHP
Methodology for Data Collection	Survey
Responsibility for Data Collection	MOHP

Indicator Name	Percentage improvement in the average quality of clinical care score at all targeted hospitals measured through independent direct observations
Definition/Description	Percentage improvement in the average quality of clinical care score at all targeted hospitals, measured through independent direct observations
Frequency	Every 6 months
Data Source	MOHP
Methodology for Data Collection	Survey
Responsibility for Data Collection	MOHP

Indicator Name	Percentage of blood units dispensed at MOHP affiliated hospitals that have been screened utilizing the Nucleic Acid test
Definition/Description	Description: This indicator will measure the percentage of blood units tested using the NAT technique that are dispensed to patients in all public-sector hospitals out of the total dispensed units. Independent Verification Agency will verify the numbers supplied by National Blood Transfusion Services (NBTS) data.
Frequency	every 6 months
Data Source	NBTS/ Independent Verification Agency
Methodology for Data Collection	
Responsibility for Data Collection	MOHP

Indicator Name	Contraceptive prevalence rate
Definition/Description	Contraceptive Prevalence Rate: The percent of women of reproductive age who are using (or whose partner is using) a contraceptive method at a particular point in time. The indicator is calculated as follows: (# of women 15-49 using a contraceptive method / total # of women aged 15-49) x 100. The National prevalence will be measured through a nationally representative survey.
Frequency	DHS data or a dedicated survey
Data Source	IVA will conduct a national survey or DHS data if available
Methodology for Data Collection	DHS data or a dedicated survey
Responsibility for Data Collection	MOHP/IVA

Indicator Name	Number of people screened for Viral Hepatitis C
Definition/Description	Measures the number of people screened through project support for Viral Hepatitis C as per the protocol in the Project Operation Manual. Numbers to be verified by Independent Verification Agency.
Frequency	Every 6 months
Data Source	MOHP / Independent Verification Agency
Methodology for Data Collection	Validation of MOHP records and processes for Hep C program
Responsibility for Data Collection	MOHP

Indicator Name	Percent Female
Definition/Description	
Frequency	Every 6 months
Data Source	MOHP/IVA
Methodology for Data Collection	Validation of MOHP records and process for Hep C program
Responsibility for Data Collection	MOHP

Indicator Name	Percentage of people who received treatment for Hepatitis C who have taken the final confirmation test for sustained virological response (SVR) using a random sampling methodology
Definition/Description	Measures the number of people screened through project support for Viral Hepatitis C as per the protocol in the Project Operation Manual. Numbers to be verified by Independent Verification Agency.
Frequency	Every 6 months
Data Source	MOHP / Independent Verification Agency
Methodology for Data Collection	Validation of MOHP records and processes for Hep C program
Responsibility for Data Collection	MOHP

Monitoring & Evaluation Plan: Intermediate Results Indicators	
Indicator Name	PHC mapping exercise, needs assessments and new accreditation tool completed.
Definition/Description	To measure the completion of the required foundational studies as acceptable to the bank and verified by Independent Verification Agency that need to be completed for efficient project implementation, namely: (i) PHC services mapping exercise; (ii) PHC needs assessment I; (iii) PHC needs assessment II; and (iv) Finalization and issuance of a new national accreditation tool for primary healthcare facilities.
Frequency	Every 6 months
Data Source	MOHP / IVA
Methodology for Data Collection	World Bank and IVA review
Responsibility for Data Collection	MOHP
Indicator Name	Increased household visits by CHWs
Definition/Description	This indicator will measure the CHW coverage rate defined as the percentage of households in targeted communities visited by CHWs in the past year.
Frequency	Yearly
Data Source	MOHP / IVA
Methodology for Data Collection	Sample survey and review of MOHP records by IVA
Responsibility for Data Collection	MOHP

Indicator Name	Percentage of participating districts certified for enhanced governance performance
Definition/Description	The indicator would measure the percent of districts participating in the Project for being certified for enhanced governance performance
Frequency	Every 6 months
Data Source	MOHP/IVA
Methodology for Data Collection	IVA review of MOHP PHCs database
Responsibility for Data Collection	MOHP

Indicator Name	Client user satisfaction and utilization surveys conducted in project target areas
Definition/Description	To track yearly the patient satisfaction and utilization levels in project target areas in the 9 governorates.
Frequency	Yearly
Data Source	MOHP
Methodology for Data Collection	Exit user satisfaction and utilization survey in targeted facilities conducted by an independent agency
Responsibility for Data Collection	MOHP

Indicator Name	Grievances addressed in project target facilities using the GRM in accordance with the revised manual issued in 2017
Definition/Description	This indicator is to track the percentage of all received and addressed grievances as per the new GRM manual (2017) out of the total received in project target facilities
Frequency	Yearly
Data Source	MOHP / IVA
Methodology for Data Collection	IVA review of MOHP GRM records
Responsibility for Data Collection	MOHP

Indicator Name	Average patient satisfaction level
Definition/Description	Measures the percentage satisfaction rates of patients in PHCs and Hospitals.
Frequency	Every 6 months
Data Source	MOHP
Methodology for Data Collection	Exit user satisfaction and utilization survey conducted by an independent agency in targeted facilities
Responsibility for Data Collection	MOHP

Indicator Name	Targeted people screened for NCDs
Definition/Description	To measure the number of persons screened for NCD's as per the set protocol in the POM on the national level. Data to be supplied through MOHP and verified by IVA.
Frequency	Every 6 months
Data Source	MOHP / IVA
Methodology for Data Collection	IVA review of MOHP records and screening processes
Responsibility for Data Collection	MOHP

Indicator Name	Percent Female
Definition/Description	
Frequency	Every 6 months
Data Source	MOHP / IVA
Methodology for Data Collection	IVA review of MOHP records and screening
Responsibility for Data Collection	MOHP/ IVA

Indicator Name	Targeted PHCs applying environmentally-positive energy and water efficiency measures
Definition/Description	This will count the number of project supported PHCs that have applied environmentally friendly measures in terms of: i) efficient lighting through using exclusive LED bulbs in the PCU; and (ii) applying WASH in health program (developed by UNICEF). The results to be verified by an Independent Verification Agency.
Frequency	Every 6 months
Data Source	MOHP / IVA
Methodology for Data Collection	Inspection by IVA
Responsibility for Data Collection	MOHP

Indicator Name	People who have received essential health, nutrition, and population (HNP) services
Definition/Description	
Frequency	Yearly
Data Source	MOHP
Methodology for Data Collection	Review of MOHP records
Responsibility for Data Collection	MOHP

Indicator Name	Number of women and children who have received basic nutrition services
Definition/Description	
Frequency	Every 6 months
Data Source	MOHP
Methodology for Data Collection	Review of MOHP records
Responsibility for Data Collection	MOHP

Indicator Name	Targeted regional blood banks that have been connected to the national automated blood network.
Definition/Description	
Frequency	Yearly
Data Source	MOHP / IVA
Methodology for Data Collection	Inspection by IVA
Responsibility for Data Collection	MOHP

Indicator Name	Targeted Hep C patients treated
Definition/Description	Percentage of patients who received treatment for Hepatitis C who have taken the final confirmation test for sustained virological response (SVR) using a random sampling methodology
Frequency	Every 6 months
Data Source	MOHP/IVA
Methodology for Data Collection	Review of MOHP data and processes by IVA
Responsibility for Data Collection	MOHP

Indicator Name	Percent Female
Definition/Description	
Frequency	Every 6 months
Data Source	MOHP/ IVA
Methodology for Data Collection	Review of MOHP data and processes
Responsibility for Data Collection	MOHP

Indicator Name	Number of PHCs receiving National Accreditation Certification for healthcare quality
Definition/Description	Measures the number of PCUs that have been confirmed to receive certification of accreditation by the IVA as per the updated National Accreditation Guidelines and as measured by national accrediting body.
Frequency	Every 6 months
Data Source	MOHP / IVA
Methodology for Data Collection	IVA review of the National Accreditation Committee data and processes
Responsibility for Data Collection	MOHP
Indicator Name	Number of Hospitals receiving National Accreditation Certification for healthcare quality in target governorates
Definition/Description	Measures the number of hospitals that have been confirmed as receiving certification of accreditation by the national accrediting body and as per the National Accreditation Guidelines.
Frequency	Every 6 months
Data Source	MOHP
Methodology for Data Collection	Review of the National Accreditation Certification data and processes
Responsibility for Data Collection	MOHP

Indicator Name	Project results published regularly on external MOHP website
Definition/Description	Project results in terms of: numbers of screening for Hep C & NCD's, Numbers treated for Hep C, and the number, names and quality level status of supported PHCs and Hospitals are regularly published on MOHP's external website
Frequency	Every 6 months
Data Source	MOHP
Methodology for Data Collection	Review by the World Bank team of the MOHP website
Responsibility for Data Collection	WB

ANNEX 1 - Disbursement-linked Indicators, Disbursement-linked Results, Disbursement Arrangements, and Verification Protocols

Disbursement-Linked Indicators	Timeline for DLR achievement					
	Year 0 **Sep 1, 2017-December 31, 2018**	**Year 1** **2019** **(Jan 1-Dec 31)**	**Year 2** **2020** **(Jan 1-Dec 31)**	**Year 3** **2021** **(Jan 1-Dec 31)**	**Year 4** **2022** **(Jan 1-Dec 31)**	**Year 5** **2023** **(Jan 1-Dec 31)**
DLI 1: Development of quality tools and mechanisms (non-scalable)	**DLR 1.1** Accreditation Guidelines for PHC facilities updated (US$1,000,000) **DLR 1.2** PHC Services Mapping exercise completed (US$1,000,000) **DLR 1.3** PHC Needs assessment carried out (US$1,000,000)			**DLR 1.4** PHC Needs assessment carried out on facilities which require re-accreditation		
Total DLI Value = US$4,000,000	**US$3,000,000**			**US$1,000,000**		
DLI 2: Percentage of grievances addressed in project target facilities in accordance with the revised GRM Manual issued in 2017 (scalable)	**DLR 2.1** Distribute the GRM Manual to all PHCs and district level staff in Participating Governorates	**DLR 2.2** GRM training completed for all PHC and district level staff in participating Governorates using the updated GRM Manual	**DLR 2.3** 20% grievances addressed using the GRM in accordance with the updated GRM Manual	**DLR 2.4** 40% grievances addressed using the GRM in accordance with the updated GRM Manual	**DLR 2.5** 60% grievances addressed using the GRM in accordance with the updated GRM Manual	**DLR 2.6** 80% grievances addressed using the GRM in accordance with the GRM Manual

Disbursement-Linked Indicators	Timeline for DLR achievement					
	Year 0 **Sep 1, 2017-December 31, 2018**	**Year 1** **2019** **(Jan 1-Dec 31)**	**Year 2** **2020** **(Jan 1-Dec 31)**	**Year 3** **2021** **(Jan 1-Dec 31)**	**Year 4** **2022** **(Jan 1-Dec 31)**	**Year 5** **2023** **(Jan 1-Dec 31)**
Total DLI Value = US$3,000,000	**US$500,000**	**US$500,000**	**US$500,000**	**US$500,000**	**US$500,000**	**US$500,000**
DLI 3: Strengthening governance and decentralized management (scalable)		**DLR 3.1** 20% of districts participating in the Project certified for enhanced governance performance	**DLR 3.2** 40% of districts participating in the Project certified for enhanced governance performance	**DLR 3.3** 60% of districts participating in the Project certified for enhanced governance performance	**DLR 3.4** 80% of districts participating in the Project certified for enhanced governance performance	**DLR 3.5** 100% of districts participating in the Project certified for enhanced governance performance
Total DLI Value = US$2,500,000		**US$500,000**	**US$500,000**	**US$500,000**	**US$500,000**	**US$500,000**
DLI 4: Improvement of PHC Quality of Services (scalable)		**DLR 4.1:** Number of facilities passing the QSI. Each facility will be awarded a maximum amount of US$80,000 if it receives at least 80% or more of the total score in the QSI, and provided that all DLRs under DLI 1 have previously been achieved. The minimum payment threshold is US$4,000,000 for each batch of 50 facilities (US$48,000,000). **DLR 4.2:** Number of facilities receiving a certificate of accreditation, using the updated accreditation tool, which previously passed the QSI. Each facility would be awarded a maximum amount of US$20,000 upon accreditation. The minimum payment threshold is US$1,000,000 for each batch of 50 facilities. (US$12,000,000)				
Total DLI Value = US$60,000,000		**US$60,000,000**				
DLI 5: Increased household visits by CHWs (in		**DLR 5.1** 12% of households visited by CHWs in past year	**DLR 5.2** 17% of households visited by CHWs in past year	**DLR 5.3** 22% of households visited by CHWs in past year	**DLR 5.4** 27% of households visited by CHWs in past year	**DLR 5.5** 32% of households visited by CHWs in past year

Disbursement-Linked Indicators	Timeline for DLR achievement					
	Year 0 **Sep 1, 2017-** **December 31, 2018**	**Year 1** **2019** **(Jan 1-Dec 31)**	**Year 2** **2020** **(Jan 1-Dec 31)**	**Year 3** **2021** **(Jan 1-Dec 31)**	**Year 4** **2022** **(Jan 1-Dec 31)**	**Year 5** **2023** **(Jan 1-Dec 31)**
participating governorates) (non-scalable)						
Total DLI Value = US$3,000,000		**US$600,000**	**US$600,000**	**US$600,000**	**US$600,000**	**US$600,000**
DLI 6: Increased contraceptive prevalence rate (Nationwide) (non-scalable)				**DLR 6.1** 62% of women using contraceptive device		**DLR 6.2** 65% of women using a contraceptive device
Total DLI Value = US$3,200,000				**US$1,600,000**		**US$1,600,000**
DLI 7: NCD screening (scalable)	**DLR 7.1:** Number of people screened as per the protocol provided in the POM. Payment for screening of every 50,000 persons will be US$10,000. The minimum payment threshold is US$500,000 up to the maximum allocated amount.					
Total DLI Value = US$4,000,000	**US$4,000,000**					
DLI 8: HEP C screening (scalable)	**DLR 8.1:** Number of people screened at the community level, using rapid test, and at PHCs and hospitals using lab and/or rapid test anywhere in Egypt. Payment for screening of every 500,000 persons will be US$1,620,000. The minimum payment threshold is US$3,240,000 up to the maximum allocated amount.					
Total DLI Value = US$129,600,000	**US$129,600,000**					

Disbursement-Linked Indicators	Timeline for DLR achievement					
	Year 0 **Sep 1, 2017-December 31, 2018**	**Year 1** **2019** **(Jan 1-Dec 31)**	**Year 2** **2020** **(Jan 1-Dec 31)**	**Year 3** **2021** **(Jan 1-Dec 31)**	**Year 4** **2022** **(Jan 1-Dec 31)**	**Year 5** **2023** **(Jan 1-Dec 31)**
DLI 9: Increased confirmation testing post Hep C treatment (non-scalable)	**DLR 9.1** 70% of patients taking the confirmation test following treatment for Hep C, of the total number of patients treated.	**DLR 9.2** 70% of patients taking the confirmation test following treatment for Hep C, of the total number of patients treated.	**DLR 9.3** 70% of patients taking the confirmation test following treatment for Hep C, of the total number of patients treated.	**DLR 9.4** 75% of patients taking the confirmation test following treatment for Hep C, of the total number of patients treated.	**DLR 9.5** 75% of patients taking the confirmation test following treatment for Hep C, of the total number of patients treated.	**DLR 9.6** 80% of patients taking the confirmation test following treatment for Hep C, of the total number of patients treated.
Total DLI Value = US$2,000,000	**US$200,000**	**US$400,000**	**US$500,000**	**US$400,000**	**US$300,000**	**US$200,000**
	US$211,300,000					

DLI Verification Protocol Table

Independent Verification Agency

	DLIs	DLR Definitions/Description of Achievement	Protocol to Verify Achievement of DLIs		
			Data Source	Based on Submitted Documentation as Well as its Own Independent Review, as Necessary, the IVA will	Disbursement Formula
1	**DLI 1: Development of quality tools and mechanisms (non-scalable)**	**DLR 1.1** Accreditation Guidelines for PHC facilities updated	MOHP	Year 0 - Verify that the MOHP has finalized and officially issued the National Quality Accreditation Guidelines for PHC facilities.	**DLR 1.1** US$ 1,000,000 will be awarded upon verification of the accreditation tool.
		DLR 1.2 PHC Services Mapping exercise completed		Year 0 - Verify that the MOHP has completed the PHC services mapping exercise and issued the relevant report in the targeted Governorates in a manner satisfactory to the Bank.	**DLR 1.2** US$ 1,000,000 will be awarded upon verification of the report.
		DLR 1.3 PHC Needs assessment carried out		Year 0 - Verify that the MOHP has carried out a needs assessment in the target Governorates and has produced a detailed report acceptable to the Bank illustrating the needs of all PHCs.	**DLR 1.3** US$ 1,000,000 will be awarded upon verification of the report.
		DLR 1.4 PHC Needs assessment carried out for re-accreditation		Year 3- Verify that the MOHP has carried out a needs assessment in the target Governorates and has produced a detailed report acceptable to the Bank illustrating the needs of all PHCs that have lost their accreditation status starting 2016.	**DLR 1.4** US$ 1,000,000 will be awarded upon verification of the report.

	DLIs	DLR Definitions/Description of Achievement	Protocol to Verify Achievement of DLIs		
			Data Source	Based on Submitted Documentation as Well as its Own Independent Review, as Necessary, the IVA will	Disbursement Formula
2	**DLI 2: Percentage of grievances addressed in project target facilities in accordance with the revised GRM Manual issued in 2017**	**DLR 2.1** Distribute the Grievance Redressal Manual to all PHCs and district level staff in the 9 targeted governorates (non-scalable) **DLR 2.2** Training completed for all PHC and district level staff in targeted governorates on the Grievance Redressal Mechanism using the updated GMR manual (scalable)	MOHP	Year 0 - Verify with the MOHP that the staff have received the GRM manual (prepared in 2016), as defined in the POM. Year 1 - Verify with the MOHP that the staff are trained on the new GRM tool (issued 2016), as defined in the POM. The percentage is calculated as the number of staff at PHC and district management offices levels in the target governorates who are trained on the GRM mechanism divided by the total number of staff at the same levels and in the same target governorates.	**DLR 2.1** US$500,000 will be awarded upon verification of the report. **DLR 2.2** For every % point over 50% achievement, a US$10,000 will be awarded up to a maximum of US$500,000.

	DLIs	DLR Definitions/Description of Achievement	Protocol to Verify Achievement of DLIs		
			Data Source	Based on Submitted Documentation as Well as its Own Independent Review, as Necessary, the IVA will	Disbursement Formula
		DLRs 2.3- 2.6 Percentage of grievances addressed using the GRM (in accordance with the revised manual issued in 2017) (scalable)		Years 2-5: Verify % of grievances addressed, using records of the central grievance department at the MOHP and Governorate level documentation. This is calculated by dividing the number of grievances received and addressed using the revised GRM manual divided by the total number of grievances received in the target governorates.	**DLR 2.3** For each % point increase, US$25,000 will be awarded up to a maximum of US$500,000. **DLR 2.4** For each % point increase, US$25,000 will be awarded up to a maximum of US$500,000. **DLR 2.5** For each % point increase, US$25,000 will be awarded up to a maximum of US$500,000. **DLR 2.6** For each % point increase, US$25,000 will be awarded up to a maximum of US$500,000.

3	**DLI 3: Strengthening governance and decentralized management (scalable)**	**DLRs 3.1- 3.5** Percentage of districts certified for enhanced governance performance	MOHP training	Years 1-5 – Verify the percentage of districts out of the total number of districts in the target governorates who have been certified in enhanced governance performance. A district is certified for enhanced governance performance when it: a) falls in the project target governorates; b) at least 2 management level positions and 3 fiduciary level position persons from that same district and its affiliated facilities have successfully completed the fiduciary training, as deemed acceptable to the Bank; and c) applying smart technology tools to monitor/safeguard project assets, and that the 9 project target health directorates and central MOH are at all times (as deemed acceptable to the bank) : a) Providing quarterly reporting to confirm budget execution in compliance with the approved budgets to MOH; and b) Performing satisfactory public advertising & dissemination of information on contracts awards, value, execution time and progress for project .	**DLR 3.1** For each % point increase, US$25,000 will be awarded up to a maximum of US$500,000. **DLR 3.2** For each % point increase, US$25,000 will be awarded up to a maximum of US$500,000. **DLR 3.3** For each % point increase, US$25,000 will be awarded up to a maximum of US$500,000. **DLR 3.4** For each % point increase, US$25,000 will be awarded up to a maximum of US$500,000. **DLR 3.5** For each % point increase, US$25,000 will be awarded up to a maximum of US$500,000.

	DLIs	DLR Definitions/Description of Achievement	Protocol to Verify Achievement of DLIs		
			Data Source	Based on Submitted Documentation as Well as its Own Independent Review, as Necessary, the IVA will	Disbursement Formula
4	**DLI 4: Improvement of PHC Quality of Services (scalable)**	**DLR 4.1** Number of facilities passing the QSI.	Field visits to PHCs, MOHP data.	Years 1-5 – Verify, and through a suitable scientific random sampling technique acceptable to the Bank, that a set number of PHCs presented by MOHP for verification have met the QSI indicators list as described in the POM. MOHP will propose a batch of PHCs that are: i) in the project target governorates; and ii) have been pre-identified for project support. Each respective batch should be composed of not less than 50 and no more than 150 PHCs for a grand total of 600 PHCs under all batches. The batches, will then be verified according to a suitable sampling basis towards the certification or non-certification of the entire respective batch. For a given batch to be verified for certification, 80% of the sampled PHCs will have to score at least 80% or more of the total score of the QSI.	**DLR 4.1** Each facility verified would be awarded a maximum amount of US$80,000 if it receives at least 80% or more of the total score of the QSI, and provided that all DLRs under DLI 1 have previously been achieved. The minimum payment threshold is US$4,000,000 for each batch of 50 facilities up to a maximum ofUS$48,000,000.

		DLR 4.2 Number of facilities receiving a certificate of accreditation, using the updated accreditation tool, which previously received the QSI certificate	Field visits to PHCs, MOHP data.	Years 1-5 – Verify, and through a suitable scientific random sampling technique acceptable to the Bank, that a batch of PHCs have been accredited in a manner that is compliant with, in process and substance, the National Accreditation tool for Primary Healthcare Facilities developed under the support of the project as described in the POM. MOHP will propose a batch of PHCs that have been accredited through the national Egyptian official accrediting body for healthcare services, and that all PHCs in the batch are: i) in the project target governorates; ii) have been pre-identified for project support in the project's operations manual; and iii) have received the QSI certification under the same project. Each respective batch should be composed of not less than 50 and no more than 150 PHCs for a grand total of 600 PHCs under all batches. The batches, will then be verified according to a suitable sampling basis towards the compliance or non-compliance of the whole respective batch with the Accreditation process and substance described.	**DLR 4.2** Each facility verified would be awarded a maximum amount of US$20,000 upon accreditation. The minimum payment threshold is US$1,000,000 for each batch of 50 facilities up to a maximum of US$12,000,000.

	DLIs	DLR Definitions/Description of Achievement	Protocol to Verify Achievement of DLIs		
			Data Source	Based on Submitted Documentation as Well as its Own Independent Review, as Necessary, the IVA will	Disbursement Formula
5	**DLI 5: Increased household visits by CHWs (in targeted governorates) (non-scalable)**	**DLRs 5.1 - 5.5** Percentage of households visited by CHW in the past year	MOHP	Years 1-5: Verify that the % of households visited by CHW in the past year has increased and reached the set targets.	**DLR 5.1** For reaching the target of 12%, US$600,000 will be awarded. **DLR 5.2** For reaching the target of 17%, US$600,000 will be awarded. **DLR 5.3** For reaching the target of 22%, US$600,000 will be awarded. **DLR 5.4** For reaching the target of 27%, US$600,000 will be awarded. **DLR 5.5** For reaching the target of 32%, US$600,000 will be awarded.

	DLIs	DLR Definitions/Description of Achievement	Protocol to Verify Achievement of DLIs		
			Data Source	Based on Submitted Documentation as Well as its Own Independent Review, as Necessary, the IVA will	Disbursement Formula
6	**DLI 6: Increased contraceptive prevalence rate (nationwide) (non-scalable)**	**DLRs 6.1, 6.2** **%** achievement	DHS and nationally representative population surveys	Years 3 and 5 - Verify % contraceptive prevalence rate (CPR) to be collected through DHS and population survey. The survey would be carried out in year 3 and 5.	**DLR 6.1** For reaching the target 62% CPR, US$1,600,000 will be awarded. **DLR 6.2** For reaching the target 65% CPR, US$1,600,000 will be awarded.
7	**DLI 7: NCD screening (scalable)**	**DLR 7.1** Number of people screened as per the protocol provided in the POM.	MOHP data, spot checks, spot checks on screened individuals, Third party data	Years 0-5: Verify the number of people screened for blood pressure level, blood sugar level and BMI at the community level, through mobile teams, in PHCs and hospitals anywhere in Egypt in a manner and using the testing methods defined in the NCD screening protocol in the POM. The IVA shall verify the data through a mix of: a) checking relevant MOHP documentation; b) spot checks on activities; and c) tracking a sample of screened individuals and communicating with them.	**DR 7.1** Payment for screening of every 50,000 persons will be US$10,000. The minimum payment threshold is US$500,000 up to a maximum of US$4,000,000.

	DLIs	DLR Definitions/Description of Achievement	Protocol to Verify Achievement of DLIs		
			Data Source	Based on Submitted Documentation as Well as its Own Independent Review, as Necessary, the IVA will	Disbursement Formula
8	**DLI 8: Hep C screening (scalable)**	**DLR 8.1** Number of people screened at the community level using the rapid test, and at PHCs and hospitals using lab and/or rapid test, anywhere in Egypt.	MOHP data, spot checks, spot checks on screened individuals, Third party data	Years 0-5: Verify the number of people screened for Viral Hep C at the community level, using rapid test, and at PHCs and hospitals using lab and/or rapid test anywhere in Egypt. Every person can be screened only once for the primary screening test. The IVA shall verify the data through a mix of: a) checking relevant MOHP documentation; b) spot checks on activities; c) tracking a sample of screened individuals and communicating with them; and/or d) Third party reports.	**DLR 8.1:** Payment for screening of every 500,000 persons will be US$1,620,000. The minimum payment threshold is US$3,240,000 up to a maximum of US$129,600,000.

	DLIs	DLR Definitions/Description of Achievement	Protocol to Verify Achievement of DLIs		
			Data Source	Based on Submitted Documentation as Well as its Own Independent Review, as Necessary, the IVA will	Disbursement Formula
9	**DLI 9: Increased confirmation testing post Hep C treatment (non-scalable)**	**DLR 9.1-9.3** 70% of patients taking the confirmation test following treatment for Hep C, of the total number of patients treated. **DLR 9.4 and 9.5** 75% of patients taking the confirmation test following treatment for Hep C, of the total number of patients treated. **DLR 9.6** 80% of patients taking the confirmation test following treatment for Hep C, of the total number of patients treated.	MOHP data, spot checks, spot checks on screened individuals, Third party data	Years 0-5: Verify the number of people who have taken the confirmation test and have been confirmed as cured of Hep C of the total number treated that year under the project, using the confirmation testing methods defined in the POM. The IVA shall verify the data through a mix of: a) checking relevant MOHP documentation; b) spot checks on activities; c) tracking a sample of treated individuals and communicating with them; and/or d) third party reports.	**DLR 9.1** For reaching the target of 70%, US$200,000 will be awarded. **DLR 9.2** For reaching the target of 70%, US$400,000 will be awarded. **DLR 9.3** For reaching the target of 70%, US$500,000 will be awarded. **DLR 9.4** For reaching the target of 75%, US$400,000 will be awarded. **DLR 9.5** For reaching the target of 75%, US$300,000 will be awarded. **DLR 9.6** For reaching the target of 80%, US$200,000 will be awarded.

Annex 2 : Composite Quality of Services Index (QSI)

	Indicator	Target	Scoring (points)	How to calculate	Source of data	Verification means
1	**% of children attended the one-year visit tested for HB**	60-69%	5	Number of children tested for HB at 1-year visit divided by the number of children attending the 1-year visit. Average for the last two months before the verification	• Well baby clinic registry • Laboratory registry	• Registry review. • Laboratory spot check • Interview with service providers
		≥70%	10			
2	**Average number of growth monitoring visits for children during their second year of life (13-24 months)**.	1-1.4	5	Number of children attending growth monitoring visits during the 2nd year of life divided by average number of live births per month for the previous year (average for the last two months before verification)	• Children follow-up registry	• Registries review • Well-baby clinic spot check
		*≥ 1.5	10			
3	**% of women completed at least 4 ANC visits during pregnancy**	50-59%	5	Number of women who completed pregnancy and had 4+ ANC divided by total number of women completed their pregnancy (average for the last two months)	• Delivery register in the FHU	• Registries review
		≥60	10			
4	**Facility utilization**	10 % increase OR 45% of Target	**5**	Total utilization of **all services**[1] divided by (PHC target population X 20%) in the last two months compared to the same period of the last year	• All applicable registers	• Registries review
		20 % increase OR 60% of Target	10			

5	**No. of days in which the facility had no on duty physician**	**3 – 4**	**5**	**Average number of days that the facility had no doctor on duty for any reason (excluding holidays) for the last two months before verification**	• **Attendance records**	• **Attendance registry review** • **Interview with concerned staff** • **Outpatient registry**
		< 3	10			
6	**% of chronic patients (diabetic and hypertensives) who were followed and received required treatment in the last two months**	**50-60%**	**5**	Number of diabetic and hypertensive patient who were followed up and received treatment for at least 3 times during the last 6 months divided by total No. of registered diabetic and hypertensive patients	• Record of chronic patients	• Registries review • Telephone interview with at least two patients
		>60%	**10**			
7	**No of documented supervisory visits to the PHCs in the last two months**	**3-5**	**5**	Number of all documented supervisory visits (from District, Governorate or central ministry) in the last two months	• Registry of supervisory visits • Visit reports	• Registries review • Review to sample of reports • Interview with concerned staff
		≥6	**10**			
8	**Facility uses the procedures stated in the new GRM manual to deal with patient grievances**	**Follow procedures completely**	**10**	Review of all procedures used by the facility to handle the grievance and complains of patients	• Registers for complains • Posters to explain the GRM procedures	• Registries review • Reports review • Interview with concerned staff
		Not completely	**0**			
9	**No. of days with stock-out of core drug list**	**3-5**	**5**	Core drug list will be reviewed for the last two months before verification. Stock-out for any drug on the list will be counted the average of the last two months will be then calculated.	• Pharmacy registers	• Registries review • Interview with concerned staff
		< 3	**10**			
10	**Pharmacists and lab technicians working in the PHC received technical**	**Pharmacists only**	**5**	All pharmacists and lab technicians will be interviewed for receiving technical training during the last two years	• Staff Interviews • Certificates off training	• Interviews with staff • Certificates off training • Notification for attending the training
		Pharmacists + lab technicians	**10**			

	training in the last two years				• Notification for attending the training	
11	**The PHCs applied Environmental friendly procedures in using energy and water preservation**	**PHC uses LED in all illumination**	**5**	PHCs will be checked for the type of lamps they use for illumination. It will be reported positively if all lamps are led. Tanks used for reserving water will be inspected for the wright procedures to keep them safe	• Observation for kind of lams used in the PHCs • Inspection to water reservoirs	• Inspection to types of lamps • Inspection to water tanks • Interview with staff
		PHC uses LED and follow the protocol to keep water tanks safe	**10**			
12	**District Follow on Performance Indicators of all PHCs under its supervision at least once every quarter and develop Performance Improvement Plans to improve them.**	**Indicators are calculated and presented in monthly meeting**	**5**	The concerned district is checked for presence of monthly PI to all PHCs under its supervision. Sample of PIP (Performance Improvement Plans) will be examined. The acquired score will be applied to PHCs under that district	• Minutes of monthly meeting in the district • Sample of PI for PHCs • Staff interviews • Sample of PIPs	• Interviews with staff • Minutes review • Review to sample of PI and PIPs
		Indicators are calculated and presented in monthly meeting and Plans for improvements are developed	**10**			

1- **All services**: Includes all beneficiaries received 1) outpatient clinic services, 2) emergency services, 3) family planning services, 4) antenatal care services, 5) vaccinated children, 6) lab services, 7) dental services.
Utilization Target for each PHC as per the MOHP protocols: Annual target is 2.4 visit per capita per year, OR 0.2 visit per capita per month (i.e.: 20% of population monthly)

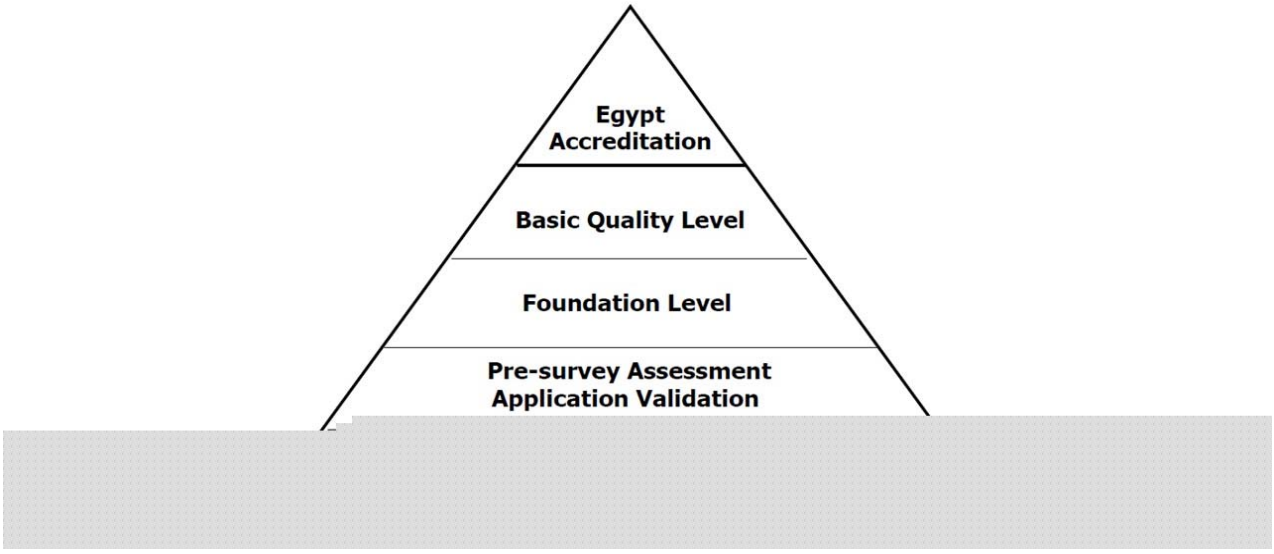
Passing Criteria:

- Each PHC will be given a score out of a possible total of 120. Passing mark for each PHC is 96 (i.e:80%)
- For a total batch of PHC's to pass, a Total of at least 80% of the sampled PHC's must score more than 80% individually.

ANNEX 3: ACCREDITATION SYSTEM IN EGYPT

The Egyptian HealthCare Accreditation Program has developed quality accreditation standards for hospitals and PHCs. These standards, which are based upon the International Society for Quality in Healthcare guidelines, measure both *structural* and *implementation* components of quality care, as summarized in more detail below. The accreditation process has multiple stages with different criteria for hospitals and PHCs (e.g. the hospital accreditation process is shown in Figure 1, below). Accreditation is overseen by the MOHP's Executive Accreditation Committee.

Figure 1. Phases in the Hospital Accreditation Process



Hospital Accreditation Standards

The hospital accreditation standards assess facilities on the following categories (with examples of standards under each category):

1. **Patient rights and responsibilities and organization ethics,** e.g. policies in place defining patient rights and informed consent process; respect for patient privacy, confidentiality, and dignity; consent obtained when appropriate, etc.;

2. **Patient access and assessment of patients,** e.g. policies and procedures in place for coordination of care across services and settings; measured compliance with said policies; appropriate medical record keeping and documentation of treatment;

3. **Providing care, diagnostic services, blood bank and transfusion services, invasive procedures, patient and family education,** e.g. use of clinical guidelines for basic emergency conditions, e.g. treatment of chest pain, shock,

polytrauma; policies and procedures in place for blood screening and handling; availability of qualified emergency, radiological, and laboratory staff 24 hours a day;

4. **Medication management,** e.g. development and use of essential drug list; policies developed for safe medication prescribing, storage, and dispensing, and compliance with said policies;

5. **Patient safety,** e.g. policies developed and adhered to for reducing fall risks, catheter-related infections, etc.; appropriate communication of critical lab values;

6. **Infection control, surveillance, and prevention,** e.g. infection control program overseen by qualified staff and compliance with critical practices, e.g. hand hygiene, contact precautions, safe disposal of sharps;

7. **Facility and environmental safety,** e.g. facility inspection programs in place and documented;

8. **Information management,** e.g. verification of medical record keeping with unique patient identifier, appropriate patient history, and documentation of treatments and procedures performed; all orders signed by the appropriate physician and adequately documented;

9. **Performance improvement,** e.g. facility performance improvement plan developed; dedicated performance improvement committee with multi-disciplinary representation meets monthly, etc.;

10. **Organization management,** e.g. defined governance, leadership, and planning structures and policies in place; appropriate supervision, etc.;

11. **Human resources, nursing services, medical staff,** e.g. appropriate skills verified at time of hiring, opportunities for continuing medical education provided, etc.;

12. **Community Involvement,** e.g. defined community outreach and education programming focusing on key prevention messages, including vaccinations, smoking, exercise, etc.

Primary Healthcare Facility Accreditation Standards

The PHC accreditation standards assess facilities on the following categories:

1. **Community identification and involvement,** e.g. catchment area defined, referral hospitals and transport identified, process and policies for referrals in place, community representatives involved in facility decision-making;

2. **Scope of PHC practice, including management of common illnesses, health education, nutrition, expanded program of immunization (EPI), child health care, maternal health, reproductive health, and screening and early detection,** e.g. basic and essential services defined for the facility, illnesses and conditions managed according to clinical guidelines, health education programs implemented in the community, etc.;

3. **Patient rights and responsibilities and facility ethics,** e.g. policies in place defining patient rights; respect for patient dignity, confidentiality, and privacy; informed consent obtained and documented;

4. **Access to services and assessment of clients**, e.g. patients seen by same physician for routine follow-up, wait times appropriate for community needs, appropriate referral mechanisms in place;

5. **Providing care, diagnostic services, invasive procedures, patient and family education,** e.g. clinical guidelines for emergency care followed, radiological and laboratory services operating according laws and regulations, supervision available during working hours, etc.;

6. **Medication management,** e.g. development and use of essential drug list; policies developed for safe medication prescribing, storage, and dispensing, and compliance with said policies

7. **Patient safety,** e.g. policies developed and adhered to for reducing fall risks, catheter-related infections, etc.; appropriate communication of critical lab values;

8. **Infection control, surveillance, and prevention,** e.g. hand hygiene guidelines implemented, single-use injection devices appropriately discarded after use, all medications appropriately labeled, etc.;

9. **Facility and environmental safety,** e.g. documented facility inspection programs

10. **Information management,** e.g. verification of medical record keeping with unique patient identifier, appropriate patient history taking, and documentation of treatments and procedures performed; all orders signed by the appropriate physician and adequately documented;

11. **Performance improvement,** e.g. PHC performance improvement plan developed; dedicated performance improvement committee with multi-disciplinary representation meets monthly, assigned performance improvement coordinator, etc.;

12. **Organization management,** e.g. defined governance, leadership, and planning structures and policies in place; appropriate supervision, etc.;

13. **Human resources, nursing services, medical staff,** e.g. appropriate skills verified at time of hiring, opportunities for continuing medical education provided, etc.

ANNEX 4: DETAILED ECONOMIC ANALYSIS

1. **The project aims to improve the quality of primary and SHC services and to support the Government of Egypt in the prevention and control of Hep C**. Improving health has a broad positive effect on the social and economic wellbeing of the country. The effects could be observed through higher labor productivity, demographic changes and educational attainment. Furthermore, poor health generates economic complications for Egyptian families, where an illness in a family with no savings can force its members into hardship or even extreme poverty. In addition, better health status is linked to better education with lower absenteeism and improved cognitive performance. To address the poor quality of healthcare services at MOHP facilities, the project intends to assist GoE in improving quality of healthcare services at primary and secondary care level. As such, financial support to the accreditation of healthcare facilities would be the first step, to be provided through result-based financing contingent upon meeting a set of service quality indicators.

A. Cost Benefit Analysis

The scope of the analysis

2. This cost-benefit analysis proceeds from an intervention logic that increasing the quality of care in the targeted PHC units and hospitals would lead to a decrease in morbidity, maternal and infant mortality rates, Hep C and NCDs related mortality and fertility rates leading to economic gains.
3. In the analysis, a social prospective is employed with two main factors affecting results; a time-frame based on a time horizon of 12 years. The discount rate used to reflect the preference of the Project beneficiaries and government to receive the benefits of the project earlier than later (time preference) and to explain the increased ambiguity about receiving predicted benefits further into the future (Risk Premium). The discount rate used in the analysis is optimistic at 7%.
4. Benefits and costs are expressed in US$ monetary terms in the analysis, and are adjusted for the time value of money, so that all flows of benefits and flows of project costs over time (which tend to occur at different points in time) are expressed on a common basis in terms of their net present value.
5. Given the total health expenditures in Egypt (US$18.79 billion, 2016) and the government spending (EGP 44 billion = US$ 2.63 billion), the project accounts for 3 per cent of the total health expenditure. It is expected that the project will target 600 MOHP PHC units and 24 referral hospitals serving their catchment areas in the nine governorates of phase one and phase two of the CHI Law roll out plan (Including Alexandria from phase 3). The population in the 9 targeted governorates is 14 Million where 54% and 46% are females and males respectively. Besides, People with access to health services shall reach around five million patients. That is, a flow of 7,000 patients for each of the 600 PHC units. For all calculations, an exchange rate of 1 EGP= 0.06 US$ is used.

Benefits accrued from improved health promotion and health education through CHW and PHC units

6. **The project aims to improve the quality of PHC services and to strengthen the CHW program with various interventions areas mainly MCH, nutrition, and family planning.** Hunger has a huge cost and malnutrition is a huge burden on Egypt's economy. under-nutrition (stunting, wasting and micronutrient deficiencies in children, and anemia among adult women was estimated to sap an estimated 1.9% of Egypt’s annual GDP through productivity foregone and costs to the health system (WFP, 2013). This is mainly due to the lack of awareness among mothers on the essential nutrients rather than their level of poverty. If the CHW contracted under the project and the PHC units will educate pregnant women about

stunting with a conservative effectiveness rate of 10 percent, the project yields around US$ **152 million**[23].

Benefits accrued from supporting Family planning services to control population growth

7. **The project will promote and support a more focused demand creation on family planning services that would accelerate the efforts to achieve the optimal desired balance between population and economic growth rates.** The average return on each Egyptian pound (US$0.06) spent of family planning, is estimated at EGP 56.12 (US$3) (Fouad and Nassar, 2015). These results are based on 2012/2013 actual expenditure figures[24]. Investing about US$ 30 million in community and facility-based family planning services[25] will result in government savings over 12 years (Government spending on a smaller population base[26]) with an amount of **US$ 602 million**. the benefits can be separated into providing health (US$99 million), education (US$333 million), food subsidy (US$123 Million), and other infrastructure services (US$45 million) to a smaller population base. Moreover, women in rural areas, where fertility rates remain high, are more likely to go to a public-sector source to obtain contraceptive methods than urban women (62 percent and 48 percent, respectively).

Benefits accrued from improving quality SHC services

8. The hospitals covered under the project will strengthen the continuity of quality care for patients treated at PHCs such as antenatal, delivery and postpartum care for women, support treatment of patients who have been screened for blood sugar and hypertension under the project and support the provision of treatment of patients who screened positive for Hep C.

a) Reduced Maternal and infant mortality rates

The Infant mortality rate serves as a good health indicator for the governorates as it is particularly sensitive to general structural factors, like socioeconomic development and basic living conditions (Sartorius & Sartorius, 2014). The project is expected to contribute in improving the health status of the nine governorates by reducing IMR by five%, conservatively. The project will help the 24 hospitals provide Skilled health care personnel attended births[27], health infrastructure and access to emergency obstetric care to pregnant women. This is expected to reduce the risk of complications and infection for the mother and the child and lessen the numbers of maternal deaths in the governorates. Under a conservative assumption, the project intervention will *reduce by 10% the Maternal deaths (MMR; 45.9 deaths per 100,000 live births,*

[23] This is computed as follows: (US$6.39 billion representing the 1.9 % of GDP loss discounted over 5 years*5% of the whole population covered by the PHC units * 10% effectiveness).

[24] The CBA generated a benefit-ratio scale variable; thus, the devaluation of money and inflation are disregarded. moreover, the analysis was done on a time horizon of 36 years and its replicated with a 12 years scenario.

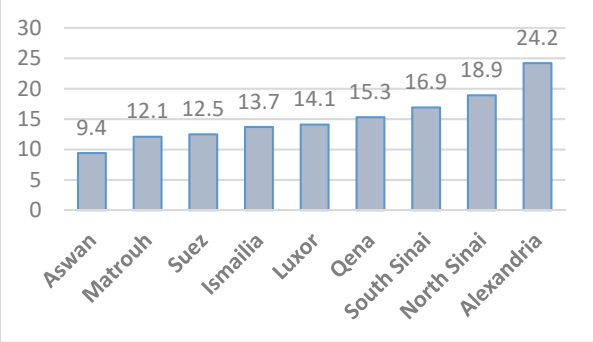
[25] Outreach campaigns, contracting doctors and Procurement of contraceptives; (Intra Uterine Device) IUDs and injectables and securing health provider presence, to supply a percentage of married women of reproductive age (15-49) in the 9 governorates (3.6 Million, census 17) with family planning needs.

[26] The contraceptive failure rate is 0.8% and number of births averted would be one to two; Couple- years of protection is 3.2 for the IUD and 2 for the Implanon next).

[27] 36 percent of maternal deaths happen during delivery (El-Nashar (2013).

2016) and the Infant deaths (19.4 deaths per 1000 live births, 2016) by 5%. The status-quo of Maternal deaths in the nine governorates is estimated at 15% of the whole maternal deaths in Egypt (1193 deaths) which yields 179 Maternal deaths[28]. Moreover, the status-quo of infant deaths in the nine governorates is 6697 infant deaths (MOH,2016; Vital Statistics book, 2017). the project is thought to save around 353 lives[29] to be realized starting from the second year of the project. *Using an appropriate statistical value of life, the project is expected to deliver substantial benefits*. Adopting *a very conservative assumption (USD 15,000 for each life-year saved) for the Egyptian context, saving* 16,288 lives will yield a total economic benefit of USD 5.2 million for the project beneficiaries (Viscusi and Aldy, 2003)[30].

Figure 1. Infant mortality rate of the nine governorates, 2016*



* deaths/1,000 live births

Source: MOHP, 2016

b) Benefits accrued from controlling NCDs

9. According to the WHO, NCDs, such as cardiovascular diseases, diabetes, cancer and chronic respiratory diseases, are now the leading cause of death in Egypt. NCDs are estimated to account for 82% of all deaths in the country. The 2011-12 STEP wise survey, conducted by the MOHP in collaboration with WHO, found a 17% prevalence of diabetes and a 40% prevalence of hypertension in Egypt, with obesity also a growing local problem.

10. Hypertension is a common health problem in Egypt. It has a high prevalence, whereas its rates of awareness, treatment and control are low. If everyone above 35 is screened (30 million), 5.4 million would have mild hypertension, 1.6 million moderate, and 0.7 million severe (EDHS, 2014). WHO recommends that mild cases don't require treatment immediately[31]. Thus, the project will treat 425,000 moderate and severe cases who aren't already under treatment (60%). Hypertension is a

[28] Due to non-availability of MMR data by governorates, assuming 15% of Egypt's maternal deaths happen in these 9 governorates is safe given the high MMR in upper Egypt governorates (56/100,0000).

[29] The number of live births in Egypt was employed to estimate the number of maternal deaths (179 Women) and the infant deaths (6697) as well. Number of saved lives is explained by the following calculations: (2.6m live births * 45.9/100,000 MMR * 20%* 5%) while for the IMR, (6697 infant deaths * 10%).

[30] Given the income elasticity (0.5-0.9) of statistical value of life (VL = VLY * LY where VLY; Value of Life year and LY; Life expectancy in Years), Viscusi and Aldy (2003) assume US$ 10,000-20,000 for each life-year saved in India compared to USD 160,000 in the US and USD 50,000 per year of quality life use internationally.

[31] The project can apply a community-based approach promoting Healthy lifestyle, including smoking cessation, physical activity, weight control, stress coping, salt restriction and healthy diet.

risk factor for cardiovascular morbidity and mortality[32] and 8% are subject to develop cardiovascular disease (IHME,2016). Assuming a conservative intervention effectiveness of 25%, the project is expected to save 7,969 lives which will yield US$ 120 million using VSL to the project beneficiaries.

11. Diabetes is a fast-growing health problem in Egypt with a significant impact on morbidity, mortality, and health care resources. If everyone is screened (30 million), 6.5m (diabetic type 2) plus 1.8 million (pre-diabetic) of which 3.6 million are not aware of their condition (EDHS 2014; IDF 2016; Hegazy, 2015). Therefore, 1.5 million (60%) who aren't already under treatment would require interventions[33]. Assuming a conservative intervention effectiveness of 25%, the project is expected to save 4,158 lives which yields US$ 62 million using VSL.

c) Macroeconomic returns to investment in Hep C treatment:

12. According to EHIS (2015), Hep C infection is a major public health burden in Egypt, where it bears the highest prevalence rate in the world (7 percent, testing positive for viral RNA). 40,000 deaths in 2015 were caused by Hep C, largely through cirrhosis and liver cancer which accounts for 7.6% of total mortality. Moreover, an estimated 150,000 Egyptians are infected yearly mostly through unsafe medical practices (incidence rate = 0.2 %).

13. To measure the macroeconomic returns to the project's investment in Hep C treatment, the analysis proceeds from a logic that the burden of Hep C on the Egyptian economy is huge and can be measured in several ways (World Bank, 2018). Treatment and care cost of Hep C absorb 0.07% of GDP per capita (2) premature mortality cuts living standards by an equivalent of 1.5% of GDP per capita. The project is expected to contribute in reversing these effects to a large extent with variations across short-medium to long term effects since effects play out at different speeds.

14. Averting Hep C associated deaths will generate in return economic benefits for the project beneficiaries. Results suggest that the project treatment intervention is expected to avert 233,582 deaths. Using an appropriate statistical value of life with the very conservative assumption (US$15,000 for each life-year saved) for the Egyptian context, this will yield a total economic benefit of US$ 3.5 billion[34] for the project beneficiaries (Viscusi and Aldy, 2003).

Table 1. Results of Based on screening 40 million as an elimination scenario

Findings	**Year 0**	**Year 1**	**Year 2**	**year 3**	**Year 4**	**Year 5**
Hep C RNA (units)	5,327,396	5,069,295	4,477,357	3,787,756	3,218,758	2,747,911
Number of treated people	247,672	605,513	716,320	593,506	492,997	410,748
Treated (cumulative)	247,672	853,185	1,569,504	2,163,010	2,656,007	3,066,756
Hep C-related deaths	41,717	41,646	40,438	38,661	36,620	34,499

[32] Cardiovascular associated mortality is estimated at 7,5 % (IHME) and Diabetes T2 mortality is estimated at 1.1% (IDF)

[33] The Egyptian ministry of health (MOH) is currently the major provider of primary, preventive, and curative care in Egypt, with around 5000 health facilities and more than 80,000 hospital beds spread nationwide. There are no formal referral systems in the MOH delivery system, and most patients with diabetes are either treated in the private health care sector through OOP fee for service, in the limited number of academic hospitals, or in the scarce dedicated diabetes centers in Cairo and some other major cities.

[34] reduced mortality results in a gain in living standards equivalent to 0.6 to 0.8 percent of GDP.

No. deaths (Cumulative)	41,717	83,363	123,801	162,462	199,082	**233,582**
discounted costs	413.7346	495.4824	521.358	497.6383	473.5592	450.4161
cumulative cost	413.7346	909.217	1430.575	1928.213	2401.773	**2852.189**

15. Merging all the above benefits, the project is thought to have benefits that far exceed the costs as described in the below tables.

Table 2. Summary of the benefits accrued by the project interventions

Benefits	**US$, Millions**
Benefits accrued from improved health promotion and education through CHW and PHC units	
Educating Women on Stunting and malnutrition	**152**
Promoting Family Planning	**602**
Benefits accrued from improving quality SHC services	
Providing MNCAH quality services	**5**
Supporting the Government of Egypt in the prevention and control of Hep C.	**3,503**
Controlling NCDs	**182**
Total	**4,444**

16. Bringing in the financial costs of the project investments, the returns to the project are summarized below:

Table 3. Project returns (at 7 % discount rate)

Benefits / costs	**Present Value of Flows (US$)**
Benefits: Benefits due to reduced mortality, morbidity, and limited population growth rates (See above for details).	Cash flow: US$4.4 billion to 2030 (discount rate 7%)
Costs: Investment costs plus recurrent costs. Recurrent costs are expected to stabilize at end of investment period and grow at constant rate thereafter.	Investment: US$ 530 million to 2023 (Discount Rate: 7%)
Net present Value	US$ 2,29 billion
Benefit-Cost Ratio	5.77
IRR (%)	54%

Sensitivity Analysis

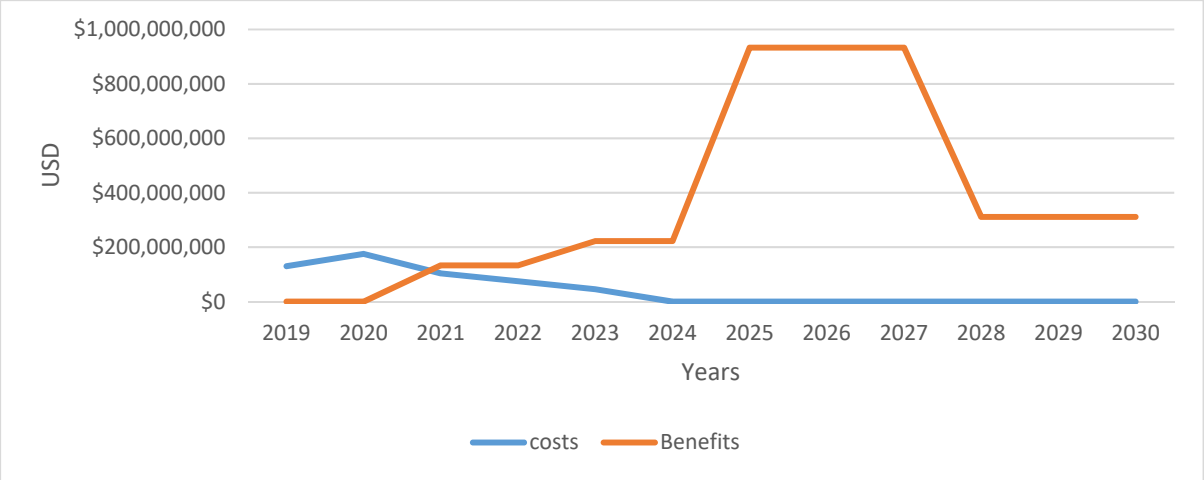
17. In order to draw the best and worst scenarios for the project with different paces of realizing the benefits and different discounting rates, the tables below summarize the potential returns and NPV of the project:

Table 4. Different discounting rates for the project financial flow

Year	Net financial flow	Present Value		
		Base (7%)	Low (10%)	High (5%)
0	(130,235,945)	(130,235,945)	(130,235,945)	(130,235,945)
1	(175,185,229)	(163,724,513)	(159,259,299)	(166,843,075)
2	29,423,023	25,699,208	24,316,548	26,687,549
3	58,175,523	47,488,556	43,708,131	50,254,204
4	176,657,724	134,771,332	120,659,603	145,336,747
5	222,211,754	158,433,909	137,976,016	174,108,723
6	933,289,365	621,890,111	526,817,516	696,434,894
7	933,289,365	581,205,711	478,925,014	663,271,327
8	933,289,365	543,182,908	435,386,377	631,686,978
9	311,096,455	169,215,859	131,935,266	200,535,549
10	311,096,455	158,145,663	119,941,151	190,986,237
11	311,096,455	147,799,685	109,037,410	181,891,654
NPV		**2,293,872,483**	**1,839,207,786**	**2,664,114,842**
BCR		**54%**	**54%**	**54%**
IRR		**5.77**	**4.97**	**6.40**

18. Making assumptions on the benefits and associated returns of project, the break-even point is expected to be realized mid 2021 (almost three years after the start of the project). This will subject to the pace of disbursement and commitment of the implementing agency (MOHP). The figure below shows the Break-even point for the project.

Figure 2. Discounted Costs and benefits in Base year (2019) in million dollars



B. Financial Sustainability and Fiscal impact

19. **The project is expected to be cost saving in the long run which will increase its fiscal sustainability**. Close independent monitoring, verification and validation of the project activities are expected to enhance the economic benefits and thus, the financial sustainability.

20. **Government contribution as a per cent of total health expenditure has declined over the last two decades, however recent health spending commitments could help reverse this trend.** Considering the new constitution, the resource allocation to health is marked by a 3 percent of the GDP, compared to the current 1.5 percent. Therefore, the project activities are not likely to have negative financial or fiscal impacts. Additionally, the project is paving the road for the smooth implementation of the CHI Law and the strong pro-poor governmental agenda. Only the accredited facilities will be contracted by the new national health payer. Therefore, the following measures are of critical importance for the financial sustainability of this project, namely: (i) a high level of commitment by the Government to maintain the quality standards acquired by the project in a sustainable manner, especially after the end of the project; and ii) adequate technical and administrative capacity of the ministry with regard to the effective cost containment and quality assurance.

C. Appropriateness of public provision

21. The target beneficiaries of this project mainly represent a percentage of uninsured population in the nine governorates. Most of this population is poor and informal workers without any form of social security. Therefore, their needs can best be met through the public sector due to existing market failures which have excluded them. This can be done by leveraging existing public sector targeting methods that can be used to reach this population. precisely, the targeted governorates in Upper Egypt, among others, are not attractive to the high quality private sector investments that are principally outpatient oriented. In the poorest governorates, the public sector is the main healthcare provider, particularly at the secondary level, with the required physical and human resources for the project. Moreover, the

project is expected to support the GoE in qualifying the MOHP facilities to be contracted by the upcoming comprehensive health insurance scheme.

22. **The high incidence of OOP health expenditure combined with poverty puts poorer Egyptians under extreme financial pressure when it comes to illness**. Due to endemic market failures, the poor are excluded from the health system in Egypt. They are unable to access high quality affordable healthcare and as a result skimp on care or skip care altogether. Egyptians in the highest income quintile report twice as many outpatient and inpatient visits as compared to those in the lowest income quintile (Rafeh et al., 2011). When the poor do seek care, their OOP expense is a higher proportion of their household expenditure as compared to the rich (Rafeh et al., 2011). Almost seven per cent of Egyptians face catastrophic expenses[35] due to healthcare and the poor disproportionately bear the brunt of this cost. (Elgazzar et al., 2010). As a result, this target group tends to have worse health outcomes than the general population. The public sector, with its mandate of reducing inequities for the most vulnerable, is best positioned to rectify this and address the needs of this population. By upgrading the target public facilities as a prerequisite for contracting by the new health insurance payer, the project provides an efficient use of public systems as it optimizes the use of underutilized fixed capital at the primary and secondary level.

References

Benn KD Sartorius and Kurt Sartorius, Global infant mortality trends and attributable determinants – an ecological study using data from 192 countries for the period 1990 2011, Population Health Metrics 2014, 12:29, available from: http://www.pophealthmetrics.com/content/12/1/29.

Central Agency for Public Mobilization and Statistics Statistical Yearbook. 2017 (http://www.capmas.gov.eg/book.aspx).

Elgazzar H, Raad F, Arfa C, Mataria A, Salti N, Chaaban J, et al. Who Pays? Out-of-Pocket Health Spending and Equity Implications in the Middle East and North Africa. World Bank, Washington, DC. 2010.

El-Zanaty and associates and ICF International. Egypt Demographic and Health Survey (2014). MOHP and ICF International, 2015.

El-Zanaty F, Way AA. Egypt Demographic and Health Survey 2014. Cairo, Egypt: MOHP, El-Zanaty and Associates, and Macro International, 2014.

Institute for Health Metrics and Evaluation (IHME). The Global Burden of Disease. Country profile: Egypt 2016. Available from:
https://www.healthdata.org/sites/default/files/files/country_profiles/GBD/ihme_gbd_country_report_egypt.pdf.

Ministry of Health Egypt and Health Systems 20/20. National Health Accounts 2007/2008: Egypt. Bethesda, MD: Health Systems 20/20 project, Abt Associates Inc, 2010.

[35] Catastrophic expenses are defined as costs greater than 10 per cent of total household

Viscusi, W. K., & Aldy, J. (2003, 02). The Value of a Statistical Life: A Critical Review of Market Estimates throughout the World. doi:10.3386/w9487.

World Food Programme. (n.d.). Retrieved from http://www.wfp.org/content/egypt-cost-hunger-implications-child-undernutrition-social-economic-development-june-2013.

WHO and UN partners. WHO statistical profile/ Egypt 2015 [12 July 2016]. Available from: http://www.who.int/gho/countries/egy.pdf?ua=1.

WHO. NCDs/ Egypt country profile 2014 [18 July 2016]. Available from: http://www.who.int/nmh/countries/egy_en.pdf?ua=1.

ANNEX 5. COST EFFECTIVENESS ANALYSIS OF AGE-SPECIFIC SCREENING FOR NCDs

1. **The four risks factors that drive mortality and morbidity in Egypt are high body-mass index (BMI), high blood pressure, dietary risks and high fasting plasma glucose (IHME, 2016**). Therefore, the proposed project aims to screen 20 million people for blood pressure, blood sugar and BMI and treatment would be only financed for the detected cases in the nine governorates at the hospital & PCU level which accounts for 15% of nation-wide detected patients.

2. **To better gauge which is the most appropriate age-group for NCD screening under the project from a cost effectiveness point of view, a very basic cost effectiveness analysis from a payer perspective was used over a four-year period using a five % discount rate.** The analysis determines at which age-group, the NCDs screening achieve the greatest outcome (detects the highest number of patients) for the given costs. The summary of this analysis is as follows:

- **The analysis attempts to test whether "*the screening cost per case identified is lower in age groups where the prevalence for Hypertension and Diabetes is relatively high*" and results are summarized in Table 1.** Comparing the screening outcomes of two different age groups; **Intervention 1 including 35 years to 90+ years** to **Intervention 2 including 15 years to 90+ years** based on the age-specific prevalence rates of diabetes and hypertension collected from the literature and EDHS. In intervention (2), where the detection rates are lower but the targeted age group is larger, more cases are expected to be identified with a higher cost.
- **To evaluate which intervention is more cost effective, the average cost effectiveness ratio (ACER) was computed**. The ACER was found to be lower in **Intervention 1 (35-90+ Screening**) at US$0.62 per case identified, compared to US$0.85 in **Intervention 2** (**15-90+ Screening).** In other words, investing US$1 million in screening the 35-90+ age group is expected to identify 1.6 million cases to be treated compared to 0.96 million cases if invested in age group 15-90+.

Table 5. Cost effectiveness analysis of screening for NCDs

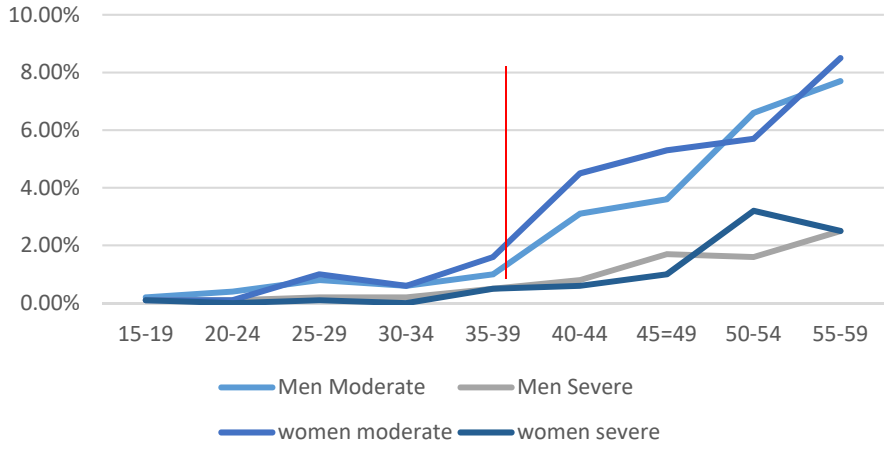
Age Group	Intervention I (35-90+)	Intervention II (15-90+)
Number of people to be screened (Number)[36]	29,592,072	62,337,256
Detection rate of Diabetes T2 (Percentage)	19	15
T2 Diabetic cases	5,622,494	9,551,916
Detection rate of Moderate Hypertension (Percentage)	5	3
Moderate Hypertensive cases (Number)	1,578,888	1,734,591
Detection rate of Severe hypertension (Percentage)	2	1
Severe hypertensive cases (Number)	694,801	725,090
EXPECTED AGE-SPECIFIC SCREENING OUTCOMES		
Total number of chronic cases (Number)	7,896,182	12,011,597
ESTIMATED SCREENING COST FOR DIABETES AND HYPERTENSION		
Screening unit cost (USD)	0.2	0.2
total cost of screening (USD)	5,918,414	12,467,451
Present value of screening Cost (USD) *5% Discount rate*	4,869,094	10,257,003

[36] Based on 2016 Egypt Census Data

COST EFFECTIVENESS ANALYSIS (*Discount Rate 5% over a 4-year period from a payer perspective)*		
Average Cost-effectiveness ratio (US$/identified case)	0.62	0.85

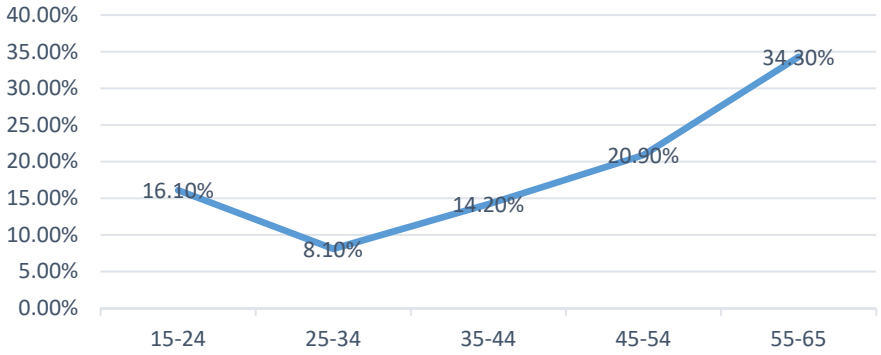
The relative risk of diabetes and hypertension increases with the age. The prevalence rate is increasing rapidly from 35 years old and reaches its peak at 60 years old.

Figure 1. Detection rates of Hypertension by age and gender



Source: EDHS (2014)

Figure 2. Detection rates of Diabetes by age



Source: MOH, Based on a diabetes population survey