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Document of
The World Bank

Report No: 76766-LR

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF SDR 6.7 MILLION
(US$10 MILLION EQUIVALENT)

AND A PROPOSED GRANT

FROM THE

HEALTH RESULTS INNOVATION TRUST FUND
IN THE AMOUNT OF US$5 MILLION

TO THE

REPUBLIC OF LIBERIA

FOR A

HEALTH SYSTEMS STRENGTHENING PROJECT

May 03, 2013

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CURRENCY EQUIVALENTS

(Exchange Rate Effective February 2013)

Currency Unit	=	Liberian Dollars (LR$)
LR$73.5	=	US$1
US$	=	SDR 1

FISCAL YEAR

January 1 – December 31

Regional Vice President:	Makhtar Diop
Country Director:	Yusupha B. Crookes
Sector Director:	Ritva S. Reinikka
Sector Manager:	Trina S. Haque
Task Team Leader:	Rianna Mohammed-Roberts

ABBREVIATIONS AND ACRONYMS

AfDB	Africa Development Bank
AFTHW	Africa Health, Nutrition & Population West/ Central
BPHS	Basic Package of Health Services
CAS	Country Assistance Strategy
CBL	Central Bank of Liberia
CBO	Community Based Organization
CHAI	Clinton Health Access Initiative
CHSWT	County Health and Social Welfare Team
DHS	Demographic and Health Survey
DP	Development Partner
EmONC	Emergency Obstetric and Neonatal Care
EPA	Environmental Protection Agency
EPHS	Essential Package of Health Services
ETAT	Emergency Triage and Treatment
EU	European Union
FHC	Free Health Care
FM	Financial Management
FMM	Financial Management Manual
GDP	Gross Domestic Product
GMRP	Graduate Medical Residency Program
GOL	Government of Liberia
GNI	Gross National Income
HCWMP	Health Care Waste Management Plan
HDI	Human Development Index
HMIS	Health Management Information System
HRITF	Health Results Innovation Trust Fund
HSCC	Health Sector Coordination Committee
IAS	Internal Audit Secretariat
ICB	International Competitive Bidding
IDA	International Development Association
IFR	Interim Financial Report
LMDC	Liberia Medical and Dental Council
M&A	Ministries and Agencies
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MDG	Millennium Development Goal
MFAU	Micro-Fiscal Analysis Unit
MMR	Maternal Mortality Ratio
MNCH	Maternal, Neonatal and Child Health

MoF	Ministry of Finance
MoHSW	Ministry of Health and Social Welfare
MOU	Memorandum of Understanding
MTEF	Mid-Term Expenditure Framework
NCB	National Competitive Bidding
NFP	Not-for-Profit
NGO	Non-Governmental Organization
NHSWPP	National Health and Social Welfare Policy and Plan
OFM	Office of Financial Management
ORAF	Operational Risk Assessment Framework
PA	Physician Assistant
PAD	Project Appraisal Document
PBC	Performance-based Contracting
PBF	Performance-based Financing
PCU	Project Coordination Unit
PDO	Project Development Objective
PFM	Public Financial Management
PFP	Private for Profit
PGMC	Postgraduate Medical Council
PIM	Project Implementation Manual
PMU	Project Management Unit
PRSP	Poverty Reduction Strategy Paper
RBF	Results-Based Financing
SBD	Standard Bidding Document
SOE	Statements of Expenditure
SSA	Sub-Saharan Africa
TA	Technical Assistance
THIE	Total health institutional expenditure
TOR	Terms of Reference
USAID	United States Agency for International Development
WAHO	West African Health Organization
WHO	World Health Organization

LIBERIA
Health Systems Strengthening Project

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PAD DATA SHEET

Liberia

Liberia Health Systems Strengthening (P128909)

PROJECT APPRAISAL DOCUMENT

AFRICA

AFTHW

Report No.: PAD371

Basic Information			
Project ID	Lending Instrument	EA Category	Team Leader
P128909	Investment Project Financing	B - Partial Assessment	Rianna L. Mohammed-Roberts
Project Implementation Start Date		Project Implementation End Date	
30-May-2013		30-May-2018	
Expected Effectiveness Date		Expected Closing Date	
01-Oct-2013		30-May-2018	
Joint IFC			
No			
Sector Manager	Sector Director	Country Director	Regional Vice President
Trina S. Haque	Ritva S. Reinikka	Yusupha B. Crookes	Makhtar Diop

Borrower: Ministry of Finance

Responsible Agency: Ministry of Health and Social Welfare

Contact:	Dr. Walter T. Gwenigale	Title:	Minister of Health and Social Welfare
Telephone No.:	+ 231-886-523-669	Email:	wtgwenigale@mohsw.gov.lr

Project Financing Data(US$M)		
[ ] Loan	[ ] Grant	[ ] Other
[X] Credit	[ ] Guarantee	

For Loans/Credits/Others

Total Project Cost (US$M):	15.00
Total Bank Financing (US$M):	10.00

Financing Source	Amount(US$M)
BORROWER/RECIPIENT	0.00
International Development Association (IDA)	10.00
Health Results Innovation Trust Fund	5.00
Financing Gap	0.00
Total	15.00

Expected Disbursements (in USD Million)

Fiscal Year	2014	2015	2016	2017	2018				
Annual	1.0	2.0	2.5	2.5	2.0				
Cumulative	1.0	3.0	5.5	8.0	10.0				

Project Development Objective(s)

The Project Development Objective (PDO) is to improve the quality of maternal health, child health, and infectious disease services in selected secondary-level health facilities.

Components

Component Name	Cost (USD Millions)
Strengthening the institutional capacity needed to improve the quality of selected health interventions at PBF health facilities.	10.00
Improving health worker competencies to address key health-related concerns at selected health facilities.	4.20
Project Management	0.80

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes [ ]	No [X]
Does the project require any waivers of Bank policies?	Yes [ ]	No [X]
Have these been approved by Bank management?	Yes [ ]	No [ ]
Is approval for any policy waiver sought from the Board?	Yes [ ]	No [X]

Explanation:

Does the project meet the Regional criteria for readiness for implementation?	Yes [X] No [ ]

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

Legal Covenants

Name	Recurrent	Due Date	Frequency
Project Effectiveness, Financing Agreement (FA) Reference Schedule 1, Article IV		10/01/13	

Description of Covenant: The Co-financing Grant Agreement has been executed and delivered and all conditions precedent to its effectiveness or to the right of the Recipient to make withdrawals under it (other than the effectiveness of this Agreement) have been fulfilled.

Name	Recurrent	Due Date	Frequency
Institutional Arrangements, FA Reference Schedule 2, Section I.		06/30/13	

Description of Covenant: The Recipient shall establish, not later than one month after the Effective Date of this Agreement and thereafter maintain throughout the implementation of the Project, a Project Technical Committee with functions, composition and resources satisfactory to the Association.

Name	Recurrent	Due Date	Frequency
Institutional Arrangements, FA Reference Schedule 2, Section I.	X		quarterly

Description of Covenant: The Project Technical Committee shall: (a) meet quarterly; and (b) be chaired by the Deputy Minister of the Recipient's Department of Health Services.

Name	Recurrent	Due Date	Frequency
Institutional Arrangements, FA	X		

Reference Schedule 2, Section I.			
Description of Covenant: The Recipient shall maintain, throughout the implementation of the Project, a PBF Unit, with staffing, functions and resources satisfactory to the Association.			
Name	**Recurrent**	**Due Date**	**Frequency**
Institutional Arrangements, FA Reference Schedule 2, Section I.	X		
Description of Covenant: The Recipient shall establish and maintain, throughout the implementation of the Project, the Postgraduate Medical Council ("PGMC"), with staffing, functions and resources satisfactory to the Association.			
Name	**Recurrent**	**Due Date**	**Frequency**
Institutional Arrangements, FA Reference Schedule 2, Section II.	X		
Description of Covenant: The Recipient shall adopt a Project Implementation Manual (PIM) in form and substance satisfactory to the Association. The Recipient shall ensure that the Project is carried out in accordance with the PIM, as the same may be updated from time to time with the prior written agreement of the Association.			
Name	**Recurrent**	**Due Date**	**Frequency**
Part 2 of the Project FA Reference Schedule 2, Section II.	X		yearly
Description of Covenant: The Recipient shall provide adequate counterpart funding for Part 2 of the Project, according to the counterpart funding requirements set out in the PIM.			
Name	**Recurrent**	**Due Date**	**Frequency**
Safeguards FA Reference Schedule 2, Section II.	X		
Description of Covenant: The Recipient shall ensure that the Project is carried out in accordance with the guidelines, procedures, timetables and other specifications set forth in the Safeguard Documents.			
Name	**Recurrent**	**Due Date**	**Frequency**
Project Reports FA Reference Schedule 2, Section III.	X		Every 6 months (June 1 and Dec 1)
Description of Covenant: The Recipient shall monitor and evaluate the progress of the Project and prepare Project Reports in accordance with the provisions of Section 4.08 of the General Conditions and on a basis acceptable to the Association.			
Name	**Recurrent**	**Due Date**	**Frequency**
Implementation Arrangements FA Reference Schedule II, Section II	X		Yearly
Description of Covenant: The Recipient shall prepare a program of activities (including Training and Operating Costs) proposed for inclusion in the Project during the following calendar year, including: (a)			

a detailed timetable for the sequencing and implementation of such activities; and (b) a proposed budget and financing plan for such activities. The Recipient shall furnish such program of activities to the Association no later than June 15 of each year, for its review and approval by the Association.

Name	Recurrent	Due Date	Frequency
Financial Management, Financial Reports and Audits FA Reference Schedule 2, Section III.	X		quarterly

Description of Covenant: The Recipient shall maintain or cause to be maintained a financial management system in accordance with the provisions of Section 4.09 of the General Conditions. Without limitation on the provisions of Part A of this Section, the Recipient shall prepare and furnish to the Association not later than forty five (45) days after the end of each calendar quarter, interim unaudited financial reports for the Project covering the quarter, in form and substance satisfactory to the Association.

Name	Recurrent	Due Date	Frequency
Financial Management, Financial Reports and Audits FA Reference Schedule 2, Section III.	X		yearly

Description of Covenant:

The Recipient shall also have its Financial Statements audited in accordance with the provisions of Section 4.09 (b) of the General Conditions. Each audit of the Financial Statements shall cover the period of one fiscal year of the Recipient. The audited Financial Statements for each such period shall be furnished to the Association not later than six (6) months after the end of such period.

Conditions

Name	Type
Withdrawal Condition FA Reference Schedule 2, Section V	

Description of Condition: No withdrawal shall be made under Category 2 until the Association has received satisfactory evidence showing that: (1) the PGMC has been duly established and MoF has taken all necessary measures to make the PGMC fully operational, including, inter alia: (i) provision of adequate budget to finance staff and Board members of the PGMC; (ii) provision of a dedicated office space; and (2) the PGMC has hired sufficient staff but no less than a full time accountant and a full time administrative assistant.

Team Composition

Bank Staff

Name	Title	Specialization	Unit
Rianna L. Mohammed-Roberts	Senior Health Specialist	Team Lead	AFTHW
Mei Wang	Senior Counsel	Senior Counsel	LEGAM
Winter M. Chinamale	Procurement Specialist	Procurement Specialist	AFTPW

Maxwell Bruku Dapaah	Financial Management Specialist	Financial Management Specialist	AFTMW
Luis M. Schwarz	Senior Finance Officer	Senior Finance Officer	CTRLA
Dahlia Lotayef	Lead Environmental Specialist	Environmental Specialist	AFTN2
Paula F. Lytle	Senior Social Development Specialist	Senior Social Development Specialist	AFTCS
Christopher H. Herbst	Health Specialist	Human Resources for Health	AFTHW
Shunsuke Mabuchi	Health Specialist	Health Specialist	AFTHW
Petronella Vergeer	Health Specialist	Results based financing	HDNHE
Dominic S. Haazen	Lead Health Policy Specialist	Lead Health Policy Specialist	AFTHW
Noel Chisaka	Sr. Public Health Spec.	Infectious Diseases	AFTHW
Gyorgy Bela Fritsche	Sr. Health Specialist	PBF Expert	AFTHW

Non-Bank Staff

Name	Title	Office Phone	City
Ok Pannenborg	Medical Education Specialist		

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Liberia	Nimba County	Nimba County	**X**		
Liberia	Montserrado County	Montserrado County	**X**		
Liberia	Maryland County	Maryland County	**X**		
Liberia	Lofa County	Lofa County	**X**		
Liberia	Bong County	Bong County	**X**		
Liberia	Margibi County	Margibi County	**X**		

Institutional Data

Sector Board

Health, Nutrition and Population

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Public Administration, Law, and Justice	Central government administration	10		
Health and other social services	Health	90		
Total		100		

☑ I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Human development	Health system performance	45
Human development	Population and reproductive health	35
Human development	Child health	20
Total		100

I. STRATEGIC CONTEXT

A. Country Context

1. ***Fourteen years of civil war destroyed Liberia's basic infrastructure***. The years of civil war (1989 - 1997 and 2001 - 2003) left Liberia one of the poorest countries in the world. The country's level of poverty soared to 64 percent in 2003, and the Gross Domestic Product (GDP) per capita declined to approximately US$151 from a peak of US$1,217 in real terms in 1981. The war had a devastating effect on many of the systems that contribute to good health: basic housing, water, electricity, sanitation, roads, education, and health care.

2. ***Liberia remains fragile, but there are signs of improvement.*** According to the 2012 UNDP Human Development Report's Human Development Index (HDI), Liberia ranked 174th out of 186 countries. Average life expectancy in Liberia is 57.3 years - up from 42 years at the end of the civil war, and the adult literacy rate is 60.8. Liberia's 2011 Human Development Index (HDI) - 0.388- is below the average of 0.475 for countries in Sub-Saharan Africa (SSA).

3. ***Liberia has begun the transition from humanitarian aid to development.*** Despite overwhelming challenges, the Government of Liberia (GOL)- with support from its development partners- has begun the transition from emergency rehabilitation to development. This process has been aided by relative political stability, significant donor contributions, and strong annual economic growth averaging 6.4 percent per year from 2004 to 2008. Once, and still, a country rich in natural resources, it is only beginning its recovery from a 90 percent decline in its gross national income (GNI) per capita that occurred between 1987 and 2003. Liberia's 2010-estimated per-capita GDP was US$247- almost 40 percent higher than at the end of the war. Liberia also recently completed the Heavily Indebted Poor Countries process, and a total external debt burden of US$4.6 billion (equivalent to 800 percent of GDP) was cancelled by June 2010.

B. Sectoral and Institutional Context

4. ***The civil war destroyed Liberia's health system***. Much of the physical infrastructure and equipment that was crucial to the health sector was destroyed during the war- many hospitals and clinics were burned to the ground, very few county hospitals had fully functional laboratories, most county hospitals and health centers were without running water, electricity, or functioning basic sanitary systems, and many health professionals, especially physicians, left the country. The latter resulted in a severe shortage of human resources. An already dire situation was further aggravated by a lack of transportation and other communication systems, and reflected in limited access to health services by 41percent of the population.

5. ***Despite impressive gains in overall health systems management and in health services delivery since the end of the war, Liberia continues to face significant challenges in improving maternal and child health outcomes, as well as other health-related Millennium Development Goal (MDG) outcomes.*** Post-conflict conditions place Liberia at the bottom of global rankings for maternal and child health (MCH). The maternal mortality ratio (MMR) remains high, but has declined from close to 1000 per 100,000 births in 2007, to an estimated 770 per 100,000 in 2010. Gains, however, remain skewed in favor of urban populations. For example, 63 percent of deliveries in urban areas are facility-based compared with 25 percent in rural areas; similarly 77

percent of urban deliveries are by a skilled service provider compared with only 32 percent of rural deliveries. While over one in ten children will die before the age of five, infant and under five mortality rates have almost halved to 71 and 110 per 1,000 births respectively over the last 20 years due to improved access resulting from the GOL's free health care (FHC) policy[1], and restoration of a number of key child health services like immunizations. Malaria, however, continues to be a major source of morbidity and mortality; 38 percent of outpatient attendance and 42 percent of inpatient deaths was attributable to malaria in 2007.

6. ***Health financing constraints and sustainability are significant concerns.*** As Liberia's health system continues its recovery from the devastating effects of the recent civil war, the direction and incentives of recovery efforts have shifted from those supporting emergency humanitarian relief to those aiming to develop sustainable systems of service delivery. External assistance from multilateral and bilateral donors, as well as from international NGOs, has been substantial in supplementing the resources of the GOL. Thus, while the GOL's budgetary allocation to health has now reached about US$12 per capita per year (roughly 9 percent of the total government budget), external assistance is estimated to account for roughly three times that much. According to the 2007/8 National Health Accounts (NHA), 72 percent of total health institutional expenditure (THIE) came from donors. Donor funding increased to 85 percent of THIE by 2009/10. Most of these external funds were- and continue to be- directed to the primary health care (PHC) level. While total health expenditures in Liberia are substantial, the GOL and Ministry of Health and Social Welfare (MoHSW) are very likely to remain critically dependent on external assistance in the medium term (and even long term)—and are likely to need such assistance to meet the estimated costs of implementing the 10-year National Health and Social Welfare Policy and Plan (NHSWPP) 2011-2021, and the country's FHC policy.

7. ***Despite high estimates of total national health spending per capita, present inefficiencies in resource allocation undermine the overall ability to improve the quality of care at secondary hospitals.*** Whilst a majority of external funding goes to the PHC-level (including from USAID and pool fund donors), there has been some concentration of public health system resources at JFK Hospital, the country's only tertiary (referral and teaching) hospital. Specifically, 23 percent of the total health sector budget was allocated to JFK Hospital in 2009/10 and 19 percent in 2010/11.[2] It accounts, on average, for roughly three-fourths of all resources devoted to inpatient services. Given an expansion of access at health clinics and health centers to low cost and high impact interventions, as well as continued and focused public financing to the tertiary level, the next significant challenge in improving health outcomes, is improving the coverage of quality services at secondary-level hospitals. These hospitals currently receive no major support from external donors.

8. ***Improving the quality of care at hospitals is a key next step in rebuilding Liberia's health***

[1] This policy was declared in 2006, and was underpinned by the GOL's recognition that fees impeded access by the poor and vulnerable in a post-war context where few people had the resources to pay for health care. The original Basic Package of Health Services (BPHS) was expanded- according to the recently approved National Health and Social Welfare Policy and Strategy (NHSWPP) 2011-2012- to an Essential Package of Health Services (EPHS) that now includes non-communicable diseases.

[2] OFM/MoHSW, "Budget, Receipts, and Payments Report", *op. cit.*

system. Hospitals in Liberia remain in generally poor physical condition; are staffed with insufficient numbers of productive, responsive, and qualified staff in key areas of competence; and, have long waiting times and inadequate supplies of equipment and drugs. As a consequence, hospitals in general provide low quality of care. This is reflected in high levels of post-surgery complications and infection rates; low quality data on clinical outcomes, very limited maternal and child death audits; and no systematic use of clinical guidelines and protocols. Notably, accreditation scores on the quality of services are worse in secondary vis a vis primary facilities. Poor quality is a particularly critical concern at the severely resource-constrained hospital-level in Liberia because it can obviate the implied benefits of good access and effective treatment, frustrate the positive achievements at the primary health care level by not being able to respond to referral patients with complications, and lead to sub-optimal and wasteful use of resources.

9. ***A core challenge in improving the quality of service delivery at the hospital level is the shortage of higher level health worker cadres, in particular outside of Monrovia.*** Liberia is home to approximately 0.5 doctors, nurses and midwifes per 1000 population, far below the World Health Organization's (WHO) 2.3 per 1000 benchmark associated with achieving an 80 percent coverage rate of deliveries. Whilst the number of mid-level cadres, particularly nurses and midwives has been steadily increasing since 2000 (due to concerted investment into their production and work at primary care levels), growth in the number of physicians remains low. Low levels of production (approximately 10-15 physicians annually) together with high rates of earlier outmigration (63.3 percent are estimated to have previously migrated abroad) help to explain why only about 90 medical doctors (0.03 per 1000 population) were counted in a health worker census in 2009. Moreover, perhaps not surprisingly given rural/urban disparities in health outcomes, a significant number of higher level health cadres (particularly doctors) work in the country's capital, Monrovia (Montserrado county). Consequently, hospitals and health facilities outside of Montserrado face the brunt shortage of medical doctors, coupled with significantly worse physical infrastructure and equipment at health facilities. Whereas Montserrado County for example, is home to 48 medical doctors – with more than half of which are located in the urban teaching hospital in Monrovia (JFK hospital), neighboring counties such as Bong and Margibi have only 5 and 4 physicians, respectively, and rural counties such as Lofa, Nimba and Maryland have 9, 5 and 6 physicians respectively.

10. ***Another critical health system challenge at the level of hospitals is the lack of health workers with certified skills and competencies to treat maternal, neonatal and child health (MNCH) complications.*** Physicians and other health workers lack the basic skills required to adequately treat complicated MNCH cases at the hospital level. At present, there is a virtual absence of qualified obstetricians, pediatricians, surgeons or internal medicine physicians in Liberia.[3] This situation stems from both a shortage of academic teaching faculty, and the absence of a formalized and accredited medical residency program which can enable medical school graduates to become board certified in particular clinical priority areas, especially the MDG-related areas of pediatrics, obstetrics and internal medicine, as well as general surgery. The lack of specialized MDG-related faculty also restricts other low-level health cadres (including nurses,

[3] The country also does not have a single pathologist, no anesthesiologists, and no emergency/trauma physicians. The more common clinical specialists in the fields of diabetes, cancers, cardio-vascular disease and other NCDs are also completely absent and remain a distant objective.

midwives and physician assistants) from upgrading their competencies to include more complex, hospital relevant skill sets through in-service training. At present, professional development opportunities are often *ad hoc*, and follow donor priorities such as HIV/AIDS and Malaria. Aside from the resulting skills shortage, there is global evidence that a lack of opportunities for health workers to professionally advance their skills and careers is linked to both outmigration (as medical graduates pursue training abroad), and overall reduced health worker motivation (affecting the extent to which health workers apply themselves to their job and task at hand).

11. ***In order to improve the efficiency, effectiveness, and quality of care at the secondary hospital level, the country is developing a system to upgrade health worker skills and competencies, and shifting towards improved provider-accountability for results (i.e. improved quality of care).*** The Post-Graduate Medical Council (PGMC) is tasked to develop a Graduate Medical Residency Program (GMRP) to facilitate in-country specialization of core MDG-related hospital-level competencies. Residents will be selected from the existing pool of medical school graduates based on standardized criteria. This process requires both a critical stream of specialist faculty to support the program, as well as the upgrading of teaching facilities. In addition to the development of an MDG-related GMRP, the GOL is also moving towards provider-accountability for improvements in quality through performance-based financing (PBF) at the hospital level. The shift towards PBF is influenced by experiences in a number of high, middle and low-income countries that performance-based approaches, in which providers receive incentives based on performance, can improve provider accountability for improved quality of health services. Evidence shows that performance-based approaches can be effectively deployed to: (i) clearly signal health priorities and ensure that there is adequate focus on corresponding interventions; (ii) ensure that health facilities focus on delivering targeted and cost-effective health services; (iii) strengthen monitoring and evaluation systems; (iv) empower decision-makers in the field to set priorities and improve health facilities according to more local needs; (v) motivate staff to change behavior and improve performance; and, (vi) increase provider autonomy and enhancing accountability for better results. The latter can stimulate innovations in an effort to overcome implementation constraints.

12. ***Liberia does have experience with performance-based approaches, but hospitals have been left behind.*** It is important to note that performance-based approaches are not new to Liberia. Rather, most donors have supported Performance-based contracting (PBC) (using implementing partners) at the primary care level. In fact, about 65 percent of primary-level facilities receive financial and other support from USAID, the Pool Fund donors and the European Union (EU) through this modality. Conversely, as previously noted, hospitals receive no major support from external donors, and have no performance based incentive schemes (for staff or otherwise) to improve performance, and offset low salary levels and difficult working conditions. As a consequence, the continuing disparities in funding coupled with a weak focus on results at the secondary hospital level, compromises both service delivery and health worker performance.

C. Higher Level Objectives to which the Project Contributes

13. At the national level, the project is consistent with a key objective of the NHSWPP 2011 – 2021, and Liberia's Poverty Reduction Strategy Paper[4] which prioritizes the need to improve the affordability and accessibility of quality health care, through *inter alia,* incentives that encourage and reward good performance (particularly for those working in difficult locations), and increasing the quality and quantity of health workers (in MDG-specific areas such as obstetrics, pediatrics, internal medicine and general surgery). Finally, the project is consistent with the global MDG strategies, especially MDGs 4, 5 and 6, where Liberia remains seriously off-track.[5]

14. This project is also consistent with the Africa Strategy, which supports strengthening governance and public sector capacity (including through incentives), as well as initiatives that empower citizens to ensure that services are adequately delivered. Similarly, the proposed project is also consistent with the Country Assistance Strategy (CAS) for Liberia (FY2009-FY2012)[6] that was developed jointly by the Bank and the African Development Bank (AfDB). The CAS underpins improvements in human development (health, education, and social protection) as one of the Bank's strategic areas of focus in Liberia, and supports the implementation of the GOL's two-pronged approach to improving health outcomes: (i) strengthening the delivery and management of an equitable, effective, efficient, responsive, and sustainable health care system; and (ii) securing and expanding access to basic and secondary health care of acceptable quality. The Project is also consistent with the new CAS (2013 – 2017) which is under development, and the Poverty Reduction Strategy Paper (PRSP).

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

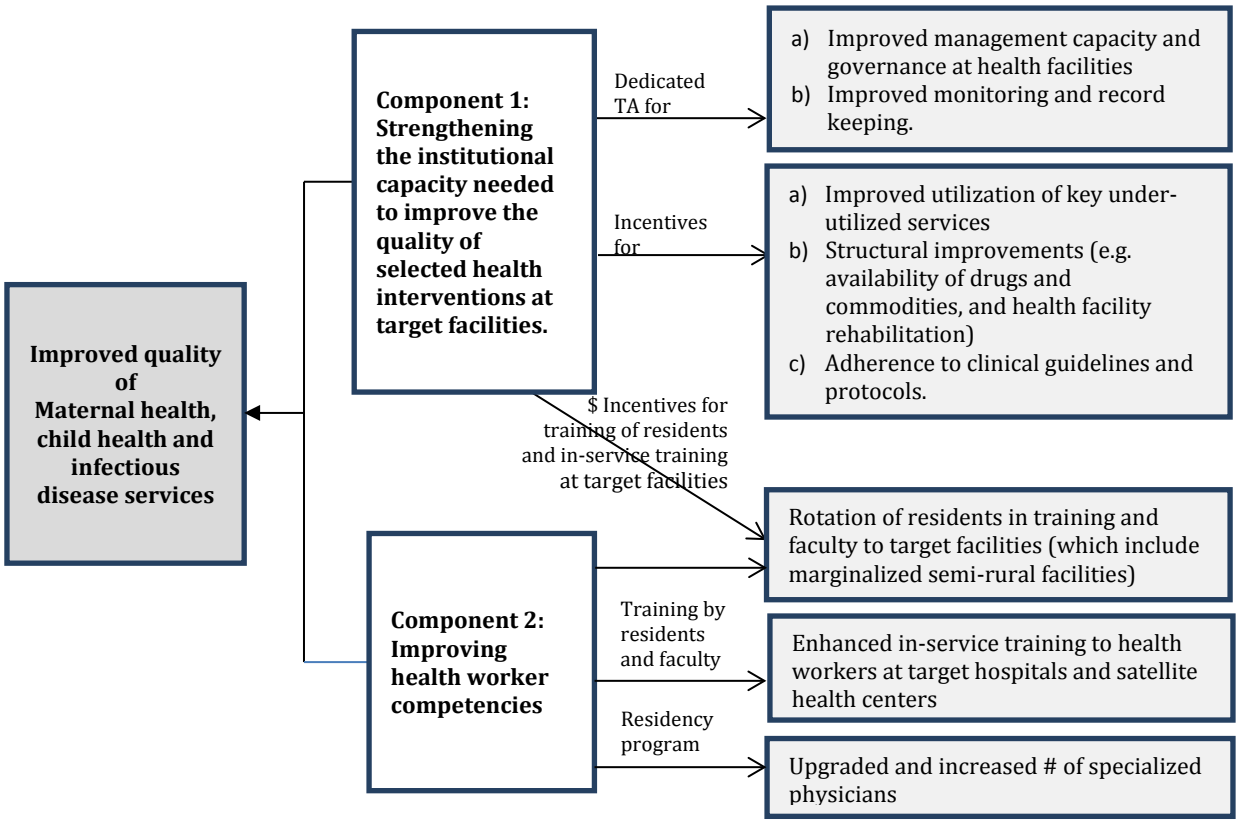
15. The Project Development Objective (PDO) is to "*improve the quality of maternal health, child health, and infectious disease services in selected secondary-level health facilities*".

16. The proposed *Liberia Health Systems Strengthening (HSS) Project* aims to strengthen the institutional capacity needed to improve maternal health, child health, and infectious disease related health outcomes at target facilities through an innovative approach involving systematic and coordinated improvements to the quality of services delivered at target facilities (through performance-based incentives), and an expansion of health worker skills. Specifically, the project will: (a) focus on improving the quality of care standards (in both diagnosis and treatment) for services with proven effectiveness; (b) increase the availability of qualified graduate physicians (pediatricians, obstetricians, general surgeons, and internal medicine specialists, with cross-

[4] Republic of Liberia- Ministry of Planning and Economic Affairs (2012). Agenda for Transformation- Steps Toward Liberia Rising 2030- Liberia's Medium Term Economic Growth and Development Strategy (2012 – 2017).
[5] Project interventions, therefore, are expected to focus largely on improving MDGs 4, 5 and 6. MDG 4 is to: "reduce child mortality rates"; MDG 5 is to: "improve maternal health", and MDG 6 is to: "combat HIV/AIDS, malaria and other diseases".
[6] The CAS Report number is **47928-LR**. It was discussed at the Board on: April 21, 2009.

cutting focus on anesthesiology); (c) enhance the clinical capabilities and competencies of mid-level cadres - nurses, midwives, and physician assistants- in emergency obstetrics, surgery, pediatrics, and internal medicine; and, (d) improve provider-accountability mechanisms related to both the achievement of results, and health-worker performance at selected facilities. These improvements should provide a thrust towards improved outcomes. The project's results chain is diagrammatically represented in Figure 1 below.

Figure 1: Project Results Chain



Project Beneficiaries

17. While pregnant women and children, and targeted health workers are expected to disproportionately benefit from this project, project beneficiaries include all who seek health care services at target facilities. This project is expected to be implemented over a 5 year period (May 30, 2013 – May 30, 2018).

PDO Level Results Indicators

18. Achievement of the PDO will be measured through the following key performance indicators (KPIs). KPIs will be measured in project target facilities. The draft results framework is outlined in Annex I (Monitoring and Evaluation).

- Health Facility Quality Index at Target PBF hospitals
- Maternal and child death audits carried out routinely by target PBF hospitals according to national guidelines
- Direct Project beneficiaries (of which women (percent))

III. PROJECT DESCRIPTION

A. Project Components

19. The project is innovative in supporting and incentivizing the expansion of health worker skills and enhanced quality of services in a systematic and coordinated way at target facilities. Target secondary level facilities (which include four county-level hospitals) cover approximately 30 percent of the population of Liberia (see Table 1 below[7]), and include a mix of semi-urban and semi-rural health facilities. To make target hospitals accountable and motivated to improve the quality of services provided, a defined quality checklist comprised of key indicators of interest pertaining to clinical outcomes (e.g. adherence to predefined obstetric protocols), structural aspects of services (e.g. availability of drugs and equipment) and intermediate outcomes (e.g. patient satisfaction) will be incentivized. This quality checklist will initially include routine high impact services, but will be updated annually and scaled up, in line with the introduction of training on more complex services. The achievement of quality improvement will be heavily dependent on both graduate residents and faculty from the GMRP, as well as enhanced in-service training of mid cadres of health workers. Notably, in-service training for mid-level cadres will be aligned with the continuous introduction of more complex skills over the life of the project.

20. The project will achieve its objectives through the following three components: (a) strengthening the institutional capacity needed to improve the quality of selected health interventions at target facilities (Component 1); (b) improving health worker competencies to address key health-related concerns (Component 2); and, (c) Project Management (Component 3).

Table1: Project Target Facilities

County	District	Facility Name	Owner	Catchment Population	Type of Intervention
1. Montserrado	Greater Montserrado	Redemption Hospital	GOL	341,344	PBF/ teaching hospital
2.		JFK Hospital	GOL		Teaching Hospital

[7] PBF facilities were selected because they have relatively low quality of care outcomes, and are also strategically located in both semi-urban and semi-rural areas, thereby ensuring that project benefits will spill-over to a large catchment population. While Firestone Medical Centre will not receive PBF incentives, it will serve as an A1 teaching facility for general surgery because it has the most advanced surgical equipment in Liberia. Likewise, JFK Hospital will also not receive incentives, but will serve as an A0 teaching facility. As such, residents will commence and conclude their residency training at this tertiary-level hospital.

3. Margibi	Firestone	Firestone Medical Center	PFP	119,984	Teaching Hospital
4. Bong	Suakoko	Phebe Hospital	NFP	248,300	PBF/ teaching hospital
5. Lofa	Voinjama	Tellewoyan Hospital	GOL	66,010	PBF/ teaching hospital
6. Nimba	Tappita	Jackson F. Doe Memorial Hospital (JFD Hospital)	GOL	177,285	PBF/ teaching hospital
7. Maryland	Harper	J.J. Dossen Hospital	GOL	153,991	PBF/ teaching hospital
			TOTAL	1,106,914	

Component 1: Strengthening the Institutional Capacity to Improve the Quality of Selected Health Interventions at PBF Health Facilities (US$10m: US$5m IDA, and US$5m HRITF)

21. Recognizing that quality of care is multidimensional, and encompasses both clinical processes, and structural aspects, this component aims to support improvements to the quality of care related to maternal health, child health, and infectious disease interventions at selected hospitals in Liberia through the provision of performance-based incentives to support: (a) improved clinical practice; (b) adherence to well-established and defined clinical and treatment protocols; (c) health worker motivation (both intrinsic and extrinsic); (d) structural improvements (e.g. availability of drugs and commodities, and health facility rehabilitation); and, (e) improved management capacity, governance, monitoring and record keeping at health facilities. Importantly, as previously noted, these improvements (as shown in Figure 1 above) will be heavily dependent on strengthened health worker competencies developed under component 2. A technical overview of PBF (including a glossary of key terms) is provided in Annex 6. A detailed discussion on this component is provided in Annex 2.

22. This component is designed to clearly focus on the quality of services at target hospitals, given both the existing poor quality and lessons learned from hospital PBF schemes in other countries. It will be rolled-out in a phased approach (i.e. pre-pilot in Montserrado county and larger roll out). This will allow the project design to be modified in response to lessons learnt from the pre-pilot, and ensure that the existing management capacity particularly at the national level is not over-stretched.

Subcomponent 1.1: Performance-based financing (US$7.5 million)

23. ***Performance-based contracts*:** To address the systemic bottlenecks related to poor quality of care, and health system deficiencies discussed above, target hospitals will sign performance contracts with the MoHSW for: (a) quality improvements; and, (b) utilization of a clearly defined package of services. Performance contracts will define the quality indicators that will be monitored and incentivized across key categories (e.g. maternity, pediatric/ neonatal, surgery, management hygiene and patient satisfaction, and health worker performance). Importantly, the weighting of indicators on clinical processes and structural indicators will be

expected to shift over time, with an increase in the number of clinical process indicators (vis a vis structural indicators), as the capacity of health facilities (and structural conditions) improve. A draft five year quality framework for Liberia is attached in Annex 7. Quality checklists will be closely aligned with this quality framework.

24. Improving poor quality-of-care involves not only giving better care but also eliminating under-provision of essential clinical services. As such, contacts will also define the (limited) services whose utilization will be incentivized (i.e., quantity indicators) and associated financial incentives for each unit of these service provided. This includes, for example, major and minor surgery and the treatment of referred newborn children for emergency neonatal care. Primary care level services and outpatient services will be excluded from the package to avoid the unwanted shift of patients from the primary level facilities to the hospital level. The incentivized package of services is outlined in Annex 2 (Table 2.1).

25. Notably, 75 percent of incentive payments to health facilities will be based on quality improvements, and twenty-five percent will be linked to improved utilization of incentivized services. The level of incentives will be adjusted to take into account equity considerations; for example, the remoteness of a health facility. Incentives will also be reviewed quarterly, and adjusted periodically as needed based on results achieved (or lack thereof) and budget disbursement (e.g. faster or slower than anticipated disbursements).

26. ***Use of Performance Incentives***: There is a strong emphasis on providing health facilities with sufficient autonomy to manage funds for further improvement of service delivery outcomes and achievement of results. Performance payments can be used for: (i) health facility operational and capital costs, including maintenance and repair, drugs and consumables, outreach activities (e.g., for transport, performance payment to community workers, and demand-side incentives); (ii) quality-enhancement measures (e.g. teaching infrastructure and supplies to support the faculty and residency training requirements); and, (iii) financial and non-financial incentives for health workers according to defined criteria[8]. Notably, performance based incentives will be additional to (traditional and) existing input-based financing at target facilities.

27. ***Verification***: There is evidence that under a PBF scheme, facilities have an incentive to over-report the achievement of results, and/or manipulate data. As such, a strong emphasis will be placed on verification of results through both *ex-ante* (i.e. prior to making a payment), and *ex-post* verification. Specifically, the quantity and quality of services delivered will be verified through independent verification by the Liberia Medical and Dental Council (LMDC) - prior to making the payment. *Ex-post verification* will be carried out in two ways. First, semi-annual counter-verification of quantity and quality of services in all target facilities will seek to (re-) verify both the quality and quantity of services provided, and randomly verify whether activities are adequately complied with (e.g. forms are completed accurately), and conditions have been adhered to. This process will be led by external organizations/ universities (e.g. West African College of Physicians and Surgeons, or Ghana College of Physicians and Surgeons). Second, a community based organization (CBO) will be contracted by the MoHSW in each county to visit

[8] Tentatively, health facilities can use up to 50 percent of the earned performance bonus for financial incentives for health workers, and the rest on health facility operational and capital costs.

homes of randomly chosen clients (selected from the health facility registers). This is discussed further in Annex 2.

Subcomponent 1.2: Management and Capacity building (US$2.5 million)

28. This sub-component aims to provide intensive technical support to build the institutional capacity required to manage the PBF approach discussed above, and provided that expected results are achieved, support its long-term (institutional and technical) sustainability. Specifically, this sub-component will support technical assistance, capacity development, and independent (*ex-ante* and *ex-post*) verification in the following three key areas:

(a) Capacity building of key stakeholders (e.g. relevant MoHSW staff, LMDC, and hospital staff) as needed in areas such as quality improvement, business plan development and implementation, reporting and results-monitoring, quality verification and hospital management. A capacity building plan is detailed in Annex 2 (Table 2.2).
(b) Development of rigorous quality and quantity verifications systems;
(c) Technical assistance and operating costs support to HSSP Coordination Office for the procurement, financial management and supervision of the Project; and,
(d) Knowledge sharing and dissemination workshops- this will ensure that there is a rigorous and systematic program of learning, and will include, for example, periodic workshops for hospital management of target facilities to discuss results achieved, implementation challenges and approaches being employed to overcome these challenges.

Component 2: Improving health worker competencies to address key health-related concerns at selected health facilities (US$4.2 million IDA)

29. Component 2 will complement efforts to improve the quality of care at target health facilities (discussed under component 1), by improving the availability and competencies of health workers in these facilities, in critical specialist areas- obstetrics, pediatrics, general surgery and internal medicine. Whereas PBF is expected to narrow the gap between what health workers know how to do, and actually do by providing funding to improve *inter alia*, provider-accountability for results, health worker motivation, and the availability of inputs, further performance improvements in quality of care at the target hospitals are dependent on an increase in the numbers of health workers with improved competencies.

30. Cognizant of this, component 2 will support: (a) the GOL's ongoing effort to develop and implement an innovative graduate medical residency training program (GMRP) to increase the number of physicians with specialized certified skills and competencies in critical specialist areas; and, (b) the development of an innovative continued professional development and outreach (targeted and needs-based) training program for mid-level cadres in intervention facilities as well as satellite health centers. This in-service training program will leverage the increased capacity of residents and faculty under the GMRP.

31. In addition to improving much needed health worker skills and competencies at the target secondary-level facilities, the interventions supported under component 2 are expected to result

in a number of positive externalities. This includes: (i) a shift in the availability of higher level health worker cadres, as well as the culture of health worker training[9], to health facilities outside of urban Monrovia; (ii) a reduction in the need to pursue specialization and training abroad (and thus reduce outmigration); and, (iii) improved overall motivation of health workers (globally, opportunities for continuing education are a significant motivator), and thus the quality of services delivered.

Sub-Component 2.1: Graduate Medical Residency Program (GMRP) (US$4.2 million)

32. This sub-component will support the design and implementation of a nationally accredited GMRP in defined critical specialist areas (obstetrics, surgery, pediatrics, and internal medicine, with a cross-cutting focus on anesthesiology). This will respond to immediate needs to develop and upgrade relevant skills needed in order to address poor quality of care at target facilities. Residents will be selected from the existing pool of medical school graduates (i.e. physicians already practicing in the field) based on standardized criteria.

33. Specifically, under this subcomponent, the project will provide critical support in identifying, recruiting and funding relevant faculty to mentor and train residents at target facilities in defined critical specialist areas. As part of the residency program requirements, the project will support resident rotations between Liberia's tertiary hospital JFK, specialist training sites in semi-urban target facilities in Montserrado, Margibi and Bong Counties, and so-called affiliated training sites in target hospitals which are located in rural counties- Lofa, Nimba and Maryland. Furthermore, the design of the residency program will leverage the teaching capacity developed under the GMRP, and mandate and incentivize faculty (and in situ residents) to also train existing mid-level cadres.

34. Funding under this component will be used to support faculty costs, accommodation costs (of faculty and residents), and critical equipment and supply costs (where deemed necessary based on an evidence-based assessment) to accommodate resident training in target facilities. This will ensure that target (teaching) hospitals can accommodate the influx of residents and faculty provided under this sub-component, as well as meet and maintain minimum teaching standards with regards to equipment and supplies. Funding for minor infrastructure, equipment and supplies will be financed through incentives under component 1 (discussed above).

35. Importantly, the GOL (through the PGMC) will co-finance the residency program in incremental yearly amounts. This will gradually move the responsibility for funding faculty, accommodation (for faculty and residents), and operating costs to the PGMC. This is discussed further in Annex 2. The PGMC is funded directly by the MoF. Under the terms of an (internal) MOU between the MoHSW (HSSP Coordination Office) and the PGMC, the yearly and

[9] Diversifying the training of physicians away from urban training locations, and exposing health workers to rural practice and working conditions, may also contribute towards longer term goals of ensuring more systemic and equitable distribution of health workers. Training health workers in rural areas- in combination with other interventions- is not only linked to improvements in both the relevancy and quality of training but also the likelihood that physicians will choose to practice outside of the capital after their training.

incremental Council contributions will be kept by the MoHSW in an escrow account, and used according to defined criteria

Sub-Component 2.2: **In-service Training Programs to Mid- Level Health Cadres**

36. This subcomponent will leverage the teaching capacity made available under sub-component 2.1 to provide specialized training in critical specialist areas to mid-level cadres (midwives, nurses, and PAs) in target hospitals as well as satellite health centers. This will address a key concern that health workers across all cadres are insufficiently receiving both in-service training and opportunities for continuous professional development (particularly in the areas of obstetrics, pediatrics, internal medicine and general surgery). This negatively affects their competencies and motivation, and ultimately service delivery outcomes.[10]

37. Specifically, the faculty recruited and placed in target facilities (under the residency program), along with senior residents, will be mandated contractually to carry out training sessions to clinical health workers in both the intervention hospitals where they are stationed, as well as in satellite health centers (located in the hospital catchment areas) as part of mandated community outreach. Notably, in close alignment with the PBF mechanisms under component 1, hospital managers will be incentivized (under the Package of Services defined in Annex 2) to ensure that a relevant number of training and outreach sessions are carried out. Training will conform to a number of innovative and new, but also well tested and frequently utilized formats; this will include Team Training Sessions, Grand Rounds, Practical Clinical Training Sessions, Team-based Teaching & Learning, IT-moderated skill labs, and workshops focusing on particular specialized topics.

38. Over the project implementation period, an estimated 45 percent of mid-level cadres will receive continuous professional development training in key relevant competencies linked to obstetrics, pediatrics, surgery and internal medicine by (inter alia) faculty and in-training residents**.** This includes (80- 100% of) staff at both the 6 project target facilities, and satellite health centers, through the mandated outreach to be provided.

Component 3: Project Management (US$0.8 million IDA)

39. This component will support the operational capacity of the MoHSW to effectively manage the project. This will include support to the operational costs of a project- specific unit i.e. the HSSP Coordination Office- within the MoHSW that will be responsible for coordinating project activities. Notably, this Office was directly responsible for project coordination under the recently closed World Bank Health Systems Reconstruction Project (HSRP), and benefitted from significant capacity building in areas such as financial management (FM), and procurement. The former Coordinator will also take on this role for the new project.

[10] National HRH Plan, 2011-2021

B. Project Financing

Lending Instrument

40. The lending instrument will be an Investment Project Financing instrument (US$10 million IDA credit) combined with a Health Results Innovation Trust Fund (HRITF) grant (US$5 million) from the Kingdom of Norway and United Kingdom. In addition to this, US$1.5 million will be provided from HRITF (through a Bank-executed trust fund) for conducting an impact evaluation, with the aim being to draw out global lessons learnt.[11]

Project Cost and Financing

41. Project costs and associated financing are outlined in the table below.

Project Components	Project cost	IDA Financing	HRITF	% Financing
1. Strengthening the institutional capacity needed to improve the quality of selected health interventions at target facilities.	10	5	5	100%
2. Improving health worker competencies to address key health-related concerns at target facilities.	4.2	4.2	-	100%
3. Project Management	0.8	0.8	-	100%
Total Baseline Costs				
Physical contingencies				
Price contingencies				
Total Project Costs	15	10	5	100%
Interest During Implementation				
Front-End Fees				
Total Financing Required				

C. Lessons Learned and Reflected in the Project Design

42. ***Independent verification and periodic performance management in PBF is essential*:** Numerous examples in developed countries such as the US and the UK, and PBF studies in Cambodia, Haiti, Burundi, Afghanistan and Rwanda have demonstrated that strong focus on results- through data collection and verification- increases accountability, and promotes a more

[11] In addition to these funds, a grant of US$850,000 is available from HRITF for project preparation activities; this includes US$450,000 for a pre-pilot. The pre-pilot is expected to commence in June 2013, and will run for a period of at least 6 – 9 months.

direct link between financing and results. An improper RBF design and implementation, however, can cause negative unintended consequences: motivate unintended behaviors; distortions; gaming; corruption; dependency on financial incentives; and bureaucratization. Consequently, monitoring and evaluation of procedures, outcomes and beneficiary compliance through independent verification by the LMDC with the support of TA, coupled with periodic performance review mechanisms at the central and county levels will be essential in responding to potential implementation challenges and distortions.

43. ***Gradual scale-up, and dedicated TA*:** No country has successfully introduced PBF without first starting gradually. Lessons learned during the initial pre-pilot phase (at Redemption Hospital), will be crucial to a successful expansion. In addition to this, successful experiences in other countries usually involve strong technical assistance- at least at the beginning of the process- through for example training and coaching of all key stakeholders. TA will be a key design feature under the PBF component. This is particularly important since the project is experimenting with innovative approaches that shift focus away from structural aspects of quality, towards clinical processes.

44. ***Indicators and level of incentives for Hospital PBF***: Past experience and ongoing PBF schemes (at the hospital-level) highlight the importance of selecting the right type and level of incentives, and ensuring that these are carefully phased in, and do not duplicate the services provided at primary facilities. The latter can cause an inappropriate shift of patients from the primary to the hospital level. Consequently, there is a need to both enhance appropriate referrals for services that are not offered in the primary level, and focus on improving the quality of services. In addition to this, the level of incentive needs to be appropriate to ensure that it is able to motivate health workers, whilst being cost effective. This can be challenging since there are more staff at the hospital-level who earn higher salaries compared to the PHC level. Experiences from RBF projects in other countries (e.g. Burundi, Cameroon and Rwanda), and the pre-pilot will be fully leveraged in defining indicators and setting fees.

45. ***Timely PBF Payments***: In most PBF schemes, individual health facilities receive their payment directly and in a timely manner, and have autonomy over the use of resources. This ensures that providers remain motivated to achieve results, and 'buy into' the benefits of PBF. Conversely, a key lesson learnt is that significant delays in the disbursement of funds can lead to a situation in which stakeholders rapidly lose confidence in the PBF process. As such, there is a need to ensure that financial processes (including invoice- submission and approval) are efficient from the central level (i.e. PBF unit, HSSP Coordination Office, and Office of Financial Management (OFM)) to the provider levels.

46. ***Improvements in quality of care are critical. However, defining and measuring quality, particularly in a capacity constrained environment such as Liberia is difficult.*** There is consensus that measuring quality and quality improvements can be challenging particularly because the provider-patient interaction is so private and personal. Hence, there is a need to ensure that the measurement used is a valid, reliable and consistent determination of actual clinical practice; is case mix adjusted so comparisons among physicians and disparate sites and health care systems can be made; and, inexpensive so that it can be used for repeated measures

on many providers. Cognizant of this, the project will adopt a mix of measures such as, for example, observations; reviews of medical records, and tracer vignettes to assess quality.[12]

47. **Lessons learned from the Africa Region HRH Program:** The World Bank's Africa Region HRH Program has been supporting governments to develop the necessary evidence base to inform HRH policy and program development and implementation, in an effort to improve the overall supply, distribution and performance of health workers in the region. A core lesson learned is that the health training environment is a critical vehicle to address these issues. Specifically, the training of health workers improves not just competencies but also motivation. Meanwhile, the development of post graduate training opportunities, such as a residency program, is associated with reduced-outmigration when coupled with other interventions (e.g. improved salaries), as health workers no longer seek such training abroad. Furthermore, exposing health workers to rural practice and work conditions during their training, and improving overall working conditions (including management and accountability structures, equipment and supplies, and financial bonuses and incentives), considerably reduces health worker preferences for urban job uptake after completion of their training. In addition to this, accountability mechanisms and incentives under PBF, coupled with a focus on training, is linked to the overall improvements in health worker performance, and thus service delivery indicators, by reducing absenteeism, and improving productivity, responsiveness and motivation.[13]

48. **Lessons learnt from the recently closed WB health project** is that: a) the project design should be realistic and suitable to the local context, but innovative approaches should be strongly encouraged and incentivized; and, b) the capacity of implementers should be carefully considered in the project design and implementation, and front-loaded when the capacity of implementers is low. In response to this, and as noted previously, the project design is innovative, and during both design and implementation, strong emphasis will be placed strengthening the (PBF) technical capacity of stakeholders at all levels through both TA (particularly in the early stages of implementation), and capacity building.

D. Alternatives Considered/ Lessons Learnt and Reflected in the project design

49. In designing the proposed project, the following alternatives were considered, and rejected.

- *PBF of high-impact low-cost MNCH interventions at primary level facilities, with (referral) incentives to secondary-level facilities were rejected* due to: a) significant disparity in external funds which go to primary versus secondary facilities; b) low quality of care at hospitals, coupled with limited funding, low numbers of medical doctors and the virtual absence of specialists; and, c) the desire of the GOL to operationalize the GMRP at secondary level facilities.

[12] Tracer vignettes are case-mix adjusted, and an alternative to the standardized patient since it goes through a process involving: patient history, testing, diagnosis, and treatment. This open-endedness allows for an evaluation of practice, and not just knowledge.

[13] Soucat and Scheffler (2012).

- *Focus solely on target secondary-level facilities* was rejected in order to adopt a "health systems" approach. The project design includes support to the development of referral and treatment protocols, support to in-service training at satellite health centers, and incentives for appropriate counter-referrals.

- *Focus solely on support to the development of a new Post-Graduate Medical College* (in particularly a request for infrastructure support) in urban Monrovia was rejected due to the known problems in garnering immediate and much needed results on the ground. Consequently, support will be provided for faculty and upgrading of capacity in existing, decentralized training facilities- some in rural counties of the country- with an important in-service training component which aims to improve health worker competencies of mid-level cadres. This will be complimented with incentives to improve the quality of care (clinical processes and structural aspects

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

50. As previously noted, the HSSP Coordination Office, operating under the purview of the Project Management Unit (PMU) of the MoHSW, will have direct responsibility and oversight for overall project coordination and management. Specifically, the HSSP Coordination Office will work closely with the PBF Unit and Post- Graduate Medical Council (PGMC) to coordinate the overall project (both the PBF and training components); organize technical support (e.g. capacity building of the LMDC, and target hospitals); and provide overall financial oversight of the project for both the PBF and training components. The HSSP Coordination Office will support the Procurement Unit within the Department of Administration on the procurement of related goods, services, and any civil works at the central level (e.g. international faculties for the training component, and TA). In addition, a Project Technical Committee (PTC) headed by the Deputy Minister of Health Services will meet quarterly (initially monthly) to review the progress of PBF and GMRP activities. The PTC will be comprised of other Deputy and Assistant Ministers as considered necessary by the Deputy Minister for Health Services, the HSSP Coordinator, the PBF Director, the Chairman of LMDC, the President of the PGMC, the Medical Directors from the target hospitals and the Head of the Montserrado CHSWT. The project implementation arrangements are diagrammatically outlined in Figure 2 below. A more detailed implementation arrangements diagram is provided in the Annex 3.

51. **Component 1**: Implementation arrangements for improving quality of care through a PBF approach will span three levels - county-level, central-level, and health facility levels, and will ensure that there is separation of functions between: a) the regulator (MoHSW- Department of Health Services, and CHSWT at the county-level); b) the fund holder for payment (OFM); c) the purchaser (MoHSW- Department of Administration); d) verifiers (LMDC, CBOs and external universities/ organizations); and, e) providers of health services.

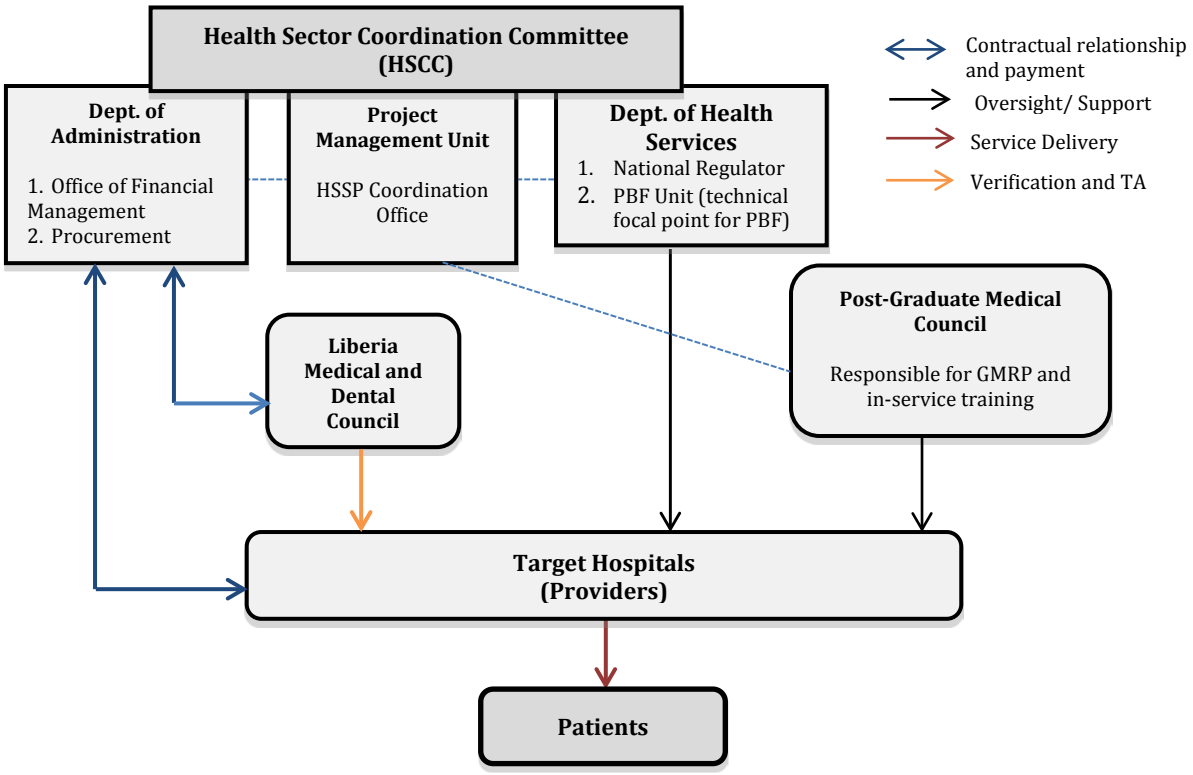
52. At the central level, the PBF Unit will be the technical focal point, and will be expected to work closely with the PTC, HSSP Coordination Office, M&E Unit, and other relevant units on technical oversight and PBF data management. Incentive payments will flow directly from OFM

to health providers. In addition, semi-annual counter-verification will be organized by the HSSP Coordination Office and conducted by external universities/organization. These arrangements are discussed in more detail in Annex 3.

53. To safeguard the institutional sustainability introduced by the project (under both components 1 and 2), significant local capacity and technical skills will be developed over the course of project implementation, including in relevant MOH units (e.g. the Procurement, Finance and the PBF unit), LMDC, the specialized and affiliated teaching hospitals, and the PGMC which will be responsible for coordinating and managing the medical residency program, and scaling up teaching capacity. This will ensure that a system is developed which can be seamlessly scaled-up and maintained by local counterparts.

54. Component 1 will be implemented in coordination with other donors (e.g. USAID/RBHS, and pool Fund donors (e.g. DFID, UNICEF) and EU. It is expected that this partnership, which shares the MoHSW's vision of full PBF roll-out, will jointly discuss the progress of the various project components, implementation arrangements and results with the view to ensure harmonization and comprehensiveness through the Health Sector Coordination Committee (HSCC) and other individual coordination meetings (Figure 2).

Figure 2: Implementation Arrangements



55. **Component 2:** Administration of the GMRP will fall under the PGMC. The PGMC is responsible for tasks such as, developing the residency and in-service training curricula and

standards, identifying critical needs to scale up equipment and supplies to accommodate the residency program, coordinating the recruitment of faculty, arranging accommodation of faculty and residents, administering entrance examinations, and placing and guiding residents through their rotation. Throughout the residency program, the PGMC will be responsible for providing academic and clinical supervision of faculty and residents, engaging in overall program monitoring including relevant indicators under the PBF quantity and quality check list, administering regular assessments and examinations of residents, and issuing relevant diplomas and certification.

56. The PGMC will be supported by the West Africa College of Physicians and Surgeons, which falls under the authority of the West African Health Organization (WAHO), and the Ghana College of Physicians and Surgeons. They will work jointly to, *inter alia*, accredit the GMRP nationally, while gradually progressing towards regional WAHO accreditation standards.

57. The PGMC will work closely with the HSSP Coordination Office on all relevant issues related to the development and implementation of the GMRP. The Council which is headed by a President, includes the Dean of the A. M. Dogliotti College of Medicine, and liaises with the academic chairs in Obstetrics, Pediatrics, Surgery and Internal medicine (amongst others), as well as the concomitant chiefs of department at the JFK Teaching Hospital.

58. Overall administration of the in-service training sub-component will also fall under the PGMC, which will work closely with the LMDC, the representative body for all health professions in Liberia. Faculty recruited under the GMRP will be contractually mandated to follow the in-service training curricula and guidelines developed by the LMDC, which is represented in the PGMC.

B. Results Monitoring and Evaluation

59. A comprehensive description of the project's results framework for monitoring and evaluation (M&E) is provided in Annex 1.

60. Project monitoring aims to routinely assess the quality and quantity of services provided. It can be divided into: a) internal and b) external monitoring. Under internal monitoring, the aim will be to assess: a) whether inputs and outputs are being delivered; b) compliance with work programs; and, c) progress towards achieving outcomes. Through this internal monitoring process, it will be possible to identify problems early in the implementation process (e.g. challenges in hiring faculty, difficulties in mandating resident-rotations; and delays in the approval of PBF payments and flow of funds from the MoHSW), and make mid-course corrections as needed.

61. External monitoring will involve: (a) counter-verification (organized by the HSSP Coordination Office); (b) financial auditing; and, (c) verification of service uptake with registered patients and qualitative assessment of patient satisfaction by CBOs. Counter-verification will seek to (re-) verify both the quality and quantity of services provided, and random verification of whether the verification results by the LMDC are appropriate (e.g.

assessment of whether processes of care adhere to existing protocols, and verification of the accuracy of the register and quantity invoices).

62. Distinct from the regular M&E activities, which seek to track the progress of key indicators over the life course of the project, an impact evaluation will also be carried out which attempts to answer important policy questions. Specifically, an attempt will be made to estimate the *causal* impact of project interventions on key health (and related) outcomes of interest. Thus, attention will be placed on *causal inference*.

C. Sustainability

63. The objectives of this project are to provide mechanisms for improving the quality and technical efficiency of health service provision, through both improvements in health worker competencies, and incentives that are linked to quality of care improvements. Specifically, the project will address the three primary challenges in the health sector that have made limited progress: low quality of care at the level of hospitals; weak performance of health personnel; and, critically low numbers of medical specialists (particularly in rural counties).

64. ***Financial Sustainability*** The 'cost of indicators' will be kept at sustainable levels throughout project implementation to enable the Government to take over the program financing in the future. By spending approximately US$1.5 per capita per year at the level of hospitals- a modest amount compared to Government health expenditures- the cost of the project is likely to be financially sustainable in the medium term. In addition to this, it is also important to consider that the proposed PBF approach is associated with less management costs compared with the existing PBC approach (which is implemented through the use of implementing agencies), and less funding will be required to scale up and mainstream PBF once the project closes, since the initial investments required to develop and design the performance incentive mechanisms or additional investments required to begin implementation, will not be needed. Also, it is possible that given positive results, other donors may be interested in supporting this (PBF) approach- and in effect, covering the incremental incentive payments.

65. In the case of the medical residency program, it is also highly likely that this will have a catalytic effect- with initial investments attracting additional funds. This is already the case. The PBF mechanism can also increase the sustainability of improvements to health worker competence, by incentivizing health facilities to use part of received performance bonuses for training of health workers. This approach is being 'tested' under this project.

66. ***Institutional Sustainability*****:** The project will build upon existing institutional structures (e.g., LMDC, PGMC) for the management and implementation of project interventions. These institutions will be provided with the necessary support needed to build their capacity to manage PBF and residency program interventions in the long-term, thereby ensuring technical and institutional sustainability. The Bank will actively engage with development partners (DPs) during project preparation and supervision to, *inter alia*, ensure complementary support (e.g. drugs, equipment, HRH), as well as sustained financing beyond the project period.

67. Meanwhile, recognizing that the development of a residency program is a long-term endeavor, the Bank will cost-share the residency program with the PGMC (which has its own budget), with project funds reduced incrementally over the course of the project. In addition, the Bank will work closely with the government and the PGMC to ensure that top-performing residents are provided with the opportunities to become fellows of the residency program, and hence can themselves become faculty after an additional 2 years (5 years in total) of fellowship training. Such home grown faculty can then replace foreign procured faculty, and serve to train subsequent cohorts of residents. The curricula developed for the residency program already includes a 2 year period of fellowship training, following the three year residency program. In addition, the coordination capacity in the relevant departments of the MoHSW, the GMRC, the LMDC, and teaching hospitals, will all be strengthened and streamlined under the project to effectively implement and manage a continuous medical education program after project closing.

68. ***Technical Sustainability*:** Under this project, the PBF mechanism is consistent with the GOL's contracting in approach, and will be rigorously tested in (geographically-dispersed) targeted secondary-level facilities. The necessary manuals, guidelines and other supporting materials will be developed and refined during the course of implementation; personnel will be trained; and lessons learned on what works and what does not, will be widely discussed and disseminated. This will inform policy decisions on the issue of whether the project should be further scaled-up or maintained. In addition to this, both the PBF approach, and the GMRP are fully aligned with national priorities. Consequently, government ownership is strong.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary Table

69. Project risk ratings are summarized in the table below.

Risk Category	Rating
Stakeholder Risk	Moderate
Implementing Agency Risk	Substantial
- Capacity	Substantial
- Governance	Moderate
Project Risk	
- Design	Substantial
- Social and Environmental	Moderate
- Program and Donor	Moderate
- Delivery Monitoring and Sustainability	Substantial
- Fraud and Corruption	Moderate
Overall Implementation Risk	Substantial

B. Overall Risk Rating Explanation

70. ***Overall preparation risk is Medium***. Project preparation is being carried out with the support of a strong technical team, with a strong emphasis on risk mitigation measures. On the client side, the Government has benefited from significant capacity building efforts under the recently closed World Bank project in areas such as procurement, financing management and project management. These gains will carry through into the preparation (and implementation) of this project. In addition, Liberia is also fully committed to the transition towards both PBF- with a PBF unit in place and functional- and the development of the GMRP. Coordination and discussions are already underway with WAHO, the Regional WHO office in Africa, and a number of key stakeholders in academia and elsewhere (including the Ghana Ministry of Health, the Ghana College of Physicians and Surgeons, the Nigeria Post-Graduate Medical Institute, and the Nigeria Federal Ministry of Health).

71. ***Overall implementation risk is Substantial***. Notwithstanding existing experience in PBC, the project includes a new approach- hospital PBF- which aims to improve the quality of care in a low income setting- and as such, presents a potential challenge to implementing entities, particularly given existing low capacity. Many existing PBF projects focus largely on the primary level, with less emphasis on the hospital-level. In such projects, the incentives attached to quality performance is relatively small (e.g., maximum 25 percent of quantity incentives), with the measurement of quality (even at hospitals) focused largely on structural aspects such as availability of drugs, equipment and infrastructure as well as general management activities (e.g., meeting, reporting, sanitation). In contrast, performance incentives under this project will be based largely on quality of care improvements. As such, more sophisticated quality measurements are required which go beyond structural aspects, and include clinical processes.

72. Experiences in other countries (e.g. Burundi) suggest that PBF at the hospital level is not as straightforward as at the primary level. Firstly, significant increases in uptake (unlike at the primary level) may not always be desirable, as the hospital should focus on referrals from the primary level, and in effect, the cases that cannot and should not be treated by primary level facilities. Second, given a large number of staff at the hospital level, it is possible that the performance bonus is split too thinly to adequately motivate staff. Finally, external factors in the health sector beyond PBF (e.g. market failures for health workers, and challenges in the supply chain of key drugs and commodities); and, inadequate financial management, project management and technical capacity at the decentralized levels (i.e. health facilities) could pose a risk to adequate performance and hoped-for achievement of results.

73. These challenges will be mitigated by a number of factors: (i) Liberia has been implementing PBC since 2006, is familiar with performance-based approaches, and there is a dedicated PBF unit in place and operational; (ii) proposed PBF strategies, including the phased introduction of quality of care measures (over the five year project implementation period) have been fully discussed with PBF and quality improvement experts, and these experts will be fully involved during preparation, pilot-testing and implementation; (iii) project design provides for extensive TA (e.g. through capacity building) to support implementation, and verification of results by the LMDC; (iv) regular external monitoring will be put in place to monitor performance on a regular basis, and make necessary mid-course corrections as needed; and, (v)

hospital-specific quantity indicators will be used to avoid the conflict of services with primary facilities.

74. With regards to component II, one key risk is that the expected financial contribution/ cost-sharing by the PGMC does not materialize. Furthermore, the longer-term availability of graduate medical teaching faculty is a substantial risk to the roll-out and sustainability of the Residency program. This may be further compounded by challenges to improving physical capacity (e.g. residency housing, and teaching equipment and supplies), and lower-than-expected numbers of qualified residents completing the GMRP. The latter may be due to lower than expected completion rate, and/ or a higher than expected drop-out rate due to the opportunity costs associated with staying in the program, along with possible disincentives associated with rotating to rural affiliated teaching facilities.

75. These challenges will be mitigated by the following factors: (i) an (internal) MOU which details the cost-sharing arrangement will be developed and agreed between the MoHSW (HSSP Coordination Office) and the GOL (through the PGMC); (ii) the financial contribution from the PGMC is designed to be an annual, affordable, and manageable amount which increases incrementally over the course of the project (iii) faculty will ideally- and to the extent possible- be hired on an institutional basis, rather than on an individual basis, with contractual agreements guaranteeing the supply of faculty for the program over multiple years; and, (iv) efforts to scale up of physical capacity of training sites will focus on procuring critical items that are needed in advance of any residency-training.

76. In addition to these risks, the country context remains fragile, and vulnerable.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analyses

77. **The proposed project will provide a substantial addition of financial resources to target facilities which suffer resource constraints despite high national health spending.** Data shows that government budget allocation is the major source of financing for secondary health facilities, because, unlike primary health facilities, they receive no major support from external donors, and most of out-of-pocket spending goes to private providers. In addition, government budget support is currently skewed to the tertiary level facility- JFK Hospital. As noted earlier, the only tertiary hospital accounted for almost one-fifth of the total health sector budget in 2010/2011. Only one-quarter of the resources devoted to inpatient services are channeled to secondary level facilities (hospitals and health centers). Table 2 shows the budget and expenditure for FY11/12 in selected target facilities, ranging from US$ 0.5 to 2.8 million. On average, one such facility has an annual expenditure of US$ 1.58 million. The proposed operation will provide approximately US$0.33 million additional resources per facility per year to the targeted facilities- contingent on the achievement of results. This accounts for about one-fifth of their current expenditure.

Table 2: Budget and expenditure for FY11/12 in selected target facilities

County	Health Facility	Year Budget FY11/12 (US$)	Expenditures FY11/12 (US$)	Expenditure per staff (US$)	Expenditure per bed (US$)
Montserrado	Redemption	501,000	515,900	1,173	2,517
Bong	Phebe	2,500,000	2,800,000	8,092	14,000
Nimba	Jackson Doe	2,500,000	1,300,000	7,471	6,311
Maryland	JJ Dossen	n/a	n/a	n/a	n/a
Lofa	Tellowoyan	1,200,000	835,000	4,970	6,958

78. **Furthermore, the proposed project innovatively earmarks a significant amount of resources to promoting quality improvement measures.** Although limited, evidence shows that the government allocates financial resources to hospitals through traditional budget line items (e.g., salary, goods, operating expenses), which does not provide sufficient resources, and there are no financial incentives to promote quality enhancement measures. The proposed project linked quality improvement results with payment. This provides strong incentives for the establishment of a quality improvement system (e.g. formation of quality improvement teams, regular support to quality improvement teams, measuring quality of care and tracking quality indicators). It is expected that over time, this quality improvement system will be institutionalized and thereby help to create a quality-oriented culture in these facilities. Financial sustainability, therefore, is not of critical concern since, following the start-up costs, maintenance of this (quality improvement) system should require less resources. Also, as elaborated in the following sections, quality improvements will bring additional revenues to hospitals.

79. **The proposed operation aims to improve the quality of care at selected hospitals in a number of selected MDG-related areas- obstetrics, pediatrics, internal medicine and surgery.** Interventions in the proposed service package have well-documented impact on averting maternal and neo-natal deaths. At present, secondary level facilities in Liberia are likely to be the only provider of many critical services, for example, institutional complicated delivery, management of post-partum bleeding and major surgeries. Targeted PBF facilities are also the only hospitals in their respective semi-rural and semi-urban catchment areas. Therefore, a dedicated focus on improving the quality of key targeted interventions, coupled with an increase in the availability of qualified and motivated staff in these facilities will help to improve urgently needed quality of care (including avoidable deaths). Investments in quality, however, must be judged critically, as investments can be beneficial, but come at a cost. Mindful of this, the project focuses on improving clinical practice and competence in areas with proven cost-effectiveness. For example, there is evidence that, under average conditions, improving quality of care for conditions of acute respiratory illness can be very cost-effective. When the baseline quality is low and the disease prevalence is high, an intervention that raises quality has a cost-effectiveness ratio of US$132 to US$800 per life saved. If the policy intervention is ineffective or the prevalence of pneumonia is low, the average cost of saving a life could be more than US$2,000. Meanwhile, when 60 percent of cases are appropriately diagnosed and treated, the cost

effectiveness ratio rises to US$5,000 per life saved. Similarly, strengthening surgical capacity at target hospitals is likely to be cost-effective as it addresses broad and acute needs.[14]

80. This proposed operation can provide economic benefits in the form of averted deaths (in particular maternal and infant deaths) and improved patients welfare (e.g., shortened recovery period and improved patients comfort) through the following path: (1) support to the residency program and in-service health worker training will increase the availability of quality skilled staff, service capacity and service utilization and (2) quality improvement measures supported by component 1 will improve the safety and effectiveness of clinical practices so that the success rate of interventions will be higher.

81. It is expected that approximately 32 residents will graduate from the GMRP (under the HSSP supported portion of the residency program). This is almost equivalent to the total number of doctors (38) in the targeted facilities. This implies that on average the service capacity will be readily increased between 40 and 80 percent during the project period depending on the number of cohorts in a given year. The impact, however, can be potentially much higher for some targeted facilities where only a small number of doctors are available, due to the existence of incentives for rotation between urban and rural areas. An estimated 60 percent of relevant mid-level cadres are also expected to be trained in life-saving skills and critical specialist areas in both target facilities, and satellite health centres. Together with the availability of performance incentives available through PBF arrangements- which may help to retain qualified staff- this support will greatly improve the availability of quality skilled staff in hospitals and surrounding health centres to provide essential services. This is expected to correspondingly translate into improved access to services and improved utilization of services. Beyond the project period, although the residents will leave targeted facilities, as locally trained specialists subsidized by the project, their investment and opportunity cost are relatively modest compared with taking training overseas. Therefore, it is expected they will also be more likely to continue to work in the country and provide high quality services.

82. The proposed quality framework focuses on process quality performance measures for a package of high impact clinical interventions: childbirth (routine intra- and post-partum high impact care, maternal complications and neonatal complications), pediatric inpatient care (Emergency Triage, Assessment & Treatment, pneumonia management, acute diarrheal disease & dehydration, sick neonate and acute malnutrition), as well as surgical care. Throughout project implementation, best clinical practices (e.g., ETAT, case management, WHO surgical safety checklist, Integrated Management of Pregnancy & Childbirth) in these areas will be introduced and promoted, coupled with establishment of institutions to measure and track quality indicators. These measures will greatly improve adherence to recommended guidelines such that the safety and effectiveness of clinical interventions will improve, and by extension, patients' outcomes and functionality.

83. The proposed quality improvement measures will also help standardize clinical practices and reduce variation between targeted facilities. Data shows that there is great variation between

[14] Jamieson, Breman et al. Eds (2006). Disease Control Priorities in Developing Countries. 2nd Ed. Oxford University Press and the World Bank.

targeted facilities, for example, the ratio of outpatient consultation to inpatient admission ranges from 11 in Firestone facility to 1 in Redemption facility. Inpatient admission per 1000 ranges from 125 in Montserrado County to 3 in Maryland County. Bed occupancy rate ranges from 247 percent in Montserrado County to 11 percent in Nimba County. This variation is an indication of poor quality, low efficiency and lost welfare, since a lack of standards in clinical practices result in over and under use of services which deviate from optimal value.

84. **The PBF mechanism supported by this proposed operation can be used as a platform to help improve the efficiency of targeted facilities.** Overall, the health sector in Liberia suffers low efficiency of health spending. Evidence shows that Liberia performs worse than other countries having comparable levels of health spending and income. The targeted facilities account for service delivery to 30 percent of the population in Liberia. Efficiency improvement in these facilities will make great contributions to improving the efficiency of the overall health sector. Once data from targeted facilities become available, it will provide a benchmark on the efficiency level in these facilities. By linking incentive payments with verified service delivery and improvements in quality, facilities will be incentivized to both provide more services that are essential for the health outcomes in Liberia, and improve the quality of care. Hospital PBF can also improve the efficiency of health expenditures by allowing and encouraging hospitals to invest the PBF incentives in the most-needed areas. Notably, at its best, poor quality is wasteful- a tragedy in severely resource-constrained health care systems like Liberia.

85. **Under PBF arrangements, facilities will have autonomy to utilize additional cash income earned, thereby encouraging facilities to find innovative ways to achieve results that are incentivized.** Performance based incentives, therefore, have the potential to transform managers and staff into strategic problem solvers focused on improving quality, utilization, and efficiency of care. This transformative payment mechanism, therefore, will directly contribute to towards improving efficiency and sustainability of target facilities.

86. **Better record keeping and accountability may also be improved in these facilities.** Due to its strong in-built monitoring and evaluation tools and systems, the PBF mechanism could also help establish a culture of systematic data collection, analysis and use in decision making, as well as accountability for expected results of spending decisions. These are all areas that are currently weak. For example, critical clinical data such as causes of maternal and child deaths are neither reviewed nor collected in a systematic manner.

B. Technical

87. A key objective of the NHSWPP is to improve the quality of services at the hospital level. Equally, there is strong political commitment towards the development of improved undergraduate medical and subsequent residency training in Liberia. A bill to establish full-fledged residency training for Liberia, including upgrading the capacities of the existing teaching hospital, and its envisaged affiliated rural decentralized secondary clinical facilities, has been recently approved by Cabinet. In addition to this, the MoHSW currently engages in PBC, with the evolution towards PBF accepted and included in the MoHSW's long-term workplan.

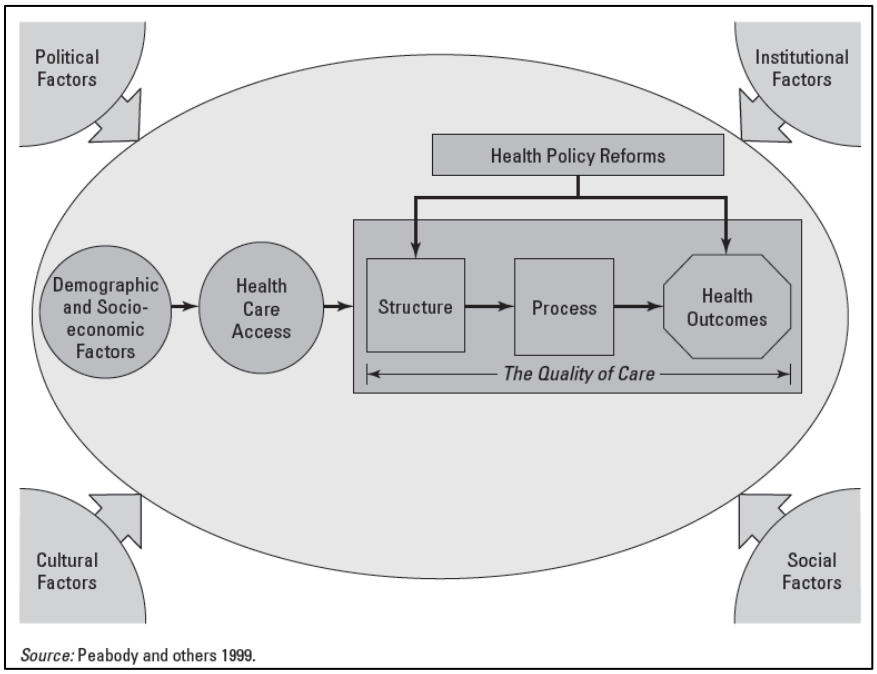
88. The ***Technical*** design of the project is based on a global understanding that quality comprises three elements which are shown in Figure 3 below:

a) *Structure* refers to stable, material characteristics (infrastructure, tools, technology) and the resources of the organizations that provide care and the financing of care (levels of funding, staffing, payment schemes, and incentives).
b) *Process* is the interaction between caregivers and patients during which structural inputs from the health care system are transformed into health outcomes.
c) *Outcomes* can be measured in terms of health status, deaths, or disability-adjusted life years—a measure that encompasses the morbidity and mortality of patients or groups of patients. Outcomes also include patient satisfaction or patient responsiveness to the health care system.

89. Consequently, the project will focus on improving both the structure and clinical processes, with a view to improving health outcomes at target facilities. Notably, as discussed above, support will be provided through both direct focus on addressing gaps in health worker competencies, and the provision of performance-based incentives linked to quality (process and structural) improvements. There is now evidence (including good results from Rwanda and preliminary data from a number of other countries) that result-based systems can change persistent under-performance in the provision of quality health services. In this regard, the LMDC, as well as the dedicated PBF Unit in the MoHSW- duly supported by TA as needed- will provide robust technical support at the central level. The LMDC will also ensure independence of the verification function from regulatory and provider functions, which is a critical factor for successful PBF. Although capacity challenges in implementing PBF exist, the project's focus on the hospital level mitigates challenges associated with financial autonomy at these facilities, since hospitals do currently manage a small amount of funds, and have accounting staff and bank accounts. Finally, the quality indicators and package of services financed under the project are well-suited to the hospital level. Annex 2 includes the detailed list of the incentivized package of activities.

90. Finally, implementation, including the technical soundness of the project will be reviewed carefully twice each year by joint government/Bank review missions using the agreed upon M&E framework. Details of the implementation support plan are outlined in Annex 5.

Figure 3: Quality of Care Framework[15]



C. Financial Management

91. The Project will build on the already existing fiduciary arrangements established at OFM. The overall FM risk for the project has been assessed as 'Moderate'. Through a DFID financed capacity building TA support to MoHSW, OFM has been strengthened and is currently staffed with adequate personnel with the requisite experience and qualifications to carry out its functions under the project. The ACCPACC accounting system in place will be used for accounting and recording of project financial transactions. The Internal audit unit of MoHSW has also been revamped through GOL Public Financial Management (PFM) reforms that have led to the creation of a centralized Internal Audit Secretariat (IAS) that provides internal audit services to ministries and agencies (M&As). A risk based internal audit approach, deployed into M&As including MoHSW, will be relied on to ensure compliance with controls, verification of outputs at the hospitals to be supported under the project and overall project implementation arrangements to be articulated in a Project Implementation Manual (PIM).

92. Disbursement methods for the project will be advances, reimbursements, direct payments and special commitments. One designated account will be set up for all the three components of the project. The project will also use the report-based disbursement method will also be used for accessing funds into the designated account for project implementation. Credit proceeds will flow from the IDA to a Designated US Dollar account to be opened at the Central Bank of Liberia (CBL) and managed by OFM. Payments will be made for eligible project expenses from

[15] Jamieson, Breman et al. Eds (2006). Disease Control Priorities in Developing Countries. 2nd Ed. Oxford University Press and the World Bank. p.1336.

the Designated US Dollar account. The report-based disbursement method (Interim Financial Reports) will be used as a basis for the withdrawal of all credit and grant proceeds. An initial advance will be provided for the implementing entity, based on a forecast of eligible expenditures against each component, linked to the appropriate disbursement category. These forecasts will be premised on the annual work-plans that will be provided to the IDA and cleared by the World Bank task team leader. Replenishments, through fresh withdrawal applications to the World Bank into the designated accounts will be made subsequently, at quarterly intervals, but such withdrawals will equally be based on the net cash requirements that are linked to approved work-plans and percentage contribution to the pooled fund. Supporting documentation will be retained by the implementing agencies for review by the IDA missions and external auditors. For a period of four months after the closing date, disbursement for expenses incurred prior to the closing date will be allowed.

93. **For Component 2 activities** (funding faculty, accommodation (for faculty and residents) and critical infrastructure and supplies).This component will utilize advances, reimbursement, direct payments and special commitment methods of disbursement. The designated account will also be used to fund eligible project expenditures under direct payment and special commitment thresholds set in the disbursement letter. Additional scale up of infrastructure, supplies and equipment for the teaching hospitals, as well as the incentives to ensure training is carried out, will be funded under the PBF mechanisms, and discussed under component 1.

94. **Component 1 activities will be financed through Performance Based Financing (PBF) as follows:** *(i) PBF for improvement in quality and management of selected health facilities.* From the designated account, OFM will make disbursements to the bank accounts of hospitals in target counties under PBF contracts *for delivery of selected utilization and quality indicators* by secondary health facilities. *(ii) Financing to LMDC and CBOs.* The LMDC will receive payment based on their verification, supervisory and other supporting functions. Payment to health facilities will be based on delivery of predefined indicators (output based), as well as quality improvements. The FM assessment report in Annex 3 has examples of output based indicators to be rewarded and how payment will be made. This will be further elaborated in the PIM.

95. The project will follow a cash basis of accounting and financial reporting and will submit, within 45 days of each GOL fiscal quarter, quarterly interim financial reports (IFRs) of the project activities. At a minimum, the constituents of the IFRs will be: a) Sources and Uses of Funds; (b) Actual and Forecast Cash Flow Statement according to Components, Sub-components and Activities; (c) Uses of Funds by Activity within Components; (d) Designated Account Reconciliation Statement; and, (e) Disbursement Status Monitoring Report. Whereas, the funds advanced under the project shall be incorporated into the GOL budget and hence accounted for as sub-accounts of the Consolidated Fund in GOL's annual financial statements, a single set of financial statements shall be prepared as an annex to the main GOL financial statement showing: (i) sources of funds/disbursements from IDA and a consolidated statement of uses of funds by component and sub-component activities; and (ii) notes to the financial statements, including background information on the project, the accounting policies, detailed analysis, and relevant explanation of the main accounts/major balances, etc. The annual audited financial statements of the project shall be submitted to IDA within 6 months of the end of the GOL's fiscal year (i.e. by

June 30 each year). The OFM will appoint an external auditor who will conduct the audits on the project financial statements on terms of reference as will be agreed within four months of project effectiveness.

D. Procurement

96. Procurement under the Project will involve goods, consultancy, and minor works and will be carried out in accordance with the World Bank's: (i)"Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrower" published by the Bank in January, 2011 (Procurement Guidelines): and (ii) "Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers" published by the Bank in January, 2011; and (iii) "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants" dated October 15, 2006, and updated in January, 2011.

97. The Procurement Unit of the Ministry of Health & Social Welfare Health (MoHSW) will be responsible for coordinating procurement under the Project. An assessment of the procurement capacity of the MOHSW concluded that Procurement Unit has the requisite staff who are experienced to handle procurement under the project. The procurement unit is headed by an experienced and well qualified Director of Procurement. He is ably supported by an equally qualified assistant Procurement Director and other Procurement officers who have had experience in donor funded projects and also attended various courses in World Bank procurement guidelines and procedures. However, there is uncertainty with respect to retention of key staff of the Procurement Unit.

98. Procurement of Goods, Works and Non-consulting Services from PBF proceeds will be procured by Health Facilities using procurement procedures specified in the Liberia Public Procurement and Concessions Act, 2005, amended and restated in September 2010. At appraisal, the procurement capacity of these Health Facilities is not known but most likely to be weak, requiring capacity building.

99. The project procurement risk, prior to mitigation measures is Substantial. The risk is reduced to a residual rating of "Moderate" in view of the mitigation measures in place, as detailed in Annex 3.

E. Social (including Safeguards)

100. The project will contribute towards improving health service delivery in Liberia. This will promote the social development outcomes of inclusion and cohesiveness for improved health services delivery. The pro-poor focus of the project will be achieved in three ways**:** (i) project interventions target vulnerable groups such as rural populations, and in particular, women and children who face a disproportionately higher risk of mortality and morbidity due to avertable causes; (ii) the project aims to enhance the delivery of specific services for which the coverage among the poor is disproportionately low; and (iii) payments made to health facilities under PBF will be (equity) adjusted to reflect their geographical location so that facilities located in remote areas can earn more.

101. Project activities do not involve land acquisition for project activities. The MoHSW and relevant facilities have acceptable proof of ownership of the existing land and there are no disputes over this land. Thus, there are no involuntary resettlement issues associated with this project, and OP 4.12 is not be triggered.

F. Environment (including Safeguards)

102. The Liberia HSS will not involve any major civil works. Potential adverse environmental and social impacts are expected to be minor, site specific and relatively easy to mitigate. It does trigger World Bank Safeguards Policy OP 4.01 on Environmental Assessment as project activities should generate healthcare wastes including sharps. Accordingly, in terms of Environmental Assessment, this project is categorized as "B".

103. Specifically, the rehabilitation/expansion of basic health infrastructure and other facilities on the grounds of existing hospitals may have localized adverse environmental impacts associated with civil works. To manage these, the project will have to comply with environmental assessment requirements under the Liberia National Environment Act (1995), National Environmental Impact Assessment Regulations 13/1998, other Liberian environmental regulations, and the World Bank safeguard policy OP 4.01 on Environmental Assessment. The Environmental and Social management Framework (ESMF) which includes an Environmental Management Plan to address any environmental impact was developed under the last (HSRP) project, and has been updated. There are no environmental or social issues which cannot be addressed through routine mitigation measures and good practices and funded within the overall level allocated for work related activities.

104. The project will enhance and expand provision of health services, thus contributing to increased generation of medical waste. To manage the environmental aspects of medical waste management, the project will promote implementation of the Environmental Safeguards Management Framework (ESMF), which was prepared under the previous Bank-funded project, and recently updated (in February 2013). The ESMF was disclosed in country on February 25, 2013 and at the Infoshop prior to Appraisal on March 01, 2013.

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP 4.01)	[X]	[ ]
Natural Habitats (OP/BP 4.04)	[ ]	[X]
Pest Management (OP 4.09)	[ ]	[X]
Physical Cultural Resources (OP/BP 4.11)	[ ]	[X]
Involuntary Resettlement (OP/BP 4.12)	[ ]	[X]
Indigenous Peoples (OP/BP 4.10)	[ ]	[X]
Forests (OP/BP 4.36)	[ ]	[X]
Safety of Dams (OP/BP 4.37)	[ ]	[X]
Projects in Disputed Areas (OP/BP 7.60)*	[ ]	[X]
Projects on International Waterways (OP/BP 7.50)	[ ]	[X]

* *By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*

Annex 1: Results Framework and Monitoring

Project Name: Liberia Health Systems Strengthening (P128909)

Results Framework

Project Development Objectives: to improve the quality of maternal health, child health, and infectious disease services in selected secondary-level health facilities.

Project Development Objective Indicators

Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection
				YR1	YR2	YR3	YR4	End Target			
Health Facility Quality Index at Target PBF Hospitals	☐	Num	TBD through a health facility baseline survey in July 2013					Target to be set following determination of baseline	quarterly	Health facility quality assessment	LMDC
Maternal, and child death audits carried out routinely by target PBF hospitals according to national guidelines	☐	%	0	20	40	60	80	100	Quarterly	Quality checklist/ death audit reports	LMDC
Direct project beneficiaries	☒	Num	0					444,000	Annually	HMIS and GMRP data	HSSP Coordination Office
Female beneficiaries	☒	%	0					50			

Intermediate Results Indicators

Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection
				YR1	YR2	YR3	YR4	End Target			
Performance contracts negotiated and signed	☐	Num	0	6	6	6	6	6	Annually	MoHSW Administrative	HSSP Coordination Office

with target facilities, and updated annually based on modifications to the quality checklist										data-Procurement Unit	
Proportion of target facilities that received quarterly performance-based payments, and as per their contracts	☐	%	0	60	80	100	100	100	Quarterly	MoHSW- OFM and PBF unit	HSSP Coordination Office
Proportion of target PBF health facilities with appropriate levels of Essential MNCH drugs and commodities	☐	%	TBD through a health facility baseline survey in July 2013	100	100	100	100	100	Quarterly	Quality checklist	LMDC
Proportion of counter-verification reports submitted to the MoHSW within two weeks after the end of each 6 month period	☐	%	0	80	100	100	100	100	Semi-annually	Quality checklist	HSSP Office
Targeted facilities that achieve at least 80% of the activities defined in annual business plans	☐	%	0	20	40	60	100	100	Annual	LMDC/ Annual FM Audits	Administrative data/ Supportive supervision and Annual FM audits
In-Service Training sessions in Obstetrics, Pediatrics, Surgery, Internal medicine carried out on a quarterly basis in project target facilities	☐	Num	0	18	36	36	42	42	Quarterly	Reporting invoices for Quantity indicators	LMDC/ PGMC
Knowledge score of residents according to key curriculum benchmarks	☐	%	60	65	75	75	75	75	Semi-annually	Knowledge test/ tracer vignettes	PGMC
Health personnel receiving training	☒	Num	0	50	125	150	150	500	Quarterly	Administrative data	PGMC

Annex 2: Detailed Project Description

LIBERIA: HEALTH SYSTEMS STRENGTHENING PROJECT

1. The proposed *Liberia Health Systems Strengthening (HSS) Project* aims to strengthen the institutional capacity needed to improve maternal health, child health, and internal medicine related health outcomes at target facilities through an innovative approach involving systematic and coordinated improvements to the quality of services delivered at target facilities (through performance-based incentives), and an expansion of health worker skills and competencies. Specifically, the project will: (a) focus on improving the quality of care standards (in both diagnosis and treatment) for services with proven effectiveness; (b) increase the availability of qualified graduate physicians (pediatricians, obstetricians, general surgeons, internal medicine internists, with cross-cutting focus on anesthesiology); (c) enhance the clinical capabilities and competencies of mid-level cadres- in emergency obstetrics, surgery, pediatrics, and internal medicine; and, (d) improve provider-accountability mechanisms related to both the achievement of results, and health-worker performance at selected facilities. These improvements should provide a thrust towards demand-side utilization and improved outcomes. The project's results chain is diagrammatically represented in Figure 1 above.

2. This project is innovative in supporting and incentivizing the expansion of health worker skills and enhanced quality of services in a systematic and coordinated way at target facilities. Target secondary level facilities (which include four county-level hospitals) cover approximately 30 percent of the population of Liberia, and include a mix of semi-urban and semi-rural health facilities. To make target hospitals accountable and motivated to improve the quality of services provided, a defined quality checklist comprised of key indicators of interest pertaining to clinical outcomes (e.g. adherence to predefined obstetric protocols), structural aspects of services (e.g. availability of drugs and equipment) and intermediate outcomes (e.g. patient satisfaction) will be incentivized. This quality checklist will initially rate routine high impact services heavily, but will be updated annually, in line with the shift of focus on more complex services. The achievement of quality improvement will be heavily dependent on both graduate residents and faculty from the GMRP, as well as enhanced in-service training of mid-level cadres. In-service training of mid-level cadres will be aligned with the continuous introduction of more complex skills over the life of the project.

3. The project will achieve its objectives through the following three components: (a) improving the institutional capacity needed to improve quality- particularly related to maternal health, child health, and internal medicine- at target facilities (Component 1); (b) improving health worker competencies to address key health-related concerns (Component 2); and, (c) Project Management (Component 3).

Component 1: Strengthening the Institutional Capacity to Improve the Quality of Selected Health Interventions at PBF Health Facilities (US$10 million):

4. Recognizing that quality of care is multidimensional, and encompasses both clinical processes, and structural aspects, this component aims to support improvements to the quality of care related to maternal health, child health, and infectious disease interventions at selected

hospitals in Liberia through the provision of performance-based incentives to support: (a) improved clinical practice; (b) the development of and adherence to well-established and defined clinical and treatment protocols; (c) health worker motivation (both intrinsic and extrinsic); (d) structural improvements (e.g. availability of drugs and commodities, and health facility rehabilitation)**;** (e) improved management capacity and governance at health facilities; and (f) improved monitoring and record keeping. In addition, under-utilized and under-provided services will also be incentivized. Importantly, these improvements will be heavily dependent on strengthened health worker competencies developed under the Component 2.

5. This component will be rolled-out in a phased approach, i.e. pre-pilot in Redemption Hospital (Montserrado County) which is expected to commence in June 2013, and larger roll out. This will allow the project design to be modified in response to lessons learnt from the pre-pilot, and ensure that the existing management capacity particularly at the national level is not over-stretched during the initial (pre-pilot) implementation period. Notably, Redemption Hospital was selected as the pre-pilot site largely because it is easily accessible to key stakeholders, and is also a key assigned teaching hospital under Component 2.

6. This component is comprised of two sub-components. These are discussed below.

Subcomponent 1.1: Performance-based financing

7. ***Performance-based contracts*****:** To address the systemic bottlenecks related to poor quality of care, and health system deficiencies, target health facilities will sign performance contracts with the MoHSW for quality improvement. Performance contracts will define: a) the package of services whose utilization will be incentivized; and, b) a quality checklist that will also be incentivized. Notably, 75 percent of incentive payments to health facilities will be based on quality improvements, and 25 percent will be linked to improved utilization of incentivized services.

8. ***Quality indicators***: The quality checklist will be disaggregated into key categories of interest. This includes maternity, pediatric/ neonatal, surgery, management hygiene and patient satisfaction, and health worker performance. As such, the quality checklist will involve a combination of both structural aspects (i.e. the presence and functioning of key inputs that are needed for health services delivery e.g. the availability of drugs, equipment and infrastructure), as well as clinical practice aspects (e.g. whether defined and agreed clinical processes related to both diagnosis and treatment of specific high impact interventions was followed; adherence to clinical guidelines in specific defined areas such as C-sections, and other surgeries etc.). Structural indicators will be monitored and assessed through a combination of direct observation and medical record review. Adherence to clinical protocols and guidelines will be assessed based on a sample of cases randomly selected for audit.

9. The quality checklist will be updated annually to reflect the shift of focus on more complex interventions across key areas of interest- maternal and newborn health, pediatrics (in-patient care), and surgical care, as well as to incorporate lessons learnt from a pre-pilot. Notably, the weighting of indicators on clinical processes and structural indicators is expected to change over time. In particular, the quality checklist is expected to shift its weighting to more complex clinical processes, with an accompanying reduced weighting for structural indicators. The

detailed checklist will be included both in contracts and in the PIM. Examples of the potential high impact clinical interventions that will be measured through the quality checklist include:

Process of care and intermediate outcomes (preliminary examples)

- *Adherence to clinical guidelines* (e.g. hypertension in pregnancy, eclampsia, post-partum hemorrhage (PPH), acute abdominal surgery)
- *Routine intra- and post-partum high-impact care* (e.g. partogram use, PPH prevention).
- Emergency Triage, Assessment & Treatment (*Routine initial care all children)*
- Successful treatment of Maternal Complications: Hemorrhage, Sepsis, Obstructed labor, Pre-eclampsia/eclampsia
- Successful treatment of Neonatal Complications: Sepsis, Pre-term/Low birth weight, asphyxia
- Existence of monthly functional death audit

Structural elements of quality at hospitals (preliminary examples)

- Essential tracer drugs and commodities available with appropriate stock levels (stock level to be defined)
- Availability of critical equipment to deliver EPHS (to be specified)
- Hygiene and medical waste disposal (to be specified)
- General management (e.g., performance review meetings, to be specified)

10. ***Package of Services:*** Importantly, mitigating poor quality involves not only improving the quality of care, but also eliminating under-provision and under-utilization of essential clinical services. As such, contracts will also define the (limited) services whose utilization will be incentivized (i.e., quantity indicators) and associated financial incentives for each unit of these services provided. This includes, for example, major and minor surgery, and the referral of newborn children for emergency neonatal care. Primary care level services and outpatient services will be excluded from the package to avoid the unwanted shift of patients from the primary level facilities to the hospital level. The tentative package of activities that will be financed is outlined in **Table 2.1** below. As with the quality checklist, this package will be updated annually as needed, and in response to lessons learnt from the pre-pilot.

Table 2.1: Tentative Package of Services for Liberia

A.	PBF Services	Definition
1	Complicated and assisted pregnancy and delivery (including C-section)	Any labor that is made more difficult or complex by a deviation from the normal procedure. Complicated delivery is defined as: assisted vaginal deliveries (vacuum extraction or forceps), C-section, episiotomy and other procedures.
2	Normal deliveries of at risk referrals	High-risk pregnant women referred by health center to the hospital but delivered normally. A high-risk pregnancy is defined as: evidence of edema, mal presentation, increased BP, multi-parity, etc.

3	Counter referral letters returned to health centers	Hospital returns counter referrals letter with feedback on the referred patient to the referring health center. The counter referral letter is completed in triplicate, with one also given to the patient, and one retained by the hospital.
4	Newborn referred for emergency neonatal care treatment	Newborns referred for emergency neonatal care due to: perinatal complications, low birth weight, congenital malformation, asphyxia, etc.
6.	Referred under-fives with fever	Infants and under-fives with fever who were referred to the hospital for management of Malaria and Pneumonia.
7	Minor surgical intervention	Any surgical procedure that does not involve anesthesia or respiratory assistance.
8	Major surgery (excluding CS, including major trauma)	Any surgery in which the patient must be put under general spinal/anesthesia and given respiratory assistance. Major surgery in the case of this package of services is defined as any of the following: Herniarraphy, Appendectomy, Myomectomy, Sleenectomy, Salpingectomy, Hysterectomy, Thyrodectomy, Mastectomy.
9	Patients transported by ambulance	Patients transferred from a lower-level facility (health center or health clinic) to the hospital for emergency treatment.
B.	**Training for residents and in service training for nurses, midwives and PA**	
1.	Number of training sessions held by faculty for nurses, midwifes and PA according to in-service curriculum and defined protocols.	These indicators will incentivize the in-service training activities.
2.	Number of nurses, midwives and PAs that received specialized in-service training, relevant to benchmarks	

11. ***Incentive amounts:*** Associated incentives for these service delivery indicators, as well as the training indicators will be determined based on: a) their importance as hospital services; b) the need to minimize the inappropriate shift of patients from primary clinics and health centers to hospitals; c) sufficiency of incentives to motivate health workers; d) budget constraints; and e) equity considerations (e.g. the remoteness of a health facility). Incentives will also be adjusted periodically, if needed, based on both feedback received during project implementation and other considerations such as faster or slower than anticipated disbursements.

12. ***Use of Performance Incentives***: Target health facilities will receive an upfront investment at the beginning of the initial performance contract and subsequently a performance-based payment every quarter. Target hospitals will each develop a business plan that identifies activities which can improve quality and utilization, using the incentives received and other revenues. Under PBF, there is a strong emphasis on providing health facilities with sufficient autonomy to manage funds for further improvement of service delivery outcomes. Performance payments can be used for: (i) health facility operational and capital costs, including maintenance and repair, drugs and consumables, outreach activities (e.g., for transport, performance payment to community workers, and demand-side incentives) and other quality-enhancement measures

such as faculty and residency training requirements; and (ii) financial and non-financial incentive for health workers according to defined criteria[16]. Notably, performance based incentives will be complementary to (traditional and) existing input-based financing at target facilities.

13. The autonomous financial arrangement at the health facilities- i.e. performance-based incentives and technical assistance- can potentially improve the efficiency of health financing to hospitals significantly, by encouraging these facilities to focus on the investments that are most needed to improve the quality of services through the use of investments. Guidelines on the allocation of performance payments between operational and capital costs and health worker incentives will be provided in advance, and detailed in the PIM.

14. ***Verification***: given that facilities are provided with financial incentives based upon achievement of quality improvements, and achievement of results, there is a possibility for misreporting. As such, the project will put in place multiple layers of verification processes to avoid manipulation of results and ensure the accuracy of data for payment, through both *ex-ante*, and *ex-post* verification.

a. **Ex Ante Verification:** The *quantity* and *quality* of services will be verified quarterly, and prior to making a payment. Each target facility will report monthly on delivery of agreed pre-defined services through a standard invoice to the LMDC. The *quantity and quality* of services delivered will be verified through independent verification by the LMDC- quarterly- prior to making the payment. Verified results will be reviewed by the PBF Unit of the MoHSW, and authorized by the HSSP Coordination Office for payment by the OFM.

b. **Ex-post verification:** This will be carried out in two ways. First, in each county, a community based organization (CBO) will be identified and subcontracted by the LMDC to visit homes of randomly chosen clients (select*ed from* the health facility registers) to determine whether they exist, whether they received the services that have been incentivized, and what their opinion is on these services. In addition to this, counter verification organized by the HSSP Coordination Office, and conducted by external universities/organizations (e.g., West African College of Physicians and Surgeons, or the Ghana College of Physicians and Surgeons), will take place semi-annually in all target facilities. Clearly defined measures will be invoked in case discrepancies are found between the facility's invoice, patient register and the ex-post verification findings. These are discussed in the Project Implementation Manual (PIM).

Subcomponent 1.2: Management and Capacity building

15. This sub-component will support the regulatory and coordination functions of the MoHSW; independent verifications of results; and, technical assistance and capacity building to strengthen the supervisory and supporting functions to health facilities, and ensure that all critical processes and functions are completed effectively.

[16] Tentatively, health facilities can use up to 50 percent of the earned performance bonus for financial incentives for health workers, and the rest on health facility operational and capital costs.

16. Specifically, this component will finance: a) capacity building of key stakeholders (e.g., Hospitals, LMDC, PBF Unit, HSSP Coordination Office, HMIS Unit and CHSWT as needed); b) development of strengthened quantity and quality verification systems (by the LMDC) and counter-verification systems (by CBOs and counter-verification teams); c) support to the fund-holder (OFM) to ensure timely and correct payments (to health facilities); d) support to the purchaser (Procurement Unit) to ensure that performance contracts are negotiated and signed with target facilities, and updated annually, and health facilities receive adequate procurement support; e) supportive supervision activities of the local regulator (CHSWT); and f) knowledge sharing and dissemination workshops. The latter will ensure that there is a rigorous and systematic program of learning, and will include, for example, workshops for hospital management of target facilities to discuss results achieved, implementation challenges and approaches being employed to overcome these challenges.

17. In addition to this, external TA will be provided- particularly in the early stages of implementation- for the LMDC, PBF unit, and health facilities. For example, the LMDC and PBF Unit will receive TA to ensure that they have the requisite skills needed to both carry out quality and quantity verification, and ably coach health facilities on a continuous basis to achieve results. Health facilities will receive TA and coaching in quality improvement and in the use of PBF management tools (e.g. business plan, quality checklist, indice tool, and individual performance review framework). A detailed capacity building and TA Plan is outlined in Table 2.2 below.

Table 2.2: Summary of Capacity Building and TA Plan

Level	Stakeholders	Main Roles and Responsibilities	Main Capacity Building Support
MOHSW	PMU/HSSP Coordination Office	• Overall project managerial and financial oversight/coordination; • Secretariat for the Project Technical Committee; • Authorization of PBF payment; • Support procurement	Organize following trainings: • 5 day PBF introductory workshop to MoHSW, LMDC, CHSWT, Hospitals; • 5 day targeted local training (e.g., business plan development, quality checklist)to hospitals, CBOs, CHSWTs
	PBF Unit	• Technical focal point of PBF; • Develop PBF manual and tools; • Verify PBF payment invoices; • Disseminate results and lessons	• 1 TA for coaching staff on monitoring and verification of quality and quantity of services for hospitals – this TA is shared with LMDC.
	External Counter verifier	• Carry out counter-verification on quality and quantity of services in all 5 hospitals.	• Upfront training on quality assessment and quantity verification approaches.
County	LMDC	• Verification of quality and quantity of services provided by hospitals; • Coaching to hospitals on quality improvement and PBF facility management	**Pre-pilot**: • 1TA to coach LMDC, Redemption hospitals and CHSWT on the hospital PBF, and test and modify the approaches; **Pilot**: • 3 intensive TAs for 3 months each to coach: - LMDC coaching staff on the approaches to coach hospitals; - Key stakeholders at health facilities on PBF management and quality
	CHSWT	• Local regulator that ensures the drug procurement at county and supervise hospitals;	
Facility	Hospitals	• Provider that provides quality hospital services to community	
	Community	• Carry out community verification	

	(CBOs)	to verify the uptake of services	improvement approaches; - CHSWT to strengthen their regular supervision to hospitals; and Train CBOs to carry out verification: • 1 TA (shared with the PBF Unit) to coach and support LMDC to carry out independent quarterly verification

Component II: Improving health worker competencies to address key health-related concerns at selected health facilities (US$4.2 million)

18. Component 2 will complement efforts to improve maternal health, child health, and infectious disease outcomes under component 1, by improving the availability and competencies of health workers in Liberia equipped with critical skills in obstetrics, pediatrics, general surgery and internal medicine. Specifically, component 2 activities will support: (a) the GOL's ongoing effort to develop and implement an innovative graduate medical residency training program (GMRP) to increase the number of physicians with specialized certified skills and competencies in the areas of obstetrics, pediatrics, general surgery and internal medicine (with cross cutting skills in aesthesia); and, (b) the development of an innovative continued professional development and outreach (targeted and needs-based) training program for mid-level cadres- nurses, midwives and PAs- in intervention facilities as well as satellite health centers. This in-service training will leverage the increased capacity of residents and faculty under the GMRP.

19. By project closing, approximately 32 residents are expected to graduate from the GMRP. In addition to this, an estimated 60 percent of mid-level cadres (nurses, midwives and PAs) at both the targeted hospitals and their satellite health centers will be expected to receive in-service training in life-saving skills and specialties. In a country that is lacking health workers with critical specialized skills, as well as faculty to train its health workforce, component 2 activities are expected to make a significant impact on service delivery through improving health worker competencies, particularly in key rural and semi-rural counties.

20. This component is comprised of two sub-components. These are discussed below.

Sub-Component 2.1: Graduate Medical Residency Program (GMRP)

21. ***Sub-component 2.1 will support the government's ongoing efforts to develop and implement a GMRP.*** This component will support the residency program, which is designed to shift the training of residents away from the Capital- Monrovia (after initial commencement of the residency in Liberia's only tertiary teaching hospital, JFK)- to semi-urban (Margibi and Bong County), and (importantly) semi-rural counties (Lofa, Nimba and Maryland County). The GMRP will be nationally accredited. The PGMC, the governing and administrative body of the GMRP, will be supported in this process by professional bodies in the sub-region (for example, the Ghana College of Physicians and Surgeons and WAHO, and the West African College of Physicians and Surgeons,) The Program will work towards regional WAHO accreditation standards over time.

22. ***Implementation Arrangements***: Training of residents will be conducted under the authority of the PGMC and the Liberia A. M. Dogliotti College of Medicine (which is

represented on the Council), with clinical support from the JFK teaching hospital. Faculty will be hired under the Bank's consulting procurement processes. In most cases (and ideally), this will be through consulting firm contracts with external teaching hospitals/universities in African and non-African countries. However, it is also likely that there will be cases in which Faculty will need to be hired on an individual basis. In addition to longer term (i.e. a minimum of 6-monthly contracts), the PGMC will also coordinate and organize the short term needs for faculty in sub-specialist areas, for (in general) a period of 2-3 weeks. Such faculty will be hired on an individual basis, and to the extent possible, will not be covered by project funds. The design of the residency program will also leverage and mandate faculty (and senior *in situ* residents) to train existing mid-level health workers (in addition to residents). This is discussed further under sub-component 2.2.

23. The Council will be responsible for development of TORs for faculty, selection of residents to be trained, and development of curricula and training protocols. Progress has already been made across these areas using parallel government funding. Importantly, the PGMC will be responsible for the administration and accreditation of the Residency Program, and for ensuring that residents meet the conditions and standards required for the award of Residency title in (individual) critical specialist areas. The faculty made available under the project will report to the Liberia A. M. Dogliotti College of Medicine faculty (through their representation on the Council).

24. ***Funding of this component will be co-shared with the GOL.*** Funding under this component will be used to fund relevant faculty, accommodation costs (of faculty and residents), and critical equipment and supply costs (where deemed necessary based on an evidence-based assessment) to accommodate resident training in target facilities. Funding for critical equipment and supplies provided under this component, to accommodate training in the target facilities, amounts to approximately US$1.7 million. The Government will co-finance the faculty and accommodation costs related to the residency program in incremental yearly amounts, as outlined in **Tables 2.3 and 2.4** below. This will gradually move the responsibility for funding faculty, accommodation (for faculty and residents), and operating costs, to the Government. In total, Government/counterpart funding to this component is estimated to be approximately US$1.4 million.

Table 2.3: Incremental cost sharing for Faculty between Project and PGMC

	Year 1		Year 2		Year 3		Year 4		
	1-6m	6-12m	1-6m	6-12m	1-6m	6-12m	1-6m	6-12m	Total
Total Cost	288,000	288,000	504,000	504,000	504,000	504,000	288,000	288,000	**3,168,000**
Projects' Contribution	**80%**	**80%**	**70%**	**70%**	**60%**	**60%**	**50%**	**40%**	
Cost for Project	230,400	230,400	352,800	352,800	302,400	302,400	144,000	115,200	**2,030,400**
Government/ PGMC Contribution	57,600	57,600	151,200	151,200	201,600	201,600	144,000	172,800	**1,137,600**

Table 2.4: Incremental cost sharing for Accommodation between Project and PGMC

	Year 1		Year 2		Year 3		Year 4		
	1-6m	6-12m	1-6m	6-12m	1-6m	6-12m	1-6m	6-12m	Total
Total Cost	76,800	57,600	118,800	99,600	99,600	118,800	57,600	76,800	**705,600**
Projects' Contribution	**80%**	**80%**	**70%**	**70%**	**60%**	**60%**	**50%**	**40%**	
Cost for Project	61,440	46,080	83,160	69,720	59,760	71,280	28,800	30,720	**450,960**
Government/ PGMC Contribution	15,360	11,520	35,640	29,880	39,840	47,520	28,800	46,080	**254,640**

25. ***Two resident cohorts (of 4 individuals each per specialty) will be supported- from enrollment to graduation- under a 3-year residency program***. A 6-month period before *commencement* of the first cohort, and 6 months after *graduation* of the second cohort are factored in as a buffer period (as residency enrollment and graduation may take longer than expected). Physicians who enroll into the GMRP will be selected from the pool of medical school graduates based on standardized criteria. Admission into the Program will be contingent on successfully passing a standardized examination, administered by the PGMC. Provided there is a 0 percent drop-out rate, an estimated 32 residents should graduate by project closing (see **Table 2.5** below).[17] This excludes additional graduates that might be funded by the MoHSW Furthermore, the government has made provisions in the curricula to enroll interested graduates into a 2 year fellowship program (following their graduation in the residency program), which will qualify them to become academic faculty and consultants to train subsequent cohorts of residents. This fellowship program will be financed through non-project funds.

Table 2.5: Number of physician residents enrolled by year and graduating over the 5 year project period (2 scenarios)

Resident Cohort	(6 month buffer [period	Year 1	Year 2	Year 3	Year 4	6 month buffer period	Total Graduates (100% completion)	Total Graduates (50% completion)
Obstetrics	*Allowing additional time for completion of preparatory activities (including commencement of first cohort)*					*Allowing additional time for completion of residencies*		
Cohort 1 (# enrolled)		4	4	4			4	2
Cohort 2 (# enrolled)			4	4	4		4	2
Pediatrics								
Cohort 1 (# enrolled)		4	4	4			4	2
Cohort 2 (# enrolled)			4	4	4		4	2
Internal medicine								
Cohort 1(# enrolled)		4	4	4			4	2
Cohort 2 (# enrolled)			4	4	4		4	2
Surgery								
Cohort 1 (# enrolled)		4	4	4			4	2
Cohort 2 (# enrolled)			4	4	4		4	2
TOTAL Residents enrolled		**16**	**32**	**32**	**16**		**32**	**16**

[17] This number will be adjusted downwards depending on drop-out/ deferral rates. Notably, even if there is a 50 percent completion rate, the availability of 16 graduate specialists will be a significant achievement for Liberia.

26. ***The training of residents will take place in JFK (A0 site), specialized semi-urban training sites (A1 sites), and affiliated rural hospitals (A2 sites), with A1 and A2 sites upgraded to accommodate the residency program under the project.*** In addition to the A0 teaching hospital located in Monrovia, the residency program will take place in 3 (A1) specialized, semi-urban teaching hospitals, and 3 (A2) affiliated rural teaching hospitals. These are outlined in **Table 2.6** below. Funding under this component will support the upgrading of critical upfront equipment and supplies in all target facilities to accommodate the residency program. Excluding JFK (which is already receiving significant financial support from other sources), and Firestone Medical Centre (which is a private company hospital) all target facilities will benefit from performance-based funding (to improve quality of care) under component 1 as discussed above. This includes additional funding to upgrade equipment and supplies to improve service delivery.

Table 2.6: Administrative and Training Sites for the residency program

Body	Name	Location	Training Specialty focus	Supported by Project
Administrative Body	PGMC	In Monrovia	n/a	no
A0 Teaching Hospital (In urban Monrovia)	JFK	In Monrovia	All disciplines	yes
A1 teaching Hospitals (Semi-Rural and Semi –Urban locations)	Redemption	Montserrado (outside Monrovia)	Obstetrics and Pediatrics	yes
	Phebe	Bong County	Internal medicine	yes
	Firestone	Margibi County	General Surgery	yes
A2 Teaching Hospital (rural counties only)	Tellewoyan Hospital	Lofa County	(all disciplines)	yes
	JFD Hospital	Nimba County	(all disciplines	yes
	JJ Dossen Hospital	Maryland County	(all disciplines)	yes

27. ***As mandated by the residency program requirements, the component will support resident rotations between A0, A1 and A2 teaching sites.*** A mandatory component of the residency program will be the rotation of residents from the urban A0 hospital, to the semi-urban A1 specialized hospitals, and semi-rural A2 affiliated teaching sites. Following an initial 6 months training in JFK (A0), residents will be mandated, to carry out alternating 6 month rotations between A1 and A2 hospitals, before spending their final 6 months residency back in JFK (A0). The rotational arrangement will shift both the numbers of physicians and training arrangements from traditionally urban to more rural sites. Funding under this component will include support towards accommodation costs of residents (cost-sharing with funds from the PGMC), where no accommodation can be provided by the target facility.

28. **Table 2.7** below illustrates the 6-monthly rotation of the two cohorts between A0 (urban), A1 (semi-urban) and A2 (rural) training hospitals. It shows in more detail how residents from two cohorts (16 starting in year 1, another 16 in year 2) in all 4 disciplines start in the A0 teaching hospital.. The 4 Obstetrics and 4 Pediatrics residents then rotate into Redemption Hospital (to obtain specialized training in Obstetrics and Pediatrics), the 4 internal medicine residents rotate into Phebe hospital (for specialized training in internal medicine), and the 4 surgery residents rotate into Firestone (for specialized training in surgery). Thereafter, each group of residents splits to rotate into the semi-rural A2 facilities, where they receive cross disciplinary training amongst residents from other disciplines (Tellewoyan for example will accommodate training for 1 surgery resident, 1 internal medicine resident, 1 pediatrics residents

and 2 obstetrics residents). Residents then re-group by discipline to rotate back into the respective A1 facilities (i.e. the 4 obstetrics and the 4 pediatrics residents rotate back into Redemption, the 4 surgery residents back into Firestone, and the 4 internal medicine residents back into Phebe). And following another split and rotation into the A2 facilities, all 16 residents then end their residency program back at the A0 facility, JFK, in their final semester.

Table 2.7: Rotational arrangements of cohorts of students across facilities for duration of project (purple = cohort 1, orange = cohort 2)

Residency Program and training location	Year 1		Year 2		Year 3		Year 4	
	6 mths	6mths	6mths	6mths	6mths	6mths	6mths	6mths
All Disciplines (A0)								
JFK Teaching Hospital	16 (all residents)		*16*			16 (all residents)		*16*
Obstetrics training (A1)								
Redemption Hospital		4 Obs res		4 obs res	4		4	
Pediatrics training (A1)								
Redemption Hospital		4 ped res		4 ped res	4		4	
Internal medicine training A1								
Phebe Hospital		4 int m		4 int m	4		4	
Surgery training (A1)								
Firestone		4 surg res		4 surg res	4		4	
Cross Cutting Training (A2)								
Tellewoyan			*1 surg res*	*1 surg res*	*1 surg res*	*1 surg res*		
			1im res	*1im res*	*1im res*	*1im res*		
			1 ped res	*1 ped res*	*1 ped res*	*1 ped res*		
			2 obst res	*2 obst res*	*2 obst res*	*2 obst res*		
JFD Hospital			1 surg res	1 surg res	1 surg res	1 surg res		
			2 im res	2 im res	2 im res	2 im res		
			2 ped res	2 ped res	2 ped res	2 ped res		
			1 obst res	1 obst res	1 obst res	1 obst res		
JJ Dosson			*2 surg res*	*2 surg res*	*2 surg res*	*2 surg res*		
			1 im res	*1 im res*	*1 im res*	*1 im res*		
			1 ped res	*1 ped res*	*1 ped res*	*1 ped res*		
			1 obst res	*1 obst res*	*1 obst res*	*1 obst res*		
Total Resident # (6month interval)								
Obstetrics	4	4	8	8	8	8	4	4
Pediatrics	4	4	8	8	8	8	4	4
Infect Disease	4	4	8	8	8	8	4	4
Surgery	4	4	8	8	8	8	4	4
Total res #	**16**	**16**	**32**	**32**	**32**	**32**	**16**	**16**

29. ***A0, A1 and A2 hospitals will be equipped with specialized faculty under this component that meet regular teaching standards for the residencies.*** A global residency standard is 1 faculty for every 2 residents (per discipline). This ratio will be applied in both the urban A0 and the semi –urban A1 hospitals. In the semi-rural A2 facilities Tellewoyan and Firestone, the faculty and student ratio will be 2:5; in JFD Hospital the student to faculty ratio will be 2:6. The 2 faculty posted in each of the 3 A2 facilities will be family specialist faculty (obstetricians/ gynecologists, or pediatricians) who will provide cross cutting training for residents from all 4 disciplines (see table 2.7). Ideally, as previously noted, faculty will be hired for a minimum of 6 months, from Anglophone countries within West Africa in particular, or if African counterparts (more generally) cannot be found, from countries outside of Africa such as the US, by building on new and existing partnerships; where deemed feasible and necessary, this may involve

developing or renewing relevant MOUs. Faculty will be medical academia in the rank of assistant professor, associate professor, or full professor in the specific area of specialty. Where necessary, very senior specialists with significant experience may also qualify as faculty (for example in JFK and Redemption). Funding under this component will include support towards accommodation costs for faculty (cost-shared with funds from the PGMC), where no accommodation can be provided by the target facility.

30. Specifically, as shown in **Table 2.8** below, the project will cost-share (together with the PGMC), the funding of 88 faculty with 6 month contracts (or the equivalent of 44 full year faculty) to support the residency rotations. This includes in total 16 (6 month) obstetrics faculty, 16 (6 month) pediatrics faculty, 16 (6 month) internal medicine faculty, and 16 (6 month) general surgery faculty, as well as 24 (6 month) family specialist faculty (obstetricians/ gynecologists, or pediatricians). Faculty will be tasked to follow the relevant curricula of the residency program, in addition to (as previously noted) providing significant in-service training and outreach training to mid-level cadres (see sub-component 2.2). Faculty and senior residents will be responsible for carrying out these training sessions. Under PBF, hospital management will be incentivized to ensure such training is adequately organized and carried out as planned.

Table 2.8: Number of specialist faculty by Facilities, per specialty (6 month contracts) (purple = to support cohort 1, orange = to support cohort 2)

Residency Program and training location	Year 1		Year 2		Year 3		Year 4	
	6 mths	6mths	6mths	6mths	6mths	6mths	6mths	6mths
All Disciplines (A0)								
JFK Teaching Hospital	8 (2 fc per discipline)		8			8 (2 fc per discipline)		8
Obstetrics training (A1)								
Redemption Hospital		2 Obs fac		2 obs fac	2		2	
Pediatrics training (A1)								
Redemption Hospital		2ped fac		2 ped fac	2		2	
Internal Medicine training A1								
Phebe Hospital		2 im fac		2 im fac	2		2	
Surgery training (A1)								
Firestone		2 surg fac		2 surg fac	2		2	
Cross Cutting training (A2)								
Tellewoyan			2 fam fac	2	2	2		
JFD Hospital			2 fam fac	2	2	2		
JJ Dosson			2 fam fac	2	2	2		
Faculty # (6 month interval)								
Obstetrics	2	2	2	2	2	2	2	2
Pediatrics	2	2	2	2	2	2	2	2
Infect Disease	2	2	2	2	2	2	2	2
Surgery	2	2	2	2	2	2	2	2
Family Specialist (Obstetrician/ Pediatrician)	0	0	6	6	6	6	0	0
Total 6 month faculty #	**8**	**8**	**14**	**14**	**14**	**14**	**8**	**8**

Sub-Component 2.2: In-service Training Programs to Mid- Level Health Cadres

31. ***Sub-component 2.2 will leverage the teaching capacity made available under sub-component 2.1 to provide specialized training in obstetrics, pediatrics, surgery and internal medicine to midwives, nurses, and PAs in the 6 target hospitals as well as neighboring health centers.*** This will address a key concern that health workers across all cadres are insufficiently receiving both in-service training and opportunities for continuous professional development in relevant skills linked to critical specialist areas. As previously noted, the faculty recruited and placed into target hospitals will be contractually mandated to carry out training sessions to other clinical health workers in both the intervention hospitals (A1 and A2) where they are stationed, as well as in surrounding health centers as part of mandated outreach obligations. Notably, in close alignment with the PBF mechanism under component 1, hospital managers will be incentivized to ensure that a relevant number of training sessions are provided by faculty and senior residents to mid-level cadres.

32. ***Overall administration of the in-service training component will fall under the PGMC, which will work closely with the LMDC to carry out training in a number of formats aligned with ongoing CME structures.*** In-service training will be conducted under the authority of the PGMC, in collaboration with the LMDC, the representative body for all health workers in Liberia (also represented on the PGMC). Specialized Faculty recruited under the GMRP and by the A.M. Dogliotti College of Medicine (through its representation on the Council) will follow strict in-service training curricula and guidelines developed by the LMDC. Training will conform to a number of well tested and frequently utilized formats; this will include Grand Rounds, Practical Clinical Training Sessions (including in surgery, obstetric and similar interventions), team-based teaching & learning, IT-moderated skills labs and workshops focusing on particular specialized topics in maternal health, child health, internal medicine and surgery. Training will align with the in-service training coordinated by the LMDC (in line with the CME Program), which is represented on the PGMC. The faculty will function as resources to the CME program. Details of the roll-out of this sub-component will be provided in the PIM. Mid-level cadres will be able to earn credits per training session attended which can be used to help re-certify mid-level cadres once such credits are sufficiently accumulated.

33. ***Over the project implementation period, an estimated 45 percent of mid-level cadres will receive continuous professional development training in key relevant competencies linked to obstetrics, pediatrics, surgery and internal medicine*** by (inter alia) faculty and in-training residents***.*** This includes (80- 100% of) staff at both the 6 project target facilities, and satellite health centers, through the mandated outreach to be provided.

Annex 3: Implementation Arrangements

LIBERIA: HEALTH SYSTEMS STRENGTHENING PROJECT

Project Institutional and Implementation Arrangements

1. The HSSP Coordination Office (PCO/HSSP), operating under the purview of the Project Management Unit (PMU) within the MoHSW, will have direct responsibility and oversight for overall project coordination and management. Specifically, the PCO/HSSP will work closely with the PBF Unit and PGMC to coordinate the overall project (both the PBF and training components); organize technical support (e.g. hiring of TAs, capacity building of the LMDC, CHSWT, and target hospitals); facilitate counter-verification; and, provide overall financial oversight of the project. The HSSP Coordination Office will also support the Procurement Unit of the Department of Administration coordinate the procurement of related goods, services, and any civil works at the central level (e.g. international faculties for the training component, and TA). The Coordination Office will be responsible for quarterly progress reports including procurement, physical and financial progress. These should be prepared, or coordinated with other stakeholders as necessary (e.g. in the case of the financial reports, coordination with OFM will be required), and sent to the Bank no later than 45 days from the end of the quarter. The project implementation arrangements are diagrammatically outlined in Figure 3.1 below.

2. Implementation arrangements for the PBF approach will span three levels - county-level, central-level, and health facility levels, and will ensure that there is separation of functions between: a) the regulator (MoHSW- Department of Health Services at the central level, and the CHSWT at the county-level); b) the fund holder for payment (OFM); c) the purchaser (MoHSW-Department of Administration); d) verifiers (LMDC and CBOs); and, e) providers of health services (participating hospitals). Key roles and responsibilities of these key stakeholders are defined below.

a) **Regulator**: The *Department of Health Services* which is led by the Deputy Minister for Health Services will regulate health services and the pharmaceutical market (e.g. improve efficiency of public and private pharmacies). The Deputy Minister will head a *Project Technical Committee* (PTC) which will meet quarterly (initially monthly) to review the results of PBF (verification and counter-verification) and capacity building activities at target facilities, as well as the progress of the residency program. Membership of the PTC will include other Deputy and Assistant Ministers as considered necessary by the Deputy Minister for Health Services, the HSSP Coordinator, the PBF Director, the Chairman of LMDC, the President of the PGMC, Medical Directors from the target hospitals, and the Head of the Montserrado CHSWT.

The PBF Unit- which falls under this Department, will be the key technical focal point on the PBF component of the project, and will be responsible for (*inter alia*): (i) developing the PBF component of the Project Implementation Manual (PIM); (ii) verifying payment invoices from health facilities (via the LMDC) and recommending to HSSP Coordination Office on the payment of PBF incentives;; and, (iii) organizing dissemination seminars for target

facilities every quarter in the first 18 months of implementation, and thereafter every 6 months.

At the county level, the CHSWT plays a role of local regulator, and hence is responsible for, *inter alia*, ensuring sufficient drug and vaccine supplies at target facilities. They will assist the LMDC in identifying CBOs for community verification and also provide assistance to external universities/organizations in facilitating counter-verification if needed. The CHSWTs will be expected to provide regular technical support and supervision to health facilities, in conjunction with organised TA discussed below.

b) **Fund holder:** the OFM which is led by the Controller will make payments to the health facility accounts based on invoices from the LMDC that have been verified by the PBF Unit and authorized by the HSSP Coordination Office. In addition, the OFM will be responsible for coordinating expenditures reports on the use of PBF incentives from health facilities based upon an agreed reporting template. This is discussed further under *Financial Management- Reporting Requirements* below. Notably, the project will support one dedicated staff member in the OFM.

c) **Purchaser**: The Procurement Unit of the *Department of Administration* in the MoHSW will be responsible for contracting directly with target health facilities for quality of care improvements, and improved utilization of a limited number of interventions. Given the technical nature of these contracts, the contract negotiation process with health facilities- which will be facilitated by the Department of Administration- will be expected to involve the Deputy Minister of Health Services or delegate, PBF Director, a representative of the PGMC, and Dean of the Medical School or delegate. The representatives from health facilities should include the Hospital Director, Nursing Director, and Administrator. In addition to their contracting function, the Procurement Unit will also be responsible for supporting health facilities (through, for example, dedicated capacity building) to carry out their procurement functions. Notably, the project will support one dedicated staff member in the Procurement Unit.

d) **Verifier**: In line with the separation of functions, the LMDC- an independent agency headed by a Chairman- will be responsible for verifying the quality of services provided, and the limited interventions whose utilization is also being incentivized, on a quarterly basis. Independent verification is a condition of the HRITF trust fund financing. This assessment will be based on a clearly defined quality checklist and package of services- both of which, as previously noted, will be included in health facility contracts. Notably, scores achieved on the quality checklist will be combined with output scores to determine level of performance and corresponding incentivized amounts to be paid to the target PBF hospitals. Both invoices and hospitals' performance reports will then be forwarded to the PBF unit. Once reviewed, invoices will be forwarded to the HSSP Coordination Office for payment authorization, then to the OFM for payment. The LMDC will be supported by necessary and adequate TA to: (i) ensure that they are able to independently and adequately assess health facility performance- particularly with regards to quality of care clinical process indicators; and, (ii) provide the intensive coaching and support needed by health facilities – particularly at the onset- to develop business plans, establish performance review process, apply the indices management

tool, and undertake quality improvement measures needed to achieve results. Assigned representatives of the CHSWT will be expected to participate in TA visits. The LMDC will be required to submit a report on their activities (including, for example, coaching and capacity building support to health facilities), and performance of target health facilities, to the Project Technical Committee every quarter for their review.

Verification functions by the LMDC will be complemented with semi-annual counter-verification, and community verification. Counter-verification for the quality of services will be organized by the HSSP Coordination Office, and will be led by external universities/organizations. This assessment will be based on the clearly defined quality checklist used by the LMDC every quarter. The results of the counter-verification will be forwarded to the PBF Unit for review and comparative analysis. The report of this will be submitted by the PBF Unit to the Project Technical Committee for discussion and necessary action which could include any sanctions for health facilities that are found to have deliberately manipulated data to show better than actual performance.

The CHSWT will support the LMDC in identifying the appropriate CBO (one per hospital) for *(ex-post) verification of results at the community level.* CBOs sub-contracted by the LMDC will contact randomly selected patients on the register of the health facilities to verify that they actually received the services from the facilities, and to assess their satisfaction with the services that they received. CBOs will sign the contracts with the LMDC. Contract negotiation will include at a minimum the Head of the CBO, the Registrar/Secretary General of the LMDC.

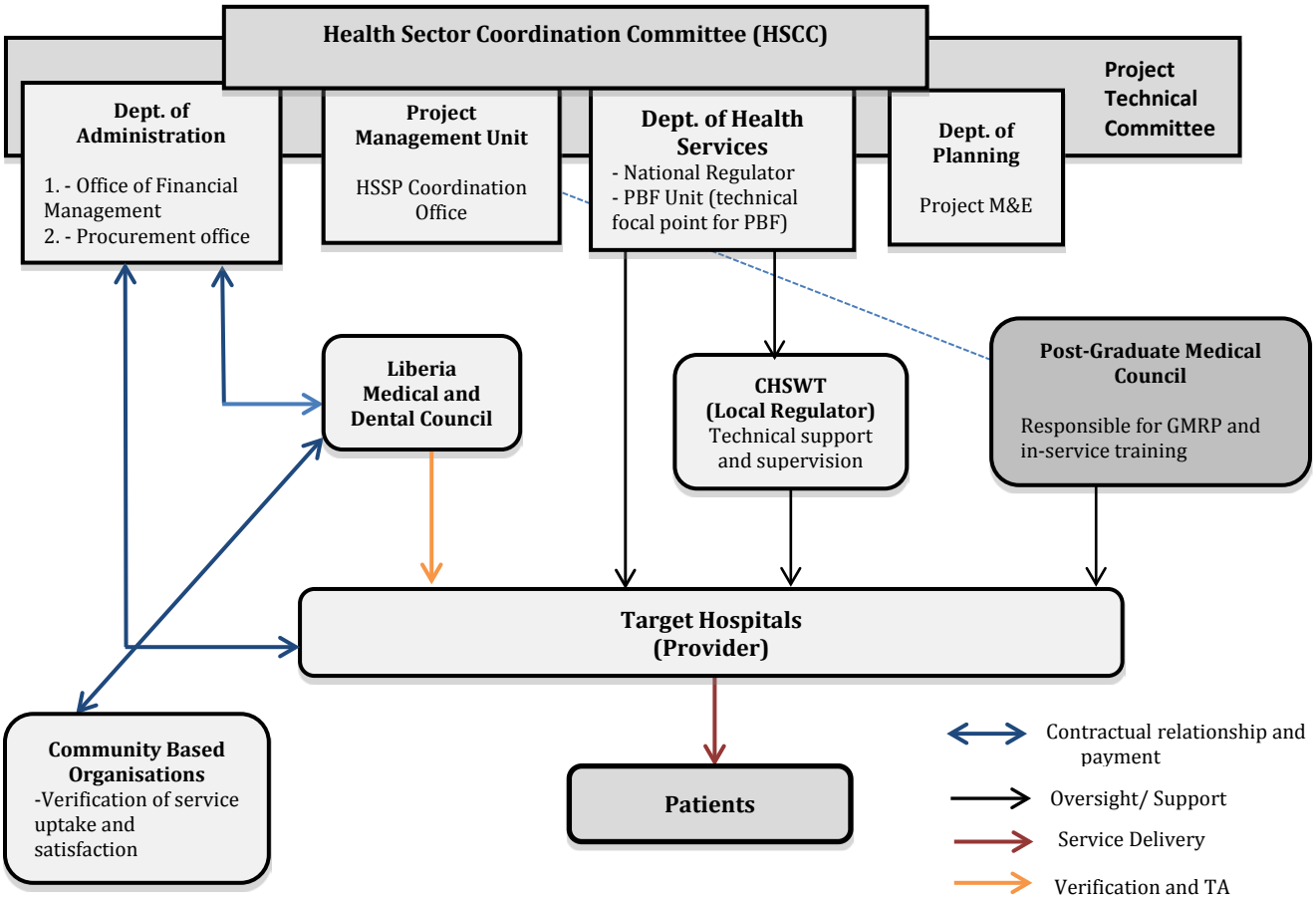
e) **Provider**: Selected health facilities will be responsible for: (a) improving the quality of care at health facilities, and providing high quality services; (b) developing and implementing business plans; (c) submitting monthly provisory invoice to the LMDC for quantity incentives; (d) ensuring the permanent availability of all data recording registers and all management tools at the health facilities, (e) ensuring that such documents are accessible to any verification or audit organizations; and, (d) assuring transparency and good financial management by applying the indice tool.

3. Administration of the GMRP will fall under the PGMC. It will be supported by the West Africa College of Physicians and Surgeons, which falls under the authority of the West African Health Organization (WAHO), and the Ghana College of Physicians and Surgeons. They will work jointly to, *inter alia*, accredit the GMRP nationally, while gradually progressing towards regional WAHO accreditation standards. The PGMC is broadly responsible for all tasks linked to the development and implementation of the residency program. This includes: the development of curricula (pre-service and in-service), developing standards for each discipline at each level, managing bi-lateral partnerships and agreements in terms of faculty procurement and accreditation, identifying needs in equipment and supplies to accommodate the residency program, as well as tasks linked to the implementation of the program, including administering resident enrollment/examination, supervising yearly competency assessments, administering examinations, and certifying residents.

4. The PGMC will work closely with the HSSP Coordination Office in development and implementation of all aspects of the HSSP- supported portion of the GMRP. The Council which is headed by a President, includes the Dean of the A.M. Dogliotti College of Medicine, and liaises with the academic chairs in Obstetrics, Pediatrics, Surgery and Internal medicine (amongst others), as well as the concomitant chiefs of department at the JFK Teaching Hospital. Under an (internal) MOU, they will work closely together with the MoHSW (Department of Health Services) and other relevant agencies to develop and implement all key program activities related to the GMRP. As previously noted, this MOU will detail the cost-sharing of faculty and accommodation costs between the project and the GOL (through the PGMC).

5. The Council will work with the HSSP Coordination office, and the LMDC to develop and implement continued professional development/in-service programs to upgrade the competencies of mid-level cadres (nurses, midwives and PAs); and, will work with the Coordination office to help guide and monitor the hiring of faculty, identification of suitable accommodation for faculty and residents, and to identify and procure critical teaching equipment and supplies for target facilities. It will also work with the HSSP coordination office to guide and monitor the investments in, and outputs of, the training component incentivized under PBF.

Figure 3.1: Detailed Implementation Arrangements



Financial Management, Disbursements and Procurement

Financial Management and Disbursement

a) Introduction

6. In accordance with the Financial Management Manual issued by the Financial Management Sector Board in March 1, 2010, a financial management assessment was carried out at MoHSW to assesses the adequacy or otherwise of the financial management arrangements for managing the Liberia HSS Project.

7. Given that MoHSW has previously implemented two Bank financed projects, the objective of the assessment was to determine the continuing adequacy of MoHSW's financial management arrangements, for ensuring : (1) the funds are used only for the intended purposes in an efficient and economical way; (2) the preparation of accurate, reliable and timely periodic financial reports; (3) the safeguarding of the entity's assets; and (4) adequate fiduciary assurances are provided through an independent audit of the project. The Project will build on the already existing fiduciary arrangements established at OFM. The overall FM risk for the project has been assessed as 'Moderate'. Through a DFID financed capacity building TA support to MoHSW, OFM has been strengthened and is currently staffed with adequate personnel with the requisite experience and qualifications to carry its functions under the project. The ACCPACC accounting system in place will be used for accounting and recording of project financial transactions. The Internal audit unit of MoHSW has also been revamped through GOL PFM reforms that have led to the creation of a centralized Internal Audit Secretariat (IAS) that provides internal audit services to M&As. A risk based internal audit approach, deployed into M&As including MoSHW, will be relied on to ensure compliance with controls, verification of outputs at the hospitals to be supported under the project and overall project implementation arrangements to be articulated in a Project Implementation Manual. On the basis of the assessment, no action items were identified that need to be completed by MoHSW.

b) Overview of Project Implementation Arrangements

8. The HSSP Coordination Office within the Project Management Unit (PMU) of the MoHSW will have direct responsibility and oversight for overall project coordination and management, including procurement of related goods, services, and any civil works. To safeguard the institutional sustainability introduced by the project (under both components 1 and 2), significant local capacity and technical skills will be developed over the course of project implementation, including relevant MOH units and the teaching hospitals responsible for coordinating and managing the medical residency program, and scaling up of teaching capacity (which the PMU will closely work with). This will ensure that a system is developed which can seamlessly be scaled-up and maintained by local counterparts. The OFM will be responsible for the financial management of the project.

c) Budgeting Arrangements

9. The OFM will assist the Coordination Office of the MoHSW to prepare an annual budget for the project based upon the agreed program to be financed. Most of the activities of the key

components are already known and these will be included in the Project's annual budgets. The annual project budget will be reviewed and agreed with the Association, and "No Objection" will be issued for only activities agreed in the budget. The project budget shall be incorporated into the quarterly unaudited interim financial reports prepared by the project for the purposes of comparing budgeted expenses with actual expenses by activity.

d) Accounting and maintenance of records

10. The OFM will maintain an effective accounting system –ACCPACC- that provides for adequate segregation of functions, capable of recording all accounting transactions, and reporting correctly all assets and liabilities of the Project. The system will have capacity to produce accurate periodic financial reports including quarterly Interim Un-audited Financial Reports (IFR) and annual project financial statements in a format and content agreed upon at negotiations.

11. Consistent with GOL arrangements, the Project will adopt the Cash Basis IPSAS in the treatment and recording of all transactions. In addition, the Project will maintain a statement of liabilities outstanding at all times to correctly reflect the Project's indebtedness to suppliers and third parties. A fixed asset record shall also be maintained to keep track of project assets. The OFM will also follow procedures laid down in its updated Financial Management Manual (FMM) in processing all financial transactions.

e) Funds Flow Arrangements

12. Disbursement methods for the project will be advances, reimbursements, direct payments and special commitments. One designated account will be set up for all the three components of the project. The project will also use the report-based disbursement method will also be used for accessing funds into the designated account for project implementation. Credit proceeds will flow from the IDA to a Designated US Dollar account to be opened at the Central Bank of Liberia (CBL) and managed by OFM. Payments will be made for eligible project expenses from the Designated US Dollar account. The report-based disbursement method (Interim Financial Reports) will be used as a basis for the withdrawal of all credit and grant proceeds. An initial advance will be provided for the implementing entity, based on a forecast of eligible expenditures against each component, linked to the appropriate disbursement category. These forecasts will be premised on the annual work-plans that will be provided to the IDA and cleared by the World Bank task team leader. Replenishments, through fresh withdrawal applications to the World Bank into the designated accounts will be made subsequently, at quarterly intervals, but such withdrawals will equally be based on the net cash requirements that are linked to approved work-plans and percentage contribution to the pooled fund. Supporting documentation will be retained by the implementing agencies for review by the IDA missions and external auditors. For a period of four months after the closing date, disbursement for expenses incurred prior to the closing date will be allowed.

13. **For component 2 activities (for faculty, accommodation expenses and upfront equipment and supplies scale up)**. This component will utilize advances, reimbursement, direct payments and special commitment methods of disbursement. The designated account will also be

used to fund eligible project expenditures under direct payment and special commitment thresholds set in the disbursement letter. Additional scale up of infrastructure supplies and equipment for the teaching hospitals (once critical equipment and supplies have been funded upfront), as well as the incentives to ensure training is carried out, will be funded under the PBF mechanisms, and discussed under component 1.

14. **Component 1 activities will be financed through Performance Based Financing (PBF) as follows:**

(i) Performance based financing for secondary-level facilities and management of health facilities.

15. From the designated account, OFM will make disbursements to the bank accounts of hospitals in target counties under performance-based financing (PBF) contracts *for improved quality of care, and delivery of selected interventions* by secondary health facilities *and management of* The PBF contracts will be signed between the participating health facilities and the MoHSW. The LMDC will also be contracted by the MoHSW for both independent verification of (quality and quantity) results achieved, and coaching to health facilities. As noted above, the LMDC will be duly supported by TA as needed. The contracts will define the quality checklist, the compensation (i.e. incentive payments) for each unit of incentivized services provided, as well as PBF process at the hospital and their roles and responsibilities. Approximately 75 percent of incentive payments will be based on the quality of the services provided. The quality checklist, which includes both the clinical processes incentivized, as well as the structural aspects, will also be included in the contract. Target health facilities will submit monthly invoices that specify the quantities of services delivered and the incentives requested for the delivery of each service. Quality assessment reports, and quantity invoices will be submitted every quarter by the LMDC to the PBF unit within the Department of Health Services for review. Their recommendation will be forwarded to the OFM, through the HSSP Coordination Office, to disburse a specified amount of funds to the participating health facilities. The LMDC and PBF Unit will provide OFM with appropriate supporting documentation upon which the payment has been authorized. Upon the authorization of disbursements by the HSSP Coordination Office, OFM will make disbursements directly into a US Dollar denominated account. Funds will be held by the target hospitals. Contracted hospitals under the PBF contracts will send a written confirmation of the receipt of payment to OFM for records.

(ii) Performance based financing to the LMDC and counter-verification

16. Like the arrangement with target health facilities, the LMDC will be contracted by the Department of Administration based on a clearly defined Terms of Reference (TOR). The LMDC will be paid a quarterly lump sum which will cover operational costs for carrying out their verification and coaching/ supervision activities, TA, and staff as needed. Payments will be conditional upon the submission and review of the LMDC's quarterly reports by the Project Technical Committee. Counter-verification will take place semi-annually, and will be led by external universities/organizations.

17. The Bank will issue a Disbursement Letter which will set out and summarize all the disbursement arrangements and procedures under the project. The letter will include the World Bank Disbursement Guidelines.

f) Internal Controls and Audit

18. MoHSW has laid down internal control procedures and processes that ensure that transactions are approved by appropriate personnel and ensure segregation of duties between approval, execution, accounting and reporting functions. These procedures and processes that are documented in a Financial Management Manual (FMM) were assessed as adequate and meet IDA requirements. The Internal Audit unit of MoHSW is manned by 10 staff who perform periodic reviews and report on their findings. The staff is complemented by a six-monthly rotation of Internal Audit Directors from the Internal Audit Secretariat (IAS). The presence of these internal audit functions in MoHSW has strengthened its internal management. The Unit will conduct periodic review of project activities at OFM, LMDC and participating health facilities in the PBF scheme. The internal audit should review the mechanisms put in place by health facilities to monitor output based indicators. At a minimum the Internal Audit Unit will carry out periodic reviews of project activities, records, accounts and compliance with internal control mechanisms; review statements of expenditures (SOE) and produce timely reports to be distributed as follows: the Bank, Project Management and the Deputy Minister for Administration.

g) Financial Reporting

19. The OFM will be responsible for preparing the quarterly interim unaudited financial reports. The financial reports will be submitted to the Bank within 45 days of each fiscal quarter after prior review by Project Coordinator. The constituents of the quarterly project IFRs, shall be as follows: (a) Sources and Uses of Funds (b) Actual and Forecast Cash Flow Statement according to Components, Sub-components and Activities; (c) Uses of Funds by Activity within Components; (d) Designated Account Reconciliation Statement; and (e) Disbursement Status Monitoring Report. The project will follow a cash basis of accounting. Whereas, the funds advanced under the project shall be incorporated into the GOL budget and hence accounted for as sub-accounts of the Consolidated Fund in GOL's annual financial statements, a single set of financial statements shall be prepared as an annex to the main GOL financial statement showing: (i) sources of funds/disbursements from IDA and a consolidated statement of uses of funds by component and sub-component activities; and (ii) notes to the financial statements, including background information on the project, the accounting policies, detailed analysis, and relevant explanation of the main accounts/major balances, etc.

h) Auditing Arrangements

20. The Liberia General Auditing Commission (GAC) will carry out an annual financial audit of the project. The terms of reference for the audit of the project must be finalized within four months of the project being declared effective. The CF's annual financial statements, including designated accounts activity, will be audited in accordance with International Standards of Auditing (ISA) and a single opinion will be issued to cover the project financial statements, notes

to the financial statements and the designated account. The auditors' report and opinion in respect of the financial statements, including the management letter, would be furnished to the World Bank within six months of the close of each GOL fiscal year.

i) FM Covenants

21. Quarterly progress reports on financial progress will be prepared and sent to the Bank no later than 45 days from the end of the quarter. Annual audit reports will be prepared and submitted to the Bank within six months of the end of the year audited.

j) Supervision Plan

22. Consistent with the overall "Moderate" residual risk rating, two supervision and implementation missions shall be carried out each year.

Procurement

A. Guidelines

23. Procurement for the proposed Liberia HSS Project will be carried out in accordance with: (i) "Guidelines: Procurement of Goods, Works, and non-Consulting Services Under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" dated January 2011; (ii) "Guidelines: Selection and Employment of Consultants Under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" dated January 2011; and, (iii) "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 the provisions stipulated in the Legal Agreements. The general description of various items under different expenditure categories is presented below. For each contract to be financed by the Credit, the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior review requirements, and time frame would be agreed between the Borrower and IDA project team in the Procurement Plan.

24. National Competitive Bidding (NCB) Procedures may be used provided that: (a) foreign bidders shall be allowed to participate in National Competitive Bidding procedures; (b) bidders shall be given at least one month to submit bids from the date of the invitation to bid or the date of availability of bidding documents, whichever is later; (c) no domestic preference shall be given for domestic bidders and for domestically manufactured goods; and (d) in accordance with paragraph 1.16 (e) of the Procurement Guidelines, each bidding document and contract financed out of the proceeds of the credit shall provide that: (i) the bidders, suppliers, contractors and subcontractors shall permit the World Bank, at its request, to inspect their accounts and records relating to the bid submission and performance of the contract, and to have said accounts and records audited by auditors appointed by the World Bank; and (ii) the deliberate and material violation by the bidder, supplier, contractor or subcontractor of such provision may amount to an obstructive practice as defined in paragraph 1.16(a)(v) of the Procurement Guidelines.

25. A General Procurement Notice (GPN) will be prepared and published in United Nations Development Business (UNDB) online, on the Bank's external website and in at least one

national newspaper after the project is approved by the Bank Board, and/or before Project effectiveness. Specific Procurement Notices for all goods and works to be procured under International Competitive Bidding (ICB) and Requests for Expressions of Interest (REOIs) for all consulting services to cost the equivalent of US$300,000 and above would also be published in the United Nations Development Business (UNDB) online, Bank's external website and the national press. For works and goods using NCB procedures, the Specific Procurement Notice (SPN) will only be published nationally.

B. Procurement Methods

26. **Procurement of Works**: Works contracts estimated to cost US$0.060 million for incinerator units to be financed by IDA under this project will be procured using shopping procedures based on a model request for quotations satisfactory to the Bank.

27. **Procurement of Non Consulting Service**: There are no known Non-Consulting Services to be financed by IDA under this project.

28. **Procurement of Goods**: The total cost of Goods to be financed by IDA is approximately US$1.8 million. These will include Equipment for the Graduate Medical Residency Program (GMRP), vehicles, office equipment, protective equipment, logistics and other equipment. The procurement will be done using the Bank's Standard Bidding Documents (SBDs) for all procurement under International Competitive Bidding (ICB). Bidding documents to be used under NCB procedures will be with prior agreement or satisfactory to the Bank. Contracts below US$500,000 but above US$50,000 equivalent per contract may be procured using NCB procedures. . Contracts estimated to cost less than US$50,000 equivalent per contract would be procured using shopping procedures based on a model request for quotations satisfactory to the Bank. Direct contracting may be used where necessary, subject to Bank's No-Objection.

29. **Selection of Consultants**: The project will finance consultancy services such as technical assistance, trainers, surveys, audits, supervision and project implementation services, estimated to cost approximately US$4.5m. Consultancy firms will be selected using the following methods: (a) Quality-and Cost-based Selection; (b) Quality Based Selection; (c) Fixed Budget Selection (FBS); (d) Least Cost Selection, and (e) Selection based on Consultants' Qualifications (CQS) for services estimated to cost less than US$300,000 per contract. .Selection of Individual Consultants (ICS) would be followed for assignments which meet the requirements of paragraphs 5.1 to 5.5 of the Consultant Guidelines. Single Source Selection (SSS) of Consultants would be followed for assignments which meet the requirements of paragraphs 3.8 to 3.11 of the Consultant Guidelines for firms, paragraph 5.6 of the Guidelines for individuals and will always require the World Bank's prior review regardless of the amount.

30. Short lists of consultants for services estimated to cost less than US$100,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines if a sufficient number of qualified firms are available. However, if foreign firms have expressed interest, they would not be excluded from consideration.

31. **Training, Workshops, Study Tours, and Conferences:** Training workshops (including training material and support), conference attendance and study tours, will be carried out based

on approved annual training and similar activities plan. A detailed training and workshops' plan giving nature of training/workshop, number of trainees/participants, duration, staff months, timing and estimated cost will be submitted to IDA for review and approval prior to initiating the process. The selection methods will derive from the activity requirement, schedule and circumstance. After the training, the beneficiaries will be requested to submit a brief report indicating what skill have been acquired and how these skills will contribute to enhance their performance and contribute to the attainment of the project objective.

32. **Operational Costs:** Operational costs financed by the Project would be incremental expenses, including office supplies, vehicles operation and maintenance, maintenance of equipment, communication costs, rental expenses, utilities expenses, consumables, transport and accommodation, per diem, supervision costs, and salaries of locally contracted support staff. Such services' needs will be procure using the procurement procedures specified in the Project Implementation Manual (PIM) accepted and approved by the Bank.

33. **Procurement from PBF proceeds:** For PBF proceeds, Goods, Works and Non-consulting Services will be procured by Health Facilities using the procurement procedures specified in the Liberia Public Procurement and Concessions Act, 2005, amended and restated in September 2010. The Procurement Section of the PIM shall include step-by-step guidelines for procurement by the Health Facilities.

C. Assessment of the Agencies' capacity to implement procurement

34. Procurement under this project is envisaged to be handled at the central level by the Ministry's Procurement Unit of the MOHSW. To this end, a procurement assessment of the MOHSW was conducted in October 2011 to ascertain the procurement capacity to manage the project. The findings were that MOHSW has the capacity to manage procurement under the project. The Ministry is a Procurement Entity and has a Procurement Unit, in line with the provisions under the Public Procurement and Concession Act of Liberia. The Unit is headed by a Director of Procurement who is well qualified and has the requisite experience in procurement. He is assisted by an assistant director and two key staff who are well qualified and have had training in World Bank procurement guidelines. The team also supervised procurement under the Bank financed Health Sector Reconstruction Project (HSRP) which closed in October 2011.

35. Another assessment to validate the initial findings was conducted during appraisal. While it is evident that there is capacity to carry out centralized procurement under this project, the risk was considered higher than anticipated for the following reasons**: (a)** The retention of the current Procurement Director was unlikely because of irregular salary payments under the USAID sponsored Senior Executive Service Programme and the supplementary contract under Global Fund had expired; (b) the Procurement Officer who was responsible for procurement under HSRP resigned and is no longer with the Ministry; (c) the six Health Facilities to benefit from the PBF are expected to procure goods and small works using the Liberia Public Procurement and Concessions Act. The procurement capacity of these Health Facilities was not known but most likely to be weak, requiring capacity building; (d) all procurement officers in the Procurement Unit (including two who have benefited from World Bank short term training) were already assigned responsibilities under different programmes being carried out by the Ministry.

36. The project procurement risk, prior to mitigation measures is Substantial. The risk is reduced to a residual rating of "Moderate" in view of the mitigation measures in place in Table 3.1 below.

Table 3.1: Procurement risks and proposed mitigation measures

No	Key Risks	Risk Mitigation Actions	By Whom	By When
1	Uncertainty of retention of experienced procurement staff in World Bank Procurement procedures within the Ministry Procurement Unit to carry of procurement activities of the Project	Recruitment of a procurement specialist experienced in World Bank procurement to be responsible for this Project within the Ministry's Procurement Unit	Ministry of Health and Social Welfare (MoHSW) through the HSSP Coordination Unit	By Project effectiveness
2.	Weak procurement capacity of Health Facilities to benefit from the PBF	Capacity building in procurement to be carried out in all Health Facilities after conducting a capacity assessment, using Project Preparation Grant funding	Procurement Unit of the MoHSW	By Project Effectiveness
3	Lack of procurement guidelines for Health Facilities to follow when carrying out procurement activities	The Procurement Section of the PIM should include guidelines for procurement by the Health Facilities	HSSP Coordination Unit in collaboration with the Procurement Unit	By Project Effectiveness
4	Lack of sustainability within the Ministry Procurement Unit to be able carry out procurement using World Bank Procedures	For sustainability reasons, the current Procurement Officers in the Procurement Unit (at least two) should attend relevant short term courses in Goods, Works and Consultancy Service under World Bank Procurement, in turns.	MoHSW through the Deputy Minister of Administration to examine training schedules at GIMPA in Accra or ESAMI in Tanzania	During the Life of the Project

D. Implementation Arrangements

37. **Procurement Plan**: The recipient will prepare a detailed 18-month procurement plan for project implementation which provides the basis for the procurement methods. This plan will be concluded and agreed on by the Government and the Bank Project team at negotiations. It will also be available in the projects database and in the Bank's external website. The procurement plan will indicate those contracts which are subject to prior review. All other contracts will be subject to post review. The Procurement Plan will be updated in agreement with the Bank Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

38. **Frequency of Procurement Supervision**: In addition to the prior review supervision to be carried out from Bank offices, two supervision missions (field visits) will be conducted each

year, during other project supervisions, to carry out post-review of procurement actions. The procurement post-reviews will be done annually and will cover the management of procurement including staffing, filing, record keeping and contract management. The post reviews will be carried out on a sample basis and the sample size will depend on the Project procurement risk at the time of the review. In addition, post reviews of training activities (Workshops, Conferences, Study Tours) will be conducted from time to time to review the selection of institutions/ facilitators/ course contents of training, and justifications thereof, and costs incurred.

39. **Publication of Awards and Debriefing**: The results of the bidding process for all ICB/LIB, Direct contracts and also for consultant contracts estimated at US$200,000 and above, shall be published in the UNDB online in line with relevant paragraphs of the World Bank's Guidelines: Procurement under IBRD Loans and IDA Credits dated January 2011; and Selection and Employment of Consultants by World Bank Borrowers# dated January, 2011. In addition, all NCB contracts shall be published in the national Press. Publication of all other procurement activities, including debriefing and review shall be subject to the relevant stipulates in the Liberian Public Procurement and Concessions Law of 2005.

40. **Fraud and Corruption**: All procuring entities as well as bidders and service providers, i.e. suppliers, contractors and consultants shall observe the highest standard of ethics during the procurement and execution of contracts financed under the project in accordance with paragraphs 1.16 of the Procurement Guidelines and paragraphs 1.23 of the Consultants Guidelines, in addition to articles 132.2 of the Public Procurement and Concessions Act which refer to corrupt practices.

Environmental and Social (including safeguards)

41. **OP 4.01.** The project triggers OP 4.01 on Environmental Assessment due to potential generation of health care waste by the existing hospitals and health centers. Some potentially adverse impacts are associated with operation of hospitals and health centers (e.g. medical waste generation and disposal through incineration, waste water disposal, general waste disposal). Land acquisition for construction of health and ancillary facilities will not occur. The project is not expected to have adverse cumulative or long-term impacts.

42. **ESMF.** To ensure compliance with environmental assessment requirements under the Liberia National Environment Act (1995), National Environmental Impact Assessment Regulations 13/1998, other Liberian environmental regulations, and the World Bank safeguard policy OP 4.01 on Environmental Assessment, Environmental and Social Management Framework has been carried out which includes an Environmental Management Plan. There are no environmental or social issues which cannot be addressed through routine mitigation measures and good practices and funded within the overall level of funding allocated for the project activities. There are no involuntary resettlement issues associated with this project. OP 4.12 is not triggered since there will be no land acquisition under this project.

43. **Consultations.** Local consultations were carried out through meetings and interviews as part of the HCWMP updating. The consultations included the full spectrum of local stakeholders,

and were recorded by the HCWMP preparation team and factored into preparation of the said document.

44. **HCWMP.** To manage environmental aspects of medical waste management, the project will update and implement the HCWMP for 2009/2010 to 2011/2012 that was recently completed and disclosed. The HCWMP outlines interventions for rationalizing, improving and monitoring medical waste management to strengthen safety, and reduce environmental impact. It includes capacity development and training measures. Following the HCWMP, the project will fund the rehabilitation of some the medical waste incinerators for the various levels of health facilities.

45. **Borrower Safeguards Capacity.** The borrower has weak experience in health care waste management. Environmental compliance is the responsibility of the Environmental Health Division of the MOH which is charged with executing the environmental health plans under the overall policy guidance of the National Environmental Protection Agency (EPA). Under the project, the division will work together with EPA to strengthen efforts in handling all environmental related issues.

46. The MOH have very little experience with the implementation of the Health Care Waste Management Plan. The challenge continues to come from insufficient and inadequate equipment for handling of medical waste and the poor enforcement by the authorities.

47. **Legal covenants and funding.** Adherence to ESMF and HCWMP to IDA satisfaction will be anchored in the covenants of the financing agreement. Funding for the prescribed mitigation measures, including cost of mitigation measures associated with medical waste management will be integrated in other project costs and financed by IDA.

Monitoring & Evaluation

48. Given the strong focus of the project on PBF, a strong monitoring system will be set-up which ensures that procedures, outcomes and provider compliance can be monitored and assessed. This should mitigate against the (not unexpected) tendency for gaming and manipulation of data. Project monitoring of ongoing process monitoring will be complimented with an impact evaluation, which aims to draw out the key lessons learnt from project activities. A comprehensive description of the project's results framework for M&E is provided in Annex 1.

(a) Ongoing progress monitoring

49. Project monitoring aims to routinely assess the quality and quantity of services provided, and in particular: a) whether inputs and outputs are being delivered; b) compliance with work programs; and, c) progress towards achieving outcomes. Through this ongoing monitoring process, it will be possible to identify problems at different stages in the implementation process (e.g. over/ under-utilization of services incentivized in the package of services; challenges in hiring faculty; difficulties in mandating resident-rotations; and, delays in the approval of PBF

payments and flow of funds from the MoHSW). This will allow mid-course corrections to be made.

50. Periodic internal monitoring will involve three key areas. Firstly, as noted above, there will be reviews by both the LMDC and external universities/organizations (during counter-verification), of service registers to monitor and assess the quantity and quality of services provided by target hospitals. These processes will be based on a defined package of services (with associated incentives), and a defined quality checklist. Recognizing that measuring quality is challenging, this process will adopt direct observation, reviews of medical records, as well as tracer vignettes. Both of these instruments will be clearly defined in the PIM. Second, CBOs will engage in (random) patient tracking to verify that services were provided, and to assess patient satisfaction with these services. Third, there will be periodic quarterly performance reviews of target facilities, with the aim being to discuss implementation progress, lessons learnt, and challenges faced. This review process will be facilitated by the Project Technical Committee. In addition to this, financial audits will carried out annually.

(b) Impact evaluation

51. Distinct from the regular M&E activities, which seek to track the progress of key indicators over the life course of the project, an impact evaluation will also be carried out which attempts to answer important policy questions. Specifically, an attempt will be made to estimate the *causal* impact of project interventions on key health (and related) outcomes of interest. Thus, attention will be placed on *causal inference*.

52. Specifically, the impact evaluation will seek to address the following set of questions:

a) Did the program work, as measured by achievements across outcomes of interest (e.g. utilization, and satisfaction and trust)?
b) How/ by what methods did target facilities improve performance (e.g. through improved management, improved information, improved training etc.)?
c) What role did existing presence and performance of human resources in the health sector play in the success/failure of the program?

53. The impact evaluation will be financed separately, and will be led by the Bank, in close coordination with the MoSHW's Department of Policy, Research and Development. A chapter on the IE- including the proposed methodology, and timeline for key actions- will be included in the PIM.

54. M&E implementation arrangements described below include sources of data and data collection mechanisms, frequency of the data collection, capacity on monitoring and evaluation, and investments in the M&E system.

55. ***Sources of data and data collection mechanisms***: Data for the indicators in the results framework as well as the quantity and quality indicators to be incentivized come primarily from government sources: (i) the MoHSW's routine Health Management Information System (HMIS) and existing registers and ledgers; (ii) Health Facility Surveys (HFS), patient exit surveys, and

community utilization surveys; and, (iii) administrative data. A few quantity indicators[18] that are not captured in the existing system will be collected through an additional register.

56. ***Health Management Information System***: The HMIS, which is managed by the MoHSW's M&E Unit, provides routine data for the monitoring of the indicators on health service provision and utilization. A 2008 HMIS Policy, and a 2009 Strategy and Implementation plan both identify the importance of HMIS as a critical building block to an improved health system. The 2009 strategy noted that given the protracted period of war, a functional HMIS does not yet exist, with particularly limited and fragmented information on morbidity, health inequalities, health status, and health determinants of the population and its subgroups. As such, it is generally not possible to see the interplay between health status, health determinants, service utilization, and the effectiveness of services on influencing the health of populations at the county and health facility levels. The project will use the existing HMIS and registers and ledgers for the data collection of the incentivized package of services, and supplement these with additional tools when needed. Verification and counter verification of data will help to improve the quality of data.

57. ***Health facility surveys***: Health facility surveys are periodically conducted to provide data for the monitoring of indicators that are not available from the routine HMIS. Annually, the MoHSW administers an accreditation survey, to accredit facilities for the delivery of the EPHS. This survey is led by the M&E unit, with the support of external partners; in particular, CHAI. Health facility surveys will be collected at baseline, and on an annual basis.

58. ***Frequency of the data collection***: HMIS data collection will be done monthly. This is consistent with current practice. In addition, monthly supervisory visits from the LMDC will take place, particularly in the initial implementation phase. Incentive payments will be done quarterly after the quarterly quality assessment has been undertaken.

59. ***Capacity on Monitoring and Evaluation***: The Department of Planning's M&E unit will be responsible for project data collection and analysis.

60. ***Investments in the M&E system***: The project will fully fund an impact evaluation. This will cover the cost of needed surveys. Additionally, health facilities will be encouraged to strengthen their HMIS through PBF incentives.

[18] Counter referrals, post-partum women, minor surgery and patients transported by ambulance.

Annex 4

Operational Risk Assessment Framework (ORAF)

Liberia: Liberia Health Systems Strengthening (P128909)

Stage: Board

Project Stakeholder Risks						
Stakeholder Risk	**Rating**	**Moderate**				
Description: Unfamiliarity with PBF, and very limited capacity to manage and implement PBF functions at the national, county and health facility levels, coupled with possible slower than expected initial disbursements, may lead to resistance from key stakeholders, in favor of input based financing. This may affect the early stages of implementation.	**Risk Management:** The Bank and project team will work closely with the MoHSW and stakeholders on the ground to ensure that the PBF approach is explained dearly, and adequate capacity building is programmed, through both intensive PBF training courses, and a long-term TA. Significant TA will be made available to the project team, implementing agencies, and health facilities during project implementation as needed.					
	Resp: Bank	**Status:** In Progress	**Stage:** Both	**Recurrent:** ☑	**Due Date:**	**Frequency:**
PBF is not entirely consistent with the funding modalities used by other development partners (DPs). This, and in particular, the financing leverage held by DPs- an estimated 83% of health expenditure in Liberia is externally funded- might lead to some resistance, and discourage the MoHSW from scaling up the PBF approach.	**Risk Management:** Intensive technical discussion and coordination have already taken place with DPs ensure that there is close coordination, and that approaches and tools are harmonized as far as possible. In addition, the Bank will actively engage with DPs during project supervision. The Bank will also work closely with NGOs and civil society. Civil society, for example, will assist will community-level verification of health facility performance.					
	Resp: Both	**Status:** In Progress	**Stage:** Both	**Recurrent:** ☑	**Due Date:**	**Frequency:**
Developing and supporting a GMRP may be considered at odds with perceived development priorities in Liberia. For example, there may be express opposition in favor of support to lower-cost, high impact interventions (e.g. community-based health workers) - despite a dearth of specialist health workers.	**Risk Management:** The team will collaborate and work closely with key stakeholders (international, regional and national organizations) early in the process to ensure buy-in, with an emphasis on highlighting the critical importance of focus specialist areas in achieving health outcomes (including the health-MDGs). Existing disciplines of focus were chosen in very close consultations with the government of Liberia. These disciplines are expected to make the greatest impact on development objectives. The team will also emphasize the mechanisms inherent in component II that will see core competencies trickle down from physicians in teaching hospitals to all health cadres in affiliated					

	facilities including those in more hard to reach areas.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Bank	In Progress	Both	☑		
The residency program involves many different actors, all with very specific roles and responsibilities in the implementation of the residency program. Key stakeholders, including the medical school, JFK, affiliated training sites, the LMDC and others may reject the specific design of the residency program, affecting the early implementation of the residency program.	**Risk Management:** The government has initiated conversations and discussions with a number of key stakeholders, and will convene a meeting during project Appraisal to clearly identify and formalize the respective roles and responsibilities of the different actors in the implementation of the residency program.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Client	Completed	Preparation	☐	15-Mar-2013	

Implementing Agency (IA) Risks (including Fiduciary Risks)						
Capacity	**Rating**	**Substantial**				
Description: Inadequate financial management capacity at MoHSW could pose the risk that financial management tasks and related fiduciary covenants are not be adequately complied with.	**Risk Management:** The established and well-functioning Office of Financial Management (OFM) will be responsible for the financial management of the project. The Unit is staffed with a capable full-time Controller and project accountants who have the requisite experience on Bank financial management guidelines. This will help mitigate the risks resulting from a lack of Coordination.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Client	In Progress	Implementation	☑		
Procurement proficiency is limited to the Public Procurement and Concession Act of Liberia. There is limited capacity in donor procurement processes. However some of the staff of MOH have recently attended courses in World Bank procurement procedures.	**Risk Management:** An assessment of the procurement capacity of the MoHSW concluded that the Procurement Unit has the requisite staff who are experienced to handle procurement under the project. The procurement unit is headed by an experienced and well qualified Director of Procurement. He is ably supported by an equally qualified Deputy Procurement Director and a Procurement officer who has had experience in donor funded project and has also attended various courses in World Bank procurement guidelines. The procurement risk was assessed as Moderate.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	Completed	Both	☑		
MoHSW's project unit, as well as the PGMC, and the LMDC may not have sufficient technical knowledge and	**Risk Management:** Close hands-on technical assistance (TA) will be provided by a TA agency, and by the Bank team, and through dedicated project funds on quality of care improvements, contract management, and PBF (including health facility management). For example, the LMDC will					

operational capacity to lead and manage the project's focus on quality of care improvements through PBF and improved health worker competencies.	be provided with adequate TA to ensure that they are able to carry out quality and quality verification, and the intensive coaching of health facilities envisioned. This will be complimented by training of key stakeholders in PBF.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	Not Yet Due	Implementation	☑		
Insufficient management capacity, as well as basic infrastructure (e.g. housing for residents and faculty), and equipment may pose a challenge to the implementation of component II activities.	**Risk Management:** Target health facilities – which will serve as teaching and affiliated teaching hospitals- will receive intensive support from the Bank, amply supported by TA as needed. A capacity needs assessment, carried out by WAHO, will inform the team of gaps in infrastructure and supplies and equipment. In addition, health facilities will receive up-front grants to assist with infrastructure improvements (e.g. infrastructure), and can use incentives for further infrastructure and equipment improvements. The project has budgeted separately for accommodation costs for both residents and faulty during the residency program.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	Not Yet Due	Implementation	☑		
Governance	**Rating**	**Moderate**				
Description: The legacy of weak governance institutions, accountability and enforcement mechanisms as a result of the 14-year civil war pose the risk of weak ownership and accountability for results.	**Risk Management:** The Government has made notable progress in building the foundation for improving economic governance, including the strengthening of the General Auditing Commission, improving cash management and controls and establishing the Anti-corruption Commission. Implementation arrangements will be monitored and reviewed during semi-annual supervision missions, and also more frequently if needed. In addition, there will be a strong focus on results, with both ex-ante and ex-post verification and counter-verification.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	In Progress	Both	☑		
	Risk Management: The continued improvements in financial management and procurement systems and procedures supported by technical assistance from the World Bank, the AFDB, IMF, USAID, Sida, EU and other donors have helped improve the fiduciary control environment to minimize opportunities for fraud and corruption. This a key factor in mitigating the fiduciary risks. Moreover, through a DFID financed capacity building TA support to MoHSW, OFM has been significantly strengthened and is currently staffed with adequate personnel with the requisite experience and qualifications to carry its functions under the project. This will further minimize project fiduciary risks.					

	Resp: Both	**Status:** In Progress	**Stage:** Both	**Recurrent:** ☑	**Due Date:**	**Frequency:**
	Risk Management: Anti-corruption clauses have been incorporated in all bidding documents and RFPs and contracts.					
	Resp: Bank	**Status:** Completed	**Stage:** Preparation	**Recurrent:** ☑	**Due Date:**	**Frequency:**
In an effort to improve services delivered- both the quality and clinical content- patient satisfaction may be deprioritized,	**Risk Management:** One cross-cutting issue monitored by the quality checklist is client satisfaction. In addition, grievance procedures will be put in place to address any mistreatments/ mishandling between both health workers, and health workers and patients. In the case of patients, for example, the Community health leader – who sits on the Hospital Health Board-will be the grievance focal point. Patients will be able to discuss grievances directly with the community health leader, or by writing these down, and placing in a suggestion box. Health facilities will be required to ensure that grievance procedures are understood by, and understandable to illiterate populations. All grievances will be discussed at monthly Hospital Board Meetings, with mechanism to address grievances- in the case of deliberate wrongdoing- enforced. In addition to this, mechanisms to address grievances among health workers will also be developed (including redress mechanisms) and enforced by health facilities. Adherence to these grievance mechanisms will be monitored closely in the quality checklist.					
	Resp: Client	**Status:** Not yet due	**Stage:** Both	**Recurrent:** ☑	**Due Date:**	**Frequency:**

Project Risks						
Design	**Rating**	**Substantial**				
Description: Some of the risks associated with PBF include: (i) gaming the system by inflating service delivery records or inflating the results of the quality evaluation or establishing too easily achieved management indicators; (ii) favoring service delivery to easier to reach populations; and (iii) focusing on only targeted services to the detriment of other equally important health interventions.	**Risk Management:** The project will address these risks by: (i) incorporating quality measures as an integral part of the process of determining payments to facilities/health workers; (ii) incentivizing utilization of a very limited number of services; (iii) establishing strong verification and counter-verification systems to reduce the risk of manipulation of data; and (iv) involving communities in the verification process, regularly monitoring service delivery to the most disadvantaged, and making the necessary adjustments to service tariffs to favor service delivery in remote areas					
	Resp: Both	**Status:** In Progress	**Stage:** Both	**Recurrent:** ☑	**Due Date:**	**Frequency:**

Setting of incentives for services contains a risk of budget overruns and insufficient levels of incentives to motivate health facilities, and in particular, staff to improve performance.	**Risk Management:** The project will make use of incentive setting tools that allow for incentive adjustments based on budget constraints (top-down budgeting) and reasonable incentive levels (bottom up budgeting). Incentives will be reviewed periodically, and updated as needed. In addition, the project will experiment with innovative ways of providing incentives; for example, to departments rather than individual staff members.

Resp:	Status:	Stage:	Recurrent:	Due Date:	Frequency:
Both	Not Yet Due	Implementation	☑		

Improvement of hospitals can attract more patients from health centers and health clinics, including the patients who should be treated at the primary level.	**Risk Management:** The MoHSW will ensure that sufficient support from the government and partners will be provided at the primary facilities in project counties. In addition, in order to mitigate against distortions in terms of patient flow, the project will focus largely on improving the quality of care, with only limited support to improved utilization of a specific number of under-provided or under-utilized services.

Resp:	Status:	Stage:	Recurrent:	Due Date:	Frequency:
Both	In Progress	Both	☑		

Scaling up resident graduate training capacity may not be considered an effective and efficient use of resources. Doctors and nurses with graduate medical degrees for example are often prone to outmigration and disproportionate uptake of urban employment.	**Risk Management:** The Bank will work closely with the government and the respective teaching hospital intended to provide graduate resident medical education to develop and implement a core set of interventions to minimize outmigration and disproportionate urban job uptake of students. This includes developing admissions policies preferential to uptake of students from rural backgrounds, create 'rotating' residency training in rural teaching facilities, and making rural work experience and placement a core component of the residency program, and developing bonding requirements upon completion of the residency Such interventions are inherent to the project, and have globally shown to significantly reduce outmigration and urban uptake. Finally, the partnerships with lower level training institutions, and front line service providers, will ensure that advanced skills trickle down to the front line workers quickly, to address development challenges in a shorter time frame.

Resp:	Status:	Stage:	Recurrent:	Due Date:	Frequency:
Both	In Progress	Both	☑		

Under component II, there is a risk that the program is unable to attract and/or finance an adequate number of suitably qualified faculty for the GMRP.	**Risk Management:** Recognizing these challenges, the team will focus primarily on developing suitable incentive packages to attract teaching faculty from the Africa region. The team will also work closely with various partners at the international level to identify additional funding sources to fund relevant incentives, as well as identify opportunities for volunteers from abroad, or retirees from Liberia, to form part of the teaching faculty.

	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	In Progress	Both	☑		
Physicians under the GMRP may be reluctant to rotate to health facilities in marginalized areas under the training, and/or to provide envisioned training to lower level health cadres. This may jeopardize the envisioned competency building for front line health workers cadres.	**Risk Management:** The project team will work closely with the Ministry of Health to develop suitable incentive packages for health workers to rotate and provide training to health workers in hard to reach area facilities. Such incentives should match the current government top up provision for physicians carrying out rural postings. In addition, funding under the project will fund a critical housing allowance, the lack of which is often considered a key barrier to rural uptake of employment posts. The team will also carefully assess the types of incentives that will be needed, and develop a mechanism under PBF to incentivize intervention facilities to ensure and monitor the provision of training to all health workers.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	In Progress	Both	☑		
PBF focusing on quality at hospitals in a fragile country is new and innovative, thus may have challenges especially in incentivizing the adherence to clinical processes and verifying results.	**Risk Management:** PBF design of the project including approaches to incentivize the adherence to appropriate clinical processes has been developed with internal and external leading experts in PBF and clinical quality improvement. It adopts a five year quality framework to improve the quality (especially clinical processes) year-by-year and avoid overwhelming the hospitals. It will use pre-pilot activities in Redemption hospital to test and modify the activities, and use regular steering committee to stock-take the progress and adjust approaches.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	In Progress	Both	☑		
Social and Environmental	**Rating**	**Moderate**				
Description: Risks related to handling and disposal of medical and health waste: the proposed project is classified as Category B for environmental screening purposes given the risks associated with the handling and disposal of medical and health waste such as syringes and material used during deliveries.	**Risk Management:** The existing Environment and Social management Framework (ESMF) and the Health Care Waste Management (HCWM) plan have both been updated and disclosed in country and at the Infoshop. The MoHSW and PMU will work closely to monitor implementation of the HCWM plan by health facilities during project implementation. The Bank team will also follow up with two times a year supervision missions during the project implementation. In addition, a number of target health facilities will have their incinerators rehabilitated. There will also be intensive training for all medical and para-medical staff in the project target facilities on HCWM. The implementing partners of the project will maintain attention to social and environmental developments that could jeopardize the quality, objectivity, and regional nature of the Program. A stakeholder assessment has been carried out to determine potential opposition to the proposed project or certain components of the project, and					

	relevant consultations and negotiations held. In addition, key features of the project- and in particular, attention to under-served populations- is expected to result in positive responses					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Client	In Progress	Both	☑		
Program and Donor	**Rating**	**Substantial**				
Description: Expected complementary support for the development of the Graduate Medical Residency Program (GMRP) from donors and TA agencies does not materialize, or is less than expected.	**Risk Management:** During project preparation a consultative process will be undertaken with the relevant bilateral and multi-lateral donors, TA entities, and professional associations, which have already shown interest in supporting the GRMP to determine and/or solidify joint or parallel funding, and technical support.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	In Progress	Both	☑		
Delivery Monitoring and Sustainability	**Rating**	**Substantial**				
Description: Quality of care improvements at health facilities may not be sustainable once the project ends	**Risk Management:** The cost of indicators will be kept at sustainable levels throughout project implementation to enable the Government to take over the program in the future. By spending about US$1.5 per capita per year, the cost of the project is likely to be financially sustainable in the medium term. The support from the partners including funds from USAID and EU will be harmonized under the MoHSW's leadership, which increases the opportunities for sustaining the PBF through both public sector and other external financing. Apart from financial sustainability, significant capacity building and TA will help to ensure technical and institutional sustainability.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	In Progress	Implementation	☑		
Lack of financing for the GMRP in the longer term could jeopardize the continued sustainability of the program.	**Risk Management:** The Bank will introduce cost sharing for the residency program early on, incrementally passing the cost of the program over to the government. The team will work closely with the government to develop and implement a strategy to ensure financial sustainability of the GMRP This will include working with the government to develop respective funding modalities and ensuring that interventions are innovative, cost effective and continue to be of benefit even after WB funding ends.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	In Progress	Both	☑		
Overall Risk						
Implementation Risk Rating:	**Substantial**					

Comments:

Focus on improving quality of care represents a new approach for Liberia. This, compounded by PBF, represents a potential challenge to implementing entities, particularly given the existing low capacity. This challenge, however, is mitigated by the fact that: (a) project design provides for extensive TA to support implementation; (b) Liberia has been implementing performance-based approaches since 2006, and, (c) regular internal and external monitoring mechanisms will be put in place to monitor performance on a regular basis, and make necessary mid-course corrections as needed. In addition, interventions at the hospital level will be introduced on a phased basis- beginning with a pre-pilot and year-by-year introduction of (increasingly complex) clinical process indicators. This will help to build implementation capacity. Nevertheless, external factors in the health sector - including market failures for health workers, challenges in the supply chain of key drugs and services; inadequate capacity of the LMDC to carry out quality and quantity verification could pose the risk to adequate performance and hoped-for achievement of results.

With regards to component II, the longer-term availability of graduate medical teaching faculty is a substantial risk to the roll-out of the Residency program. This may be further compounded by challenges in improving physical capacity; lower-than-expected numbers of qualified residents receiving accreditation, due to problems with the undergraduate program; and, less-than-expected focus on continuous medical education, due to a combination of limited time, budget, and skilled trainers/ supervisors.

In addition to these risks, the country context remains fragile, and vulnerable. For these reasons, the Substantial risk rating is considered appropriate.

Annex 5: Implementation Support Plan

COUNTRY: LIBERIA HEALTH SYSTEMS STRENGTHENING PROJECT

Strategy and Approach for Implementation Support

1. The Implementation Support Plan (ISP) describes how the Bank will support the implementation of the risk mitigation measures (identified in the ORAF) and provide the technical advice necessary to facilitate achieving the PDO (linked to results/outcomes identified in the result framework). The ISP also identifies the minimum requirements to meet the Bank's fiduciary obligations.

2. Implementation support is a core element of the proposed Liberia HSS Project, and will involve continuous World Bank engagement in partnering with the Government on two dimensions:

a. *Sectoral and technical aspects*, including: (i) strengthening performance management; (ii) improving equity; (iii) improving administrative efficiency; and (iv) reducing fraud and error.
b. Continuous *fiduciary oversight* both for regular fiduciary (financial management) supervision, procurement, functioning of the LMDC and TA.

2. The project will need intensive supervision given limited in-country experience with structured approaches to improving clinical quality of care processes, PBF (e.g. in contract management, and business planning), and the design of the innovative GMRP. As noted in Annex 3 above, project implementation will span three levels: the national, county, and health facility levels. The Bank will provide thorough supervision using a budget of US$150,000 for the first 12 months of implementation, as well as, approximately US$170,000 per year for the first 2 years from the Health Results Innovation Trust Fund (HRITF), and $120,000 for every subsequent year after this.

3. In addition, US$250,000 from the HRITF has been allocated to the Bank, and US$850,000 to the GOL for project preparation; this includes US$450,000 for a pre-pilot. Using these funds, the Bank and GOL will support recruitment of key staff in the HSSP Coordination Office, the preparation of the PIM, recruitment of TA as needed, contracting of the LMDC and pre-pilot hospital, PBF training to key officials and implementers at the central, county and health facility level; and the design and roll-out a pre-pilot in one hospital for a minimum of 6 – 9 months (starting June 2013). As previously discussed, the objective of this pre-pilot will be to ensure that proposed implementation and institutional arrangements are adequate and effective.

4. The central MoHSW- and in particular, the HSSP Coordination office- has experience in carrying out and managing Bank-funded projects, and the country has been involved in PBF since 2006, so capacity does exist in performance-based approaches. Significant learning, however, will still be essential in areas such as hospital PBF, contract management, business plan development and implementation, use of the indices tool, and independent verification. Supervision by the Bank will be leveraged by the ongoing supervision carried out by the central

MoHSW PBF unit. The PBF unit staff will participate in the semi-annual counter verification visits (led by external universities/ organizations) to each target health facility, and will prepare action-oriented supervision reports that will be reviewed by the Bank during their bi-annual supervision missions, and through desk reviews. These reports should distinguish between better and lesser-performing facilities, so that these can receive more intense supervision from the Bank. The HSSP Coordination Office will also lead PBF refresher training and review sessions during the pre-pilot, and on an ongoing basis as needed.

5. A much more intensive than normal supervision program will be carried out during the first 1 – 2 years of the project as needed to ensure that the institutional and implementation arrangements are working well, and that adequate capacity and TA exists. Some of the supervision skills required by the Bank team will be needed on a regular while others will be required on an ad hoc basis. A core supervision team will therefore be established which includes FM, procurement, PBF, and overall TTL supervision. This will be complemented by technical specialists; in particular those covering hospital PBF, MCH/internal medicine, medical education/ HRH, and M&E. Notably, the FM and Procurement Specialists are both based in Monrovia, and hence can provide support on a more regular basis if needed. In addition to this, it is very likely that the team will place an ETC in Liberia for at least 2 years (this includes the duration of the pre-pilot, and the first year of project implementation).

6. As per institutional requirements, formal missions will be carried out twice a year (with regular and detailed Implementation Status Report/Aide Memoir reporting). The Bank's Supervision Missions are a management instrument, designed to monitor implementation progress and to verify that operational, management and policy responsibilities are met. It will focus on service delivery and reforms, particularly the implementation of the PBF approach, and GMRP. During the project implementation, technical partners such as UN agencies and USAID, could also be invited to participate in supervision missions on an ad hoc basis to build strong partnerships with potential technical and financial support from these development partners and to initiate discussions on potential additional/complementary financing.

7. The objectives of the Bank's Supervision Missions will be to:

- Take stock of the achievements of the project during the previous six months, especially progress towards the PDOs as described in the Results Framework (Annex 1).
- Carry out field visits to PBF facilities and ensure that the integrity of these payments are in compliance with the agreed fiduciary arrangements described above;
- Review project implementation during the current year, with a particular focus on the effectiveness of project implementation arrangements, and suggest solutions as required;
- Review third party verification reports especially on the utilization of services at project facilities, the output verification process and whether equity concerns are being adequately addressed. Carry out additional counter-verification as needed;
- Monitor and report progress on PBF performance, and the performance of the GMRP- in particular, the innovative rotations, and the adequacy of the PBF modality in providing funding for health worker trainings, and physical capacity improvements.
- To monitor risks and update the risk assessment presented in the ORAF matrix in Annex 4.

8. Table 5.1 below provides a basic timetable of implementation support in the first 2 years of the project. The following table- Table 5.2- outlines the skill mix and inputs needed to effectively support implementation.

Table 5.1: Implementation Plan – Basic Timetable

Time	Focus	Skills Needed	Bank Budget Resource Estimate
First twelve months	• Implement the PBF pre-pilot and modify approaches (e.g., indicators and values) based on lessons learned. • Ensure LMDC is appropriately staffed, contract TA, and build the capacity of LMDC through training and coaching. • Coach health facilities on PBF, business planning and performance management and verify their results appropriately. • Coach CHSWT on effective approaches to supportive supervision using PBF tools. • Establish robust data management and performance review process at hospital, county and MoHSW levels. • Support to: a) the recruitment of faculty, and b) identification and support to address gaps in infrastructure and supplies (in A1 and A2 facilities) to accommodate the residency program c) the development and implementation of the in-service training curriculum. • Annual surveys- health worker skills/competencies (through annual examination linked to curricula) and aggregate health facility quality	PBF-related Performance management, FM M&E Medical education specialist HRH Specialist Process evaluation team	200,000
12-48 months	• Maintain the on-time disbursement of performance incentives. • Monitor the performance data carefully and make necessary adjustments (e.g., add clinical process indicators) to maximize quantity and quality of services within the limited PBF budget. Carry out additional counter-verification as needed. • Ensure fiduciary compliance of the PBF scheme. • Communicate to partners and other stakeholders for sustainability of the PBF and HR activities and alignment of the PBF approach in the primary level. • Support to: a) the recruitment of faculty, b) allocation of financial incentives for rotation into rural A2 hospitals, c) the implementation of the in-service training curriculum. • Annual examination of- resident skills competencies (through	PBF-related Performance management FM M&E Graduate Medical education specialist HRH Specialist	200,000 annually

	annual examination linked to curricula) and aggregate health facility quality.	Process evaluation team	

Table 5.2: World Bank Implementation Support - Skills Mix & Inputs

Skills Needed	Number of Staff Weeks	Number of Trips
1. PBF specialist	16-18	2-3
2. Medical Education Specialist	4	2
3. Human Resources for health	8	2
4. Monitoring and Evaluation	4	2
5. Financial Management Specialist	2	1
6. Procurement Specialist	2	0
7. Information Technology Consultant	2	1-2
8. Environmental Safeguards Specialists	2	2

Annex 6- Glossary and Performance-based Financing (PBF) – Technical Overview

COUNTRY: LIBERIA HEALTH SYSTEMS STRENGTHENING PROJECT

I. Glossary of Key Terms

1. **Results-Based Financing (RBF)** can be defined as "a cash payment or non-monetary transfer made to a national or sub-national government, manager, provider, payer or consumer of health services after predefined results have been attained and verified. Payment is conditional on measurable actions being undertaken." RBF is an umbrella term because the definition is general and characterizes various programs in many countries. Different labels exist for essentially the same concept or are associated with different incentives and payment arrangements. Two such forms of RBF are defined below:

2. **Performance-based Contracting (PBC)** refers to the mechanism by which any performance- or results-based incentive is expressed in a formal agreement between the parties. It does not in principle describe a distinct type of scheme; every form of RBF requires some kind of contractual linkage to specify what is to be paid for, and under what conditions. However, as with PBF (defined below), the term has also come to be used in a more restrictive sense. In programs in Haiti, Cambodia and Afghanistan, PBC refers to contracts between a financing agent and an NGO, with payment depending on achievement of a performance measure that may include coverage targets and quality norms for a set of services. The contrast with PBF is that the latter concentrates on agreements with providers, as described above. Of course, the NGO operating under a contract may also be the provider or may in turn contract with providers, so the distinction between PBF and PBC is not strict; and PBC can be used more generally to refer to any contract where payment depends on a specific definition of performance.

3. The form of RBF which exists in Liberia is PBC. This involves contracts between the MoHSW and implementing partners (largely international NGOs); and formerly contracts directly between donors and implementing partners. Currently, 90% of the obligated contract amount is paid upfront to implementers based on their budget without the link to performance. The bonus is based on the achievement of target coverage (%). The challenge with using the catchment population as the basis upon which targets are determined is that this can be faulty, and hence as a consequence, the target can be arbitrary.

4. **Performance-Based Financing (PBF)** has acquired a more restricted definition. As used in several programs in Africa (Burundi and Rwanda, with pilot projects in Cameroun, Congo and the Central African Republic), PBF is defined as fee for service (FFS)-conditional-on-quality-of-care (Soeters et al.). That is, health care providers are paid for delivering specific services, provided the services follow explicit protocols, with a system of inspection and auditing to assure compliance and to raise quality where necessary. Adjustments can also be made for remoteness and other difficulties. Performance-based payments are also provided for the teams that carry out these inspections, to motivate them to be thorough and accurate. PBF is therefore a subset of RBF. The adoption of PBF implies two important changes: a) replacing salary by FFS gets away from paying for inputs and puts the incentive on outputs; and b) the requirement to follow protocols links outputs to outcomes. All RBF programs similarly require training and

reference materials; PBF in the examples mentioned here is a more uniform program, although details of the incentives and payment may vary.

II. Technical Overview of PBF

5. PBF is a supply-side RBF approach. PBF pays for results and this is different from classical programs which focus on procuring inputs. In the health sector, results are predominantly produced by health facilities whereas some results are produced by the health administration. Such results include quality services produced by health facilities, and certain actions by the health administration. Income from PBF is used by health facilities and the health administration to procure necessary inputs and to pay performance bonuses to health workers.

6. PBF is based on operational knowledge and experiences have developed over the past 15 years in South-East Asia and Africa, and are in continuous development incorporating lessons learned. Evidence on the effectiveness of PBF- especially at the primary level- was provided through a rigorous impact evaluation in Rwanda.[19] A PBF toolkit is being developed by the World Bank and will be available in the second quarter of 2013.

7. PBF is applicable in a wide variety of Low and Middle Income Country (LMICS) contexts. The diversity and the applicability of PBF are evident when looking at the contexts where such programs are carried out: e.g., Rwanda, Burundi, DRC South-Kivu and Nigeria versus Indonesia, Kyrgyzstan and Vietnam. Currently, over 30 countries in Africa, and Central and South-East Asia are planning, designing, and implementing such programs. However, there are few countries that apply PBF focusing on quality improvement at hospitals. Liberia project thus is innovative, and careful design, testing and adjustment with strong technical assistance would be required during the preparation and implementation.

8. Certain aspects of PBF and how they relate to Liberia will be discussed in the following sections. These aspects are: (a) purchasing quality services; (b) separation of functions; (c) health facility autonomy; (d) verification and counter-verification; (d) data management and invoicing and (e) adapting the PBF approach to Liberia.

II. Purchasing Quality Services

9. PBF purchases quality health services. Important notions are leveraging existing resources; changing incentive structures; purchasing balanced packages; purchasing quality; and PBF pricing versus the real cost of services.

[19] Basinga, P., Gertler, P., Binagwaho, A., Soucat, A., Sturdy, J. & Vermeersch, C. (2011) Effect on maternal and child health services in Rwanda of payment to primary health-care providers for performance: an impact evaluation. *The Lancet,* 377**,** 1421-28. Gertler, P., Vermeersch, C. (2012) Using Performance Incentives to Improve Health Outcomes. *Policy Research Working Paper WPS6100,* Washington DC, the World Bank. DEWALQUE, D., GERTLER, P., et al (2012) The Effect on HIV Testing and Counseling Services in Rwanda of Paying Health Care Providers for Performance: an Impact Evaluation (submitted).

10. PBF purchases quality health services through leveraging existing means of production. The purchase is through a fee-for-service provider payment mechanism. It also finances for quality of care, which is a major part of incentives in the hospital PBF in Liberia. Key to understanding PBF is the notion of leveraging. Existing building, equipment, medical consumables, cash income from other sources and staffing are leveraged through PBF.

11. PBF changes incentive structures at various levels in the health system. The incentives need to be strong enough to influence health worker coping strategies while they provide additional income to enable health facilities to procure missing equipment, to maintain and repair equipment and premises and to stock essential lifesaving drugs.

12. PBF can purchase a balanced package of services at the community & health center level and at the first referral hospital level. At the hospital level where Liberia is focusing, additional services complementing the primary levels are purchased; for instance complicated deliveries or more sophisticated reproductive health services. It is important for hospitals to avoid taking patients for the services that should be provided at the primary level.

13. Quality is measured and rewarded through the use of a quantified quality checklist. This checklist is custom-made to reflect the particularities of each context. It is typically measured once per quarter. The size of incentives linked to the quality measure depends on the type of PBF system. At the hospitals where services are complicated and quality of care is essential, it would make sense to give larger portion of incentives on quality than the one at the primary health facilities where access to basic services is typically a large issue.

14. PBF incentives have little to do with the actual cost of services. First, the actual cost of a service (which includes apportioned annuity of building and equipment; staff cost; drugs and medical consumables) is much higher than a PBF incentive for that service. Second, PBF is a pricing system; the incentive is proportional to the relative public health importance and the level of coverage of that service. Third, a PBF incentive includes a rural hardship element, and therefore the incentive is higher in harder to reach areas. Also, the level of PBF incentive can be changed depending on budget availability; upward if more money becomes available, and downward if the disbursement is higher than expected.

15. A simplified example of fee-for-service for the quantity incentive in PBF is provided in table 1 below: Individual health facilities are provided funds based on the independently verified quantity of services they produced. In this example, if a health facility fully immunizes 60 children in a quarter, they could earn US$120 (60 x $2 per child fully vaccinated (1) and (2)). The total amount of quantity incentives would be adjusted for the remoteness or difficulty of the facility (equity bonus), since urban or peri-urban facilities could earn a disproportionate amount. In the example below, this particular facility would earn 20 percent more because of the difficulties it faces (3). In addition to the fee-for-service quantity incentive, the incentive for improved quality of care will be provided. The approach for paying for quality differs across the country and project contexts.

16. The funds earned by the facility will be transferred to the bank account of the facility and can be used for: (i) health facility operational costs, such as drugs and consumables, outreach expenses, health facility maintenance and repair, etc; (ii) performance bonus for health workers (e.g., up to 50 percent) according to defined criteria.

Table 6.1: Simplified Example of Performance Based Financing in a Health Facility

Health Facility Revenues Last quarter	Number Provided	Unit Price	Total Earned
Child fully vaccinated	60	$2	$120
Skilled birth attendance	60	$18	$1,080
Curative care	1,480	$0.5	$740
Curative care for the vulnerable patient (up to a maximum of 20% of curative consultations)	320	$0.80	$256
Sub-Total			$2,196
Remoteness (Equity) Bonus	+20%		$439
Total PBF quantity subsidies			$2,635

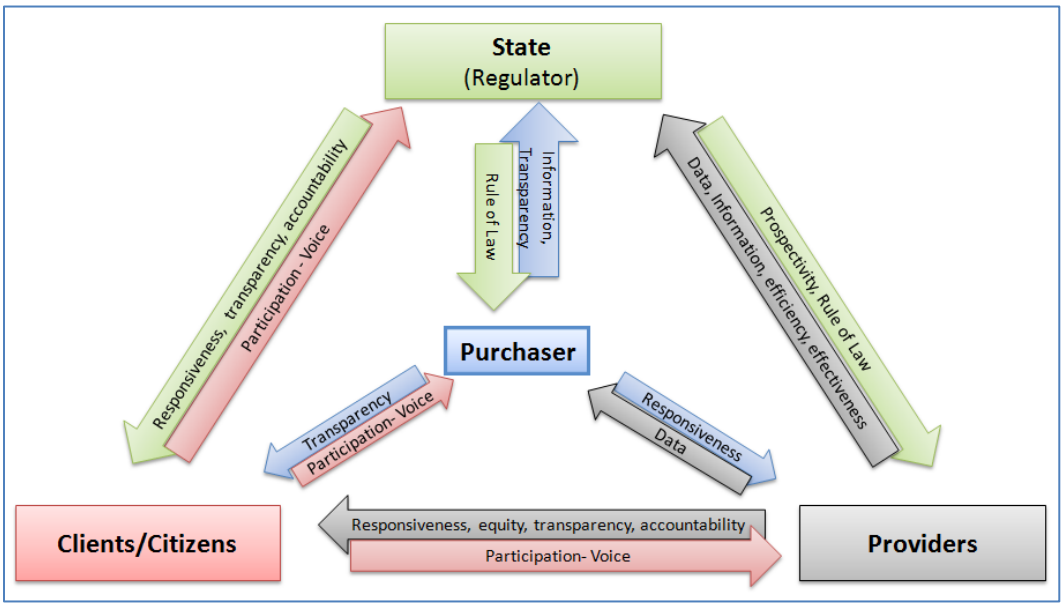
1 2 3 4

III. Separation of Functions

17. A precondition for obtaining credible performance results is a separation of functions. In PBF it is best practice to strive for a full separation of functions between the chief players in the health care arena: the fund-holder, the purchaser, the provider, the community, community health committees, local PBF steering committees and the national PBF coordination mechanisms.

18. In the Liberia PBF, the following functions are distinguished: Provision (selected hospitals); Regulation (the Department of Health Services); Purchasing (the Department of Administration); Verification (LMDC); Fund holding (the OFM) and Community voice (CBOs).

Figure 6.1: The Separation of Functions and its Governance Issues[20]



IV. Health Facility Autonomy

19. Health facility autonomy is an important pre-requisite for PBF. Health facility autonomy is important in: (i) holistic management of cash resources; (ii) managing a bank account; (iii) procurement of goods; (iv) repairs to facility and equipment; and (v) managing human resources.

20. Community oversight is important when decentralizing public funding. To enhance governance, community oversight mechanisms are strengthened when available, or introduced when absent.

V. Verification and Counter-Verification

21. Credible verification is at the heart of PBF systems and two types can be discerned.

- The first type is the so-called 'ex-ante verification'; the verification before payment for performance is made. The *ex-ante quantity verification* is typically carried out by a third party on behalf of the fund holder(s) and regulator. The *ex-ante quality verification* is frequently carried out by the district health administration through a performance contract.
- The second type is the 'ex-post verification'; the verification which is done after payment for performance has been carried out. Whereas the ex-ante verification is routinely (monthly and quarterly) carried out for all contracted health facilities,

[20] Remme, M., Peerenboom, P.-B., Douzima, P.-M., Bathubenga, D. M., Inoussa, M. I. & Weerd, J. V. D. (2012) Le Financement base sur la Performance et al Bonne Gouvernance: Leçons apprises in République Centrafricaine. PBF Cop Working Paper Series WP8 ed. Adapted from Peter-Bob Peerenboom and used with permission

the ex-post verification is done on a random sample of health facilities and health administrations. Different systems exist, but the *ex-post quantity verification* is typically carried out through grassroots organizations. Such mechanisms are also called 'community client satisfaction surveys'. On the one hand, such systems discourage the 'phantom patient phenomenon' (a service claimed that did not take place), and on the other they collect valuable feedback from the community on their perception of the quality of these services.

VI. Data management and invoicing

22. PBF needs good data-management and invoicing systems to pay regularly for performance. Such PBF data-management and invoicing systems are characterized by: (i) limited data-sets; (ii) good data accuracy; (iii) a high degree of data completeness; (iv) good data accessibility; and (v) transparency. In an increasing number of PBF projects, a web-enabled application is used frequently. A public frontend makes accessible information on performance and payments to the general public. Accessibility to these web-enabled applications down to the district level is reasonable in LMIC, and this accessibility is improving with growing connectivity.

VII. Adapting the PBF approach to Liberia

23. For Liberia:

- The Liberia PBF in this project will focus on the quality improvement of hospitals. Quality checklist will measure clinical outcomes (e.g. adherence to predefined obstetric protocols), structural aspects of services (e.g. availability of drugs and equipment) and intermediate outcomes (e.g. patient satisfaction), and more incentives will be linked to quality rather than quantity of services. As the project approach is new and technically more complicated than a standard primary level PBF, strong technical assistance will be set in place.
- A separation of functions is introduced through the verification of hospital performance (quality and quantity) by an independent agency- the LMDC. The LMDC will also have an important role in coaching hospitals to perform better, and in increasing the technical capabilities of the CHSWT.
- Autonomy for hospitals will be enhanced. Each hospital will have a bank account, and a hospital PBF committee will have oversight over the public funds.
- Through an initial 9-12 month pre-pilot phase covering in Montserrado county, the PBF initial tools will be tested and refined. The PBF pilot scheme will then be scaled up to cover most of the population at the hospital level in target counties.
- The complementary package of health services is under-development focusing on the services to be provided by hospitals. Weighting of the services and a financial risk forecasting will be linked to pricing of each service, which will be tested and refined during the pre-pilot phase.
- The PBF output budgets have been tentatively set at about US$1.5 per capita per year for the hospitals. The allocation of available budget to hospitals is relatively high as it reflects the needs for improving facilities and includes the incentives for facility training by the Component 2 of the project.

Annex 7- Five year framework for measuring quality

COUNTRY: LIBERIA HEALTH SYSTEMS STRENGTHENING PROJECT

Goal: To reduce maternal, newborn, and child mortality and morbidity in targeted secondary hospitals through improved quality of hospital services for leading causes of in-patient mortality and morbidity for women, newborns and children.

Key Strategies:

- Provider competency development (pre- and in-service training/mentoring) (*Project Component 2)*
- Performance-based Financing (financial incentives for select set of quality of care performance measures in priority technical areas,) (*Project Component 1)*
- Common technical content/performance measures across project hospitals (*Project Component 1)*
- QI team(s) formation in every hospital comprised of representatives of essential clinical cadres (physician, nurse, midwife, surgical technician, etc) and ancillary services (laboratory, pharmacy, etc.)
- Regular support to hospital managers, providers, and QI teams (*mechanism to be defined)*
- Simple quality of care performance measures for each technical content area (integrated into hospital information systems to extent possible, including simple adaptation of hospital registers, support tools, and patient medical records as necessary)
- Regular tracking & analysis of quality indicators for decision-making/continuous improvement
- Simple job-aids, clinical decision support tools, mHealth tools to support program objectives
- Regular (quarterly) shared learning between hospitals & analysis of indicator results across hospitals (to accelerate spread of best practices and support programmatic decision-making)

I. CLINICAL FOCUS AREAS

Table 1: Clinical Focus Areas by Project Priority Area

Service-delivery Type	Priority Clinical Focus Areas
Childbirth: Maternal-Newborn (intra- and post-partum)	**Routine intra- and post-partum high-impact care:** Intra-partum (labor/immediate post-partum)Post-partum (mother & newborn)**:** **Maternal Complications**: Obstructed Labor, Hemorrhage, Sepsis, Eclampsia, **Neonatal Complications**: Asphyxia, Sepsis, Prematurity
Pediatric (in-patient care)	ETAT: Emergency Triage, initial Assessment & Treatment (*Routine triage & initial stabilization all children presenting to hospital)* Malaria Pneumonia Acute Diarrhea Severe Acute Malnutrition *(Note: Neonatal Sepsis included above)*
Surgical Care (General Surgery & Caesarian)	WHO Surgical Safety Checklist (based on modified WHO content) -Pre-operative assessment of patient -Anesthesia assessment & safety planning -Management of intra-operative complications (e.g. bleeding, breathing, cardiovascular (BP, arrhythmias, etc) -Post-operative care -Management of intra-operative complications

II. CROSS-CUTTING TOPIC AREAS FOR POTENTIAL INCENTIVIZING:

(i) Health worker performance-support, including optimizing specific health care provider cadre functions (training, supervision/performance improvement, etc.)→ *focus of parallel provider pre-and in-service training program*
(ii) Hospital management (supervision processes; leadership, etc.)
(iii) Client Satisfaction (client-centered care)
(iv) Essential Inputs (medications, equipment, laboratory)
(v) Hospital information systems (adaptation records/registers to include simple quality measures; regular tracking & analysis quality indicators)
(vi) Routine application of high-impact improvement methods (focus on team-work; continuous tracking and analysis of local performance data to drive improvement)
(vii) Establishment of Hospital QI Committee that oversees individual QI teams working on specific technical- areas (pediatrics; maternal-newborn; surgery and possibly Hospital environmental and waste management). The Hospital QI Committee should meet monthly to review the progress of the individual QI teams; monthly QI committee minutes should summarize progress and needed management support action items for each individual QI team.

(viii) Each individual QI team (maternal-newborn, pediatrics, and surgery) should work to achieve annual improvement aims outlined in the Hospital QI framework. The technical QI teams should meet on a weekly basis to oversee progress toward a defined annual/quarterly work plan, with weekly meeting minutes summarizing specific actions implemented and priority next actions, including responsible person(s). Each individual QI team should include representative members of critical functions for that technical area (providers, lab, pharmacy, etc).

(ix) Quarterly meeting of all project hospitals to review progress toward improvement aims using common process and outcome indicators, and to promote shared learning and friendly competition among hospitals

(x) Maternal and neonatal death and near miss audits conducted with improvement action items and timeline

(xi) Pediatric death audits, with improvement action items and timeline

(xii) Intra- and post-operative death audits, with improvement action items and timeline

Table 2: Cross-cutting Hospital Checklists

Topic Area	Potential Components
Hospital Leadership and Management	--Hospital QI Committee functions to oversee work of individual QI teams --Individual QI Team functions (meetings, minutes, work-plan, etc.) --General Management --Staff performance support (regular formal performance reviews; professional development opportunities; maximizing team performance with clear delegation of responsibilities) --Financial, etc. --Routine tracking of defined priority measures with regular analysis and action - ensure functionality of the Grievance Committee which has been established to discuss and resolve staff grievances.
In-service Training	--staff in-service training (harmonized with 5-year quality framework timeline so that training is tailored to introduction of sequential clinical improvement areas)
Client Satisfaction	This will include patient exit surveys, and patient tracking by community-based organizations. In addition, grievance mechanisms will be introduced at health facilities. The Community health leader – who sits on the Hospital Health Board-will be the grievance focal point. Patients will be able to discuss grievances directly the community health leader, or by writing these down, and placing in a suggestion box. All grievances will be discussed at the Hospital Board Meeting.


11°W
10°W
9°W
8°W
9°N
8°N
7°N
6°N
5°N
4°N
SIERRA LEONE
GUINEA
CÔTE D'IVOIRE
ATLANTIC OCEAN
LIBERIA
Voinjama
Kolahun
Mt. Wuteve (1,380 m)
LOFA
Vahun
Gelahun
Wologizi Range
Wonogizi Mts.
Zorzor
To Buedu
To Irié
To Pendembu
To Kenema
Gbeya
Loffa
Via
Nlanda
Kongo
GBARPOLU
Gbalatuah
To Zimmi
GRAND CAPE MOUNT
Bo
Bopolu
Tubmanburg
St. Paul
Bong Town
Totota
Zeansue
BONG
Gbarnga
Palala
Yopie
Ganta
To Nzérékoré
Yekepa
Nimba Mts.
To Lola
Sennquellie
Karnplay
To Danané
Sagleipie
NIMBA
Gloie
Nuon
To Toulépleu
Tappita
Tobli
Robertsport
BOMI
Klay
Careysburg
MARGIBI
Kakata
Botata
St. John
Bensonville
MONROVIA
MONTSERRADO
Harbel
GRAND BASSA
Guata
Poabli
Kola Town
Zwedru
Babu
Hartford
Gaamodebi
RIVER CESS
GRAND GEDEH
Buchanan
Trade Town
Gonglee
Pyne
Dube
Cestos
Bokoa
SINOE
Cestos City
Kopo
Juazohn
Pelokehn
RIVER GEE
Sehnkwehn
Kanweaken
Fish Town
Tawake
Tawlokehn
Greenville
Nana Kru
GRAND KRU
MARYLAND
Nyaake
Barclayville
Sasstown
Grand Cess
Plibo
To Tabou
Harper
LIBERIA
SELECTED CITIES AND TOWNS
COUNTY CAPITALS
NATIONAL CAPITAL
RIVERS
MAIN ROADS
RAILROADS
COUNTY BOUNDARIES
INTERNATIONAL BOUNDARIES
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0 20 40 60 80 100 Kilometers
0 20 40 60 Miles

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