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R2018-0108/1
IDA/R2018-0151/1

May 25, 2018

Closing Date: Thursday, June 14, 2018 at 6 p.m.

FROM: Vice President and Corporate Secretary

Bolivia - Health Service Delivery Network Project

Project Appraisal Document

Attached is the Project Appraisal Document regarding a proposed IBRD loan and IDA credit to Bolivia for the Health Service Delivery Network Project (R2018-0108, IDA/R2018-0151), which is being processed on an absence-of-objection basis.

Distribution:
Executive Directors and Alternates
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The World Bank

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Report No: PAD2713

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

AND

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED IBRD LOAN

IN THE AMOUNT OF US$252 MILLION

AND

A PROPOSED IDA CREDIT

IN THE AMOUNT OF US$48 MILLION EQUIVALENT

TO THE

PLURINATIONAL STATE OF BOLIVIA

FOR A

HEALTH SERVICE DELIVERY NETWORK PROJECT

May 23, 2018

Health, Nutrition & Population Global Practice
Latin America and the Caribbean Region

CURRENCY EQUIVALENTS

Exchange Rate Effective March 31, 2018

Currency Unit =	Bolivian Boliviano
US $1.00 =	6.94
US $ 1.00 =	SDR 0.69

FISCAL YEAR

January 1 - December 31

Regional Vice President:	Jorge Familiar
Country Director:	Alberto Rodriguez
Senior Global Practice Director:	Timothy Grant Evans
Practice Manager:	Daniel Dulitzky
Task Team Leader:	Marcelo Bortman

ABBREVIATIONS AND ACRONYMS

AISEM	*Agencia de Infraestructura en Salud y Equipamiento Médico* (Agency for Health Infrastructure and Medical Equipment)
CPF	Country Partnership Framework
CQI	Continuous quality improvement
CVDs	Cardiovascular Diseases
DFIL	Disbursement and financial information letter (DFIL)
EDSA	*Encuesta de Demografía y Salud* (Demography and Health Survey)
EA	Environmental Assessment
ESMF	Environmental and Social Management Framework
FM	Financial Management
GDP	Gross Domestic Product
GIZ	German Agency for Technical Cooperation
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
GoB	Government of Bolivia
HL7	Health Level 7
HNP	Health, Nutrition, and Population
IBRD	International Bank for Reconstruction and Development (The World Bank)
IDA	International Development Association (The World Bank)
IDB	Inter-American Development Bank
INE	*Instituto Nacional de Estadísticas* (National Institute of Statistics)
IP-Minorities	Indigenous Peoples-Minorities
IPF	Investment Project Financing
IPP	Indigenous Peoples Plan
IPPF	Indigenous Peoples' Planning Framework
IPs	Indigenous Peoples
IRR	Internal Rate of Return
IT	Information Technology
JICA	Japan International Cooperation Agency
LAC	Latin America and the Caribbean Region
M&E	Monitoring and Evaluation
MEFP	Ministry of Economy and Public Finance
MoH	Ministry of Health
NCDs	Noncommunicable Diseases
NGOs	Non-Governmental Organizations
NPV	Net present value
OP/BP	Operational Policy / Bank Procedures
PASA/PPM	*Plan de Aplicación y Seguimiento Ambiental / Plan de Prevención y Mitigación* (Environmental Monitoring Plan/Prevention and Mitigation Plan)
PDO	Project Development Objective
PHC	Primary Health Care
PIU	Project Implementing Unit
POMs	Project Operational Manuals
RPF	Resettlement Policy Framework
SA	Social Assessment
SIGEP	*Sistema Integrado de Gestión Pública* (Public Management Integrated System)

SMF	Social Management Framework
SNIS	*Sistema Nacional de Información en Salud* (National Health Information System)
SOPs	Standard Operating Procedures
TA	Technical Assistance
UGESPRO	*Unidad de Gestión de Programas y Proyectos* (Programs and Projects Management Unit)
USD	United States Dollar
VIPFE	Vice-Ministry of Public Investment and External Finance
WB	World Bank
WHO	World Health Organization
XDR	Special Drawing Rights

BASIC INFORMATION

Country(ies)	Project Name	
Bolivia	Health Service Delivery Network Project	
Project ID	**Financing Instrument**	**Environmental Assessment Category**
P164453	Investment Project Financing	B-Partial Assessment

Financing & Implementation Modalities

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

Expected Approval Date	Expected Closing Date
14-Jun-2018	31-Jul-2023

Bank/IFC Collaboration

No

Proposed Development Objective(s)

The project development objective (PDO) is to improve access to, and quality of, health service delivery in selected health networks.

Components

Component Name	Cost (US$, millions)
Strengthening Health Service Delivery Networks	243.00

Improving Quality of Health Service Delivery and Human Resource Capacity Development	49.00
Project Management	8.00

Organizations

Borrower:	Plurinational State of Bolivia
Implementing Agency:	Ministry of Health Ministry of Health - Agencia de Infraestructura en Salud y Equipamiento Medico (AISEM)

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	300.00
Total Financing	300.00
of which IBRD/IDA	300.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	252.00
International Development Association (IDA)	48.00
IDA Credit	48.00

IDA Resources (in US$, Millions)

	Credit Amount	Grant Amount	Total Amount
Transitional Support	48.00	0.00	48.00
Total	**48.00**	**0.00**	**48.00**

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2018	2019	2020	2021	2022	2023	2024

Annual	0.00	20.00	45.00	67.00	71.00	70.00	27.00
Cumulative	0.00	20.00	65.00	132.00	203.00	273.00	300.00

INSTITUTIONAL DATA

Practice Area (Lead)

Health, Nutrition & Population

Contributing Practice Areas

Climate Change and Disaster Screening

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

Gender Tag

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

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

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

8. Stakeholders	Moderate
9. Other	
10. Overall	High

COMPLIANCE

Policy

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

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

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

Legal Covenants

Sections and Description

Schedule 2, Section I.A. The Borrower/Recipient shall cause AISEM to maintain, throughout Project implementation, a structure, with functions and responsibilities acceptable to the Bank, as set forth in the AISEM Operational Manual, including inter alia, the responsibility to implement, monitor and supervise the carrying out of Parts 1 and 3 of the Project (including its financial, procurement and safeguard aspects).

Sections and Description
Schedule 2, Section I.A. The Borrower/Recipient shall cause AISEM to be headed by a General Director, and staffed with adequate professional, fiduciary, administrative and technical personnel (including social and environmental specialists), all with qualifications, experience and terms of employment acceptable to the Bank, as set forth in the AISEM Operational Manual.

Sections and Description
Schedule 2, Section I.A. The Borrower/Recipient, through MOH, shall establish, and thereafter operate and maintain, throughout Project implementation, a unit within MOH (UGESPRO PIU), with structure and responsibilities acceptable to the Bank, as set forth in the Operational Manual, including inter alia, the responsibility to implement monitor and supervise the carrying out of Parts 2 and 3 of the Project (including its financial, procurement and safeguard aspects).

Sections and Description
Schedule 2, Section I.A. The Borrower/Recipient, through MOH, shall ensure that the UGESPRO PIU is staffed with adequate professional, fiduciary, administrative and technical personnel (including social and environmental specialists), all with qualifications, experience and terms of employment acceptable to the Bank, as set forth in the Operational Manual.

Sections and Description
Schedule 2, Section I.A. The Borrower/Recipient, through MOH, shall not later than a hundred and twenty (120) days after Effective Date, ensure that a procurement specialist, financial management specialist and a disbursement specialist are hired to work full time within the UGESPRO PIU, all under terms of reference acceptable to the Bank/Association.

Sections and Description
Schedule 2, Section II. The Borrower/Recipient, through the MoH shall and shall cause AISEM to, furnish to the Bank/Association the Project Reports not later than forty-five (45) days after the end of each calendar semester, covering the calendar semester.

Conditions

Type	Description
Effectiveness	The AISEM Operational Manual has been adopted by AISEM in a manner acceptable to the Bank/Association.
Effectiveness	The Loan Agreement has been signed and delivered and all conditions precedent to its effectiveness (other than the effectiveness of this Agreement) have been fulfilled.

Type	Description
Effectiveness	The Financing Agreement has been signed and delivered and all conditions precedent to its effectiveness (other than the effectiveness of this Agreement) have been fulfilled.
Type Disbursement	Description Schedule 2. Section III. B.1.a. of the Loan Agreement. No withdrawal shall be made for payments made prior to the Signature Date, except that withdrawals up to an aggregate amount not to exceed $500,000 may be made for payments made prior to this date but on or after March 1, 2018, for Eligible Expenditures under Category (1) and (3).
Type Disbursement	Description Schedule 2. Section III. B.1.b. of the Loan Agreement. No withdrawal shall be made under Categories (2) and (4) unless (i) the UGESPRO PIU is created in a manner acceptable to the Bank; and (ii) the Operational Manual is adopted by the Borrower, through the MOH, in a manner acceptable to the Bank.

BOLIVIA
HEALTH SERVICE DELIVERY NETWORK PROJECT

TABLE OF CONTENTS

I. STRATEGIC CONTEXT

A. Country Context

1. **Bolivia made remarkable economic and social progress during the commodity boom (2004-2014).** Boosted by gas and mining exports and public investment, economic growth averaged roughly 5% during this period. Strong economic growth and prudent macroeconomic management allowed for sizable fiscal and current account surpluses that contributed to accumulating considerable macroeconomic buffers. International reserves and public savings at the Central Bank increased from 13 to 46% of GDP and from 8.6 to 24% respectively over this period. This macroeconomic performance, in combination with the Multilateral Debt Relief Initiative[1], resulted in a sharp decrease in public debt from 98% of GDP in 2003 to less than 40% in 2014. High economic growth and high commodity prices nearly tripled the per-capita income (Atlas method) in one decade; from US$970 in 2004 to US$2,800 in 2014. This improvement was especially pronounced for the bottom 40% as higher commodity prices and growing domestic demand favored rural economic activities and non-tradeable sectors. As a result, Bolivia experienced one of the largest reductions in poverty and inequality in the Latin American and Caribbean (LAC) region. Between 2002 and 2014, the national poverty rate among the country's estimated 11 million population declined from 63% to 39%. National extreme poverty fell from 39% to 17%, and the Gini coefficient dropped from 0.60 to 0.48.

2. **Although the Government has managed to cushion the effect of lower commodity prices on economic growth, the new normal has resulted in sizable macroeconomic imbalances and a slowdown of poverty reduction.** A less favorable external context has reduced GDP growth from a peak of 6.8% in 2013 to an estimated 4.2% in 2017; however, the Government of Bolivia has cushioned the slowdown through expansionary fiscal and monetary policies. This policy stance has caused substantial current account and fiscal deficits, estimated at 5.9 and 6.5% of GDP in 2017 respectively, which were financed by external debt, Central Bank financing to State Owned Enterprises, and the reduction of macroeconomic buffers. Public debt increased from 37% of GDP in 2014 to an estimated 50% in 2017, Central Bank international reserves fell from 46% to an estimated 29%, and public savings at the Central Bank declined from 20% to an estimated 14%. In this context, poverty reduction lost momentum as labor income in sectors that employ the poor (agriculture, mining, and construction) saw little or no growth. Poverty has hovered around 39% between 2013 and 2015, as the reduction of rural poverty (from 60 to 55%) was offset by an uptick of urban poverty (from 29 to 31%). Similarly, after having decreased by 0.12 points between 2006 and 2011, the Gini coefficient has fluctuated around 0.47 since 2011.

3. **Bolivia's low human development indicators reflect the challenges of the country's complex social structure.** In 2016, Bolivia ranked 118 out of 188 countries on the Human Development Index, life expectancy at birth is 68 years and has continued to steadily increase over the past 30 years, and the literacy rate is 95%.[2] Bolivia has historically been divided geographically and ethnically, with wide income gaps between the poorer highlands and the wealthier lowlands. Many indigenous groups have been subject to social and economic exclusion for decades. The effects of these divisions persist, reflected in

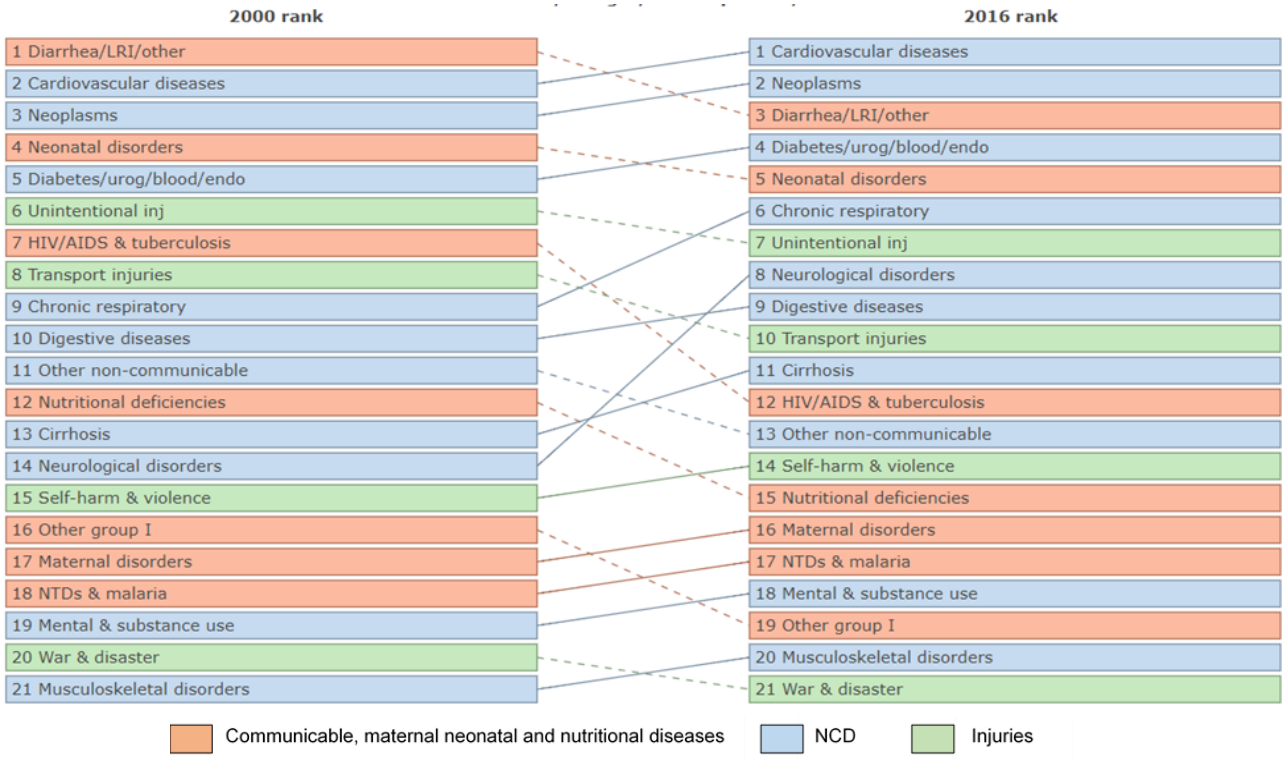
[1] The Multilateral Debt Relief Initiative (MDRI) provided for 100 percent relief on eligible debt from the IMF, IDA and African Development Fund to a group of low-income countries, including Bolivia. The initiative aimed to help eligible countries advance toward the Millennium Development Goals (MDGs) focused on halving poverty by 2015.
[2] Plan Sectorial de Desarrollo Integral Para Vivir Bien 2016-2020

dramatic variances in health indicators in different areas of the country, and substantial variations in health care among income quintiles.

B. Sectoral and Institutional Context

4. **Despite progress, Bolivia's human development indicators remain among the lowest in LAC.** While infant mortality has markedly declined from 82 deaths per 1,000 live births in 1990 to 24 deaths per 1,000 live births in 2015, Bolivia's infant mortality rate remains the highest in South America.[3] Maternal mortality has been on the decline, at 206 deaths per 100,00 live births in 2015, but is triple the average for the LAC region.[4] As of 2012, 59% of total deaths are caused by non-communicable diseases (NCDs), namely cardiovascular diseases (CVDs) (24%); cancers (10%); diabetes (4%) and other NCDs (21%).[5] Figure 1 shows how NCDs continue to become the greater causes of death between 2000 – 2016. Given this epidemiological profile, it is imperative that primary care facilities serve as the principal gateway to higher level care, and have a solid referral system in place to refer more complex cases to secondary and tertiary levels. Without this option, primary health care (PHC) facilities lose credibility in the community by not being able to refer complex cases to higher level facilities. This scenario undermines the overall quality and access to health services.

Figure 1 Bolivia, causes of death 2000 - 2016 (male and female)



Source: Institute of Health Metrics and Evaluation, *http://www.healthdata.org/*

[3] Encuesta de Demografía y Salud (EDSA), 2016
[4] WHO, UNICEF, UNFPA, World Bank Group, and the United Nations Population Division. Trends in Maternal Mortality: 1990 to 2015. WHO, 2015.
[5] World Health Organization, Noncommunicable Diseases Country Profiles, 2014

5. **More than 80% of Bolivia's health service delivery system is comprised of public facilities, complemented by social security (5.7%), private organization (5.7%), NGOs (3.2%), churches (2.3%), and other smaller government entities.** Primary health care facilities make up 92% of all public health facilities in the country, followed by 6.3% secondary and only 1.9% tertiary facilities. The National Health Sector Plan 2016-2020 (*Plan Sectorial de Desarrollo Integral Para Vivir Bien* 2016-2020) estimates that 65% of medical human resources are in urban areas and 35% in rural areas. The density of human resources in health in Bolivia is 14.1 per 10,000 inhabitants (including doctors and nurses) in the public subsector. Highly qualified medical personnel are scarce. In 2015, there were an estimated eight medical doctors for every 10,000 population, and five licensed nurses for every ten medical doctors. Most medical specialists are concentrated in tertiary care (45%); 20% at secondary and 35% in primary care. The limited number of specialized doctors are so overburdened with treating patients that they do not have time to mentor medical residents and interns. In addition, doctors trained overseas may not return to practice medicine in Bolivia or they may return to the country and leave after a short period of time.

6. **Public health services in Bolivia are financed through taxes.** Total health expenditure as a percentage of GDP (from 3.6% in 2010 to 4.5% in 2014) and total health expenditure per capita have risen considerably in the last decade.[6] In 2014, total health expenditure per capita reached US$ 209, with 72% of total expenditure in the public sector. Conversely, out-of-pocket expenditures (as a percentage of total health expenditure) have steadily decreased from 27.8% in 2010 to 23% in 2014 due to the injection of additional funds (mainly from general revenues) into the health system and efforts to reduce financial barriers to access. An analysis of equity in health care utilization relative to need in Bolivia indicates that utilization is still concentrated among wealthier income groups. Although services provided in public facilities seem to be equally distributed across socioeconomic groups, wealthier income groups tend to utilize services provided by social security and private for-profit facilities. Hospital health services, regardless of type of provider, tend to be more concentrated among higher socioeconomic groups.[7]

7. **Access to secondary and tertiary care across the country varies substantially.**[8] Over the past two decades, solid progress has been made in terms of access to prenatal care (from 79% to 96%), births in health facilities (from 57% to 88%) and births attended by health personnel (from 61% to 90%). Nevertheless, the referral system for emergency obstetric care is still a challenge and this barrier is responsible for many maternal and infant deaths today. While critical and ongoing health issues in Bolivia still include high maternal and infant mortality rates, Bolivia is faced with a new challenge of an increasing incidence of NCDs, their complications and related deaths. The trend of NCDs in Bolivia has been incremental since 2000, which includes the diseases of highest risk and prevalence in the country. Addressing NCDs successfully requires a strong primary care setting to manage the diseases as well as a good referral system to secondary and tertiary care to handle complex diagnostic tests and complications. For example, treating hypertension could require an echocardiogram, holter monitoring, cardiac stress test, etc. Therefore, having access to a higher level of care would allow for the implementation of clinical guidelines (and care pathways) to better manage the increasing burden of the most prevalent NCDs in Bolivia.

[6] World Bank, World Development Indicators
[7] Fuertes, CV. 2016. Universal health coverage: Bolivia. Global Network for Health Equity (GNHE). Available at: http://gnhe.org.
[8] Encuesta de Demografía y Salud (EDSA), 2016

8. **The Government has a strong commitment to improving the health network system in the country through its National Hospital Plan 2016-2020 which aims to upgrade and modernize service delivery.** A rapid assessment of the existing health service networks conducted in 337 municipalities[9] showed that in many networks, people do not have access to secondary services. For example, in the Southern Zone of La Paz network, there are 750,000 inhabitants with only 14 health centers and only one level 2 hospital with no access to a tertiary hospital. The proposed project will address these issues by improving access to, and quality of, primary, secondary and tertiary care services in select areas.

9. **Over the past decade, investments in primary health care have increased access to basic services, but continuity of care is still a significant issue.** Continuity of care is concerned with the quality of care over time and is defined as "a process that must involve the patient and all members of the health care team and includes coordination across a patient's health needs and providers." Evidence shows that continuity of care is an important contributor to improving quality of care and better outcomes ranging from reductions in mortality and morbidity, better access, and less instances of re-hospitalization and use of emergency services.[10] In Bolivia, hospital infrastructure is old and inadequate; resulting in limited access to good quality secondary and tertiary care. Previous World Bank investments in the health sector mainly focused on improving primary health care and maternal and child health, but these investments also face the same network challenges in terms of supporting continuity of care. Only two previous World Bank-financed projects[11] targeted the hospital sector including a maternity hospital, small specialized pediatric oncology unit and twenty-two health centers. These facilities are functioning well and providing services despite human resource challenges.

10. **The proposed project will contribute to the Government's broad reform program of hospital networks supported by multiple sources of financing.** In this context, the proposed World Bank-financed project will support interventions with a national scope, such as updating national clinical guidelines and training of public health providers. Other activities have a targeted geographic focus of selected health networks. Given that the National Hospital Plan 2016-2020 is a central part of the National Economic and Social Development Plan 2016-2020 (PDES), it is financed by the national budget and donor funds, including 2017 financing from the Inter-American Development Bank (IDB), and support from the Government of South Korea, which is financing hospital civil works in the framework of the National Hospital Plan.

C. Higher Level Objectives to which the Project Contributes

11. **The proposed project is fully aligned with the World Bank Group Country Partnership Framework (CPF) FY16-FY20 for the Plurinational State of Bolivia (Report 100985-BO) discussed by the Board of Executive Directors on December 8, 2015.** The project will directly contribute to Pillar 1 (Promoting Broad-based and Inclusive Growth) and Objective 2 (Increase Access to Selected Quality Basic Services for the Poorest Rural and Urban Communities). The CPF notes that, while outcome indicators in health and education have improved for all Bolivians, significant gaps persist in terms of access to health services, namely access for women and children, notably during the stages of pregnancy, post-natal and

[9] Rapid assessment of health service networks. *"Diagnóstico General de Redes de Salud,"* December 2017
[10] World Health Organization, World Health Report: Primary Health Care – Now More than Ever. 2008.
[11] Health Sector Reform APL II (P074212) approved in 2001; and Expanding Access to Reduce Health Inequities Project (APL III) -Former Health Sector Reform - Third Phase (APL III) (P101206) approved in 2008.

childhood.

12. **The proposed project will contribute to the achievement of higher level objectives of the GoB.** In 2013, the GoB launched the 2025 Patriotic Agenda, a national plan that establishes medium-term policy objectives to eradicate extreme poverty and improve the well-being of the country's population. The Patriotic Agenda prioritizes the improvement of infrastructure, basic health and education services and the role of Government to stimulate inclusive economic growth. To operationalize the thirteen pillars of this strategy, the Social and Economic Development Plan 2016-2020 has set specific targets. The project would directly contribute to the objectives of Pillar 1 (Eradicate Extreme Poverty), and Pillar 3 (Health, Education and Sports). World Bank support to improving access and quality of health service delivery in select areas of Bolivia complements the country's national plans for strengthening the public health services network.

13. **The project will also support the World Bank Group's Twin Goals of ending extreme poverty and boosting shared prosperity.** It has a strong pro-poor focus and is directed to Bolivia's most vulnerable by working to improve access and quality of health services. Efforts will focus jointly on tertiary care as well the strengthening of existing first and second level health care facilities, which are often the first point of care for rural populations. The proposed project will benefit the population residing within the targeted health service delivery networks. Other activities aimed at improving standards, skill-level and availability of specialized medical personnel will also benefit the quality of health services provided nationwide. Furthermore, the proposed interventions will address severe illnesses and in several cases catastrophic diseases that have higher economic impacts among the poor. The updated health service delivery networks are expected to have greater benefits for the poor as these strengthened networks will substantially reduce current gaps in access to services across levels of care thereby ensuring smoother continuity of care.

II. PROJECT DEVELOPMENT OBJECTIVES

A. Project Development Objective (PDO)

14. The PDO is to improve access to, and quality of, health service delivery in selected health networks.

B. Project Beneficiaries

15. **Project beneficiaries include the estimated 3.8 million residents in the ten-targeted health service delivery networks** (located in 5 of Bolivia's 9 departments), as well as the medical residents to be supported by the project. The combined population of the ten targeted health networks is comprised of approximately 50.4% women, and half of project beneficiaries are under 24 years of age.[12] Indigenous people represent 51.3% of the total project beneficiaries. Project interventions will benefit health sector staff at the department and municipal levels by strengthening their capacities. The staff of the facilities in the targeted networks (doctors, nurses and other health professionals) will also benefit from elevated professional education and training opportunities.

[12] *Censo Nacional de Población y Vivienda 2012. Instituto Nacional de Estadística (INE).*

C. PDO-Level Results Indicators

- Number of network referral centers operational with at least 60% of the required medical staff and providing health services.
- Percentage of health facilities supported in the targeted networks that fulfill the licensing standards.[13]
- Percentage of doctors checking the MoH clinical guidelines application at least once in the last 60 days.

III. PROJECT DESCRIPTION

A. Project Components

16. **The proposed project in the amount of US$300 million will strengthen Bolivia's health services network, mainly by increasing access to secondary and tertiary levels in select areas, and improve the quality of health service delivery nationwide.** The project will support the strengthening of health service delivery in selected networks including the design, construction and equipping of network referral centers (nine level 2 hospitals and one level 3 hospital), and rehabilitation and equipping of existing facilities in the targeted networks. These ten networks cover an estimated population of 3.8 million who do not currently have a proper referral hospital in place. The health service delivery networks were selected based on the following criteria: (i) networks without a functioning health network referral center and population without access to higher levels of health care (underserved population); (ii) distance to an alternative referral hospital; and (iii) epidemiological profile and health indicators that merit the proposed intervention. In a few cases, for example in the municipality of San Ramon, where the total population is relatively small, higher level of care is needed given the distance to secondary or tertiary care in a widely dispersed area.

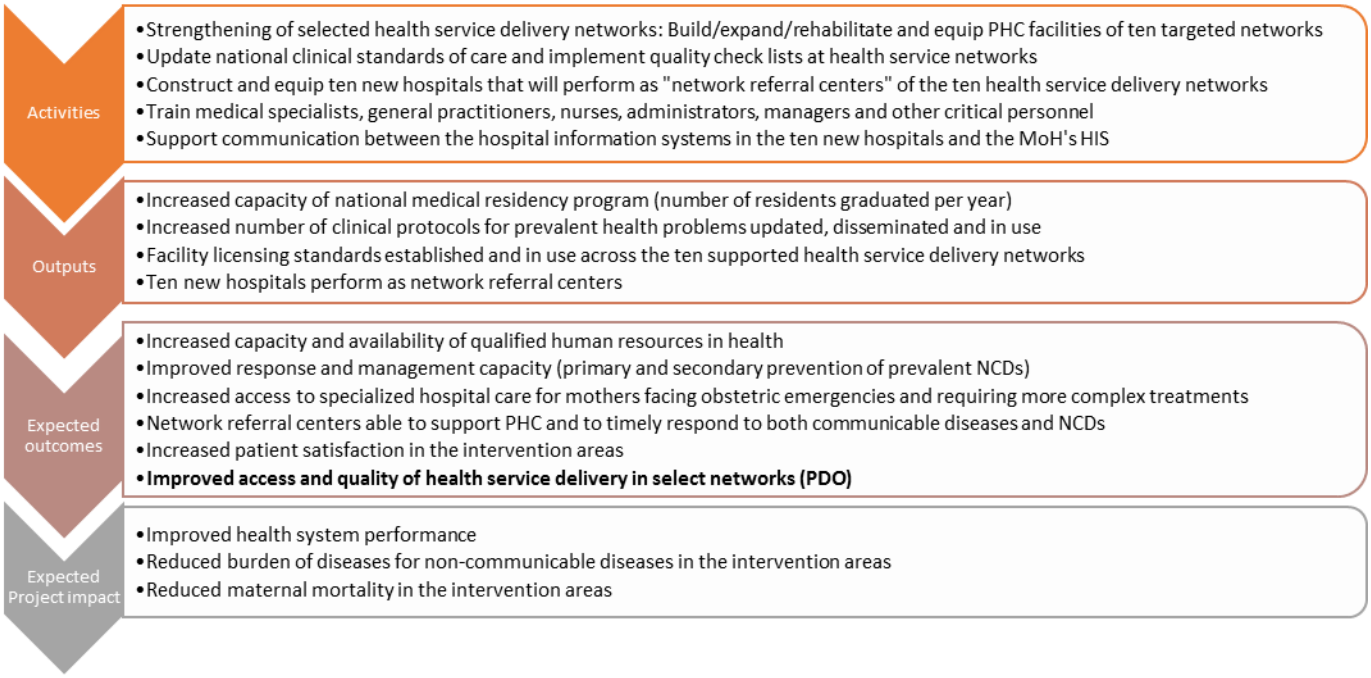
17. **The project will also support efforts to improve the overall quality of health service delivery and capacity development of human resources,** including: (i) training of medical specialists; (ii) development and updating of clinical care standards including the use of mobile phone technology to apply clinical standards through the use of quality check lists; (iii) updating, elaboration and implementation of licensing standards; and (iv) establishment of health information systems in the new hospitals while working to ensure compatibility with the existing National Health Information and Surveillance System (*Sistema Nacional de Información en Salud y Vigilancia Epidemiológica* – SNIS).

18. **Theory of Change/Results Chain.** Within the framework of the Government's National Hospital Plan 2016-2020, the proposed project will promote a wider range of reform by strengthening health service networks. The project will position the new hospitals in the role of network referral centers, develop clinical standards and quality check lists that will be implemented nationwide to improve the consistency of care and allow for benchmarking across the health networks as part of continuous quality improvement (CQI) efforts, and ensure a steady supply of skilled human resources for health to meet the anticipated demand at the newly expanded targeted health service delivery networks. Figure 2 shows

[13] Licensing refers to the review process to determine whether facilities fulfill the "normas de caracterización" which define the minimum standards by level of care in terms of infrastructure, equipment and human resources.

how desired changes are expected to occur, including mid and long-term goals.

Figure 2: Results Chain and Expected Outcomes



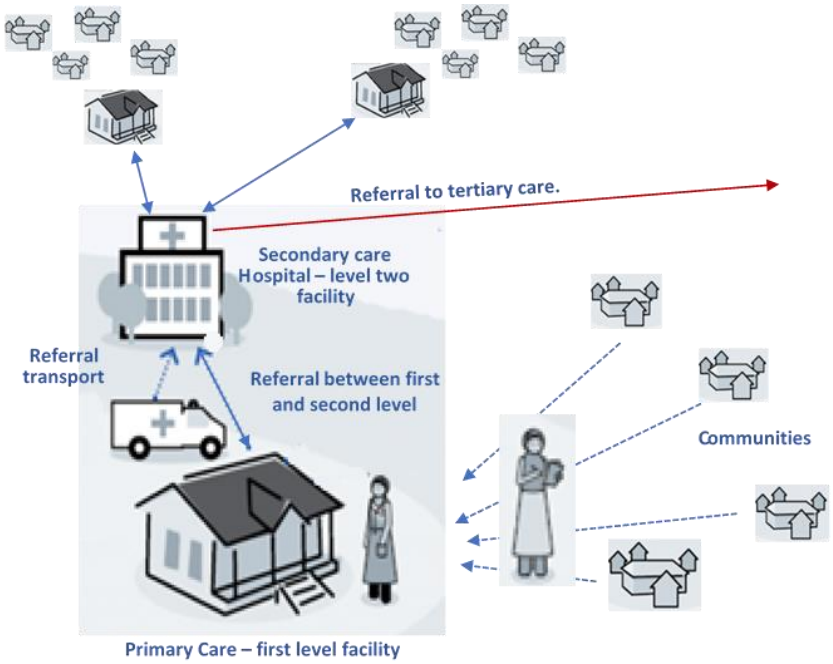
The project has three components:

19. **Component 1: Strengthening Health Service Delivery Networks (US$243 million).** This component will support the strengthening of ten health service delivery networks that serve an estimated 3.8 million population. A complete assessment of the networks' situation and identification of adjustment and rehabilitation needed will complement the rapid assessment study of all networks conducted during project preparation, which provided data for demographic, socioeconomic and health indicators for health networks nationwide. The component will finance: (i) rehabilitation or expansion of existing lower level facilities and, on an exceptional basis, the construction of new primary health centers; (ii) medical equipment and furniture for health centers; (iii) management tools to better coordinate services provided in the selected health networks; (iv) turn-key contracts for the design, construction, provision of equipment, training, and follow-up for ten new hospitals that will serve as health network referral centers of the targeted networks; and (v) supervision services for works implemented under this Component. Table 1 describes the types of services provided at each level of care. Figure 3 illustrates how the network referral centers will coordinate with the rest of the network.

Table 1. Services provided by level of care

Level of care	Scope of services provided
Primary healthcare facilities	PHC facilities are facilities in which the first-contact (entrance to the health system) should take place. The services are undifferentiated (no specialists) and are provided by general practitioners, nurses and community health workers, mainly through ambulatory services. These facilities refer patients to level 2 hospitals when the patient needs: specialized services, admission, tests or other technology not available in PHC.
Level 2 hospital	Level 2 hospitals provide differentiated services, with medium level technology, including the following specialties: internal medicine, pediatrics, general surgery, obstetrics/gynecology and anesthesiology, including other specialties based on the local epidemiological profile. Level 2 hospitals can also host full medical residency programs.
Level 3 hospital	Level 3 hospitals provide differentiated services that require high level technology and include all medical specialties and sub-specialties, and can also host full medical residency programs.

Figure 3: Health Network Referral System



20. **The ten new network referral centers to be supported by the project are:**

- ***Hospital in La Paz*.** This tertiary hospital located in the Southern Zone of La Paz, will be the head

hospital of the network[14] in the Southern zone of the department of La Paz. Currently the network in the Southern District of La Paz covers more than 750,000 inhabitants and includes 14 primary care services (health centers and health posts) and only one level 2 hospital that is not well equipped with the required technology or expertise to handle acute cases. This means there are no facilities nearby to refer complex or acute cases, requiring patients to seek out higher level care in central La Paz (at least one hour away) where the existing level 3 hospital has limited capacity and cannot fulfill the current demand. This scenario also presents additional challenges for the poor because of the costs of transportation and other implied costs. Given its location, the new hospital will also support the networks of neighboring municipalities and districts. The network of the Southern Zone of La Paz will also be strengthened as the project will finance the rehabilitation of existing primary care centers, as well as the provision of equipment and clinical and administrative/management training to enable the delivery of primary and secondary level health services. This will also serve to reduce the likelihood that primary and secondary facilities are bypassed, and the new tertiary hospital overburdened.

- ***Nine level 2 hospitals (head hospitals of local networks at department level) and their corresponding networks.*** Project interventions will be turn-key operations in five departments as detailed in Table 2. All of the new level 2 hospitals would become the head hospitals of local primary health care networks, which currently operate without a reference hospital.

Table 2. Health Networks to be supported by the project

Department	Network	Municipality where the network referral center will be built	Level of network referral center	Estimated population coverage**
La Paz	La Paz*	Southern La Paz	3	2,719,344
		Caranavi	2	
Cochabamba	Quillacollo	Quillacollo	2	367,488
	Ivirgarzama	Puerto Villaroel	2	99,913
Santa Cruz	Andrés Ibáñez	La Guardia	2	199,772
	Ñuflo de Chávez	San Julian	2	116,652
	Velasco	San Ignacio de Velasco	2	69,828
	Warnes	Warnes	2	108,888
Beni	Mamoré	San Ramon	2	12,817
Potosi	Uncia	Uncia	2	87,272
TOTAL				**3,781,974**

*Although the municipality of Caranavi has its own network (rural 7), it is located within the larger network of the Department of La Paz.
**It is possible that the estimated population coverage may be higher given that residents of neighboring municipalities may access the new network referral centers.

[14] Head hospital of a network implies that the hospital provides the highest level of care available in that network. In the context of this project, head hospital is also referred to as network referral center.

21. **Execution of civil works, provision and installation of medical and non-medical equipment** (including options for management equipment contracts), and related training will be financed by the project through turn-key contracts to reduce transaction costs and ensure that the hospitals will be operational. Supervision of the turn-key contracts will also be financed by the project. The Government is conducting a pre-investment (pre-design) study[15] that will define the basic technical requirements for the level 3 hospital in La Paz, with technical input from the Bank team. This pre-design study will provide the scope of services for the level 3 hospital and inform the requisite technical specifications in the bidding documents for the recruitment of the construction firm for the level 3 hospital.

22. **Component 2: Improving quality of health service delivery and human resource capacity development (US$49 million).** This component will support human resources capacity development, as well as the development and implementation of tools and standard operating procedures (SOPs) for the management of the new hospitals and their networks. Activities supported by this component will be implemented on a national level with priority placed on: (i) supporting the training of human resources needed to close the gap to start the operation of the new hospitals and (ii) increasing the national capacity of medical residency programs to enable these programs to satisfy the country's need for medical specialists. A beneficiary feedback mechanism will be incorporated in the overall design of the project, through a patient satisfaction survey to measure access to services as well as adequate responses to cultural and gender sensitivities.

23. **Subcomponent 2.1: Training medical specialists, other professionals and critical personnel.** This subcomponent will support strategies to reduce the existing gaps of medical specialists, other health professionals, and nurses. To deal with some of the short-term staffing needs, the project will finance: (i) overseas training through implementing mainly grants and other arrangements with residence programs in other countries; (ii) arrangements with strategic partners (well recognized academic centers and medical residence programs in other countries) to support and expand the modernization and scale-up of medical education programs in Bolivia, and facilitate the transfer of knowledge; (iii) local, short-term training or courses on hospital management and other critical areas (post-graduate certification); (iv) training for physicians working in urban intercultural settings on sensitivities towards indigenous cultural aspects in order to improve the quality of culturally sensitive health services; and (v) technical assistance (TA), medical education supplies and medical training equipment to support the residency programs.

24. **Subcomponent 2.2: Developing, updating and dissemination of national clinical care (care pathways) standards and other governance related regulations.** This subcomponent will finance TA, training and the design and updating of IT tools for dissemination, and the use of a database of evidence-based clinical practice guidelines and recommendations on the care of patients with specific conditions. This subcomponent will also support the implementation of quality checklists and an application for smartphones that features the updated clinical guidelines. The adaptation of the guidelines will be monitored through the project at departmental level and specifically in the targeted hospitals, based on technical audits to be developed by external firms contracted by the Ministry of Health (MoH). In a country context where medical training is still a significant problem, the use of clinical guidelines will promote interventions of proved benefit (and discourage ineffective ones) that have the potential to reduce morbidity and mortality and improve quality of life. This subcomponent will also support carrying out of

[15] *"Informe técnico de condiciones previas ampliado"*

a patient satisfaction survey.

25. **Subcomponent 2.3: Supporting the link between the SNIS (health information system) and the new hospitals' information systems.** This subcomponent will finance TA, IT equipment, telecommunication networks and training to support the development of an interface between the existing SNIS and the new hospital information systems to be implemented in the new hospitals, as well as other information systems that form part of the health care information framework (*Sistema Único de Información en Salud (SUIS*). The subcomponent will also contribute to updating the SNIS to incorporate international standards (i.e. HL7[16]) which will allow for a more fluid exchange of data between the data and applications running (including a standard clinical record) in SNIS and the hospital information and management systems. Finally, the project would support studies on maternal mortality and other critical public health issues as needed.

26. **Component 3: Project Management (US$8 million).** The project will be implemented by two implementing entities: The Agency for Infrastructure in Health and Medical Equipment (AISEM), and a Project Implementing Unit (PIU) located in the Project Management Unit (UGESPRO) housed in the MoH, both bound to policies of the MoH and staffed with civil servants and consultants as needed to provide support, TA and capacity building. This component will finance the related operating expenses, equipment, furniture, vehicles and personnel necessary for the execution of the project, in the areas of contract management, procurement, financial management, technical and monitoring and evaluation, including project audits. This component will also finance the Government's auditing of the hospital works and annual financial audits. Finally, the GoB will allocate budget to cover recurrent costs of the implementing entities.

27. **Gender**. Given that over half of the project beneficiaries are women (50.4%), it is expected that the improvements in access and quality of health care services in the targeted health networks will contribute to the reduction in the burden of NCDs, of which women in particular appear to be more affected in some of the targeted networks (e.g. in Quillacollo women account for 71% of diabetes cases; 58% of diabetes cases in Caranavi; and 69% of hypertensive diseases in La Guardia).[17] Furthermore, the Social Assessment (SA) conducted during project preparation found that elderly indigenous women (who are frequently monolingual in an indigenous language) often receive insufficient attention from health providers given the difficulty in communication and understanding instructions. The project has included training activities for health providers on cultural sensitivities and a patient satisfaction survey to gauge the perception of the supported health networks over time. This feedback will be monitored through an intermediate indicator included in the project's Results Framework. Improved quality of health services in the targeted networks and the ability to monitor and refer complex cases would also have a positive impact on reductions in maternal mortality.

28. **Disability and Inclusion.** Including persons with disabilities and expanding equitable opportunities is at the core of World Bank Group's goals to end extreme poverty and promote shared prosperity. One billion people, or 15% of the world's population, experience some form of disability, and disability prevalence is higher in developing countries. Persons with disabilities on average are more likely to

[16] Health Level 7 (HL7) refers to a set of international standards for transfer of clinical and administrative data between software applications used by various healthcare providers.
[17] Datos e Información para un diagnostico general de redes de salud, Bolivia. December 2017

experience adverse socioeconomic outcomes than persons without disabilities, and often have limited access to basic services. The project will aim to remove some of the physical and programmatic barriers that individuals with disabilities may face when they seek health care services, such as inability to reach or enter health care establishments, lack of accessible equipment and policies that facilitate access. Based on findings from the SA, the project design incorporates mechanisms for cultural sensitivity and inclusion of vulnerable groups.

29. **Citizen Engagement.** The project will establish a Grievance Redress Mechanism (GRM) to regulate the relationship and communication between the community and health providers and administrators, and sustain consultations opened during preparation and implementation of the project. AISEM will establish communication with the beneficiaries before the works start, and will continue to sustain this communication during and after the construction of the works. The sector has a well-developed strategy for the Program "Mi Salud," with guidelines and trained staff that will actively be involved in this project to ensure indigenous peoples' access to their health networks. Radio communication equipment, besides logistic and information matters, will be used to receive complaints and information requirements from distant indigenous communities. Consultation processes will be opened during project implementation. Dialogue and cooperation, and principles of consultation was guaranteed during preparation and will continue during implementation of the project. Furthermore, the project will also engage with the community through the use of client feedback surveys. Both the GRM and client feedback are reflected in the Results Framework (section VII).

30. **Climate Co-Benefits.** The project has the potential to generate significant climate co-benefits largely related to the incorporation of climate change resiliency measures and reductions in greenhouse gas (GHG) emissions. In Bolivia, specific climate hazards are expected to be exacerbated by climate change over time, namely extreme precipitation and flooding, drought and extreme temperature. Tropical storms have increased in recent years, causing significant damage to infrastructure and agricultural production. The estimated economic impact of the 2006-2007 El Niño event totaled US$443 million, almost 4% of Bolivia's 2007 GDP. In 2014, flooding damages resulted in losses of approximately US$450 million.[18] Increased concentration of precipitation continues to impact both the high plateaus and valleys. In early 2018, a state of emergency was declared as a result of severe flooding. Water scarcity is a growing problem in parts of the Bolivian highlands and valleys. Drought has affected a large portion of the population (mainly in the western mountainous and semiarid parts of the country), most recently marked by the historic droughts of 2016 and 2017. Temperatures are projected to increase by approximately 2°C by 2060, especially during the dry months of May, June and July; and summers are expected to experience high precipitation. These changes could result in increased droughts and floods respectively.[19] Serious glacier retreat has also been observed in the mountains due to changes in temperature and humidity.

31. Health infrastructure investments supported by the project will take into account the following "climate smart" actions when applicable and to the extent possible: (i) assess potential for floods in supported areas and use permeable paving materials and other design elements to reduce storm water runoff during heavy rains; and (ii) support creation of green spaces to reduce urban heat island effects. The construction of ten new hospitals and the renovation of select facilities in the supported ten networks will benefit, when possible, from energy-efficient heating, ventilation and air conditioning (HVAC) systems

[18] World Bank, Disaster Risk Management Development Policy Credit and Loan Program Document, Report No. 93754-BO
[19] World Bank's Climate Change Knowledge Portal and UNDP's Climate Change Country Profiles

which reduce HVAC-related costs and enhance infection control, as well as other energy and cost saving investments such as insulated glass windows, light-emitting diode (LED) lights, and lighting control measures (e.g., dimming, occupancy sensors, daylighting). Reductions in dioxins, a GHG, are expected with the use of autoclaves instead of incinerators to dispose of medical waste from the newly constructed hospitals.[20] The Stockholm Convention on Persistent Organic Pollutants, signed by over 150 countries, including Bolivia, promotes the use of better environmental practices to reduce the volume of dioxins generated from waste incineration. Additionally, the inclusion of health care waste treatment facilities (autoclave and grinder) eliminates potential issues with health care waste management (HCWM) from the outset and will reduce the volume of medical waste to be managed and treated, hence reducing GHG emissions.

B. Project Costs and Financing

Project Components	Project cost	IBRD Financing US$ million	IDA Financing US$ million (equivalent)
Component 1: Strengthening Health Service Delivery Networks	243.00	195.00	48.00
Component 2: Improving quality of health service delivery and human resource capacity development	49.00	49.00	0.00
Component 3: Project Management	8.00	8.00	0.00
Total Project Costs	**300.00**	**252.00**	**48.00**

C. Lessons Learned and Reflected in the Project Design

32. The project design incorporates lessons learned from previous World Bank and donor funded projects in Bolivia, as well as the Bank's experience in health systems strengthening and service delivery in other countries. These include:

- ***Strengthening access and quality of health service delivery requires bolstering of the entire health service delivery network.*** The proposed project provides a conceptual framework not only for investing in civil works, but takes a short, medium and long-term view of addressing human resources constraints and implementing standards for quality of care. The proposed project also builds in opportunities for TA, capacity building and knowledge transfer to the sector, for which the Bank has sufficient experience from other countries.

- ***Investments in health infrastructure require comprehensive support to avoid service delivery delays.*** Experience from previous projects demonstrate that support to infrastructure must also include provision and maintenance of equipment, human resources training and development. All new hospitals to be financed under Component 1 will employ the use of turn-key contracts to

[20] WHO- Health – Care Waste http://www.who.int/mediacentre/factsheets/fs253/en/ https://www.healthcare-waste.org/

ensure the supported health facilities are operational and Component 2 addresses human resource needs.

- ***Careful attention to the political economy in decentralized health systems is essential to the implementation of project activities at the local level.*** The project design recognizes that close communication between the central level and beneficiary departments and municipalities helps to better identify and understand their needs and capacity levels. Close coordination also improves budget planning for required staff and future operational costs.

- ***Hospital investments are undermined if the hospitals' respective health networks do not properly function as "gatekeepers" to higher level care.*** The project addresses continuum of care challenges in targeted health service delivery networks, from primary health care at health posts to the provision of complex care at secondary and tertiary hospitals.

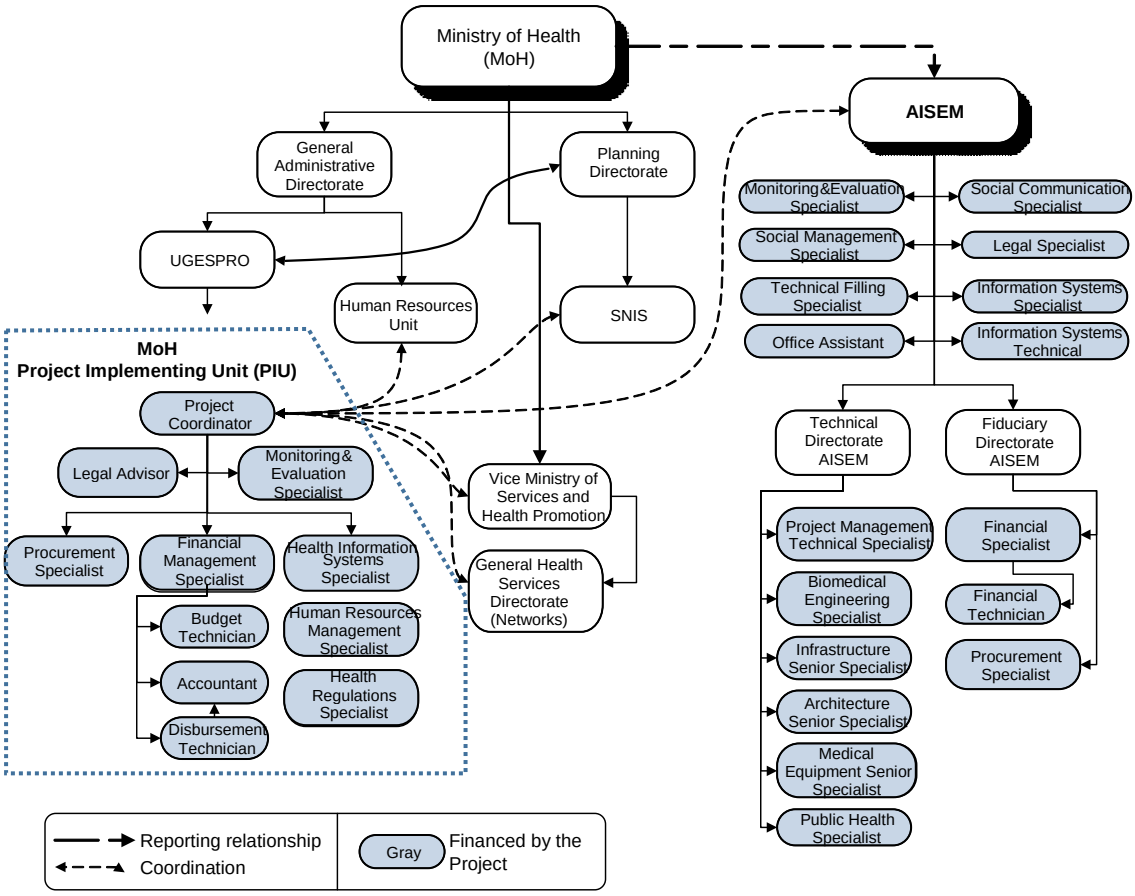
- ***Frequent inter-institutional meetings are important for coordination of high value contract and activities.*** The Bank's experience with support to infrastructure under the Expanding Access to Reduce Health Inequities Project - APL III (P101206), demonstrated the importance of frequent inter-institutional meetings (every 15 days) under the leadership of the Vice-Ministry of Public Investment and External Finance (VIPFE), with participation of key actors responsible for implementation, supervision and oversight of recruitment, contract supervision and execution of civil works. In order to resolve bottlenecks in a timely manner, these meetings allowed for definition of critical milestones during all stages of implementation.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

33. **The Project will be implemented by two entities: AISEM and a PIU within UGESPRO (MoH).** AISEM will have overall responsibility for the technical supervision and fiduciary activities for the execution of Component 1 (Strengthening Health Service Delivery Networks) and a portion of Component 3 (Project Management) and part of Component 3 (Project Management). AISEM will coordinate with the MoH on specific technical aspects related to norms, regulations and monitoring of results through the Project Committee as spelled out in the Project Operational Manuals (POMs). AISEM and the MoH will have bi-monthly meetings to agree on inputs and actions needed to implement the project and the Procurement Plan. Agreements will be reflected in minutes that will be included in semi-annual project progress reports. The PIU within UGESPRO will be responsible for the execution of the technical and fiduciary activities of Component 2 (Improving Quality of Health Service Delivery and Human Resource Capacity Development) and a portion of Component 3 (Project Management). Further details are outlined in the POMs for each respective implementing entity. The proposed implementation arrangements are in line with the current distribution of roles and functions of the Government's National Health Sector Plan and the National Hospital Plan.

Figure 4: Implementation Arrangements



34. **Component 1 (Strengthening Health Service Delivery Networks) and a portion of Component 3 (Project Management) will be implemented by AISEM**. This implementing entity will have direct technical and fiduciary responsibilities under Component 1, including procurement, contract management, financial management, disbursements, safeguards, and monitoring of the activities. AISEM will develop project activities under its own structure which includes a staff of Director General, Technical Director, Director of Administration and Finance, Environmental and Social Safeguards Specialist, Architect, Procurement Specialist, Financial Management (FM) Specialist and a legal advisor. The project will support consultants within AISEM with fiduciary expertise, including: Financial Specialist, Financial Technician, Procurement Specialist and administrative support. On the technical side, AISEM will require specialists in Infrastructure (engineer), architecture, two bio-medical specialists, monitoring and evaluation, medical doctor specialized in hospitals, legal counsel, among other areas. The project supported staff in AISEM will report to the AISEM Director General.

35. **Component 2 (Improving quality of health service delivery and human resource capacity development) and a portion of Component 3 (Program Management) will be implemented by a PIU located in UGESPRO housed by the MoH.** This implementing unit will have technical and fiduciary responsibilities in coordination with other units within the MoH. The PIU within UGESPRO will be comprised

of the following positions: (i) Project Coordinator; (ii) Monitoring & Evaluation Specialist; (ii) Legal Advisor; (iii) Financial Management Specialist; (iv) Procurement Specialist; and a (v) support team. The PIU will also be staffed with specialists in: (i) training of Human Resources; (ii) health regulations; (iii) health information systems; and (iv) other specialists as needed throughout implementation.

36. **The respective roles of the PIU within UGESPRO and AISEM are clearly detailed in two separate POMs** to ensure that all relevant implementers understand the project objectives and implementation procedures. Both POMs outline the required composition and frequency of the coordination meetings between AISEM and the PIU within UGESPRO.

37. **The Bank's implementation support strategy will be based on the nature of the project, its risk profile as well as on lessons learned from previous projects.** The strategy is designed to be flexible so that it can be revised during project implementation if any challenges become evident. The implementation support strategy focuses primarily on the risk mitigation measures defined in the Bank's Systematic Operations Risk Rating Tool (SORT) and on supporting the client in various efficient ways as described below.

- ***Technical and Operations Support.*** The World Bank's implementation support will include the following activities: (a) providing technical guidance and advice; (b) ensuring timely production of annual implementation plans; (b) tracking the progress of project indicators, to monitor the implementation of project components, and (c) ensuring that the project is in line with the POMs. A lead health specialist/medical doctor (task team leader) and two senior operations officers (one in the country office) will perform the day-to-day supervision of all operational aspects of the project, while also coordinating with the client. The project team has the benefit of country based team members including FM Specialist, Procurement Specialist and Environmental and Social Safeguards Specialists. Frequent implementation support missions will include the full Bank team with the support of an engineer/architect and a medical equipment specialist as needed.

- ***Coordination with Development Partners***. Throughout project preparation and implementation, the World Bank team will coordinate with key partners through the Health Donors Group which meets monthly and is convened by the World Bank.

- ***Fiduciary Support.*** In the area of FM, the World Bank FM specialist will review the project's financial management system, including, but not limited to, accounting, reporting, internal controls, and compliance with financial covenants. The FM specialist based in the World Bank's country office will help both implementing entities review interim unaudited financial reports, annual project audits, and external audits (as relevant), and carry out on-site financial management supervision twice a year. In terms of procurement, a country based World Bank procurement specialist will support: (a) training of staff in both implementing entities and providing them with detailed guidance on the World Bank's Procurement Guidelines as needed; (b) reviewing procurement documents and providing of timely feedback to the project procurement team; (c) providing guidance to the MoH on the implementation of the Procurement Framework; and (d) undertaking post-procurement reviews.

- ***Information and Communication*.** A communications strategy will support project implementation in different areas of intervention. The strategy will cover the implementation of

various consultative and accountability processes, including a grievance redress mechanism.

B. Results Monitoring and Evaluation

38. **The MoH through the Planning Directorate will be responsible for overall monitoring of project implementation, including reporting on the project's Results Framework.** UGESPRO will acquire and adapt a monitoring system tailored to the project to include planning, monitoring, implementation, physical and financial progress control during the project execution, as well as follow-up of the intermediate and results indicators. Both AISEM and the PIU within UGESPRO will be responsible for the execution, supervision and development of progress reports focused on tracking the achievement of project results. AISEM will be responsible for monitoring civil works contracts, compliance of indicators related to Component 1, and preparing and submitting to the Bank progress reports for Component 1. AISEM will have a work tracking system linked to the FM system. The MoH will be in charge of monitoring the indicators of Component 2, preparing the progress reports and coordinating the implementation and monitoring of the project with AISEM.

C. Sustainability

39. **The project's sustainability will be enhanced by several factors.** Clear political leadership and government ownership for strengthening Bolivia's health service delivery networks is evidenced by the National Hospital Plan 2016-2020 and the National Health Sector Plan 2016-2020. The project design focuses on building capacities and systems to enhance the sustainability of project interventions, so that the fruits of the project may be sustained beyond the project's horizon. The project will support: (i) technical and institutional capacity building; (ii) updating of national clinical guidelines and setting up lasting strategic partnerships to support the long-term production of human resources for health and facilitate the transfer of knowledge; (iii) establishment of communication standards and applications to link hospital management information systems with the MoH's information system. Once interconnected, information management systems at the hospital level will provide evidence based information for decision making at regional and central levels; (iv) turn-key contracts for the new network referral centers, including training on the use of equipment and equipment maintenance costs; (v) establishment and reinforcement of systems for citizen's engagement and feedback, and patient information sharing across providers of care; and finally, (vi) improved prevention and management of the increasing burden of NCDs along the continuum of care, which is expected to translate into a savings in resources. Further details on the economic and financial analysis are elaborated on in Section VI.

D. Role of Partners

40. **Development partners in the health sector in Bolivia and specifically those supporting the National Hospital Plan** primarily include investments from the IDB, the Government of South Korea, and the Spanish Development Cooperation Agency (AECID) with support to a small number of scholarships for medical residences. The Health Donors Group (GRUS Salud), led by the World Bank is comprised of bilateral and multilateral organizations, namely: IDB, GIZ, the Government of Japan and JICA, Cooperation Agency of France, Canadian Cooperation, Italian Cooperation Agency, Technical Cooperation Agency of Belgium, Government of South Korea, Pan American Health Organization (PAHO-WHO), UNFPA, UNICEF, USAID and others. The Health Donors Group maintains permanent regular dialogue with all donors in

health, in coordination with the MoH to enhance alliances and a common approach that responds adequately to Government needs. Based on the agreement with the World Bank to finance the Hospital Network Plan, including the strengthening of the health networks by the provision of infrastructure, equipment and training for the improvement of human resources, the Government has determined that all multilateral and bilateral cooperation agencies that will finance the plan must have a comprehensive approach for strengthening the entire health network.

V. KEY RISKS

A. Overall Risk Rating and Explanation of Key Risks

Explanation

41. **The overall project risk is considered High.** This rating is rooted in the "High" risk ratings for Fiduciary and Institutional Capacity for Implementation and Sustainability.

42. **Macroeconomic risk is rated Substantial.** Macroeconomic management does not imply a substantial risk for the implementation of this project since large macroeconomic buffers would allow Bolivia to sustain economic growth and finance the persistent macroeconomic imbalances. Additionally, this project does not include counterpart funding. However, as macroeconomic buffers are expected to fall over the medium-term, the government may have some difficulties in funding the operative costs triggered by this project, including staffing costs. The current expansionary policy stance is unsustainable over the medium term as the eroding macroeconomic buffers and growing public debt may build-up vulnerabilities that could undermine confidence in the overall management of the economy. Furthermore, the exchange rate rigidity and the lack of Central Bank independence lessens the policy options to deal with a more challenging economic context. These risks could be exacerbated by stronger expansionary policies, a failure in discovering new gas reserves, faster decline of old gas fields, weaker gas demand from Argentina or Brazil, lower returns of public productive endeavors, and lower external financing.

43. **Political and governance risk is rated Substantial.** The overall responsibility for health networks is fragmented because the coordination, roles and accountability for health service delivery is divided across municipal, departmental, and central levels. To manage this risk, coordination among the different governance levels, particularly in the application of clinical care guidelines and standards of procedures, will be promoted and a communications campaign launched.

44. **Sector Strategies and Policies risk is rated Substantial.** The Government's commitment to implement the National Hospital Plan 2016-2020 could overly focus the attention of critical stakeholders on the implementation of the plan, thereby overlooking the adjustments needed in the PHC facilities in support of the local and regional health service networks. As part of project preparation, the Bank financed a rapid assessment of the country's health networks in 337 municipalities. This information was discussed with the Government and it was agreed that improvements to the networks, in parallel to the new network referral centers, would be included in the project design. In addition, the development and updating of clinical practice guidelines will include clinical care pathways to define the roles of primary, secondary and tertiary care. Finally, the PIU within UGESPRO will incorporate a team of consultants that

will specifically focus on the implementation of the improvements in the PHC facilities and tools to improve coordination and the quality of services provided.

45. **Institutional Capacity for Implementation and Sustainability risk is rated High.** AISEM was recently created by the Government to support the implementation of its National Hospital Plan 2016-2020. In the early stages of organization, AISEM will be responsible for implementation in terms of technical decisions and fiduciary responsibilities under the project, exclusively for Component 1. Given AISEM is a new agency, the proposed project includes a plan for TA and capacity building activities to strengthen as well as sustained, frequent support from the Bank team capitalizing on the strong in-country presence of fiduciary and safeguard specialists. Institutional capacity and governance weaknesses are a concern. The PIU within UGESPRO has not implemented a large-scale investment project with the World Bank, however previously formed PIUs have worked with the Bank on projects in the sector with some civil works and with other multilateral agencies. The technical capacity in the GoB is weak and has led to personnel changes from ministerial to operational levels. Local institutional capacity to implement sector policies is limited and dependent on the person in charge. In addition to the Government's agreement to follow World Bank fiduciary guidelines and technical rigor in selection of the networks to be supported, the project will also engage international firms to provide TA, and capacity building to facilitate knowledge transfer to MoH staff. Finally, the project design includes "turn-key" contracts for the building of the hospitals, which will eliminate a piecemeal approach characterized by high transaction costs. Not only is this approach more efficient and matched to the existing capacity, it will also ease the fiduciary (procurement mainly) burden for the implementing agencies.

46. **Fiduciary risk is rated High.** The relevant challenges faced by the project include: (i) complex and high value contracts to be procured by AISEM for all civil works and equipment for hospitals; (ii) AISEM does not have prior experience executing World Bank projects and UGESPRO does not have experience with World Bank Procurement Regulations; (iii) as of the preparation stage, both implementing entities had not appointed specific fiduciary staff for the project. It is expected that before project implementation begins, both entities will hire the required staff. Nonetheless, it will be a challenge to hire and maintain qualified staff during project implementation, considering the high turnover experienced in other Bank´s projects and the constraints in salary levels irrespective of the source of financing; (iv) lack of timely budget registration potentially affecting project execution, and (v) insufficient budgeting and financial reports of the Sistema Integrado de Gestión Pública (SIGEP).[21] **As a result, the overall project risk for procurement is High and for Financial Management the risk is Substantial.** To mitigate these risks, the project will support the hiring of experienced fiduciary staff for both implementing entities and training and support on World Bank Procurement and Financial Management regulations will be provided. FM risks will be managed through: (i) capacity building activities, frequent support, and training on Bank fiduciary requirements to strengthen FM knowledge of MoH PIU and AISEM staff, prior to project start-up and during implementation, as needed; (ii) inclusion of FM and disbursement arrangements specific to the project´s execution in the project operation manuals of the PIU within UGESPRO and AISEM, to ensure effective coordination; (iii) close follow-up with the Ministry of Economy and Public Finance (MEFP) and the VIPFE, for the timely recording of the budget; and (iv) an FM system, parallel to SIGEP, put in place before project implementation begins. Proper reconciliation controls between SIGEP and the FM system will be needed to assure the integrity of FM information. Once these mitigating measures have been put

[21] SIGEP is not programmed to prepare reports under cash basis accounting and it is not possible to include in their formats, the categories or components requested in the project financial reports. For these reasons it is necessary to have an auxiliary system to fulfill these gaps.

in place, it is expected that the proposed arrangements will meet the Bank's minimum fiduciary requirements.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

47. **The rationale for strengthening the public health sector in Bolivia is valid** as the public sector provides more than 80% of health services in the country and there is not an adequate legal or institutional framework to improve services through Public-Private-Partnerships. Limited tertiary and secondary care continues to weaken the overall health service delivery system and poses significant quality and access challenges, particularly for the most vulnerable. For instance, according to the pre-investment studies of level 2 hospitals, conducted by AISEM, there is a sizable gap between the existing supply and demand for health services.[22]

48. **The project aims to improve the access and quality of public health services.** Component 1 will build one level 3 hospital and nine level 2 hospitals, and will rehabilitate select health facilities in their respective networks. Component 2 will train doctors and other health professionals to close the existing gaps nationwide, update clinical guidelines and standards of procedures, and link of the existing Health Information System (SNIS) to the new hospital management information system to be set up in the newly constructed facilities. Component 3 will finance project management, capacity building and operating expenses for the execution of the project.

49. **The economic impact of the project has been estimated using a cost-benefit analysis based on existing information.** Benefits of the program were estimated evaluating the potential impact of new hospitals and improved health networks in population health status measured in terms of Disability Adjusted Life Years (DALYs).[23]

50. **The project's benefits will start materializing in 2020 after the second level hospitals will be finished (Annex 2).** Additionally, the third level hospital in La Paz, scheduled to be completed in 2021, will bring a significant increase in the benefits and operating costs. In this context, the project's benefits will exceed the cost from 2021 onward, but the Net Present Value (NPV) will become positive only after 2022 (Annex 2).

51. **In the base case scenario, the NPV of the project is positive (US$ 1.4 billion),** and its Internal Rate of Return (IRR) attains 78%, which exceeds the discount rate used in this study and the marginal cost of public sector financing (Table 3).[24] Additionally, the NPV stays positive even when the impact on averted DALYs is reduced, except in the extreme scenario where the project reduces DALYs by only 5%. These results ensure that the health interventions proposed by the project will be economically profitable.

[22] For the level 3 hospital, the gap will be estimated by the pre-investment design study, for which the terms of reference have already been reviewed by the Bank. Similarly, the pre-investment of some level 2 hospitals will be updated.
[23] DALYs for a disease or health condition are calculated as the sum of the Years of Life Lost (YLL) due to premature mortality in the population and the Years Lost due to Disability (YLD) for people living with the health condition or its consequences (*WHO*).
[24] The Government of Bolivia issued an international bond for US$1.0 billion with a coupon of 4.5% in March 2017.

Table 3: Net Present Value (NPV) and Internal Rate of Return (IRR) of the project

	20.0% reduction of DALYs*	Stress tests		
		15% reduction	10% reduction	5% reduction
NPV (US$ million)	1,387	986	404	-88
IRR (%)	78.3	54.4	30.0	1.1

Note: (*) This refers to a reduction of DALYs related to NCDs, diarrhea, lower respiratory and other common infectious diseases, and neonatal disorders.
Source: World Bank team

B. Technical

52. **Despite significant progress in reducing infant mortality and other deaths due to infectious diseases, health indicators that require more comprehensive care have not improved.** Bolivia is facing a double burden of disease with about 59% of deaths caused by non-communicable diseases, namely CVDs (23.5%); cancers (10%); digestive diseases (7.6%); kidney disease and diabetes (4%). Over the past decade, Bolivia's investments in PHC have increased access to basic services, but quality and access to secondary and tertiary care is in many areas very limited. Health facilities do not perform as true health networks and the lack of continuity of care remains a significant challenge. An effective referral system ensures a close relationship between all levels of the health system and helps ensure people receive the best possible care closest to home.

A good health network referral system can help ensure:

- Patients receive optimal care at the appropriate level and not unnecessarily costly
- Hospital facilities are used optimally and cost-effectively
- Patients who most need specialist services can access them in a timely manner
- Primary health services are well utilized and their reputation is enhanced

Source: World Health Organization (WHO). Management of Health facilities: Referral systems. http://*www.who.int/management/facility/referral/en/*

53. **Without a well-functioning referral system in place, complex cases identified at primary health care facilities cannot be properly treated and PHC services lose credibility** as the gatekeeper to the health service delivery system. In addition, hospital infrastructure is old and inadequate, and in some areas, does not exist. To deal with this situation, the Government has developed a National Hospital Plan 2016-2020 that will create new hospital infrastructure to replace very old, outdated facilities and fill existing gaps in access to secondary and tertiary hospitals so that they may perform as network referral centers. In this context, the project will support not only the new hospitals, but also the ten health service networks related to these new facilities.

54. **The project will support the development and updating of clinical practice guidelines and care pathways for more prevalent health conditions,** both within the ten supported networks as well as at the national level, as the guidelines and other standard operating procedures (SOPs), including quality check lists, will be rolled out nationwide. These guidelines will promote the most cost-effective interventions of proved benefit and discourage ineffective ones, and will allow for benchmarking across health service

delivery networks. Benchmarking will be part of CQI and an important tool to motivate both health administration management as well as health care providers to engage in improvements and understand how their performance falls in comparison to their peers. The guidelines and care pathways will also improve the consistency of care, and help coordinate health service delivery across the supported networks. Finally, the project will support the strengthening and scaling up of the medical training program (residencies and short courses) and training of other critical health related human resources. These activities aim to: (i) reduce the existing gaps of specialized human resources at the national level; (ii) ensure a steady supply of skilled human resources for health to meet the anticipated demand at the newly expanded targeted health service delivery networks; (iii) reduce the need to train medical specialists overseas given that this practice is more costly, produces inconsistent clinical practices since specialists are often trained in different countries, and poses a risk to long term sustainability given that returning trained specialists may opt to emigrate.

55. **The proposed project has many critical building blocks required for delivering results:** (a) strong political priority and attention towards improved access to health care and commitment to implement the National Hospital Plan 2016-2020; (b) holistic focus on improving PHC and the overall functioning of health service delivery networks that includes the ten new hospitals to serve as network referral centers; (c) emphasis on improving access and quality of care; and (d) reduction in the high transaction costs of new construction by securing turn-key contracts coupled with the use of construction supervision firms to monitor all civil works as well as options for management equipment contracts.

C. Financial Management

56. **A Financial Management (FM) Assessment was carried out** in accordance with the Financial Management Manual for World Bank Investment Project Financing and the corresponding OB/BP to evaluate the adequacy of FM arrangements proposed for the two implementing entities: (i) the Project Implementing Unit (PIU) located in the UGESPRO of the MoH, and (ii) AISEM.

57. **Both implementing agencies will manage loan funds.** Project implementation will be fully integrated and executed through the National Budget, and will benefit from the use of Public Financial Management (PFM) elements including SIGEP (*Sistema Integrado de Gestión Pública*) and the Single Treasury Account (STA), supplementing them where needed to ensure that the projects needs and risks are adequately addressed. Both implementing agencies have POMs which include an FM section outlining the Bank´s policies and procedures, financial reporting with an agreed format and content, and annual audits under terms of reference and audit firms acceptable to the Bank.

58. **The PIU within UGESPRO and AISEM will prepare separate annual project financial statements including cumulative figures**, as of the previous year-end. The financial statements would include explanatory notes in accordance with the requirement to clarify important variances and other relevant information not evident in a single transaction.

59. **Internal Controls and Audit Arrangements**

- ***Internal Controls.*** Overall, processes put in place by the MoH comply with local requirements related to administrative and control systems (national financial management law). Within those

processes, MoH and AISEM have put in place controls and procedures reconciling financial operations jointly with the MEFP and the Central Bank of Bolivia. Monthly reconciliations of bank accounts are performed together with MEFP. The POMs describe in detail all operational procedures, including FM, clearly defined roles and responsibilities, and an adequate segregation of duties as it relates to approving and authorizing roles.

- ***Internal Audit.*** Both the MoH and AISEM have an Internal Audit Department with experienced public-sector staff and which depends directly from the maximum executive authority of each entity. The Internal Audit Department is required to carry out special purpose and compliance audits.[25] If there would be a need for the project to require one special purpose or compliance audit, and there are relevant observations, both implementers have agreed to share with the Bank the Internal Audit Unit reports.

- ***External Audit*.** Based on the Bank's experience with the Bolivia portfolio, a project with more than two implementing agencies will require separate audit reports. Annual audit reports on project financial statements and a management letter shall be submitted to the Bank, within six months of the end of the Borrower´s fiscal year (December 31st). The audit should be conducted by an independent audit firm acceptable to the Bank under terms of reference approved by the Bank. The cost of the audit would be financed out of loan proceeds. The scope of the audit would be defined by the PIU within UGESPRO, AISEM and the Bank based on project specific requirements and responding, as appropriate to identified risks. Audit requirements would include the following:

Audit type	Due date
Project financial statements	June 30
Management letter	June 30

60. **Disbursements.** This project cost and financing do not include counterpart funding. Following the general practice of the current portfolio, the following disbursement methods may be used to withdraw funds from the loan: (i) reimbursement; (ii) advance; and (iii) direct payment. Considering the nature of the activities and prior experience in the country, it is expected that the advance option will be the preferred option. However, considering the civil works and equipment bidding process for substantial amounts, direct payments are a valid and practical method that will be considered. Overall disbursements from the Bank will follow standard policies and procedures and are further described in the disbursement and financial information letter (DFIL). See Annex 1 for further details.

61. **Under the advance method and to facilitate project implementation, two designated accounts in U.S. dollars will be opened and maintained by the PIU within UGESPRO and AISEM** as part of the STA system. In keeping with the current arrangements established by the Vice-Ministry of Treasury and Public Credit for the operation and the use of a STA in U.S. dollars (STA-USD), the designated accounts will be opened and maintained as a separate *Libreta* within the STA in USD. Following the existing treasury arrangements, funds from the STA in US dollars will be periodically transferred to the STA in *Bolivianos* into a separate *Libreta* under the project name, from which all payments will be processed through direct

[25] The purpose of the special audit is expressing an independent opinion on the compliance with the administrative legal rules and other legally applicable regulations, and contractual obligations and, as may be the case, establish indications of responsibility of public officials (administrative, civil, criminal, and executive).

transfers into the beneficiary's bank account (consultants, suppliers, etc.).

D. Procurement

62. **Procurement activities will be undertaken by AISEM for Component 1 and part of Component 3; and by the PIU within UGESPRO for Components 2 and part of Component 3.** A capacity assessment of UGESPRO reviewed the organizational structure, and the relationship between the procurement, technical, administrative, and financial units for Components 2 and 3. UGESPRO is currently operating and centralizes the execution of the activities of several projects under different financing sources. The assessment concluded that UGESPRO's experience gained in the implementation of previous World Bank financed projects suggests that UGESPRO would have reasonable institutional capacity to handle all aspects of procurement with support of experienced procurement staff. UGESPRO will organize a new procurement unit for the implementation of activities under their supervision. UGESPRO does not have experience applying the World Bank's Procurement Regulations for Investment Project Financing (IPF) by Borrowers.

63. **The PIU within UGESPRO and AISEM have developed procurement plans for the first eighteen months of project implementation**, which provide the basis for the procurement methods and market approaches. The 18-month Procurement Plan for each implementing agency, agreed between the Borrower and the World Bank, will be uploaded to the publicly accessible Systematic Tracking of Exchanges in Procurement (STEP), in agreement with the World Bank. Additionally, semi-annual supervision missions will take place to carry out reviews of procurement actions. Procurement staff of both units and the World Bank, will meet annually to review the implementation of the Procurement Plan and to carry out ex post reviews.

64. **Procurement Arrangements.** Procurement will be conducted according to the World Bank's Procurement Regulations for IPF Borrowers', issued in July 2016 and revised in November 2017, for the supply of Goods, Works, Non-Consulting Services and Consulting Services. The application of the 'Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants', dated October 15, 2006 and revised in January 2011 and as of July 1, 2016 (World Bank's ACGs), and sanctions procedures will continue to be applied through the Bank's model legal agreements for IPF operations, which require that provisions apply to the ultimate recipients of World Bank funds. The Bank's Standard Procurement Documents will govern the procurement of contracts under International Market Approach. For procurement involving National Market Approach, the Borrower may use their own procurement documents, acceptable to the World Bank. All Standard Procurement Documents as well as model contracts are included in the Project Operational Manuals.

65. **Procurement of Goods, Works and Non-Consulting Services.** According to the Project Procurement Strategy for Development (PPSD), the open international competitive bidding approach should be applied as stipulated in the Procurement Plan, while for small contracts the open national competitive bidding approach is supported by the availability of bidders in the local market. Procurement for hospitals to be carried out by AISEM will be under turn-key contracts with functional technical specifications. For Procurement to be carried out by the PIU within UGESPRO, the Borrower is able to specify detailed requirements to which bidders respond by offering bids; the Request for Bids or the Request for Quotations would be the selection methods for these contracts.

66. **Procurement of Consulting Services. Technical Assistance, designs, supervision services, and other studies.** Considering that these will be small contracts, the suitable market approach would be an open competition in the national market or direct market approach, while the Quality-Cost-Based Selection or the Consultant's Qualification Based Selection (considering the nature of the services and the need to take into account the quality of the proposals based on the evaluation of the different solutions and the cost of the services), or Direct Selection (when a sole firm with needed capabilities is identified and justified) would be the selection methods. For the construction supervision firm contract for the third level hospital in La Paz, the approach would be an open competition in the international market.

67. **Project implementation support personnel.** Individuals contracted to support project implementation (project staff), other than individual consulting positions identified in the Legal Agreement, may be selected by the Borrower according to their personnel hiring procedures for such activities, as reviewed and found acceptable by the Bank and described in the POMs.

68. **Individual consultants.** Individual consultants will be selected for an assignment for which: (i) a team of experts is not required; (ii) no additional office support is required; and (iii) the experience and qualifications of the individual are of paramount requirement. The evaluation shall be based on the relevant qualifications and experience of the individual consultant in accordance with provision of paragraphs 7.34 to 7.39 of the Procurement Regulations for IPF Borrowers issued in July 2016 and revised in November 2017.

E. Social (including Safeguards)

69. **As part of project preparation, the Borrower conducted a comprehensive SA considering the health networks' areas of:** Southern La Paz (Third Level Hospital) and Caranavi (Second Level Hospital) in the Department of La Paz, covering an area of 87 municipalities; Quillacollo (Second Level Hospital) and Puerto Villarroel (Second Level Hospital) covering an area of 10 municipalities in the Department of Cochabamba; La Guardia (Second Level Hospital), San Julián (Second Level Hospital), San Ignacio de Velasco (Second Level Hospital), and Warnes (Second Level Hospital) covering an area of 15 municipalities in the Department of Santa Cruz; San Ramon (Second Level Hospital) covering an area of 3 municipalities in the Department of Beni; and Uncia (Second Level Hospital) covering an area of 4 municipalities in the Department of Potosi. It is expected that the project would benefit approximately 3.8 million people; 50.4% women and 49.6% men. Just over half of the beneficiaries are 0 - 24 years of age; 32.7% of the beneficiaries are between 25 - 49 years of age; 10.66% of the beneficiaries are between 50 - 64 years of age and 6.5% of the beneficiaries are 65 or older. The average household size is 3.5 members.

70. **According to MoH regulations, the selection of those health networks to receive new second level hospitals was determined by two criteria of unmet demand:** (i) minimum population between 30,000 (dispersed population, and geographically inaccessible) to 50,000 (concentrated population) inhabitants; and (ii) absence of a functioning health network referral center in the network. Taking into account these criteria, the location of the second level hospitals prioritized by the MoH and AISEM can be classified into two groups: (a) health networks with an unmet demand, due to the negative relationship between the size of the population and the capacity of the existing hospitals (Caranavi, Quillacollo, Ivirgarzama, Ñuflo de Chávez, Andrés Ibáñez, Velasco and Uncía are included under this criteria); and (b)

health networks that do not currently have a second level hospital, and therefore are only able to provide PHC and cannot refer patients to higher levels of care (Warnes and Mamoré fit this criteria).

71. **According to the National Census 2012, indigenous people (IPs) represent 51.3% of the total project's population.** Identified IPs in the project health networks are: Aymara (75%), Quechua (15%), Chiquitano and Monkox (1.9% and 0.3% respectively), Leco (0.8%), Kallawaya (0.7%), Tacana (0.4%), Guaraní (0.3%), Mosetén (0.2%), Tsimane Chiman (0.1%), Guarayo (0.1%), Jach'a Pacajaqui (0.04%), Ayoreo (0.03%), Uchupiamonas (0.03%), Urus (0.03%), Araona (0.01%) and Other IP-Minorities (4.9%), representing up to 47 different indigenous minorities). Given this context, OP/BP 4.10 is triggered and the elements of an Indigenous People Plan (IPP) such as the cultural pertinence approach (free, prior and informed consultations during the project cycle and participatory planning processes) are included in the overall project design and reflected in a Social Management Framework (SMF). The SMF is presented as a separate document and also includes the Safeguards Assessment (SA). Given this, the preparation of a separate IPP or IPPF is not required.

72. **In compliance with the World Bank OP/BP 4.12 on Involuntary Settlement, and consistent with Bolivian law, the Borrower has developed a Resettlement Policy Framework (RPF)** that encompasses procedures and requirements to develop a Resettlement Plan for Southern La Paz Hospital, and the Caranavi Hospital and Uncia Hospital which will be prepared during project implementation, if needed, given the exact location of these projects were not known by appraisal. The RPF includes clear methodologies for mitigation measures for all possible types of permanent and temporary physical impacts on land, assets, and economic activities that the proposed project might cause. There will be no land acquisition in the project. The policy is triggered as a proactive measure to mitigate impacts mainly related to temporary limitations, as explained before. Compensation is not being considered. For the subprojects of the level 2 hospitals: Quillacollo, La Guardia, San Julián, Puerto Villarroel, San Ignacio de Velasco, Warnes, San Ramon, the policy is not triggered because the Borrower confirmed that land tenancy, assets and economic incomes of the hospitals' land neighbors, will not be affected by the new construction. These hospitals will be built on available terrain that is being transferred, to be owned by the utility.

73. **As part of the SMF/SA preparation, free, prior and informed consultations with indigenous peoples were undertaken on February 9 and 10, 2018.** Given the high dispersion of the indigenous population in the selected health networks, semi-structured interviews were conducted. The following selection criteria were considered to choose where to apply this instrument: (i) networks with a large indigenous majority; and (ii) networks with indigenous minorities. These criteria allowed for the collection of a representative sample from the ten health networks to be supported by the project. Consultations were developed in the Ñuflo de Chávez Network of the Department of Santa Cruz, Rural Network 7 in the Department of La Paz and the Quillacollo Network in the Department of Cochabamba. A total of 170 beneficiaries (33.5% men) and (66.5% women) were interviewed in 29 indigenous communities of 10 Municipalities in an area covered by three of the targeted health networks. General perceptions about positive impacts and risks were identified, specifically in terms of physical access to the health system and intercultural communication. The overwhelming majority of consulted beneficiaries (95%) expressed their satisfaction, consent and support to the construction of new hospitals in the health networks in which they live. Negative impacts were not identified.

74. **Among the positive impacts, the beneficiaries identify that the project would:** (a) improve the infrastructure and equipment of health services; and (b) decrease transportation from urban to rural areas avoiding bad road conditions and transportation problems. The identified risks include: (i) language communication barriers due to misunderstandings between patients, physicians and health service personnel (problems in diagnosis, medicines and health treatments); (ii) lack of both specialized physicians and medical equipment availability; (iii) potential for health providers in urban intercultural settings to discriminate against indigenous people by disqualifying their beliefs and knowledge of traditional medicine practitioners, such as drinking tea of different herbs for specific symptoms or explaining illnesses through their own cosmovision (for example naming symptoms such as chills, fever, nausea, vomiting, diarrhea by local names like: *Mancharisqa* (illness of fear), *ánimo qarkusqa* (loss of the soul), *hani* (loss of the courage), *Pacha chari* (illnesses of fear);and (iv) deficient attention to elderly indigenous women (who are frequently monolingual in an indigenous language) and have difficulty understanding instructions.

75. **Even though the project scope cannot mitigate structural issues identified in the consultation process, some mitigation measures were included in the SMF and the project design to bring cultural pertinence to the project interventions.** The following mitigation measures are based on beneficiaries' proposals and good previous experience of the MoH, accomplishing in this way the process of participatory planning requested in the operational policy OP/BP 4.10 Indigenous Peoples: (i) to ensure access to health networks for the indigenous population living in distant communities, "Mochilas de Vida"[26] will be provided; (ii) to improve the quality of health services for the most vulnerable, particularly indigenous women, the project will provide training on sensitivities towards indigenous cultural aspects in health care service provision for physicians in urban intercultural settings (included in Component 2); and (iii) to support drafting of a regulation to stop discrimination of patients' by disqualifying traditional medical practices and knowledge during medical consultancies in intercultural urban settings, based on the Law 045 *Ley contra el racismo y toda forma de discriminación* (Law Against Racism and all forms of Discrimination). This regulation is meant to be implemented in pilot mode as a mechanism to improve intercultural communication and increase health service users' confidence in the health system. This regulation will be included in Component 2 of the project.

F. Environment (including Safeguards)

76. **The proposed project falls under the World Bank Environmental Category "B" classification** due to potential adverse environmental and social impacts that are site-specific and reversible; these impacts can be easily addressed by applying appropriate prevention and mitigation measures. The Environmental Assessment (OP/BP 4.01) is the only safeguard policy triggered by this project. Project interventions will be turn-key operations. The project will build ten new hospitals: one Level 3 and nine Level 2. All nine Level 2 hospitals have prepared a specific Environmental Assessment (EA) that includes an Environmental Management Plan (EMP) and a *Plan de Aplicación y Seguimiento Ambiental / Plan de Prevención y Mitigación* (PASA/PPM) according to Bolivian regulations. Given that the final location of the Level 3 hospital in La Paz and the level 2 hospitals in Caranavi and Uncia are not yet confirmed, an Environmental and Social Management Framework (ESMF) has been developed. Forests nor natural habitats are of concern given that all ten hospitals are located in urban settings. AISEM will be responsible for compliance

[26] The "Mochila de la Vida" is a backpack which includes basic equipment and supplies such as an adult blood pressure monitor, manual neonatal resuscitator, stethoscope, modules for maternal and neonatal family visits, among other supplies.

with World Bank environmental and social safeguards requirements and with the overall environmental and social supervision of the project and its compliance with the Bolivian environmental law and other applicable legislation.

77. **With respect to the level 3 hospital in La Paz,** the ESMF prepared by AISEM provides guidance on potential issues that could arise during project implementation. The Bank has reviewed and approved the ESMF. The ESMF was consulted with key stakeholders before appraisal (February 28, 2018), and disclosed locally through the WB and AISEM websites on March 16, 2018. Design and construction will follow environmental guidelines as established in national legislation and World Bank guidelines for the environment, environmental health and safety, and for the health care facilities. All of the construction will be turn-key and include health care waste treatment facilities (autoclave and grinder) thus eliminating any potential issues with HCWM from the outset.

78. **Potential Environmental Impacts.** Potentially adverse social and environmental impacts are expected to be local and reversible. They will be avoided or minimized through adequate project design and prevention and mitigation measures. During construction, potential adverse environmental impacts are closely related to changes in project site topography, ground clearing, excavations and leveling for the construction, alterations to surface and ground hydrological characteristics affecting surface and groundwater quality, traffic movement, and obstruction and generation of noise and dust during the operation of heavy project construction machinery. Most of the adverse impacts are short-term, occurring only during the construction phase. The project will also support the strengthening of local health networks through critical renovations of several level one facilities (e.g. health centers and health posts) and some level 2 hospitals, and procurement of new equipment and capacity building activities as needed.

79. **Environmental System in compliance with World Bank safeguards policies.** As an investment operation, the project must follow World Bank safeguards requirements, including public consultation and disclosure. The responsibilities for supervising the environmental compliance during the construction and operation phases are clearly defined in the ESMF and PASA/PPMs, as well as the instruments in place to ensure that contractors implement any corrective actions identified when these activities are carried out.

80. **Bolivian environmental regulatory framework.** The Bolivian Constitution entitles citizens to a clean environment, access to information and participation, respect to cultural diversity, etc. The main environmental legal framework protecting the environment (water, soil, forest, air) protected areas, flora and fauna, is Law No. 1333 General Law of the Environment and its regulations. In line with the environmental regulations of Bolivia, AISEM developed a PASA/PPM Environmental Assessment to comply with the National System of Environmental Impact Assessment (SEIA). Before project implementation, all licenses and environmental permits will be in place.

H. World Bank Grievance Redress

81. **Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS).** The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and

individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit *http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service*. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

VII. RESULTS FRAMEWORK AND MONITORING

Results Framework

Project Development Objective(s)

The project development objective (PDO) is to improve access to, and quality of, health service delivery in selected health networks.

PDO Indicators by Objectives / Outcomes	DLI	CRI	Unit of Measure	Baseline	Intermediate Targets					End Target
					1	2	3	4	5	
Improve access to, and quality of, health service delivery in selected health networks.										
Network referral centers operational with at least 60% of the required medical staff and providing health services			Number	0.00	0.00	0.00	2.00	4.00	7.00	7.00
Health facilities supported in the targeted networks fulfill the licensing standards			Percentage	0.00	0.00	10.00	35.00	60.00	75.00	75.00
Doctors checking the MoH clinical guidelines application at least once in the last 60 days			Percentage	0.00	0.00	0.00	25.00	40.00	45.00	45.00

Intermediate Results Indicators by Components	DLI	CRI	Unit of Measure	Baseline	Intermediate Targets					End Target
					1	2	3	4	5	
Strengthening Health Service Delivery Networks										
New hospitals equipped			Number	0.00	0.00	0.00	2.00	6.00	10.00	10.00

New hospitals that do not use incineration to treat hospital waste in the targeted networks			Number	0.00	0.00	0.00	2.00	6.00	10.00	10.00
Grievance Redress Mechanism (GRM) designed and operational			Yes/No	N	N	Y	Y	Y	Y	Y
Improving Quality of Health Service Delivery and Human Resource Capacity Development										
Medical specialists enrolled in residency program supported by the project			Number	0.00	0.00	75.00	200.00	600.00	750.00	750.00
Health facility managers and administrators trained			Number	0.00	0.00	0.00	25.00	60.00	100.00	100.00
Patients reporting being satisfied with health services provided in the targeted networks			Percentage	0.00	0.00	0.00	60.00	75.00	80.00	80.00
Female patients reporting being satisfied with health services provided in the targeted networks			Percentage	0.00						80.00
Facilities in the targeted networks using quality checklists			Percentage	0.00	0.00	0.00	25.00	60.00	80.00	80.00
Number clinical guidelines updated or developed			Number	0.00	0.00	5.00	10.00	15.00	20.00	20.00

Monitoring & Evaluation Plan: PDO Indicators	
Indicator Name	Network referral centers operational with at least 60% of the required medical staff and providing health services
Definition/Description	"network referral centers" are defined as the new hospitals to be financed by the project
Frequency	Annual
Data Source	Progress monitoring reports from AISEM
Methodology for Data Collection	
Responsibility for Data Collection	AISEM
Indicator Name	Health facilities supported in the targeted networks fulfill the licensing standards
Definition/Description	Licensing refers to the review process to determine whether facilities fulfill the “normas de caracterización” which define the minimum standards by level of care in terms of infrastructure, equipment and human resources.
Frequency	Annual
Data Source	Progress monitoring reports from MoH
Methodology for Data Collection	
Responsibility for Data Collection	MoH

Indicator Name	Doctors checking the MoH clinical guidelines application at least once in the last 60 days
Definition/Description	This indicator refers to the mobile application to be developed by the project and rolled out at national level.
Frequency	Every six months
Data Source	clinical guidelines mobile phone application
Methodology for Data Collection	
Responsibility for Data Collection	MoH

Monitoring & Evaluation Plan: Intermediate Results Indicators	
Indicator Name	New hospitals equipped
Definition/Description	
Frequency	Annual
Data Source	Progress monitoring reports by AISEM
Methodology for Data Collection	
Responsibility for Data Collection	AISEM

Indicator Name	New hospitals that do not use incineration to treat hospital waste in the targeted networks
Definition/Description	
Frequency	Annual
Data Source	Progress monitoring reports by AISEM
Methodology for Data Collection	
Responsibility for Data Collection	AISEM

Indicator Name	Grievance Redress Mechanism (GRM) designed and operational
Definition/Description	
Frequency	Annual
Data Source	This indicator will be collected and reported on by AISEM.
Methodology for Data Collection	
Responsibility for Data Collection	AISEM

Indicator Name	Medical specialists enrolled in residency program supported by the project
Definition/Description	
Frequency	Annual
Data Source	Training progress reports from the MoH PIU
Methodology for Data Collection	
Responsibility for Data Collection	MoH

Indicator Name	Health facility managers and administrators trained
Definition/Description	
Frequency	Annual
Data Source	MoH Training progress reports
Methodology for Data Collection	
Responsibility for Data Collection	MoH

Indicator Name	Patients reporting being satisfied with health services provided in the targeted networks
Definition/Description	
Frequency	Annual
Data Source	Patient satisfaction survey
Methodology for Data Collection	
Responsibility for Data Collection	MoH

Indicator Name	Female patients reporting being satisfied with health services provided in the targeted networks
Definition/Description	
Frequency	
Data Source	
Methodology for Data Collection	
Responsibility for Data Collection	

Indicator Name	Facilities in the targeted networks using quality checklists
Definition/Description	
Frequency	Annual
Data Source	Progress reports from the MoH
Methodology for Data Collection	
Responsibility for Data Collection	MoH

Indicator Name	Number clinical guidelines updated or developed
Definition/Description	
Frequency	Every quarter
Data Source	Progress reports from the MoH
Methodology for Data Collection	
Responsibility for Data Collection	MoH

ANNEX 1: IMPLEMENTATION ARRANGEMENTS – FINANCIAL MANAGEMENT

1. **A Financial Management (FM) Assessment was carried out** in accordance with the Financial Management Manual for World Bank Investment Project Financing and the corresponding OB/BP to evaluate the adequacy of FM arrangements proposed for the two implementing entities: (i) the Project Implementing Unit (PIU) located in the UGESPRO of the MoH, and (ii) AISEM.

2. **Both implementing agencies will manage loan funds.** Project implementation will be fully integrated and executed through the National Budget, and will benefit from the use of Public Financial Management (PFM) elements including SIGEP (*Sistema Integrado de Gestión Pública*) and the Single Treasury Account (STA), supplementing them where needed to ensure that the projects needs and risks are adequately addressed. Both implementing agencies have POMs which include an FM section outlining the Bank´s policies and procedures, financial reporting with an agreed format and content, and annual audits under terms of reference and audit firms acceptable to the Bank.

3. **Organization and Staffing**. UGESPRO is a unit within the MoH, dependent on the Directorate of General Administrative Affairs, and the Planning Directorate, with a purpose to manage projects and programs related to health. UGESPRO has its own administrative and technical staff. The PIU within UGESPRO will closely coordinate with the MoH Planning Directorate for technical activities. To support project implementation, the new required positions will be funded under the project, and the terms of reference for the new positions will be reviewed and approved by the Bank. AISEM is a decentralized public institution with administrative, financial, budgeting, technical and legal autonomy. This agency has only worked with nationally funded projects and does not have experience working with multilateral agencies. AISEM will be supported through FM training and hands-on support and the project will hire staff with experience in World Bank policies.

4. **Both the MoH and AISEM, must comply with Bolivia´s financial management law** (Ley No. 1178 de *Administración y Control Gubernamentales*) in terms of budgeting, accounting, internal controls, funds flow and financial reporting, which have been complemented with more specific arrangements according to its needs and external financiers´ requirements.

- ***Planning and Budgeting***. Similar to other World Bank-financed projects in the Bolivia portfolio, this project will be fully integrated and executed through the National Budget, in compliance with local regulations established by the MEFP, as well as instructions issued by the VIPFE. Accordingly, project transactions will be accounted for in accordance with Governmental Accounting Standards, and would use the Chart of Accounts established by the Accountant General´s Office (*Dirección General de Contabilidad Fiscal*). Project execution will benefit from the use of PFM elements including SIGEP and the STA.

- ***Accounting and Information System.*** Preparation of financial statements will follow the cash basis of accounting. The MOH PIU and AISEM must comply with the Governmental Accounting Standards and use the Chart of Accounts established by the Accountant´s General Office (*Dirección General de Contabilidad Fiscal*). They will benefit from the use of SIGEP and STA to process payments. In terms of information systems, SIGEP will be complemented with a parallel accounting system that will allow the recording of expenses by project component/category/contract, and the preparation of financial reports and withdrawal applications. Therefore, project financial information will meet the Bank's

fiduciary requirements of monitoring project implementation and compliance with the legal agreement.

- ***Financial reporting*.** The FM system will be implemented for automatic issuance of financial reports before project implementation begins. Interim Financial Reports (IFRs) should specify sources and uses of funds, reconciling items (as needed) and cash balances, with expenditures classified by project/component/contract; and a statement of investments reporting the current semester and the accumulated operations against ongoing plans and footnotes explaining the important variances. The agreed upon content and format will be included in the operational manual. IFRs will be submitted on a semi-annual basis, within 45 days after the end of each calendar semester.

5. **The PIU within UGESPRO and AISEM will prepare separate annual project financial statements including cumulative figures**, as of the previous year-end. The financial statements would include explanatory notes in accordance with the requirement to clarify important variances and other relevant information not evident in a single transaction.

6. **Internal Controls and Audit Arrangements**

- ***Internal Controls.*** Overall, processes put in place by the MoH comply with local requirements related to administrative and control systems (national financial management law). Within those processes, MoH and AISEM have put in place controls and procedures reconciling financial operations jointly with the MEFP and the Central Bank of Bolivia. Monthly reconciliations of bank accounts are performed together with MEFP. The POMs describe in detail all operational procedures, including FM, clearly defined roles and responsibilities, and an adequate segregation of duties as it relates to approving and authorizing roles.

- ***Internal Audit***. Both the MoH and AISEM have an Internal Audit Department with experienced public-sector staff and which depends directly from the maximum executive authority of each entity. The Internal Audit Department is required to carry out special purpose and compliance audits.[27] If there would be a need for the project to require one special purpose or compliance audit, and there are relevant observations, both implementers have agreed to share with the Bank the Internal Audit Unit reports.

- ***External Audit*.** Based on the Bank's experience with the Bolivia portfolio, a project with more than two implementing agencies will require separate audit reports. Annual audit reports on project financial statements and a management letter shall be submitted to the Bank, within six months of the end of the Borrower´s fiscal year (December 31st). The audit should be conducted by an independent audit firm acceptable to the Bank under terms of reference approved by the Bank. The cost of the audit would be financed out of loan proceeds. The scope of the audit would be defined by the PIU within UGESPRO, AISEM and the Bank based on project specific requirements and responding, as appropriate to identified risks. Audit requirements would include the following:

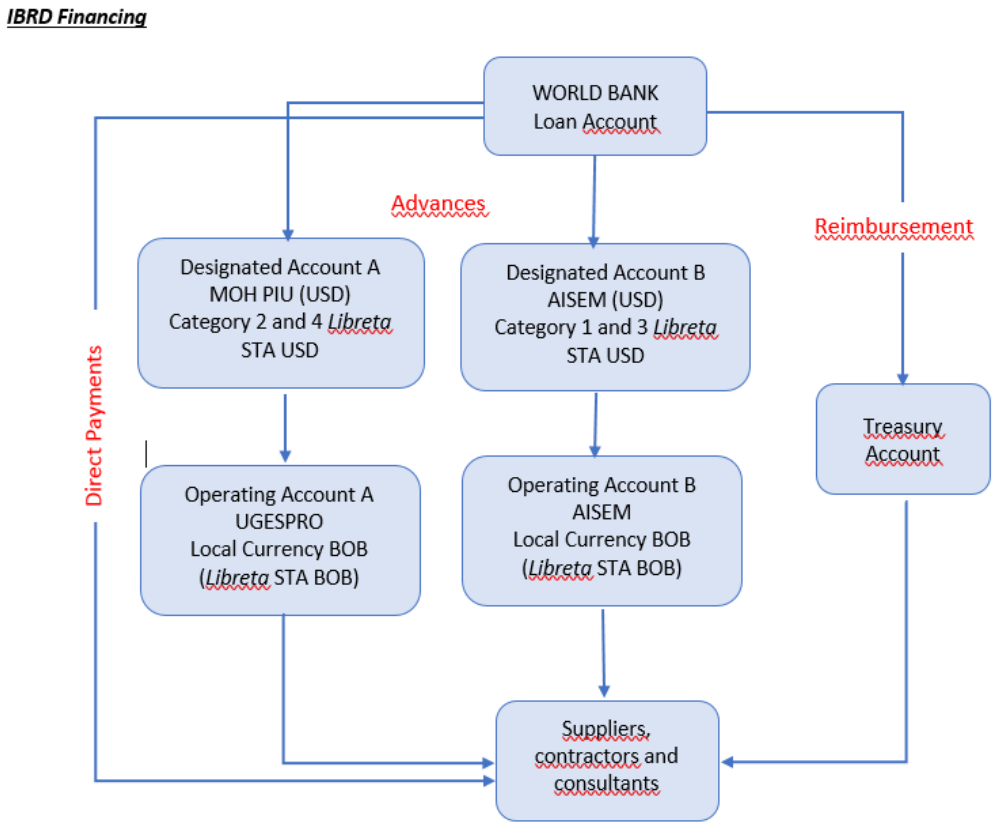
[27] The purpose of the special audit is expressing an independent opinion on the compliance with the administrative legal rules and other legally applicable regulations, and contractual obligations and, as may be the case, establish indications of responsibility of public officials (administrative, civil, criminal, and executive).

Audit type	Due date
Project financial statements	June 30
Management letter	June 30

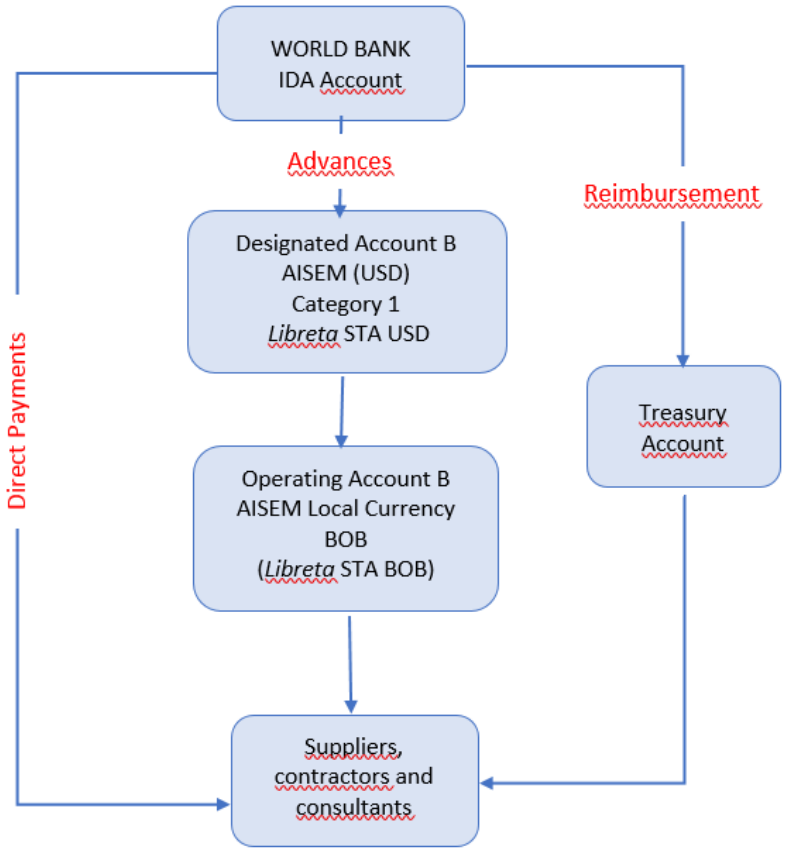
7. **FM Supervision Plan.** The WB plans to perform at least two supervision missions per year to the extent possible while also reviewing the annual audit reports and the semester IFRs.

8. **Disbursements.** This project cost and financing do not include counterpart funding. Following the general practice of the current portfolio, the following disbursement methods may be used to withdraw funds from the loan: (i) reimbursement; (ii) advance; and (iii) direct payment. Considering the nature of the activities and prior experience in the country, it is expected that the advance option will be the preferred option. However, considering the civil works and equipment bidding process for substantial amounts, direct payments are a valid and practical method that will be considered. Overall disbursements from the Bank will follow standard policies and procedures as illustrated in Figure 8 below and further described in the disbursement and financial information letter (DFIL).

Figure 8. Flow of Funds and Disbursement Methods



IDA Financing



9. **Under the advance method and to facilitate project implementation, two designated accounts in U.S. dollars will be opened and maintained by the PIU within UGESPRO and AISEM** as part of the STA system. In keeping with the current arrangements established by the Vice-Ministry of Treasury and Public Credit for the operation and the use of a STA in U.S. dollars (STA-USD), the designated accounts will be opened and maintained as a separate *Libreta* within the STA in USD. Following the existing treasury arrangements, funds from the STA in US dollars will be periodically transferred to the STA in *Bolivianos* into a separate *Libreta* under the project name, from which all payments will be processed through direct transfers into the beneficiary's bank account (consultants, suppliers, etc.).

ANNEX 2: ECONOMIC AND FINANCIAL ANALYSIS

1. **The rationale for strengthening the public health sector in Bolivia is valid** as the public sector provides more than 80% of health services in the country and there is not an adequate legal or institutional framework to improve services through Public-Private-Partnerships. Limited tertiary and secondary care continues to weaken the overall health service delivery system and poses significant quality and access challenges, particularly for the most vulnerable. For instance, according to the pre-investment studies of level 2 hospitals, conducted by AISEM, there is a sizable gap between the existing supply and demand for health services.[28]

2. **The project aims to improve the access and quality of public health services.** Component 1 will build one level 3 hospital and nine level 2 hospitals, and will rehabilitate select health facilities in their respective networks. Component 2 will train doctors and other health professionals to close the existing gaps nationwide, update clinical guidelines and standards of procedures, and link of the existing Health Information System (SNIS) to the new hospital management information system to be set up in the newly constructed facilities. Component 3 will finance project management, capacity building and operating expenses for the execution of the project.

3. **Each component will contribute to improving access and quality of public health services.** However, as it is overcomplicated to quantify the potential impact of this broad range of activities, this analysis will focus on the benefits linked to the first component of the project—construction of hospitals and rehabilitation of networks. Therefore, the results are conservative as the benefits derived from better health management, qualifying personnel, and improved information systems are not taken into account.

4. **The economic impact of the project has been estimated using a cost-benefit analysis based on existing information.** The analysis is carried out over the 2017-2030 period assuming a GDP growth of 3.4% and an inflation rate of 4.5%. The costs include the funds provided by the World Bank (US$300 million) to be disbursed according to an estimated schedule. They also include the operating costs triggered by the new hospitals which, in the absence of detailed information, were calculated using the operating costs of existing second and third level hospitals.[29] This analysis, however, does not include the operating cost generated by the other components.

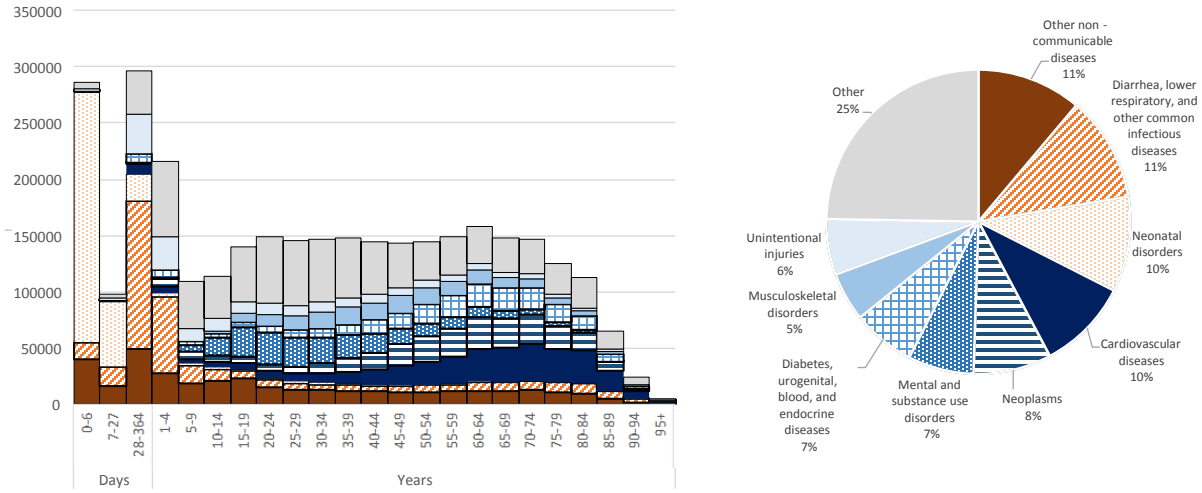
5. **Benefits of the program were estimated evaluating the potential impact of new hospitals and improved health networks in population health status measured in terms of Disability Adjusted Life Years (DALYs).**[30] It is estimated that the intervention will reduce the DALYs of the beneficiary population estimated at 3.8 million inhabitants, one-third of the total population (Table 2). This is also a conservative assumption as people of other districts are likely to draw on the new and rehabilitated facilities. Additionally, the new and enhanced health facilities may reduce pressure on existing ones, allowing to improve quality of services. For instance, the Construction of the Hospital in the Southern Zone of La Paz will reduce pressure on the

[28] For the level 3 hospital, the gap will be estimated by the pre-investment design study, for which the terms of reference have already been reviewed by the Bank. Similarly, the pre-investment of some level 2 hospitals will be updated.
[29] Gobierno Autónomo Departamental de La Paz. (2015). *Análisis del gasto y Financiamiento de Hospitales de Segundo y Tercer Grado: http://www.sedeslapaz.gob.bo/pdf/redes/ANALISIS%202.pdf. Servicio Departamental de Salud.* Dupuy, J. (2014). *Estudio Tesa Construcción Nueva Infraestructura Hospitalaria General La Paz. Estudios Especiales. Diagnóstico de la Situación Económica Actual*. Gobierno Autónomo Departamental del La Paz.
[30] DALYs for a disease or health condition are calculated as the sum of the Years of Life Lost (YLL) due to premature mortality in the population and the Years Lost due to Disability (YLD) for people living with the health condition or its consequences (*WHO*).

overloaded "*Hospital de Clinicas*," located in another part of the city.

6. **To estimate the number of averted DALYs, it was assumed that the beneficiary population has the same DALYs profile of the total population (Figure 5).** Although the project will improve all health services, this analysis assumes that the project will only have an impact on the three most important causes of DALYs, which account for one-third of total DALYs in Bolivia: NCDs, diarrhea, lower respiratory and other common infectious diseases, and neonatal disorders. In all these cases, the access to timely and adequate basic health services could be critical to avoid deaths and future disabilities at a relatively low cost. In this context, it is assumed that the project will reduce the DALYs related to these health problems in the beneficiary population by 20%. Reductions of 15, 10, and 5% are also applied to assess the sensitivity of the results to this critical assumption.

Figure 5: DALYs profile in Bolivia, 2016

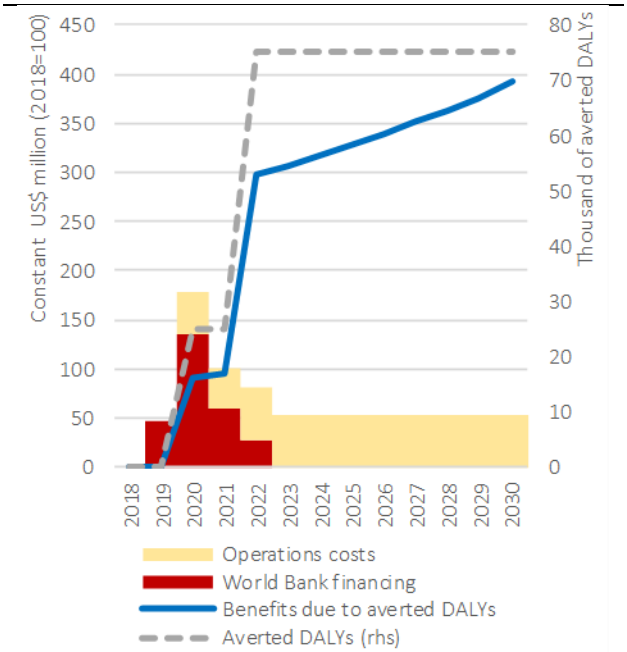


Each averted DALY is valued at a per capita GDP although the Disease Control Priorities Project[31] and Copenhagen Consensus[32] guidelines consider three-times the per capita incomes is a conservative estimate.[33] After taking into account the effect of inflation, the real value of averted DALYs, investment, and recurrent costs are discounted at a rate of 6%, which is double the 3% suggested by the WHO[34] and the Disease Control Priority Project.[35]

7. **The project's benefits will start materializing in 2020 after the second level hospitals will be finished (Figure 6).** Additionally, the third level hospital in La Paz, scheduled to be completed in 2021, will bring a significant increase in the benefits and operating costs. In this context, the project's benefits will exceed the cost from 2021 onward, but the Net Present Value (NPV) will become positive only after 2022 (Figure 7).

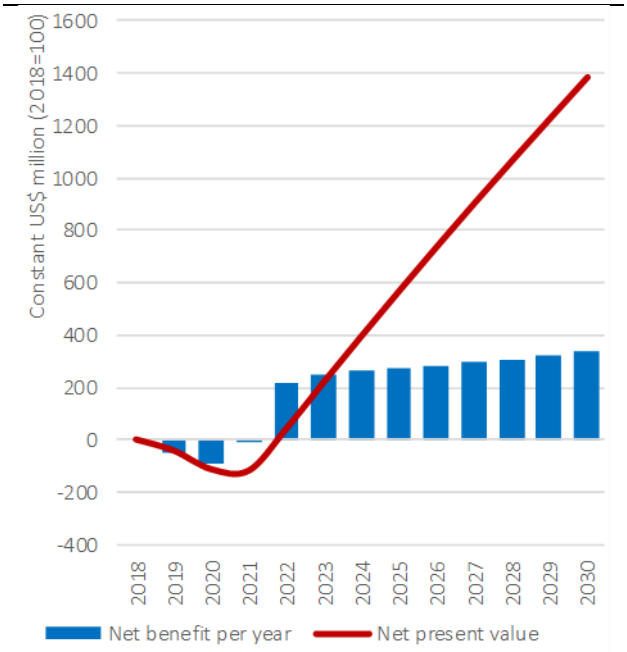
[31] The Disease Control Priority Project is an ongoing project that aims to establish priorities for disease control across the world.
[32] *Copenhagen Consensus 2008. Malnutrition and Hunger. Challenge Paper*.
[33] Other studies suggest that the value of a statistical life year is at least five times higher the GDP per capita.
[34] World Health Organization. Making Choices in Health: *WHO Guide to Cost-Effectiveness Analysis.2003*.
[35] Institute for Health Metrics and Evaluation (IHME). GBD Compare Data Visualization. Seattle, WA: IHME, University of Washington, 2016. Available from http:// vizhub.healthdata.org/gbd-compare. (Accessed March 5, 2018)

Figure 6: Cost and benefit of the project



Source: Staff estimates

Figure 7: Net benefit of the project



Source: Staff estimates

8. **In the base case scenario, the NPV of the project is positive (US$ 1.4 billion),** and its Internal Rate of Return (IRR) attains 78%, which exceeds the discount rate used in this study and the marginal cost of public sector financing (Table 4).[36] Additionally, the NPV stays positive even when the impact on averted DALYs is reduced, except in the extreme scenario where the project reduces DALYs by only 5%. These results ensure that the health interventions proposed by the project will be economically profitable.

Table 4: Net Present Value (NPV) and Internal Rate of Return (IRR) of the project

	20.0% reduction of DALYs*	Stress tests		
		15% reduction	10% reduction	5% reduction
NPV (US$ million)	1,387	986	404	-88
IRR (%)	78.3	54.4	30.0	1.1

Note: (*) This refers to a reduction of DALYs related to NCDs, diarrhea, lower respiratory and other common infectious diseases, and neonatal disorders.
Source: World Bank team

[36] The Government of Bolivia issued an international bond for US$1.0 billion with a coupon of 4.5% in March 2017.

ANNEX 3: MAP OF THE PROJECT AREA