



Islamic Republic of Afghanistan
Ministry of Finance
Directorate General Public Private Partnership

Mohammad Ali Jina Hospital

Public document



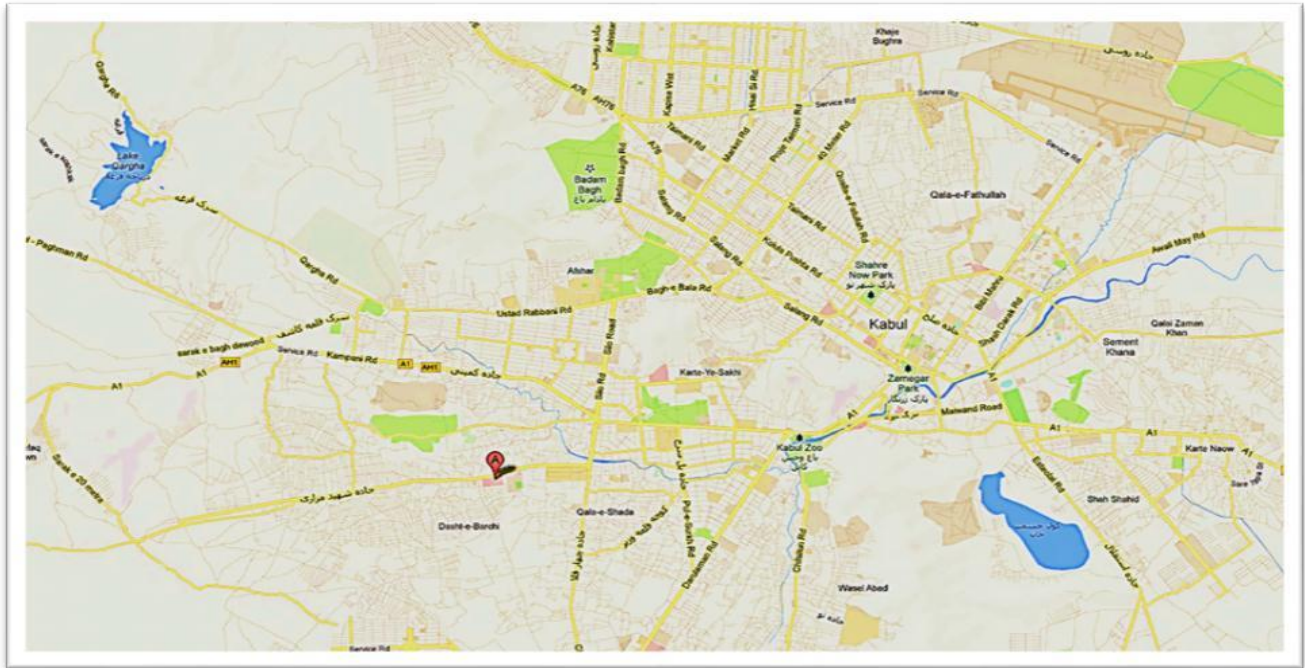


Figure I Project Location

Disclaimer:

The data presented here is a summary from the information in the process of the project documentation and those data that we deemed we are at liberty to share. We take this issue at hand that we will be able to share, and any unauthorized use is strictly forbidden.

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ABBREVIATIONS

BPHS	Basic Package of Health Services
EPHS	Extended Package of Hospital Services
HEC	High Economic Council
PPP	Public Private Partnership
MD	Medical Doctor
MoF	Ministry of Finance
MoPH	Ministry of Public Health
GDP	Gross Domestic Product
GoIRA	Government of Islamic Republic of Afghanistan
ETT	Exercise Tolerance Test
GDPP	General Directorate of Policy and Planning
ICU	Intensive Care Unit
GDCM	General Directorate of Curative Medicine
SEHAT	Systems Enhancing for Health Actions in Transition
AMSU	Afghan Medical Services Union
WHO	World Health Organization
USAID	United States Agency for International Development
IFC	International Finance Corporation
APHA	Afghan Private Hospitals Association
DIA	Diagnostic Imaging Association
GYNE/OB	Gynecology and Obstetrics
NESPAK	National Engineering Services Pakistan (Pvt.) Limited

Introduction

After decades of conflict, Afghanistan is transforming itself, building a modern economy that supports robust businesses and opens its doors to both domestic and international investors. As the country rebuilds, business in Afghanistan continues to grow at an astounding rate. The resource-rich country now has all the hallmarks of an economy that is on the verge of urbanization and industrialization – a growing economy and business class, a stable monetary and political system, a young and growing population of over 34 million, and increasing demand for goods and services, particularly in the healthcare sector.

Afghanistan's economic progress has been significant: from 2003 to 2012, the country experienced a GDP growth of nearly 400%, increasing from \$5.3 billion USD to over \$20 billion USD. Future GDP growth is expected at over 4% per annum after 2014. Furthermore, the international community has maintained its strong long-term commitment to Afghanistan's economic development, with \$16 billion USD pledged from international donors from 2015 to 2018.

The Government of the Islamic Republic of Afghanistan (GIROA) and the Afghanistan Ministry of Public Health (MOPH) are offering a publicly owned hospital and a diagnostic imaging center for operation under public-private partnership (PPP) models.

Interested investors have the opportunity to capture an estimated US\$285 million in tertiary health care currently sought outside Afghanistan. Those seeking care internationally are interested in a higher level of quality than currently offered in country and/or services, which are unavailable in Afghan hospitals. Private operators are sought to bring innovative methods of service delivery and needed capital to the Afghanistan health system.

Under the MoPH, a Public Private Partnerships (PPP) Unit supports efforts to design, promote, negotiate and manage health sector PPPs aimed at encouraging interested local and international companies to invest in Afghanistan's health (hospitals) sector. Afghanistan's legal and regulatory framework has been modified and expanded to accommodate PPP contracts, creating a protected and favorable environment for investors.

The Afghanistan PPP Manual, detailing each stage of the PPP process, guides the PPP Unit's work. Investors can access this Manual through the MOPH PPP Unit. The Manual provides transparency to the PPP process from inception to contract to post-contract monitoring. As a key component to the PPP process, feasibility studies have been completed through third parties, evaluating the commercial viability of a proposed PPP project within the MOPH's vision for each facility. More specifically, the following points are addressed:

Projected revenue associated with the provision of a defined scope of care and specialty mix;

Hospital's operational and financial context including initial capital expenditure, life cycle; costs and regionally competitive fee rates for a private-sector provider;

Site and building condition, including cost estimates for any necessary facility remediation;

Specialist health planner assessment of the ability to deliver the required services in the; facilities. Demand analysis based on the disease burden and consumer attitudes towards private; healthcare provision, substantiating the revenue assumptions within the financial model on bed occupancy and facility utilization.

The two health facilities namely *Ali Jina Hospital* and *Diagnostic Imaging Center* are being offered for operation and building under PPP models respectively. The following summary of the two facilities are intended for the private sector to get an insight into the two projects.

Mohammad Ali Jina Hospital

Jinnah Hospital was designed as a 200-bed general hospital donated by the Islamic Republic of Pakistan. Its construction is approximately 60-65% completed and is scheduled to be ready for handover to the MOPH in mid-2014. On completion, Jinnah General Hospital is intended to operate as a PPP hospital.

The facility is located on Kabul’s west side, in an area of little congestion on well-maintained Shaheed Mazari Road. A high school is located to the east of the hospital building, while the property to the west is currently a construction site. Residential buildings make up the south of the plot. No public institutions or large shopping areas are in the proximity, limiting traffic as well as security measures on routes leading to the hospital.



The scope of services will include gynecology, pediatric health, medical and surgical services, an intensive care unit, emergency care, social services, diagnostic services and auxiliary services such as a blood bank, ambulance and mortuary. The feasibility study considered the commercial viability of the private sector operating Jinnah hospital and concluded that the hospital can deliver a reasonable profit margin.

Service Structure

A revised structure of services has been designed to optimize the hospital operating as private commercial hospital. This resulted in the removal of the Thalassemia Centre and conversion of the same into a trauma center and oncology department, which is better tailored to the epidemiological needs of Kabul. The table gives details on the split of services. The pricing levels for patients has been split according to their financial capabilities and resulted in three categories: Bronze (64%), Silver (16%), and Gold (20%)

	Original	Revised	
Gynecology	25	Gynecology	25
Pediatrics	25	Pediatrics	25
Internal Medicine	50	Internal Medicine	50

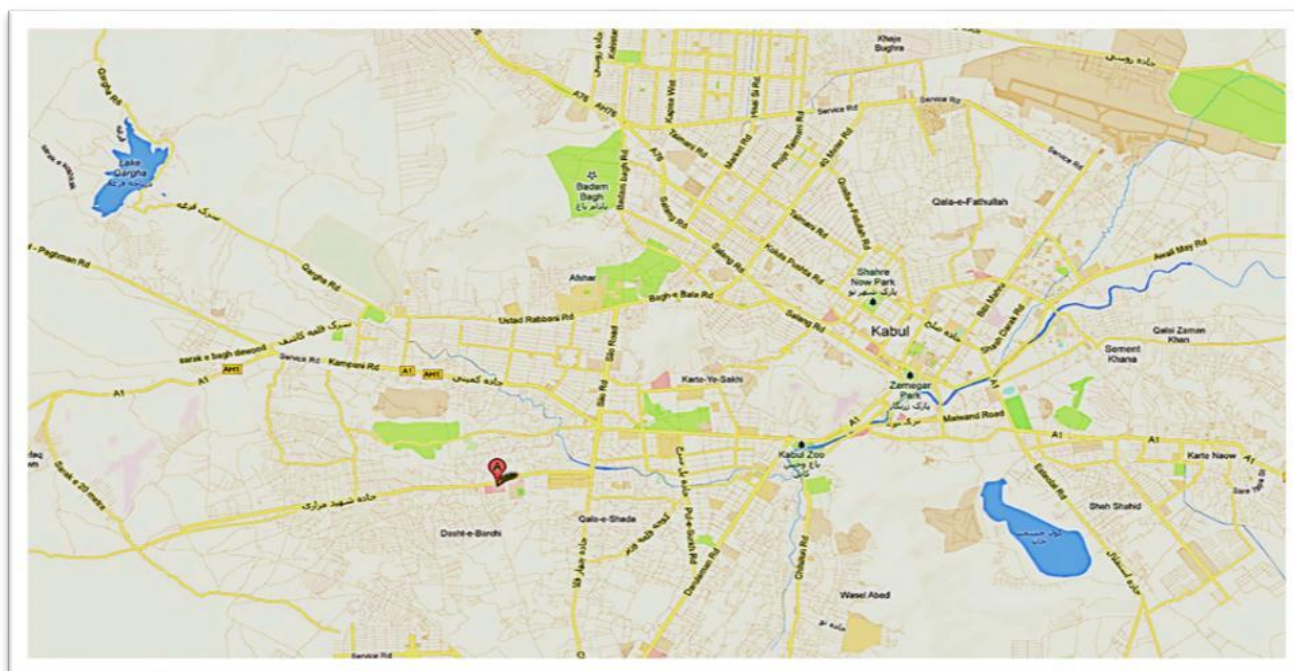
Surgical	50	Surgical	50
Thalassemia	50	Oncology	25
		Trauma	25
ICU	8	ICU	

SITE AND BUILDING REVIEW

A site and hospital building review were conducted, providing a clear view of the building’s suitability and quality. The findings include:

- Operation theaters finish and equipment (AC/Laminar Air, sterile environment, gas supply, etc.);
- Necessary expansion of washing facilities across several rooms and floors;
- Available space in building for magnetic resonance imaging (MRI) services;
- Other key issues: radiation protection, fire safety, no mortuary, waste disposal.

Nevertheless, the potential bidders/private sector are recommended to do further due diligence. Should future expansion of the facility be warranted, the modular design offers ample opportunity for expansion and development of the hospital building.



Localization and Grounds Plan

The Mohammad Ali Jinnah hospital is located in the West of Kabul on Shaheed Mazari Road. Shaheed Mazari road is in good condition and congestion is limited. A high school is located to the east of the hospital building, while the property to the west is currently a construction site. Residential buildings make up the south of the plot. There is currently no public institution or bigger shopping malls close by, which reduces traffic as well as security measures on the way to the hospital.

The whole site is currently walled and gated. The hospital's main entrance is located on the east side of the premises and will be accessible via a small road after the construction work is finished.

As the hospital is still under construction there are yet no signs directing visitors to the hospital. These are also not planned by the construction company.

Hospital Layout and Services Scope

#	Block Name	Block No.	Description
Ground Floor			
1	Main Lobby	10	Reception, pharmacy and gift shop
2	Emergency	9	Emergency Block
3	Out Patient Department	8	Consulting, Pharmacy, sample collection and vaccination
4	Diagnostic	5	Laboratory, X-Ray and blood bank
5	Administration	4	Directors' Office, Library, Conference Room
6	Food Services	3	Cooking, storage, staff and patients' dinning, ablution
7	Dialysis	2	Dialysis
8	Support Services	1	CSSD, Laundry, Medical Gases, Pharmacy, General Store, Maintenance
1st Floor			
9	Labor Suite	8	Labor rooms
10	Operations Theatre	9	Operations Theatres
11	Recovery Suite	10	OT Recovery Ward
12	Thalassemia	4	Thalassemia Ward, Blood donation, blood storage and transfusion
13	ICU	5	Intensive Care Unit
14	Gyne/OB Ward	1	25 beds (4x4 bed, 2x2 bed, 5x1 bed)
15	Surgical Female Ward	2	25 beds (4x4 bed, 2x2 bed, 5x1 bed)
16	Surgical Male Ward	3	25 beds (4x4 bed, 2x2 bed, 5x1 bed)
2nd Floor			
17	Medical Female Ward	1	25 beds (4x4 bed, 2x2 bed, 5x1 bed)
18	Medical Male Ward	3	25 beds (4x4 bed, 2x2 bed, 5x1 bed)
19	Pediatric Ward	2	25 beds (4x4 bed, 2x2 bed, 5x1 bed)

Hospital Transfer

In most instances, a patient and his family will have to arrange their transfer to the Hospital themselves. In the current environment, the most commonly used means are buses, taxis or private cars/motorbikes. Use of ambulances is infrequent. Kabul Ambulance Service is currently the only provider of ambulance services and provides services for the whole of Kabul, but it has less than 15 ambulances in operation. Additionally, private hospitals usually offer ambulances for their own patients. These can be called in emergencies.

Employees of the Government facilities will often either use employer-provided shuttle buses or public transportation. Mass transit serves the Kabul population via fixed routes and according to unpublished schedules, although taxis and minibuses sometimes pick up and drop off passengers in unspecified stops.

Patient Profile

The projected overall bed utilization has been set at 90%. The utilization rate for the surgical beds has been set at 70% due to the current capacity of the operating theatres. The proposed additional day surgery capacity will take pressure of the operating theatres and the A&E. The tables below give a detailed in- and outpatient profile.

In Patient			Outpatient		
	Initial Appointment	Follow up appointments		Initial Appointment	Follow up appointments
Medical	5,291		Specialty Outpatients	10,2663	13,753
Surgical	9,463		Emergency and Accidents	40,081	-
Intensive Care Unit		2,920	Day Surgery	2517	-
Total	14,754	48,363	Total	14,5261	13,753

ACCREDITATION

Accreditation aims at achieving the best standards with the available resources, placing emphasis on overall performance and patient safety. Hence, the quality of the management team and the quality control is pivotal. The goal of accreditation can be reached within 3-5 years, but it is important to consider the high cost and the effect on service demand due to affordability.

Private Hospital Requirement, Licensing and Regulation

The Afghanistan Constitution of 2004 affirms in Article 52 that “the state is obliged to provide free means of preventive health care and medical treatment, and proper health facilities to all citizens of Afghanistan in accordance with the law”. Also, “the state encourages and protects the establishment and expansion

of private medical services and health centres in accordance with the law”. The 2007 Public Health Strategy states that it is vital to bring private providers into the health system and that MoPH must regulate private facilities. In 2006, the Public-Private Partnership Task Force was created and there is now a Public-Private Partnership Unit within the General Directorate of Policy and Planning of MoPH.

Every country has specific criteria for health service licensing, accreditation and the construction of new buildings and certification of the equipment. The criteria aim to ensure the quality of the building, equipment and services. The current political and economic situation in Afghanistan prohibited the development of proper national accreditation and licensing procedures, or application of the international ones. In the National Strategy for Improving Quality in Health Care (2011- 2015) it is stated that that “rules and regulations exist to control this quickly emerging sector but the processes by which they are applied are not, as yet, sufficiently robust”.

Key legislation establishing the minimum standards for clinical facilities in the private sector was the Private Clinical Establishment Control and Regulation Act (MoPH Department of Curative & Diagnostic Services Draft of 2008), aiming to:

- create an enabling environment for private investors/operators;
- ensure patient safety and monitoring of service delivery by private sector units;
- ensure that private clinical establishments “meet their social responsibility to serve a percentage of the poor population”.

However, as we discovered, several key regulations are still not fully implemented, often are only in draft stage and contradictory or inconsistent. Some may even set unrealistic requirements for the prevailing environment in the country at this stage.

This chapter describes the conditions, which a private general hospital needs to meet in order to obtain a national operational license and potentially an international accreditation.

Guarantee initial deposit	once	AFN 2,500,000.00	\$ 50,000.00
Guarantee renewal deposit	every 3 yrs.	AFN 1,250,000.00	\$ 25,000.00
License general hospital			
Beds 50+	every 3 yrs.	AFN 1,000,000.00	\$ 20,000.00
Beds 30 - 50	every 3 yrs.	AFN 75,000.00	\$ 1,500.00
Beds 20 - 30	every 3 yrs.	AFN 50,000.00	\$ 1,000.00
License special hospital	every 3 yrs.	AFN 350,000.00	\$ 7,000.00
Renewal of license general hospital			
Beds 50+	every 3 yrs.	AFN 500,000.00	\$ 10,000.00
Beds 30 - 50	every 3 yrs.	AFN 37,500.00	\$ 750.00
Beds 20 - 30	every 3 yrs.	AFN 25,000.00	\$ 500.00
Renewal of license special hospital	every 3 yrs.	AFN 175,000.00	\$ 3,500.00

With the support of Techserv experts, MoPH has developed 617 hospital standards for the Essential Package of Hospital Services focusing on the following points: governance, clinical care, nursing services, ancillary support services, administration and management defining a minimum expected level

of standards. These are supposed to be implemented together with the Standard-based Management and Recognition Quality Assurance methodology applied in some key areas of care.

With the assistance of Futures Group experts and the Afghan Private Hospitals' Association (APHA), MoPH has developed the Minimum Required Standards for Private Hospitals encompassing:

- Operational standards for first aid, general medicine and surgery, maternity, pathology, radiology, ECG, ambulance, medical records, other specialist care, universal standards including dietary and educational fields;
- Standards for human resources, including staffing levels, qualifications, working standards, etc;
- Minimum requirement for equipment and instrumentation;
- space requirements;
- Building architectural and engineering standards, including safety and environment requirements.

All newly established private hospitals have to meet these requirements in order to be licensed. However, these requirements have already been questioned by private operators and APHA as they were deemed to be discriminatory (since they do not apply to public facilities) and unrealistic. Especially as aspects of the regulation require equipment or detail scope of services for which hospitals in Afghanistan have no resources or no intention to provide.

The MoPH appears to have recognized at least some of these complaints and is in the process of re-editing the legislation. However, no final set of requirements has been completed until now.

Prerequisites for Type of Facility

There are several prerequisites to establishing a hospital as envisaged by MoPH and local legislation that must be met before it can be opened to the public.

There is a set of licensing requirements, which apply to hospitals, including:

- Hospital licenses (general and specialised ones);
- Individual licenses for expatriate medical staff (Afghanistan operates no qualification/diploma recognition system and individual licenses are issued on case by case basis for one year period); or
- Licenses for security staff and arms.

Our understanding of current licenses and guarantee funds required, and their respective costs, are summarized in the table below.

Equipment

We have assumed that all the technical fixtures, fittings and equipment required for the operation of the structure and systems as a general hospital building were included in the original design. It was also presumed that these will be provided in the package with the hospital by the Government of Pakistan. It was confirmed by NESPAK and by our own site visits that the following core systems and elements are being or will be installed.

- power supply system, including two auto-transfer switching Diesel generators and transformers of 1000 KV capacity in a separate building, HT/LT switch boards, distribution boards, copper wiring and 16A power points are provided throughout the building;
- laboratory area has 6A and 3-phase 32A power sockets, CAT6 computer and CAT 5 telephone points;
- X-ray rooms have 3 phase 60A and 16A power points (but no data point);
- each bed position provided with two 16 ampere power points, one bed head unit and one nurse call system;
- Uninterrupted Power Supply (UPS) units (not installed at the time of the Study) are to be provided for VIP and recovery rooms, emergency and ICU rooms, OT and the laboratory;
- water supply system from on-site well with electric pumps and one overhead 50,000 gallon tank and one underground 200,000 gallon tank; water tower separate on site;
- two septic tanks of approx. 25 ft. depth with filtered soak pits but not water treatment or incinerator for solid waste;
- three fire-proof lifts;
- public announcement system;
- 500 port telephone exchange and six-core optical fibre with satellite connectivity for telephone services; telephone points throughout (CAT 5)
- wall-mounted rack 24-port 24 switches for the data system in the IT room (no information on computers/servers, etc.); the building is pre-wired for data transmission (CAT6 and CAT 5)
- nurse call system with display at each nursing station
- smoke detectors and heat alarm systems; sprinkler system throughout the building with 15-foot separation of sprinklers;
- TV points in some public areas;
- Sanitary fixtures and fittings, and respective plumbing.

However, all doors in the building are not fire resistant (mostly wooden) and we assume that other small fire-fighting equipment is also not provided by the donor.

It is also assumed that beds and wheelchairs, furniture (ward and office) and other general furnishing elements for public and storage areas, communication and computer terminals, displays, kitchen and laundry equipment, as well as any vehicles necessary, will be included in the package.

Security Situation

The security situation in Afghanistan remains complex. Security concerns for hospitals in Kabul not only include threats from terrorist attacks. The higher threat is often the risk that unsatisfied patients or upset relatives pose to the hospital staff. Other hospitals have reported several incidents where patients and relatives have attacked doctors. In extreme cases, hospitals have had to provide security, including bodyguards, for the affected staff. These threats are not uncommon to hospitals around the world.

Currently, the Afghan Army is living on the site secures the construction site while it is being built. Once complete, the protection of the building and all assets contained will require a dedicated guard force. The security must be conducted by the Afghan Public Protection Force (APPF) or a security company that has an APPF license to operate in Afghanistan.

There is currently one entry gate planned and we are not aware of any security measures that will be taken into account. However, a full entry gate system for vehicles and pedestrian visitors will be required. Separate staff and ambulance entry/exit gates would be recommended to increase security of staff

and improve access for ambulances and medical equipment. The hospital is surrounded by an 8ft wall, which requires barbed wire coils 3ft high. International security advisers recommend guard towers in the corners of the location and overlooking the entry gates.

Once finished, the building will have large glass panels at the main entrance as well as large windows in the ward areas, which will all require blast film protection, currently not in place. Additional measures that will have to be taken into account are security checkpoints with metal detectors, additional guard accommodation as well as storage for guns and equipment.

It is important to mention that security solely provided by Afghan personnel and not supervised by a recognized international adviser or headed by an international security company, is unlikely to pass vetting of international companies, NGOs, or embassies for treatment of their international staff

MARKET ANALYSIS

To gain an understanding of the hospital services market in Afghanistan, and Kabul in particular, we have undertaken a broad assessment of the demand and attitudes toward the provision of private healthcare. Furthermore, the supply of such services by both public and private general hospitals has been analyzed. We have also looked at the current use of medical care by citizens of Afghanistan from the regional hospitals outside of the country, in preference to a domestic provider.

For the separately conducted feasibility study of New Jamhoriyat Hospital (2012), a 600-household survey in the Kabul province was conducted, designed to capture attitudes toward the private domestic health sector¹⁷. The results of that survey are considered relevant also for this analysis, together with the previous research of the use of the private sector and attitudes of individuals leaving the country for medical care¹⁸.

To understand the operating environment, information was gathered through local contacts with experience in the referrals system and interviews with the existing private hospitals.

Demand for Service

Provision of hospital beds in Kabul (and more so in Afghanistan as a whole) falls well behind other countries (even LDCs -low-developed countries) and the minimum international standards. Private healthcare is used by individuals from all socioeconomic backgrounds; however, the payment methods for private healthcare do not vary extensively among the different income levels. As expected, private healthcare is in demand across all age ranges, from children to geriatric.

Previous research confirms a very high usage of private medical care in Afghanistan; for example, according to National Health Accounts, of the approximately US\$1 billion spent in the health sector in 2008-2009. 75% comes from the private sector, almost all of which is from out-of-pocket expenditure by individuals. In addition, our own household survey found a very high level (over 98%) of usage of private medical care across all income levels of the population.

However, as identified in the 2008 Afghanistan Private Sector Health Survey (USAID), the overwhelming concentration of private sector care use was with private practice physicians/solo practitioners (66%). In case of clinical (hospital) treatment, use of public services was mentioned five times as often compared to private services. Since the Survey was based on a mixture of urban and rural respondents, these results have been strongly influenced by affordability issue. Around a

quarter interviewed stated they could not afford the cost of treatment and a further 11% could not afford travel costs.

Our survey also found that some 17% of those surveyed seek medical treatment abroad²⁵. A previous study of patients acquiring medical treatment in India commissioned by MoPH highlighted some factors, such as regular misdiagnosis and a lack of facilities in Afghanistan, as the key drivers for seeking medical treatment outside Afghanistan. However, it appears that this medical travel is predominantly for tertiary services.

Many top private hospitals in Afghanistan have some sort of affiliation or relationship with hospitals in India, Pakistan or Iran and very often refer their patients for treatments they cannot perform themselves, due to lack of experience, staff or equipment.

USAID Private Sector Health Survey of 2008 provides also an interesting view of the complex dynamics of health care system utilization depending on the wealth of the household. For the hospital use, the survey results are presented below.

HOUSEHOLD VISITS TO PRIVATE AND PUBLIC HEALTH CARE PROVIDERS BY WEALTH						
Household Visits	1 st (poorest)	2nd	3rd	4th	5th (wealthiest)	Overall
Total Private Visits	5.32	5.78	8.67	7.50	8.36	7.10
MD	4.59	4.89	7.01	5.85	6.90	5.83
Private clinic	--	0.01	--	0.07	0.04	0.02
Private hospital	0.06	0.05	0.01	0.13	0.03	0.06
Midwife	0.03	--	0.02	0.03	0.01	0.02
Nurse	--	0.07	0.07	--	0.04	0.04
Mullah	0.36	0.16	0.83	0.93	1.05	0.66
Pharmacies etc.	0.28	0.59	0.73	0.48	0.29	0.47
Total Public Visits	2.06	2.42	2.50	1.84	1.73	2.11
District hospital	0.28	0.41	0.32	0.56	0.36	0.39
BHC	1.05	0.81	0.68	0.48	0.60	0.73
CHC	0.43	0.81	0.80	0.45	0.19	0.54
All Visits	7.49	8.27	11.20	9.42	10.26	9.31

Supply of Hospital Services.

Subsequent reviews of the National Health policies and conditions by MoPH from 2004 to 2011 described the situation in Kabul public hospitals as:

- “fragmented and uncoordinated, exhibiting a lack of standards for clinical patient care and management, as well as lack of hospital management skills” (Hospital Policy for Afghanistan Health System 2004); little change in situation was noted in 2009 Policy and Guidelines for National Hospitals;
- “not receiving the necessary financial and technical support to effectively operate” (Hospital Sector Strategy 2010-15);and

- “dismal state of hospital services” noted in 2012 review by Health Economics and Financing Directorate and admitted it “contributes to mounting public criticism”.

The private sector is instrumental in augmenting the struggling public sector in the delivery of the Health Strategy within curative services. While run on a commercial basis it manages to cater for both better-offs and the poorer population, structuring prices for services so that richer patients subsidize poorer ones.

For example, the CURE Hospital has an experienced medical and administrative staff and well-regarded quality care. It takes on poorer people for free or at subsidized rates by charging more to those that can afford to pay. It also remains self-sustainable with no burden to public funds.

However, the majority of the private hospital sector lacks advantage of scale, as most are relatively small; many are operating in adapted/non-purpose built buildings and without any accreditation.

The private hospitals’ clients fall broadly into the following categories:

- **High-income locals and expatriates;** these generally seek the highest quality privately funded local VIP service, but for more complex treatments most often travel abroad;
- **Mid-income individuals;** seek privately funded local service for majority of treatment spectrum, considering travel abroad mainly only for treatments not available locally;
- **Low-income individuals;** are generally treated locally but still a large proportion tends to use private service, even if funding (often covered by joint effort of many family or community members) causes significant hardship.

The majority of quality private hospitals (these include the ones run by NGOs) offering VIP level of service will however admit a number of paying patients from lower segments at concessionary. Rich customers are therefore subsidizing treatment of poorer ones. This occurs partially for humanitarian reasons but also because of a shallowness of the upper segment market. We have observed instances of quite low bed utilization, even at the level of 30 – 40%.²⁶ This is just half the level considered normal (85%).

FMIC hospital seems to be a notable exception, operating at a very high occupancy rate and often declining to admit potential patients. This can be attributed to the combination of its perceived quality of care and specific profile (maternal and paediatrics).

The key issue faced by all hospitals is overall distrust of the quality of services emphasized by the lack of any national accreditation or service quality monitoring system. This makes benchmarking hospital quality almost impossible.

The larger private hospitals do not typically advertise to attract customers, but instead use advertising to attract funding from private donors. The main mechanism for attracting donors is through websites with personal testimonies or success stories about how the services provided changed a specific individual’s life.

Patients in Kabul mainly base their decision on where to seek treatment on the quality of service and word of mouth from relatives and friends who had previous experience with the facility. The other most important factor is the price.

Marketing is sometimes used to show international linkages, but there was not much evidence that these were legitimate endorsements.

At the district where the Jinnah Hospital is located, some 2 million people live with currently no access to local hospital services, including reliable and accessible emergency ward.

OBSERVATION AND FINDINGS OF THE HOSPITAL VISIT in 2019

A team consisted of a representative from MoPH, CPA and Eptisa technical team visited the hospital in the period June - July 2019 and has the following observation and findings:

Key findings of the visit:

- The current constructed area found satisfactory to cover the proposed 200 beds but can confirm after getting the exact construction area (square feet). As a standard hospital bed usually require 500 square feet per bed, so we need 100,000 square feet for 200-bed hospital.
- A small-scale service is in operation, especially trauma care, which will be relocated to a different hospital while handover to a private partner.
- Some equipment and inventory already in place, few from Pakistan Govt. and some also from MoPH, Afghanistan to run the current small-scale operation to trauma service.
- Some facilities are not appropriate, such as X-ray room and one OT room. A/C laminar, sterile environment and gas supply is not adequate to run the OT rooms.
- Wastewater treatment plant and incinerator inside the hospital premises is not currently available.
- Most of the doors of the rooms and cabins are not appropriate for a standard hospital.
- Mortuary is not available in this current hospital.
- Radiation protection, fire safety is absent. Waste disposal is still improper.
- There is no space for MRI set up.

Detail floor wise observation:

Ground floor

The current layout and service scope is as below:

#	Block Name	Block No.	Description
1.	Main Lobby	10	Reception, pharmacy and gift shop
2.	Emergency	9	Emergency Block
3.	Out Patient Department	8	Consulting, Pharmacy, sample collection and vaccination
4.	Diagnostic	5	X-Ray and blood bank
5.	Administration	4	Directors' Office, Library, Conference Room
6.	Food Services	3	Cooking, storage, staff and patients' dining, ablution area
7.	Dialysis	2	Dialysis room
8.	Support Services	1	CSSD, Laundry, Medical Gases, Pharmacy, General Store, Maintenance
9.	Car Parking Area		

- The main entrance to the hospital is wide enough and well organized with name plate.
- The parking lot is large enough but need to be demarcated. 2 ambulances in the designated ambulance garage in place which are not in a workable condition.

- The reception area is spacious and well organized.
- Ground floor has all support service including administrative unit, laboratory, OPD pharmacy, X-ray, ultrasound, CSSD, laundry, kitchen. It also included emergency and OPD consultation.
- Patients waiting area is adequate but there is no option for cafeteria and gift shop.
- X-ray room was under construction but it has lots of windows, all of those windows needs to be sealed for radiation protection.
- Most of the doors are not appropriate for hospital, those needs to be changed by the private partner. Hospital administration will provide the exact number of doors need to be changed.

1st floor

The current layout and service scope is as below:

#	Block Name	Block No.	Description
1.	Labour Suite	8	Labour rooms
2.	Operations Theatre	9	Operations Theatres
3.	Recovery Suite	10	OT Recovery Ward
4.	Thalassemia	4	Thalassemia Ward, Blood donation, blood storage and transfusion
5.	ICU	5	Intensive Care Unit
6.	Gyne Ward	1	25 beds (4x4 bed, 2x2 bed, 5x1 bed)
7.	Surgical Female Ward	2	25 beds (4x4 bed, 2x2 bed, 5x1 bed)
8.	Surgical Male Ward	3	25 beds (4x4 bed, 2x2 bed, 5x1 bed)

- There are 4 Operation Theatre (OT) rooms; out of those 1 was in operation with limited facility.
- Doctor's room and nurse's room are adequate in number but space is inadequate for service.
- One operation theatre has too many glass windows which need to be sealed.
- Recovery room is already having bed and some other equipment is in plan to be installed soon.
- Some doors are not functioning smoothly.
- This floor has 3 ward blocks and each block has 25 beds.
- Toilet doors are not medicated for patients.

2nd floor

The current layout and service scope is as below:

#	Block Name	Block No.	Description
1.	Medical Female Ward	1	25 beds (4x4 bed, 2x2 bed, 5x1 bed)
2.	Medical male Ward	3	25 beds (4x4 bed, 2x2 bed, 5x1 bed)
3.	Paediatric Ward	2	25 beds (4x4 bed, 2x2 bed, 5x1 bed)

- This floor has identical 3 ward blocks as like as 2nd floor and having 25 beds in each block.
- Toilet doors are not medicated for patients.

Electricity, lift, generator and other critical design shortcomings exists into the hospital building – to be renovated by the private partner

- 3 phase electric line is established and charges are supporting by the government.

- 3 lifts have been installed, out of which, two are for patients, and 1 is for attendant/others. None of them are in operation.
- Operating Theatres (OTs) finishing standards – no central AC and Laminar Air, pendants are there, no computer connection points, inappropriate flooring and doors, inappropriate wall and ceiling finish, sliding windows compromising sterility, etc.
- Lack of piped medical gas supply throughout, including OTs.
- Unprotected doors/windows in X-ray areas (no lead shielding).
- No MRI planned at all and no suitable space for it in the current design.
- No wash basins and even plumbing in Out-patient Departments (OPDs).
- No drainage/water supply in dentistry surgeries and one of the delivery rooms.
- Access ramps and area to the emergency ward not protected from elements (when unloading casualties from ambulances)
- Emergency rooms not big enough for the planned six beds.
- Insufficient number of beds in the ICU for the size of the hospital.
- No waste treatment facilities.
- No fire-resistant doors throughout
- Insufficient dining facilities for the envisaged staff size
- Insufficient conference room for the size of the staff, not suitable for training purposes
- Little room for queuing customers at the pharmacy shop
- No redundancy in the computer and some other systems
- Insufficient record (MRD) storage for the size of the hospital.

Additional works required for the optimisation of the hospital services

The following additional works were identified to be completed for full and optimal functioning of the hospital:

Helipad – for quick emergency service private partner needs to prepare a helipad area either in the rooftop of the hospital or in a suitable space within the boundary wall.

Garage for Ambulance – a temporary shed for the ambulance is in the site area; a dedicated garage for ambulances is to be constructed.

Residential accommodation – a residential building for accommodation of expatriate doctors, call nurses, duty doctors, medical officers and MoPH representatives has to be built by the private partner. MoPH needs to allocate a minimum of 4,200 Square meters built-up area inside the hospital boundary for at least 60 number of well-furnished studio rooms including kitchen, washroom, living room, circulation space and other comforts.

Outside Area - Team looked around the hospital external space and found it has a very large space within a strong boundary wall which can be used for the green park area, playground for kids, sitting area for the visitors etc.

Cafeteria – Hospital building has empty space in the ground floor, private partners need to renovate the cafeteria for light refreshment, tea and coffee for the patient’s attendance or relatives.

Other Equipment – The hospital building construction contractor NESPAK has confirmed that the following core systems and elements are being or will be installed. We have observed the current status of the completion of the following elements of the other equipment:

#	Items	Current status
1.	power supply system, including two auto-transfer switching Diesel generators and transformers of 1000 KV capacity in a separate building, HT/LT switch boards, distribution boards, copper wiring and 16A power points are provided throughout the building	Completed
2.	laboratory area has 6A and 3-phase 32A power sockets, CAT6 computer and CAT 5 telephone points	Completed
3.	X-ray rooms have 3 phase 60A and 16A power points	Completed but no data point
4.	each bed position provided with two 16 ampere power points, one bed head unit and one nurse call system	80% Completed
5.	Uninterrupted Power Supply (UPS) units (not installed at the time of the Study) are to be provided for VIP and recovery rooms, emergency and ICU rooms, OT and the laboratory	Not completed
6.	water supply system from on-site well with electric pumps and one overhead 50,000 gallon tank and one underground 200,000 gallon tank; water tower separate on site	Completed
7.	two septic tanks of approx. 25 ft. depth with filtered soak pits but not water treatment or incinerator for solid waste	Completed
8.	three fire-proof lifts	Completed
9.	public announcement system	Completed
10.	500 port telephone exchange and six-core optical fibre with satellite connectivity for telephone services; telephone points throughout (CAT 5)	Cabling completed
11.	wall-mounted rack 24-port 24 switches for the data system in the IT room (no information on computers/servers, etc.); the building is pre-wired for data transmission (CAT6 and CAT 5)	20% completed
12.	nurse call system with display at each nursing station	Not completed
13.	smoke detectors and heat alarm systems; sprinkler system throughout the building with 15feet separation of sprinklers	Sprinkler system not completed
14.	TV points in some public areas	Not completed
15.	sanitary fixtures and fittings, and respective plumbing	Completed

Note: We have not seen the most upto date As-built drawings and associated Bills of Quantities for the current hospital, we still await this information from NESPAK/MOPH to confirm the assumptions we have made in the financial analysis about expected costs of renovation works and further building works required to address some of the issues arising from the site visit.

REVISED SERVICE STRUCTURE

The hospital has been constructed as planned of 200 bed. The structural design of the hospital has been allocation 200 bed plus 8 ICU beds. In the feasibility report, BDO has suggested 158 beds and excluded 50 Thalassemia beds due to the limited theatre capacity identified during the preparation of the financial model, the previous decision of having 8 VIP beds has been optimized to make full use of the facilities. A revised 200 bed service structure / bed allocation has been proposed by MoPH for the proposed PPP project as below:

As Built		Suggested by BDO into the Feasibility Report - 2013			Suggested by MoPH	
Specialty	Beds	Specialty	Beds	Comment	Specialty	Beds
Gynecology	25	Gynecology	25	12 Surgical Beds for Obs/Maternity + 13 Beds Medical Beds for Gynecology)	1. Gynecological Oncology 2. Maternal Fetal Medicine 3. Reproductive Endocrinology and Infertility 4. Urogynecology and Pelvic Reconstructive surgery	25
Pediatrics	25	Pediatrics	25	10 Surgical Beds + 15 Medical Beds	1. Pediatric Cardiology and Cardiac Surgery 2. Pediatric nephrology and dialysis 3. Pediatric Hematology and Oncology 4. Pediatric respiratory and Allergology 5. Neonatology and Neonatal surgery	25
Medical	50 Evenly split between male and female	Medical	50 Split evenly between male and female	This will consist of Gastroenterology, Cardiology, Diabetes, Rheumatology, Renal Medicine and possibly Respiratory	1. Cardiology 2. Gastroenterology and Hepatology 3. Nephrology 4. Endocrinology 5. Hematology (Thalassemia)	50
Surgical	50 Evenly split between male and female	Surgical	50 Split evenly between male and female.	This will consist of General Surgery (gastrointestinal), Orthopedics and Ear Nose and Throat (ENT)	1. Cardiovascular and thoracic surgery 2. Neurosurgery 3. ENT Specialized surgery 4. Advanced Orthopedic Surgery including Joint replacement (traumatology will be covered under emergency department for initial stabilization and then will be transferred for radical treatment to related departments)	75

					5. Urology 6. Traumatology	
Thalassemia	50	Day Surgery	0	Due to the limited theatre capacity identified during the preparation of the financial model, the previous decision of having 8 VIP beds has been optimized to make full use of the facilities.	1. Oncology services Note; The Thalassemia service will be covered under Hematology services proposed in Medical services	25
TOTAL	200	TOTAL	158	Not including the 14 Emergency Care beds		200

Annexes

Annex A-EQUIPMENT LIST FROM PAKISTAN GOVERNMENT

The detailed list of equipment as received from the Pakistan Government is as documented below. It is expected that at procurement stage and prior to financial close, the Private Operator will expect to see and inspect the available equipment as part of their due diligence.

Detail List of Equipment - Mohammad Ali Jinnah Hospital (Received from Pakistan Government)

Operation Theatre (OT)

Item no	Item Name	Quantity	Brand	Model	Country of Origin	Amount (Rs)
1	OT Light with two domes	4	Surgiris SAS	EPURE	France	57,23,734
2	OT light with single dome	1	Surgiris SAS	EPURE	France	8,34,766
3	OT tables 3 section	1	Trumpf Medical	TS 3000	Germany	38,15,866
4	OT table four section with Urology attchment	1	Trumpf Medical	TS 3000	Germany	38,15,866
5	OT table four section with orthopedic attchment	1	Trumpf Medical	TS 3000	Germany	59,62,332
6	OT table four section with ENT and Eye surgery	1	Trumpf Medical	TS 3000	Germany	38,15,866
7	OT table four section with Guynae attachment	1	Trumpf Medical	TS 3000	Germany	59,62,332
8	Surgical Pendant	4	Surgiris SAS	Genious E Break Single Arm	France	71,54,668
9	Anesthesia Pendant	6	Surgiris SAS	Genious E Break Single Arm	France	1,21,63,001
10	Diathermy Machine	6	Lemiday Noory Medical	Surgilec Seal	France	42,92,801
11	Laminar Flow	2	Uni Tair	STE - 8000 H	France	1,66,94,399
12	Infuser Pressure	12	Accosson	205	UK	51,935
13	Hypothermia Machine with Matress	1	Kenmed	Warm Cloud	Sweden	8,34,766
14	Examination Light Wall Type	11	WelchAllyn	GS - 600	USA	7,73,500
15	Examination Light Mobile Type	12	WelchAllyn	GS - 600	USA	9,64,334
16	POP Cutter	4	RIMEC	HAL - 3000	Italy	9,53,999
Amount in words: Seventy three million eight hundred fourteen thousand one hundred sixty five only						7,38,14,165

Hemodialysis

Item no	Item Name	Quantity	Brand	Model	Country of Origin	Amount (Rs)
1	Hemodialysis Machine	10	Nipro Corporation	Surdial 55 Plus	Japan	1,22,55,480
2	Dialysis Chair	10	Nipro Corporation	PYD-210-S	Japan	22,38,760
3	Dialyzer Preprocessor	1	Medivator	Renatron PA 100	USA	12,23,240
4	Reverse Osmosis System	2	Pak Assembled	7500 GPD	Pakistan	22,71,072
5	Dialysis Weighing Scale with platform for wheel chair	1	-		Japan	63,470
6	Digital Weighing Scale	1	-		USA	57,700
Amount in words: Eighteen million one hundred nine thousand seven hundred twenty two only						1,81,09,722

Guynae, Obs and Pediatrics

Item no	Item Name	Quantity	Brand	Model	Country of Origin	Amount (Rs)
1	Baby Incubator	8	Novo Medical System	Kangroo K1 1000	Turkey	73,69,906
2	Phototherapy Unit LED Type	20	Novo Medical System	Bililed Mini	Turkey	26,24,196
3	Baby resuscitation trolley with warmer and respirator	5	Novo Medical System	Kangroo K1 1000	Turkey	30,87,527
4	Delivery table	4	Trumpf	TS 3000	Germany	1,46,96,240
5	CTG Machine	6	Natus/Nicolet	Versalab APM	USA	28,99,079
6	Fetal Dropper Hand Held	2	Natus/Nicolet	Elite 200 R	USA	1,53,713
7	Transport Incubator	1	Natus Medical	TR-200	USA	13,02,866
8	Guynae OT light LED stand type	2	Welch Allyn	44602	USA	3,60,279
9	Guynae Spot Light	2	Welch Allyn	44602	USA	3,60,279
10	Oxygen Hood	2	Ardo	520073	Swiss	2,31,031
11	Jaundice Meter	1	Philips Respironic	Bilicheck	USA	7,44,445
12	Digital Weighing Machine	2	Seca GmbH	Seca 786	Germany	74,894
13	Rigid Hysteroscope	2	Karl Storz	Various	Germany	29,37,835
Amount in words: Thirty six million eight hundred forty two thousand two hundred ninety only						3,68,42,290

Medical Gases Pipeline

Item no	Item Name	Quantity	Brand	Model	Country of Origin	Amount (Rs)
1	Medical Gases - Copper Piping: 1/2" (per runing foot) 8000 approx, 1/4" (per runing foot) 4000 approx, 1" (per runing foot) 2000 approx,	one job	Deltep	.	Italy	5,652,400.00 3,532,750.00 2,077,257.00
2	Medical Gases Outlet Points O2 outlet 240 Nos Air outlet 04 bar 40 Nos Air outlet 07 bar 04 Nos Vacuum outlet 220 Nos N2O Outlet 10 Nos AGSS outlet 04 Nos		Deltep	Article No:9338-2001 Article No:9340-2001 Article No:BS5682-2001 Article No:9341-2001 Article No:9339-2001 Article No:8633-2028	Italy	2,061,995.52 343,665.92 42,958.24 1,890,162.56 85,916.48 78,427.05
3	Oil Flooded Duplex Air Copressor System	Duplex	Deltep	Article No: CA0054	Italy	34,36,659.20
4	Zone Shut Of Valve zone box for 03 gases 16 Nos zone box for 05 gases 04 Nos	one each				1,971,274.50 740,464.40
5	Oxygen Manifold	2x8 Cylinde	Deltep	Manifold Eco(10443-H2002M)	Italy	11,44,611.00
6	Nitrous Oxide Manifold	2x3 Cylinde	Deltep	Manifold Eco(10440H-2002M)	Italy	6,78,288.00
7	Emergency Oxygen Manifold (2x2) for 04 Cylinder	2x2 Cylinde	Deltep	Manifold Eco(10372H-2002M)	Italy	6,07,633.00
8	Madter Alarm Panel (Master alarm panel with failure warning device (audio/visual) for four gases	One set	Deltep	Manifold Eco(11055T-2025M)	Italy	1,05,982.50
9	Area Alarm Panel (Master alarm panel with failure warning device (audio/visual) for four gases)	15	Deltep	Article No:10091-2620	Italy	52,75,808.85
10	Oxygen Cylinder	200 Nos			Italy	21,19,650.00
11	Nitrous Oxide Cylinder	36Nos			Italy	30,01,424.40
12	Vacuum Controller with jar	12Nos	Novair		France	10,51,364.40
13	Vacuum Controller with jar	200 Nos	Novair		France	40,97,990.00
14	Bed Head Unit - BHU (5 feet length)	250 Nos	Deltap	EVA XL	Italy	2,72,02,175.00
15	Celling Pended - Rifid Pendants including Outlet Points	05 Nos	Deltap	BRIDGE	Italy	44,15,937.50
16	Vacuum Plant should comply with HTM 2022,HTM02-01	duplex syste	Deltap	Article NO:11076B-2041	Italy	37,37,649.50
17	AGSS System for 04 OT'S	for 04 OT'S	Deltap	Article NO:10141-2040B	Italy	13,77,772.50
18	Oxygen Generator	Complete	Deltap	Article NO:80015-3000	Italy	1,30,71,175.00
Grand Total CIF Kabul						7,13,24,120.85

Amount in words:Rupees :Eighty nine millions eight hundred one thousands three hundred seventy five only.

Surgical Instrument

Item no	Item Name	Quantity	Brand	Model	Country of Origin	Amount (Rs)
1	Genral Surgery set (major)	2	Gebruder Martin GmbH & Co.KG	Various Items	Germany	5,01,184
2	Genral Surgery set (minor)	2		Various Items	Germany	3,13,906
3	Laparotomy Set	1		Various Items	Germany	4,50,574
4	Gallbladder/Bile Duct Set	1		Various Items	Germany	2,82,147
5	Rectal & Haemorrhoidal Set	1		Various Items	Germany	2,17,398
6	Hernia And Appendectomy Set	1		Various Items	Germany	1,87,483
7	Thyroidectomy Set	1		Various Items	Germany	3,12,472
8	Viene Section or Cut Down Set	2		Various Items	Germany	1,64,329
9	Tracheostomy Set Adult	1		Various Items	Germany	82,165
10	Orthopedic Surgery Set Major	1		Various Items	Germany	6,93,585
11	Orthopedic Surgery Set Minor	1		Various Items	Germany	4,08,160
12	Amputation Set	1		Various Items	Germany	3,77,835
13	Plaster Room Set	1		Various Items	Germany	1,18,432
14	Major Basic Gynae & Abd. Hysterectomy Set	1		Various Items	Germany	4,23,117
15	Caesarean Surgery Set (Minor)	2		Various Items	Germany	3,03,251
16	Caesarean Section Set	1		Various Items	Germany	2,63,296
17	D & C Set	2		Various Items	Germany	3,31,937
18	Episiotomy Set	2		Various Items	Germany	90,975
19	Delivery Set	2		Various Items	Germany	61,880
20	Obstetric Set	1		Various Items	Germany	97,532
21	Vaccum Currettes Set	1		Various Items	Germany	83,189
22	kidney Set	1		Various Items	Germany	6,09,166
23	Bladder set	1		Various Items	Germany	3,75,171
24	Urethral Set	1		Various Items	Germany	1,75,804
25	Suppl. Urethral Micro Set	1		Various Items	Germany	1,65,149
26	Prostatectomy (Supra public)	1		Various Items	Germany	1,79,492
27	Prostatectomy (Retro public)	1		Various Items	Germany	1,64,739
28	Suppl. Kidney Set	1		Various Items	Germany	84,419
29	Phimosis Set	1		Various Items	Germany	49,995
30	Vasectomy Set	1		Various Items	Germany	54,708
31	Cystostomy Set	1		Various Items	Germany	5,122
32	A-V Shunt Set	1		Various Items	Germany	2,67,394
33	Carotid set	1		Various Items	Germany	3,75,991
34	Sterllization Container System	66		Various Items	Germany	58,82,665

Gynaec Instrument						
35	Duck & Sims Speculum	3			Germany	9,835
36	Cosco Speculum	3			Germany	21,514
37	kidney Tray	3			Germany	3,688
38	Bowl (small)	3			Germany	2,459
39	Fetoscope	3			Germany	43,029
40	Volsulum Forceps	3			Germany	14,138
41	Sponge Holding Forceps	3			Germany	13,523
42	Curette	3			Germany	15,982
43	Stapler Remover	3			Germany	POC

(ENT INSTRUMENTS)

44	Myringotomy Set	1		Various Items	Germany	20,490
45	Mastoidectomy Set	1		Various Items	Germany	2,18,628
46	Tympanoplasty	1		Various Items	Germany	3,92,587
47	Nasal Fracture Set	1		Various Items	Germany	42,004
48	Nasal Paking Set	1		Various Items	Germany	20,490
49	Septoplasty Set	1		Various Items	Germany	4,05,701
50	Tonsillectomy-Adenoectomy	1		Various Items	Germany	2,38,093
51	OPD Examination Set for ENT	1		Various Items	Germany	6,19,411
Grand Total CIF Kabul						1,62,36,234

Amount in words: Rupees Sixteen million two hundred thirty six thousand two hundred thirty six only.

Ophthalmology

Item no	Item Name	Quantity	Brand	Model	Country of Origin	Amount (Rs)
1	Retinoscope/Ophthalmoscope Set	2	Welch Allyn	11772-VC	USA	4,61,600
2	Indirect Ophthalmoscope	1	Welch Allyn	Insight	USA	5,20,454
3	Trial Lens Meter	2	Inami & Co	K-350 A	Japan	5,65,460
4	Auto Lens meter	1	Right Mfg & Co	Alm Zero	Japan	5,65,460
5	Applanation Tonometer	2	Inami & Co	L-5110	Japan	3,98,130
6	Slit Lamp Haag Streit Type	1	Inami & Co	L-0185	Japan	9,11,660
7	Digital Video Slit Lamp with image filling System	1	Right Mfg & Co	MW 50 D	Japan	23,08,000
8	Auto/Ref Keratometer	1	Right Mfg & Co	Speedy-k2	Japan	11,88,620
9	Ultrasonic A/B Scanner & Pachymeter	1	DGH Technology	Scanmate	USA	22,15,680
10	Ophthalmic Unit	2	MDT	Easy	Poland	14,88,660
11	Operating Microscope	1	Karl Kaps GmbH	SOM 62	Germany	52,85,320
12	Green Laser (Photocoagulator)	1	Geuder	Magatron Cool	Germany	94,85,880
13	Diagnostic Lens	2 Set	Volk		USA	4,38,520
14	3 Mirror Lens	2	Volk		USA	2,88,500
Grand Total CIF Kabul						2,61,21,944

Amount in words: Rupees Twenty six million one thousand twenty one thousand nine hundred forty four only.

Dental

Item no	Item Name	Quantity	Brand	Model	Country of Origin	Amount (Rs)
1	Dental Unit with Monitor, Exam light, Deliver System (complete)	2	Castellini	Puma	Italy	39,53,854
2	Compressor Unit, Central for 3 Dental Units	1	Cattani	168650	Italy	4,66,323
3	Cuning Light, LED, 3-stage	1	Mectron	Starlight Pro	Italy	69,948
4	Digital Imaging System, Dental Surgery	1	Villa	Videograph	Italy	4,23,930
5	Drill, Sugical, Dental	1	W&H	Implantmed	Austria	3,81,537
6	Endometer and Apex Locator	1	Lonyx	Endy 6200	France	2,82,620
7	Processor, Dental X-ray, Portable with Lead Apron Dental	1	Durr	XR 24 Pro	Germany	6,35,895
8	Sterilizer, Dental	2	W&H	Lina 22	Italy	10,17,432
9	Stool for dentist & Assistant	4	Castellini	C7 & C8	Italy	Included in item no 1
10	Suction Unit, Dental, Central	1	Dmega	Teravac	Korea	3,53,275
11	Intra oral Camera with PC	1	Myray	C-U2	Italy	4,23,930
12	Articulator Dental	1	Villa	Rotograph Prime 3D	Italy	1,97,834
13	Micromotor, Dental	1	W&H	Perfecta 300	Austria	2,54,358
14	Ultrasonic Cleaner, Counter top	1	Soltec	3200L EP	Italy	63,58,950
15	Amalgamator	1	Carlo di Georgi	Dental Mix 2000	Italy	70,655
Amount in words: Rupees fourteen million eight hundred ninety thousand five hundred forty one only.						1,48,90,541

Grand total = Rupees Two hundred fifty seven million three hundred thirty nine thousand and seventeen only

25,73,39,017

ANNEX B-ADDITIONAL BIO-MEDICAL EQUIPMENT REQUIREMENTS

From the technical assessment of the hospital, together with the defined specialties proposed for the hospital and a review of the equipment provided by the Pakistan Government as shared by MOPH, the following additional equipment shall be required for the hospital:

Additional Requirement

ICU

Item no	Item Name	Quantity	Brand	Model	Country Origin	Amount(Inr)
1	ICU bed	8	AOMA			16,00,000
2	Trolley, general purpose	5	TGPE			1,10,000
3	Trolley, instrument	5	TGPE	AI-6111		62,500
4	Trolley, dressing	5	TGPE			62,500
5	Infusion stand	4	Surgitech			8,800
6	ECG Monitor	8	MediTech	E 427		7,60,000
7	Infusion pump	4	MediTech			2,62,500
8	Syringe pump	4	NISCOMED	SP 01		1,25,000
9	Patient monitor	8	Mainstream	Etco 2		3,20,000
10	Spotlight	2				70,000
11	Mobile X-ray unit	2	Hindrays	Hr60		3,20,000
12	Defibrillator	1	Saver One			1,70,000
13	Suction machine, electric	2		Technocare Medisystems		21,000
14	Ventilator, Adult+General	2	ResMed	Astral 150		22,00,000
15	Patient trolley	2	UniPro			22,000
Amount in words: Six millions one hundred fourteen thousand and three hundred Afghan only						61,14,300

Casualty

Item No	Item Name	Quantity	Brand	Model	Country Origin	Amount(AFN)
1	Examination couch metal/wooden	4	Mentok			80,000
2	Examination lamp, mobile	2				35,840
3	Infusion stand	5	Standard steel			20,000
4	Emergency lamp	2				3,000
5	Refrigerator, pharmaceutical	2	Bioline	Hyc 290		2,50,000
6	Screen bed	4	Oceanic Healthcare			8,000
7	Spot light	2				10,000
8	Tape measure	2	Freemans			200
9	Trolley instrument(assorted)	3				21,000
10	Trolley, dressing	3				21,000
11	Trolley, gas cylinder	1				7,000
12	Trolley, general purpose	2				14,000
13	Trolley, Emergency	2				14,000
14	Trolley, linen	1				10,000
15	Trolley, medicine/drug	3				21,000
16	Trolley, patient, stretcher	5				70,000
17	Wheel chair adult	3				21,000
18	Diagnostic set	5	Anamol			10,000
19	Manual suction machine	3	SPI			27,000
20	Sphygmomanometer	3				1,590
21	Stethoscope	5				3,250
22	Thermometer clinical	10				1,050
23	Stethoscope (baby)	5				2,000
24	Percussion Hammer	2				2,800
25	Fetoscope	3				900
26	Suction machine, electrical	2		Technocare Medysystem 7-A 23D		40,000
27	Ambu bag, adult	3				3,000
28	Ambu bag, pediatrics	4				4,000
29	Defibrillator	4	Saver Mine			1,80,000
30	ECG Monitor	1				40,000
31	Laryngoscope	2				4,200
32	Oxygen regulator with flow meter	3				3,750
33	Airways, assorted sizes	3				3,600
34	Mouth gags	4				4,920
35	Intubation tubes, assorted sizes	5				500
36	Chest tubes	6				4,800
37	Nebulisers	4				24,000
38	Cervical collars	4				800
39	Thomas Splints	5				4,500
40	Underwater seal drainage	3				1,089
41	Autoclaving Drums	3				1,05,000
42	Oxygen concentrators	2				90,000
43	Resuscitation trays	4				4,000
44	X ray Viewers	2				60,000
45	Enema Set	3				3,000
46	Pedal Pins	5				350
47	Stainless Steel trays	5				12,500
48	Gastric lavage set	4				1,28,000
49	Pulse oximeter	1				25,000
Amount in words: One million one thousand six hundred and thirty nine Afghan only						14,01,639

Cardiology						
Item No	Item Name	Quantity	Brand	Model	Country Origin	Amount(AFN)
1	Electrocardiography	10	Meditech			1,00,00,000
2	Ablation devices and accessories	10				10,50,000
3	Balloon (extractor, retrieval)	10	Synocare			1,80,000
4	Cardiac pacemaker	10				30,00,000
5	Cardiac programmer	10	Mediatronics			30,00,000
6	Cardiac Monitors	10	Contec	CMS 9200		5,00,000
7	Cardiopulmonary oxygenation systems	10				4,20,000
8	Coagulation machines	10				6,50,000
9	Heart positioners	10				1,70,000
10	Heart valves	10				5,00,000
11	Inflation devices	10				12,000
12	Filters, arterial	10				30,000
Amount in words: Nineteen millions five hundred twelve thousand Afghna only						1,95,12,000

Mortuary						
Item No	Item Name	Quantity	Brand	Model	Country Origin	Amount(AFN)
1	Autopsy table	2				90,000
2	Autopsy Instruments	2				4,500
3	Cold room Units	2				40,000
4	Examination Lamp	2				80,000
5	Extractor, Fan	2				4,000
6	Body Trolley	4				60,000
7	Viewing table	4				4,66,188
8	Preparation table	1				2,50,000
Amount in words: Nine hundred ninety four thousand six hundred and eighty eight Afghani only						9,94,688

Radiology						
Item No	Item Name	Quantity	Brand	Model	Country Origin	Amount(Inr)
1	CT Scan	1				70,00,000
2	Ultrasonogram	1	Toshiba			10,00,000
3	Echocardiogram	1	Meditech			80,000
4	X-Ray	1				3,00,000
5	ECG(Monitor)	2				80,000
Amount in words: Eight millions four hundred sixty thousand Afghani only						84,60,000

Laboratory						
Item No	Item Name	Quantity	Brand	Model	Country Origin	Amount(AFN)
1	Analytics Balance					4,50,000
2	Binoculour microscope					80,000
3	Blood Bank Refregerator					1,80,000
4	Blood cell counter					2,75,000
5	Caloriemeter					55,000
6	Centrifuge					10,000
7	Glucose analyser					1,79,000
8	Haemoglobinometer, electronic					15,000
9	Hot air oven					85,000
10	Bilirubin meter					80,000
11	Incubator, laboratory					29,500
12	PH meter					7,000
13	Trip Balance					25,000
14	Water de-ionizer					12,000
15	Water distiller					16,000
16	Glass ware set, Laboratory					225
17	Electrophoresis apparatus					4,950
18	Slide warmer					1,950
19	Mixer					15,800
20	Neuberchamber					320
Amount in words: One million five hundred twenty one thousand seven hundred and fourty five Afghani only						15,21,745

NICU						
Item No	Item Name	Quantity	Brand	Model	Country Origin	Amount(Inr)
1	Pediatric cot designed for NICU purpose	10				1,60,000
2	Infant Radiant Warmer	10				17,00,000
3	Neonatal Pulse Oxymeter	10		IP-1020		4,00,000
4	Mechinal Ventilator	10				27,38,000
5	Endotrachial Tube	10				40,000
6	CPAP	10				2,73,800
7	ICU Cardiac Vital Sign Monitor	10				30,00,000
Amount in words: Eight million three hundred eleven thousand and eight hundred only.						83,11,800
Additional grand total is required for equipments:						4,63,16,172
Forty six million three hundred sixteen thousand one hundred and seventy two Afghani only						

