



Pre-feasibility Study

ADVANCED ONCOLOGY CENTER (BLOOD CANCER HOSPITAL)

June 2022

“The figures and financial projections are approximate due to fluctuations in exchange rates, energy costs, and fuel prices etc. Users are advised to focus on understanding essential elements such as production processes and capacities, space, machinery, human resources, and raw material etc. requirements. Project investment, operating costs, and revenues can change daily. For accurate financial calculations, utilize financial calculators on SMEDA’s website and consult financial experts to stay current with market conditions.”

Table of Contents

1	DISCLAIMER.....	4
2	EXECUTIVE SUMMARY	5
3	INTRODUCTION.....	7
3.1	DESCRIPTION OF BUSINESS.....	7
3.2	HEALTH CARE SYSTEM IN PAKISTAN.....	9
3.3	FUNDING SOURCES	10
3.4	BLOOD DISEASES & TREATMENTS	10
3.5	TYPES OF BLOOD CANCER.....	10
3.6	TYPES OF TREATMENT	11
3.6.1	<i>Intensive treatment / high-intensity treatment.....</i>	<i>11</i>
3.6.2	<i>Non-intensive / low-intensity treatment.....</i>	<i>11</i>
3.6.3	<i>Curative treatment.....</i>	<i>11</i>
3.6.4	<i>Non-curative treatments</i>	<i>12</i>
3.7	REVENUE MODEL & SUBSIDY STRATEGY	12
4	BRIEF DESCRIPTION OF PROJECT & SERVICES.....	13
4.1	PROJECT BRIEF.....	13
4.2	INSTALLED& OPERATIONAL CAPACITY	14
4.3	PROJECT REGULATIONS.....	14
4.4	REGISTRATION.....	15
4.5	LICENSING	15
4.5.1	<i>Benefits of Licensing for a HCE</i>	<i>15</i>
4.5.2	<i>Licensing is Mandatory</i>	<i>16</i>
4.5.3	<i>Process of Licensing</i>	<i>16</i>
4.6	TYPES OF LICENSING	17
4.6.1	<i>Provisional Licensing:</i>	<i>17</i>
4.6.2	<i>Regular Licensing:</i>	<i>17</i>
5	CRITICAL FACTORS	17
5.1	SWOT ANALYSIS	18
5.1.1	<i>Strengths.....</i>	<i>18</i>
5.1.2	<i>Weakness</i>	<i>18</i>
5.1.3	<i>Opportunities</i>	<i>18</i>
5.1.4	<i>Threats.....</i>	<i>18</i>
6	GEOGRAPHICAL POTENTIAL.....	19
6.1	LIST OF CANCER HOSPITALS IN SINDH	19
7	POTENTIAL TARGET CUSTOMERS / MARKETS	20
8	PROJECT COST SUMMARY.....	20
8.1	PROJECT ECONOMICS	20
8.2	PROJECT COST	21
8.3	LAND AND BUILDING REQUIREMENT.....	21
8.4	MACHINERY & EQUIPMENT REQUIREMENT	22
8.5	FURNITURE & FIXTURES REQUIREMENT	22
8.6	OFFICE FURNITURE & EQUIPMENT REQUIREMENT.....	22
8.7	VEHICLE REQUIREMENTS.....	22
8.8	CONSULTANTS & HUMAN RESOURCE REQUIREMENT	23
8.9	OTHER COSTS.....	24

8.10	REVENUE GENERATION	24
9	CONTACT DETAILS	25
10	ACCREDITATION/AFFILIATIONS:	26
11	FINANCIAL STATEMENTS.....	27
11.1	INCOME STATEMENT	27
11.2	BALANCE SHEET.....	28
11.3	CASH FLOW STATEMENT.....	29
12	KEY ASSUMPTIONS.....	30
12.1	OPERATING COST ASSUMPTIONS.....	30
12.2	DIAGNOSTIC & SURGERY COST ASSUMPTIONS.....	30
12.3	REVENUE ASSUMPTIONS	30
12.4	FINANCIAL ASSUMPTIONS	32
13	ANNEXURES:.....	33
13.1	LIST OF MACHINERY & EQUIPMENT.....	34
13.2	LIST OF HOSPITAL FURNITURE REQUIREMENT	39
13.3	TENTATIVE LAYOUT OF DEPARTMENTS AND INFRASTRUCTURE	41

1 DISCLAIMER

This information memorandum is to introduce the subject matter and provide a general idea and information on the said matter. Although, the material included in this document is based on data/information gathered from various reliable sources; however, it is based upon certain assumptions, which may differ from case to case. The information has been provided on as is where is basis without any warranties or assertions as to the correctness or soundness thereof. Although, due care and diligence has been taken to compile this document, the contained information may vary due to any change in any of the concerned factors, and the actual results may differ substantially from the presented information. SMEDA, its employees or agents do not assume any liability for any financial or other loss resulting from this memorandum in consequence of undertaking this activity. The contained information does not preclude any further professional advice. The prospective user of this memorandum is encouraged to carry out additional diligence and gather any information, which is necessary for making an informed decision; including taking professional advice from a qualified consultant/technical expert before taking any decision to act upon the information.

For more information on services offered by SMEDA, please contact our website: www.smeda.org.pk

Document Control	
Document No.	PREF-NO - 248
Revision	No. 01
Prepared by	SMEDA-Sindh
Revision Date	June 2022
For information	Provincial Chief (Sindh) mkumar@smeda.org.pk

2 EXECUTIVE SUMMARY

Cancer is second leading cause of death after heart disease. It is the only disease which causes a tremendous morbidity and pain in patients. This disease not only affects the patients but it also affects the whole family and causes the social and economic disruption. According to International Agency for Research on Cancer each year 173,937 new patients are diagnosed with various types of cancer where 118,442 patients die each year. The number of prevalent cases in 5 years are reported to be 310,132.¹ The most common cancers in Pakistan are oral, lung, liver, breast, cervical and blood/bone-marrow cancer.²

Population of Pakistan has been increasing with the greater percentage. It has become very difficult for the Government to provide health facilities to large number of population. This arise a strong need of Cancer Hospital with modern technology and better infrastructure and since there are very few Hospitals in Pakistan catering to the patients with blood diseases therefore it's a dire need both in public and private sector to establish state of the art facility for patients with Leukemia and Lymphoma where 13,015 new patients register every year and 9,763 deaths are reported each year.³

The proposed hospital would have a state of the art treatment facility for cancer patients supported by latest technological equipment and internationally experienced and board certified multidisciplinary team of medical, radiation, surgical oncologists, and radiologists. The Center would offer treatment for a wide variety of cancer treatments.

This Prefeasibility provides guidelines for setting up a hospital for blood related diseases with tertiary care facilities. The proposed project has a capacity of 100 Beds for inpatient general ward, private and semi-private rooms. The Facility would also establish a state of the art 20 beds Intensive Care Unit (ICU) and High Dependency Unit (HDU) for both adult and pediatric patients.

The outdoor facilities would include a diagnostic clinic consisting of a complete medical laboratory and a radiology department. For this project it is recommended to construct or acquire a purpose built building at main location of the city, particularly in densely populated areas.

The total project cost is estimated at Rs. 368 million including a capital cost and working capital of Rs. 338 million and Rs. 60 million respectively. Projected IRR, NPV and Payback period for the proposed project are 23 %, Rs.51 million and 6.28 years respectively. The project will provide direct employment opportunities to 135 persons including medical and non-medical staffs.

¹ International Agency for Research on Cancer, World Health Organization (WHO), 2018

² Pakistan Health Research Council (PHRC)

³ International Agency for Research on Cancer, World Health Organization (WHO), 2018

Availability of reputed consultants play a major role in the success and popularity of private hospitals. It is suggested that consultants from a wide range of specialties should be attracted for the hospital. The key success factor in this business is the availability of renowned consultants in the hospital. The consultants are the main reason for good patient base of the hospital.

Capital Investment	Rs. in actuals
Land	50,000,000
Building/Infrastructure	138,006,600
Machinery & equipment *	100,000,000
Furniture & fixtures	26,973,000
Office vehicles	6,000,000
Office equipment	4,780,000
Pre-operating costs	13,050,000
Total Capital Costs	338,809,600

Working Capital	Rs. in actuals
Equipment spare part inventory	4,053,300
Raw material inventory	15,648,000
Upfront insurance payment	5,300,000
Cash	5,000,000
Total Working Capital	30,001,300

Total Investment	368,810,900
-------------------------	--------------------

**Note: Few item of equipment and machinery are assumed to be purchased at a cost of Rs. 100 million although the estimated cost of Machinery is above Rs. 500 million. Procurement assumption of remaining 400 million via all-inclusive business model for service delivery instead of capital purchase of new laboratory equipment.*

3 INTRODUCTION

3.1 Description of Business

The incidence of different hematological disorders worldwide have shown a significant increase over the last decade. The treatment of majority of these hematological problems involves expensive and hi-tech procedures which unfortunately are not available in most public sector hospitals in Pakistan. As a result a significant number of patients are devoid from the recommended treatment. Private hospitals providing treatment facilities for hematological disorders are expensive and un-affordable for majority of the patients.

Leukemia/lymphoma is an aggressive type of blood cancer/hematological malignancy. Many of them are potentially curative, but need aggressive type of treatment with chemotherapy, followed by hospital stay, high-quality supportive care and ICU backup. Again private hospital providing such treatment facilities charge a significant amount which majority of our patients cannot pay. Bone marrow transplant is a procedure to replace damaged or destroyed bone marrow with healthy bone marrow stem cells. This is a potentially curative treatment option for wide range of benign and malignant hematological problems. Bone marrow transplant facilities provided by private sector hospitals in Pakistan range around Rs.2.5 million to Rs. 4.5 million. According to Late Dr. Tahir Shamsi, Professor of Hematology, about ten thousand patients, 50% of which are children need bone marrow transplant every year in Pakistan. Centers functioning at present are performing between 120-250 Bone Marrow Transplants per year. Rest of the patients are not able to get this curative treatment due to severe financial constraints and hence as a result majority of them die due to life threatening diseases.

According to a senior Hematologist Dr. Salman N. Adil, approximately five thousand children in Pakistan are born with thalassemia major every year and the only treatment is bone marrow transplantation. These patients require lifelong blood transfusions which results a significant financial burden on the entire family and also poorly affects the resources of our society. Such patients have to go regularly at different hospitals/thalassemia centers, live a miserable life and also face lot of difficulties in finding donors on regular basis. Ultimately many of them die either due to under transfusion or other complications. Aplastic anemia is a condition that occurs when the body stops producing enough new blood cells. Untreated 90% of them die in a year. Many of these cases are children. If these children are diagnosed early, with minimum infection, bone marrow transplant has a high cure rate. Bone marrow transplant is also a curative treatment option for many hematological malignancies like leukemia, lymphomas etc.

Patients with bleeding disorders like hemophilia and platelet functional disorders also need lifelong management for various issues. Many of the hemophiliacs they need treatment on regular basis with factor replacement or plasma products infusions which again is difficult for many of the patients to afford. With resultant either they are under treated or don't receive treatment at all. Any kind of surgery in these patients is again a challenge which needs a complete hematology team and expert surgeon trained in such procedures. As a result any kind of elective or emergency surgery in these patients is very difficult to arrange and perform, resulting in marked suffering for these patients and their families. Hence there is a need of a specialized surgical unit which can perform different types of surgeries in this group of patient without creating financial burden of such patients who are already living a pain full life.

Assumptions for this prefeasibility is based on dynamics of Karachi, however the proposed setup can be established in any top tier city of Pakistan. Karachi is a large and populated city. Patients come here from all over Sindh as well as from other provinces of Pakistan with different hematological issues in search of treatment. Many of the families are staying at road sites due to marked financial issues as they have no place to live in Karachi. A very small proportion of these patients can afford the treatment cost at private hospitals and hence rest of patients visit different hospitals and need to wait in long waiting lines. Due to lack of high quality and recommended treatment facilities in most of the public sector hospitals, these poor people who have come from far away/rural areas and villages suffer a lot and most of them don't get the standardized treatment and proper care. Many of them get frustrated and are forced to abort any kind of treatment.

3.2 Health Care System in Pakistan



3.3 Funding Sources

It is estimated that Capital Investment of Rs. 346 million will be required to set up the hospital and each year at least Rs. 135 million would be required to meet the operational and administrative expense if the hospital targets to provide treatment to the patients at a subsidized rates. It is also expected that most of these expenses would be met through donations and charity from local and oversea Pakistani community. According to a report by Stanford Social Innovation Review, Pakistan is a most generous country when it comes to charitable giving, and it contributes more than one per cent of its GDP to the charity.

The contributions push Pakistan into the ranks of wealthier countries like UK and Canada where contribution is 1.3 % and 1.2 % of GDP respectively. Pakistani nation contribute twice of what India contributes in charity as a percentage of its GDP.

An assessment conducted by Pakistan Centre for Philanthropy reveals that Pakistanis donate approximately Rs. 240 billion (more than 2 billion USD) yearly to charity. Promotional activities and funds raising campaigns needs to be activated round the year to meet the requirements for sustainable and smooth operations.

The hospital intends to use all funds received as Zakat only for Zakat eligible expenses. The process of managing Zakat funds would be certified to be Shariah compliant by hiring a Shariah Advisor on board. The hospital also intends to collect and spends Donation (Sadqah, Khairaat) fund in accordance with the instructions of Shariah so that whosoever will give donation, their donations will be utilized as per Shariah point of view.

3.4 Blood Diseases & Treatments

Blood cancer occurs when something goes wrong with the development in blood cells. This stops them working properly and they may grow out of control. This can stop the blood performing routine work like fighting off infections or helping in repair of body organs.

3.5 Types of blood cancer

The main types of blood cancer are:

- Leukemia
- Lymphoma
- Myeloma

3.6 Types of treatment

There are many possible treatments of blood cancer. Following terms or phrases are used to describe treatment for blood cancer:

3.6.1 *Intensive treatment / high-intensity treatment*

Intensive treatment means strong treatments. This often means administration of high potency drugs to kill cancer cells or curtail them from spreading. The main types of intensive treatments are:

- Standard-dose or high-dose chemotherapy: Using cell-killing drugs with the purpose of slaying cancerous cells and stopping them from reproducing.
- Stem cell transplant: having high doses of chemotherapy to destroy the abnormal cells in bone marrow or lymph nodes, then receiving new blood stem cells through a drip. The purpose for these new stem cells to start generating healthy blood cells.
- Some types of biological therapy / immunotherapies / monoclonal antibodies: drugs that inspire immune system to fight cancerous cells.
- Radiotherapy: Using high energy rays to destroy cancer cells in a particular range. This treatment is mostly used to treat lymphoma.
- Surgery: This treatment is rarely used, a patient may be offered a splenectomy (spleen removal).

3.6.2 *Non-intensive / low-intensity treatment*

Non-intensive treatments such as lower-dose chemotherapy are typically milder and cause less side effects. In majority of the cases these treatments don't exactly cure the cancer but they may help to manage symptoms for a good length of time. Types of lower intensity treatment include:

- Low-dose chemotherapy: Using cell-killing drugs with the purpose of destroying cancerous cells and stopping them from spreading.
- Biological therapies / Immunotherapies / Monoclonal antibodies: In this type of treatment drugs are used to strengthen immune system to fight cancerous cells.

3.6.3 *Curative treatment*

This type of treatments aims to cure blood cancer. If the consultants feel that the patient is unlikely to cope with strong treatments they may offer some milder non-curative

treatments. This approach may be able to give patient a good quality of life and better prognosis with lesser risks and side effects.

3.6.4 Non-curative treatments

This type of treatment aims to reduce blood cancer, keep the patient in remission rather than curing the cancer. Non-curative treatments can be intensive or less intensive.

3.7 Revenue Model & Subsidy Strategy

The competitive environment presents many challenges derived mostly from the indigent societal sector of Sindh who rely solely on meagre income to survive. Paying for expensive treatment of blood diseases is next to an impossible thing for majority of the masses. The hospital's revenue will essentially be capped by the discounts given to the needy patients, putting pressure on its cost management capabilities. Disease profiles may change over time and specialized equipment may also get obsolete, hospital may also require new capital investments to ensure the services are relevant to the requirement. The proposed hospital intends to provide treatments to patients as per the following schedule to make the project sustainable.

Description	% age Share
100% subsidized	20%
50% subsidized	40%
Full charges	40%

To position itself against the challenges of expensive treatments, cost escalation, patients from poor background and limited facilities for treatment of blood cancer and BMT in both public and private sector, this project must manage its capital requirements well. It will need to minimize front-end investments by maximizing the grant component of its project's funding by attracting donors within and outside the country. Outsourcing arrangements for the pharmacy, laboratory and diagnostics, and other ancillary operations of the Hospital should also be explored.

4 BRIEF DESCRIPTION OF PROJECT & SERVICES

4.1 Project Brief

The proposed project is for setting up a private hospital with 100 beds. There would be 30 beds Day Care Unit for the patients of Hematology, Oncology Chemotherapy with a room with chemotherapy / medicine preparation bay. 10 beds facility would be for Thalassemia, Hemophilia Day Care Centre. There will be 30 beds Inpatient Ward for adult and pediatric Hematology / Oncology with facilities of general ward, semi-private and private rooms. These wards will also have 3 positive pressure rooms. The radiology department will comply all the requirements of Pakistan Atomic Energy Commission (PAEC) standards.

This hospital would be a specialized center catering to both, indoor and outdoor patients. The indoor facilities mainly include Emergency, ICU / HDU, General Ward, Private and semi-Private Rooms, with a fully functional operation theatre capable of conducting major types of surgeries / chemotherapies and Bone Marrow Transplant. The outpatient facilities would comprise of a diagnostic clinic consisting of a complete medical laboratory and a radiology department.

According to the stated medical facilities, proposed hospital mainly comprised of the following sections:

- Emergency Department
- Out Door Patient Department
- Ward/ICU/CCU/ BMT Rooms with HEPA Filters
- Isolation Rooms
- Pediatric Wards
- Diagnostic Centre
- Radiology Department
- Surgical Consultancy
- Medical Consultancy
- Physiology Department
- Day Care Facilities
- Blood Bank / Aphaeresis Rooms
- Food & Residential Service Department

4.2 Installed & Operational Capacity

The proposed hospital will have an overall capacity of providing medical facilities to 111,300 patients in Year 1 including OPD and patients availing diagnostic facilities. The patient's occupancy in starting year is estimated at 40% with an annual increase of 10%. However, provision of medical services will vary in terms of different medical services. The project having a capacity of 100 Beds for inpatient general ward, private and semi-private rooms. The Facility would also establish a state of the art 15 beds Intensive Care Unit (ICU) and High Dependency Unit (HDU) for both adult and pediatric patients.

Table 1: Proposed Capacity

Description	Details
Private / Semi Private Rooms	25 beds
Emergency	10 beds
ICU / HDU	15 beds
General Ward	25 beds
Day Care unit / Special Ward	25 beds

The complete details of patient's operational capacity utilization of different sections are provided in annexure as key assumptions.

4.3 Project Regulations

Sindh Health Care Commission (SHCC) has been established under the Sindh Government Act 2013 for regulating the healthcare services in the province of Sindh.

Prior sanction / approval from the government through Pakistan Atomic Energy Commission (PAEC) is also required in case of the equipment being installed in the hospital such as X-Ray machines, as they emit radiation and has to be sanctioned / approved.

The doctors working in the hospital should be registered with Pakistan Medical Commission (PMC) earlier known as Pakistan Medical and Dental Council (PMDc). PMC is a statutory regulatory authority that maintains the official register of medical and dental practitioners in Pakistan

4.4 Registration

Under Section 13 of the Sindh Healthcare Commission Act 2013; a healthcare service provider shall not provide healthcare services without being registered under this Act. A person seeking to be registered as a Healthcare Service Provider shall make an application to the Commission by using the prescribed application, such application must be accompanied by such particulars, documents etc. as mentioned therein. Issue certificate of registration within 30 days.

4.5 Licensing

Licensing is a grant of permission issued to a Healthcare Establishment (HCE) by the Sindh Healthcare Commission (SHC) under the SHC Act 2013 for the use of any premises or conveyance as a Healthcare Establishment. A Healthcare Establishment means

- Hospital
- Diagnostic center
- Medical clinic
- Nursing home
- Maternity home
- Dental clinic
- Homeopathic clinic
- Tibb clinic
- Acupuncture clinic
- Physiotherapy

Or any other premises or conveyances wholly or partly used for providing healthcare services. Licensing is a mandatory process and no Healthcare Establishment can function or operate without obtaining license from the SHC. Licensing focuses on the enforcement of Sindh Service Delivery Standards (SSDS) for delivery of healthcare services. It sets out standards that a Healthcare Establishment must observe and implement in order to operate and deliver quality healthcare services.

4.5.1 Benefits of Licensing for a HCE

Licensing ensures that a given Healthcare Establishment is allowed to operate as a safe and effective place, promising a reduction in the number and severity of system failures, ensuring greater patient and practitioner confidence in the Healthcare Establishment thereby raising its profile, professional value, clientele and quality of healthcare services.

Licensing also provides immunity to healthcare service providers from any suit, prosecution or other legal proceedings except under the SHCC ACT 2013, and protects employees of the Healthcare Establishments from harassment.

4.5.2 Licensing is Mandatory

All HCEs in Sindh, both in the public and private sectors, are required to obtain a license from the SHCC. If a Healthcare Establishment (HCE) fails to be licensed under the SHCC ACT within a required period of time, the SHCC may impose a fine which may extend to Rs. 500,000 or order the closing down of the Healthcare Establishment.

4.5.3 Process of Licensing

- After registration the copy of Sindh Services Delivery Standards. (SSDS) provide to all registered HCE
- Get nomination of at least two employees of the HCE establishment regarding training on SSDS
- Within 30 days of issuance the certificate the HCE apply for provincial license under section 15(1) on prescribed application accompanied documents and fees.
- All received application should review and check all required documents should attached to the application
- After that conduct the inspection of all received application to verify the particular provided in the application and assess HCE as per (SSDS).
- The inspection team constitute U/S 2(x VIII) & 22(1)
- Identify the deficiencies of HCE and send in a writing within two weeks the Healthcare establishment rectify the deficiencies and upgrade itself to meet the SSDS
- Issue provincial license to the Healthcare establishment, within 30 days of acceptance of application U/S (2) of the act
- The provincial license is valid for six month
- The provincial license renewable for further six months subject to the application for renewable and payment of the prescribed fee.
- After at least three months of issuance of provincial license give intimation notice of ten days for inspection
- Conduct inspection of HCE by inspection team and if Health care establishment met the notified SSDS the HCE will apply for regular license on prescribed application accompanied with documents and fees
- Issue the regular license to the HCE U/S 16(2)(4) of the act within the period of 30 days after receipt of application

- Regular license is valid for the period of five years.
- A license should visibly at the HCE prominent place
- The HCE make an application renewable of a license at least three months before it is expiry in case of case of regular license and one month in case of provincial license
- If the healthcare establishment rectify the deficiencies pointed out by the inspection team within the period of time, issue license and if fail to rectify, the Commission may take coercive measures or give additional time for the defaulter to improve their identified deficiencies.

4.6 Types of Licensing

4.6.1 Provisional Licensing:

The Healthcare service provider will submit an application on the prescribed License Application complete in all respects as determined by the SHC, along with the prescribed documents and fee. The SHC will issue a provisional license to the Healthcare Establishment on receipt of the license form fulfilling all the prescribed requirements.

4.6.2 Regular Licensing:

A Regular License shall be issued by the Commission to such an Applicant whose application has been accepted by the Commission after inspection and it has fully complied with the provisions of the SHC Act 2013 (*Attached as Annexure 13.6*), Licensing Regulations as well as the Sindh Service Delivery Standards (SSDS).

5 CRITICAL FACTORS

Following are the factors critical for the success of Private Hospital venture:

- Engagement of well-reputed consultants from wide range of multidisciplinary diagnostic and medicinal areas
- Appointment of trained, highly skilled and professional Paramedical Staff
- Maintaining high standard of patient care, comfortability, and hygienic environment for the patients; trained and courteous nursing and other administrative staff is strongly required for customer satisfaction
- Modern and reliable diagnostic services which would include a fully equipped Radiology Department consisting of X-Ray, ECG and Ultra Sound Equipment and a dependable Medical Laboratory for routine medical examinations.

- Formation of organizational system especially for creating integration among different departments and diagnostic operations
- Establishing strong linkages with suppliers for sourcing quality medical supplies on time couple with economical prices
- Reasonable and competitive fees, positioned against competitors fees
- Location considerations for easy access of the patients
- Careful market analysis of the surrounding population should be carried out before determining the services to be provided in the hospital.

5.1 SWOT Analysis

5.1.1 Strengths

- Best quality services will help the organization to cater more number of incoming patients as they intend to build a better image in society by providing free treatment.
- Advantage of having expertise in Board of Directors and Board of Management from industry that will help to get the products from best sources and at best prices.
- Treatment of all types of blood diseases.

5.1.2 Weakness

- Due to low prices and free of cost services maintaining a break-even would be huge task.
- Lack of sufficient funds for the state of the art facility.

5.1.3 Opportunities

- Affordable cost of treatment will attract more number of patients than the current facilities in private sector.
- Treatment of all types of blood diseases under one roof.

5.1.4 Threats

- Recession in economy resulting in tremendous increase in number of non-affording cases.
- Non availability of sufficient skilled technical personals.
- Strict government regulatory policies/rules.

6 GEOGRAPHICAL POTENTIAL

Growing number of patients and lack of maintained infrastructure has put tremendous pressure on public sector hospitals. This has resulted in a rising demand for health care services in the private sector across the country. Moreover, introduction of latest technology, hygienic environment and professional staff attitude at private sector hospitals has also contributed to the popularity of the hospitals in private sector. Investors in the private sector can therefore exploit this opportunity in all the major urban and peri-urban cities of Pakistan.

However it is pertinent to highlight that, large public sector hospitals are mainly concentrated in major cities of the country, but due to the influx of population from rural to urban areas and existing facilities in Karachi, the site for hospital would be in newly developed or developing commercial areas as they can be the most appropriate location for this type of hospital with special facilities. It must be a prime focus that the selected location should be easily accessible and has considerable population concentration.

6.1 LIST OF CANCER HOSPITALS IN SINDH

- Neurospinal and Cancer Care Institute (NCCI), Karachi
- Ziauddin Cancer Hospital Ziauddin University Karachi
- Baitul Sukoon Cancer Hospital Karachi
- The Cancer Foundation Hospital Karachi
- The Aga Khan University Hospital, Karachi
- Shaukat Khanum Memorial Cancer Hospital & Research Centre, Karachi
- Atomic Energy Medical Centre (AEMC), Karachi
- Karachi Institute of Radiotherapy and Nuclear Medicine (KIRAN), Karachi
- Larkana Institute of Radiotherapy and Nuclear Medicine (LINAR), Larkana
- Nuclear Institute of Medicine & Radiotherapy (NIMRA), Jamshoro
- Nawabshah Nuclear Medicine Oncology & Radiotherapy Institute (NORIN), Nawabshah
- Cyber Knife, Jinnah Hospital, Karachi
- National Institute of Blood Diseases (NIBD)

7 POTENTIAL TARGET CUSTOMERS / MARKETS

From 1981 to 2017, the estimated population of Pakistan has grown from 85 million to 207 million⁴ making Pakistan the seventh most populous country in the world. This growth rate of population has posed tremendous challenge to the existing infrastructure for basic health facilities in the country. Growing population, increasing industrialization, resultant high level of environmental pollution, and increased healthcare awareness has specially stretched the existing public health care system in the country. This has given rise to high demand of private sector health care facilities to complement its public sector counterpart.

The major target market for the facility consists of residential areas in the vicinity of the hospital. The basic services that will be provided will also be determined by the need of the locality and its adjacent areas.

8 PROJECT COST SUMMARY

8.1 Project Economics

All the figures in this financial model have been calculated for providing different medical care facility to around 129,300 patients in the year one, followed by a subsequent increase of 10% annually. The patient occupancy in year 01 is estimated at 50%.

The following table shows internal rate of return, payback period and net present value of the proposed venture.

Table 2: Project Economics

Description	Details
Internal Rate of Return (IRR)	23 %
Payback Period (Yrs.)	6.28
Net Present Value (Rs.)	51,723,374

⁴ 2017 Census of Pakistan

8.2 Project Cost

Following fixed and working capital requirements have been identified for operations of the proposed business.

Table 3: Project Cost

Capital Investment	Rs. in actuals
Land	50,000,000
Building/Infrastructure	138,006,600
Machinery & equipment *	100,000,000
Furniture & fixtures	26,973,000
Office vehicles	6,000,000
Office equipment	4,780,000
Pre-operating costs	13,050,000
Total Capital Costs	338,809,600

Working Capital	Rs. in actuals
Equipment spare part inventory	4,053,300
Raw material inventory	15,648,000
Upfront insurance payment	5,300,000
Cash	5,000,000
Total Working Capital	30,001,300

Total Investment	368,810,900
-------------------------	--------------------

8.3 Land and Building Requirement

Approximately 5 Acres of land would be required for establishment of the proposed size of hospital; it is recommended that required land should be procured in the vicinity of populated commercial or industrial area. The cost of land is estimated at a rate of Rs. 10.00 million per acre, therefore total cost of required land is Rs. 50.00 million.

The infrastructural requirements of the project mainly comprises of the construction of Emergency, ICU / HDU, Diagnostic Centre, Radiology Department, Surgical Consultancy, Medical Consultancy, Transfusion, BMT, Canteen, Pharmacy, Waiting areas, Parking space and Open space, etc.

During Phase 1, Building with Basement + Ground + 2 will be constructed on a total covered area of approximately 25,000 sq. ft. with an estimated construction cost of Rs. 138 million. The space for the proposed facilities are provided in the *Annexure 13.3*

8.4 Machinery & Equipment Requirement

The major cost involved in establishing a well-equipped hospital is the cost of machinery, equipment and furnishing. The proposed hospital is providing basic in-house diagnostic and radiology services to its patients.

Accordingly, the required list of machinery and equipment for the proposed hospital is attached in *Annexure 13.1*. The estimated cost of the machinery and equipment would be around Rs. 500 million. **(Few item of equipment and machinery are assumed to be purchased at a cost of Rs. 100 million although the estimated cost of Machinery is above Rs. 500 million. Procurement assumption of remaining 400 million via all-inclusive business model for service delivery instead of capital purchase of new laboratory equipment).**

Alternative Chinese machines are available for Radiology and Diagnostic Departments and for the Operation Theatre. However, their prices are 2 to 3 times lower than Japanese equipment. A mix of Japanese and Korean machinery is proposed for the project.

8.5 Furniture & Fixtures Requirement

Cost of Hospital Furniture & fixture would be Rs. 24.6 million. Details of the furniture and fixture required for furnishing hospital rooms, laboratories, and visiting area are provided in *Annexure 13.2*

8.6 Office Furniture & Equipment Requirement

Cost of Office equipment would be Rs. 4.78 million. Details of office equipment required for proposed Hospital is attached in *Annexure 13.2*

8.7 Vehicle Requirements

Along with the above-mentioned machinery and equipment the proposed hospital will also be using two ambulances:

Table 4: Vehicle Requirements

Description	QTY	Unit Cost (Rs.)	Total Amount (Rs.)
Ambulances with Medical Equipment's	2	3,000,000	6,000,000

8.8 Consultants & Human Resource Requirement

Consultant services for the following specialized areas would be made available in the hospital:

- Specialists: Clinical hematologists, Pediatricians with bone marrow transplant experience, Pulmonologist, Infections disease, endocrinologist, Pediatric cardiologist, Radiologist and Pathologist and Physiotherapist.
- Anesthetics, General and Orthopedic surgeon.
- Nurses trained in chemotherapy and bone marrow transplant (adults and pediatric patients).
- Lab technicians, blood bank technicians, aphaeresis supervisor.
- Medical officers.
- Pharmacist (trained in chemotherapy and bone marrow transplant).
- Social workers.
- Hospital administrators
- Finance & Accounts professionals
- Media & Donor Coordinators

For this project, the consultants and surgeon will get 40% of the professional fee charged to the patient as their share. Apart from the consultants following Paramedical and Non-paramedical staff would be required for the proposed hospital:

Table 5: Human Resource Requirement

Description	No. Of Employees	Monthly Salary per Person (Rs.)	Annual Salary (Rs.)
Chief Executive	1	500,000	6,000,000
Admin & Finance Manager	1	200,000	2,400,000
Admin Officers	2	100,000	2,400,000
Medical Officers	26	100,000	31,200,000
Nursing Staff	38	40,000	18,240,000
Laboratory Technicians	6	30,000	2,160,000
Operation Theatre Assistant	4	25,000	1,200,000
Lab Assistants	4	25,000	1,200,000
Radiology Technicians	4	25,000	1,200,000
Receptionist	4	25,000	1,200,000
Accountant	2	50,000	1,200,000

Accounts clerk / Cashier	2	25,000	600,000
Security Guards	4	25,000	1,200,000
Electrician/technician	2	25,000	600,000
Cleaner	4	25,000	1,200,000
Ward Boy /Office Boy	10	25,000	3,000,000
Male Nurse	12	25,000	3,600,000
Store Keeper	2	35,000	840,000
ICU Medical Officer	1	150,000	1,800,000
ICU Consultants	2	300,000	7,200,000
Pediatric Consultant	1	300,000	3,600,000
BMT Consultant	1	300,000	3,600,000
Head Nurse	2	50,000	1,920,000
Total			97,560,000

8.9 Other costs

An essential cost to be borne by the project is the cost of direct electricity, maintenance and direct staff salaries. The annual direct cost of these would be Rs. 98.58 million. Furthermore, promotional expense being essential for marketing and attracting donations for blood cancer and BMT hospital is estimated to be 10% of the revenue.

8.10 Revenue Generation

Total 15 consultants will be performing their duties at hospital on daily basis. Revenue during the first year of operations is estimated as under:

Table 6: Revenue Generation – Year 1

Description	No of Patient / Operations in Year 1	Average Charges per Patient	Total Revenue in Year 1 (Rs.)
Consultation fee (OPD)			
Consultants (15 No.)	90,000	1,500	135,000,000
Surgery			
General Surgery	360	150,000	54,000,000
Hemophilia/Transfusion/BMT	540	150,000	81,000,000
Room Rent (25 No.)			
Occupancy Days (50%)	4,500	8,000	36,000,000

Emergency (10 Beds)			
Occupancy Days (50%)	1,800	1,000	1,800,000
Special Ward (25 Beds)			
Occupancy Days (50%)	4,500	7,500	33,750,000
ICU / HDU (15 Beds)			
Occupancy Days (50%)	2,700	10,000	27,000,000
General Ward (25 Beds)			
Occupancy Days (50%)	4,500	3,000	13,500,000
Diagnostic center			
Ultra-Sound	4,800	1,000	4,800,000
X-Ray	4,800	800	3,840,000
ECG	4,800	800	3,840,000
Complete Blood Test / Urine Test	6,000	1,500	9,000,000
Pharmacy Rent			900,000
Canteen Rent			900,000
Total Revenue			405,330,000

9 CONTACT DETAILS

Contact details of suppliers of Hospital machinery is provided below:

Table 7: Hospital Machinery Suppliers

Name of Supplier	Address	Contact Person
Medequips Pvt Limited	www.medequips.org	Mr. Ahmed 92 42 34534172 +92 42 34381092
Siemens	https://www.siemens-healthineers.com/en-pk/	Mr. Faheem Ahmed 03322224867

10 ACCREDITATION/AFFILIATIONS:

Pakistan Medical Commission	www.pmc.gov.pk
Pakistan Medical Forum	www.pakmedinet.com
World Health Organization	www.who.com
University of Health Sciences	www.uhs.edu.pk
College of Physician & Surgeon Pakistan	www.cpsp.edu.pk
Pakistan Society of Haematology	www.psh.org.pk
Human Organ Transplant Authority	www.hota.pk
Sindh Health Care Commission	www.shcc.org.pk
Safe Blood Transfusion Programme	www.sbtp.gov.pk
World Health Organization (WHO)	www.who.int
International Society of Blood Transfusion (ISBT)	www.isbtweb.org
Global Blood Foundation (GBF)	www.globalbloodfund.org
International Haemovigilance Network (IHN)	www.ihn-org.com
Asian Association of Transfusion Medicine (AATM)	www.aatmweb.org
GIZ Health Sector Support Programme	www.giz.de
Pakistan Bait ul Mal	www.pbm.gov.pk

11 FINANCIAL STATEMENTS

11.1 Income Statement

Calculations											SMEDA
Income Statement											
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
Revenue	405,330,000	495,201,300	600,609,273	728,953,858	891,835,578	1,088,672,589	1,322,597,497	1,609,660,942	1,918,677,364	2,287,050,008	
Cost of Services	139,296,000	171,518,160	208,843,774	254,880,970	313,642,154	385,180,462	469,912,786	579,447,869	711,016,385	870,916,294	
Surgeon's & Anaesthetist's Share	54,000,000	67,320,000	82,764,000	102,540,240	126,498,240	156,541,896	192,604,728	238,524,144	294,787,872	365,012,208	
Consultants' Share	54,000,000	65,340,000	78,408,000	93,459,600	114,683,400	139,219,200	167,517,000	205,335,000	249,073,200	299,484,000	
Direct diagnostic and Surgery costs	31,296,000	38,858,160	47,671,774	58,881,130	72,460,514	89,419,366	109,791,058	135,588,725	167,155,313	206,420,086	
Operation costs 1 (direct labor)	66,720,000	73,392,000	80,731,200	177,608,640	195,369,504	214,906,454	236,397,100	260,036,810	286,040,491	314,644,540	
Operating costs 2 (machinery maintenance)	4,053,300	4,952,013	6,006,093	7,289,539	8,918,356	10,886,726	13,225,975	16,096,609	19,186,774	22,870,500	
Operating costs 3 (direct electricity)	27,811,579	31,085,537	34,790,378	38,990,924	43,763,042	49,195,707	55,393,474	62,054,126	68,259,539	75,085,493	
Total cost of sales	237,880,879	280,947,710	330,371,445	478,770,073	561,693,056	660,169,349	774,929,334	917,635,414	1,084,503,188	1,283,516,826	
Gross Profit	167,449,121	214,253,590	270,237,828	250,183,785	330,142,522	428,503,240	547,668,163	692,025,527	834,174,175	1,003,533,181	
	41%	43%	45%	34%	37%	39%	41%	43%	43%	44%	
General administration & selling expenses											
Administration expense	30,840,000	33,924,000	37,316,400	74,110,080	81,521,088	89,673,197	98,640,516	108,504,568	119,355,025	131,290,527	
Administration benefits expense	925,200	1,017,720	1,119,492	2,223,302	2,445,633	2,690,196	2,959,215	3,255,137	3,580,651	3,938,716	
Electricity expense	6,952,895	7,771,384	8,697,595	9,747,731	10,940,761	12,298,927	13,848,368	15,513,532	17,064,885	18,771,373	
Water expense	480,000	528,000	580,800	638,880	702,768	773,045	850,349	935,384	1,028,923	1,131,815	
Gas expense	360,000	396,000	435,600	479,160	527,076	579,784	637,762	701,538	771,692	848,861	
Travelling expense	2,467,200	2,713,920	2,985,312	5,928,806	6,521,687	7,173,856	7,891,241	8,680,365	9,548,402	10,503,242	
Communications expense (phone, fax, mail, internet, etc.)	616,800	678,480	746,328	1,482,202	1,630,422	1,793,464	1,972,810	2,170,091	2,387,100	2,625,811	
Office vehicles running expense	1,800,000	1,980,000	2,178,000	2,395,800	2,635,380	2,898,918	3,188,810	3,507,691	3,858,460	4,244,306	
Office expenses (stationary, entertainment, janitorial services, etc.)	15,420,000	16,962,000	18,658,200	37,055,040	40,760,544	44,836,598	49,320,258	54,252,284	59,677,512	65,645,264	
Promotional expense	40,533,000	49,520,130	60,060,927	72,895,386	89,183,558	108,867,259	132,259,750	160,966,094	191,867,736	228,705,001	
Insurance expense	5,300,000	4,740,000	4,180,000	3,620,000	3,060,000	2,983,153	2,386,522	1,789,892	1,193,261	596,631	
Professional fees (legal, audit, consultants, etc.)	8,106,600	9,904,026	12,012,185	14,579,077	17,836,712	21,773,452	26,451,950	32,193,219	38,373,547	45,741,000	
Depreciation expense	21,275,630	21,275,630	21,275,630	21,275,630	21,275,630	22,008,242	22,008,242	22,008,242	22,008,242	22,008,242	
Amortization of pre-operating costs	2,610,000	2,610,000	2,610,000	2,610,000	2,610,000	-	-	-	-	-	
Subtotal	137,687,325	154,021,290	172,856,469	249,041,094	281,651,257	318,350,090	362,415,795	414,478,038	470,715,437	536,050,788	
Operating Income	29,761,797	60,232,300	97,381,359	1,142,691	48,491,264	110,153,150	185,252,368	277,547,490	363,458,739	467,482,393	
Gain / (loss) on sale of office vehicles	-	-	-	-	2,400,000	-	-	-	-	-	
Earnings Before Interest & Taxes	29,761,797	60,232,300	97,381,359	1,142,691	50,891,264	110,153,150	185,252,368	277,547,490	363,458,739	467,482,393	
Earnings Before Tax	29,761,797	60,232,300	97,381,359	1,142,691	50,891,264	110,153,150	185,252,368	277,547,490	363,458,739	467,482,393	
Tax	7,748,538	16,889,690	28,034,407	64,269	14,087,379	31,865,944	54,395,710	82,084,246	107,857,621	139,064,717	
NET PROFIT/(LOSS) AFTER TAX	22,013,258	43,342,611	69,346,952	1,078,422	36,803,886	78,287,206	130,856,658	195,463,244	255,601,118	328,417,676	

11.2 Balance Sheet

Calculations											SMEDA
Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets											
<i>Current assets</i>											
Cash & Bank	5,000,000	56,507,131	118,878,790	204,764,525	219,632,861	256,350,165	338,188,000	465,117,601	648,921,793	880,730,081	1,477,779,403
Equipment spare part inventory	4,053,300	5,447,214	7,267,372	9,702,376	13,057,365	17,533,181	23,430,621	31,367,738	41,128,553	53,927,443	-
Raw material inventory	15,648,000	20,789,116	27,289,707	36,065,958	47,490,477	62,707,643	82,383,386	108,862,931	143,601,974	189,747,454	-
Pre-paid insurance	5,300,000	4,740,000	4,180,000	3,620,000	3,060,000	2,983,153	2,386,522	1,789,892	1,193,261	596,631	-
Total Current Assets	30,001,300	88,593,954	158,849,473	255,653,969	285,062,021	341,794,402	449,101,555	610,441,272	838,862,374	1,129,834,949	1,483,540,674
<i>Fixed assets</i>											
Land	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000
Building/Infrastructure	138,006,600	131,106,270	124,205,940	117,305,610	110,405,280	103,504,950	96,604,620	89,704,290	82,803,960	75,903,630	69,003,300
Machinery & equipment	100,000,000	90,000,000	80,000,000	70,000,000	60,000,000	50,000,000	40,000,000	30,000,000	20,000,000	10,000,000	-
Furniture & fixtures	26,973,000	24,275,700	21,578,400	18,881,100	16,183,800	13,486,500	10,789,200	8,091,900	5,394,600	2,697,300	-
Office vehicles	6,000,000	4,800,000	3,600,000	2,400,000	1,200,000	9,663,060	7,730,448	5,797,836	3,865,224	1,932,612	-
Office equipment	4,780,000	4,302,000	3,824,000	3,346,000	2,868,000	2,390,000	1,912,000	1,434,000	956,000	478,000	-
Total Fixed Assets	325,759,600	304,483,970	283,208,340	261,932,710	240,657,080	229,044,510	207,036,268	185,028,026	163,019,784	141,011,542	119,003,300
<i>Intangible assets</i>											
Pre-operation costs	13,050,000	10,440,000	7,830,000	5,220,000	2,610,000	-	-	-	-	-	-
Total Intangible Assets	13,050,000	10,440,000	7,830,000	5,220,000	2,610,000	-	-	-	-	-	-
TOTAL ASSETS	368,810,900	403,517,924	449,887,813	522,806,679	528,329,101	570,838,912	656,137,823	795,469,298	1,001,882,158	1,270,846,491	1,602,543,974
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable	-	12,693,766	15,721,044	19,292,958	23,736,958	29,442,883	36,454,589	44,929,406	55,879,022	69,242,237	72,522,045
Total Current Liabilities	-	12,693,766	15,721,044	19,292,958	23,736,958	29,442,883	36,454,589	44,929,406	55,879,022	69,242,237	72,522,045
<i>Other liabilities</i>											
Long term debt (Project Loan)	-	-	-	-	-	-	-	-	-	-	-
Long term debt (Working Capital Loan)	-	-	-	-	-	-	-	-	-	-	-
Total Long Term Liabilities	-	-	-	-	-	-	-	-	-	-	-
<i>Shareholders' equity</i>											
Paid-up capital	368,810,900	368,810,900	368,810,900	368,810,900	368,810,900	368,810,900	368,810,900	368,810,900	368,810,900	368,810,900	368,810,900
Retained earnings	-	22,013,258	65,355,869	134,702,821	135,781,243	172,585,129	250,872,334	381,728,992	577,192,236	832,793,354	1,161,211,029
Total Equity	368,810,900	390,824,158	434,166,769	503,513,721	504,592,143	541,396,029	619,683,234	750,539,892	946,003,136	1,201,604,254	1,530,021,929
TOTAL CAPITAL AND LIABILITIES	368,810,900	403,517,924	449,887,813	522,806,679	528,329,101	570,838,912	656,137,823	795,469,298	1,001,882,158	1,270,846,491	1,602,543,974

11.3 Cash Flow Statement

Calculations											SMEDA
Cash Flow Statement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<i>Operating activities</i>											
Net profit		22,013,258	43,342,611	69,346,952	1,078,422	36,803,886	78,287,206	130,856,658	195,463,244	255,601,118	328,417,676
Add: depreciation expense		21,275,630	21,275,630	21,275,630	21,275,630	21,275,630	22,008,242	22,008,242	22,008,242	22,008,242	22,008,242
amortization of pre-operating costs		2,610,000	2,610,000	2,610,000	2,610,000	2,610,000	-	-	-	-	-
Equipment inventory	(4,053,300)	(1,393,914)	(1,820,158)	(2,435,004)	(3,354,989)	(4,475,816)	(5,897,441)	(7,937,117)	(9,760,815)	(12,798,890)	53,927,443
Raw material inventory	(15,648,000)	(5,141,116)	(6,500,591)	(8,776,251)	(11,424,519)	(15,217,166)	(19,675,743)	(26,479,545)	(34,739,043)	(46,145,480)	189,747,454
Advance insurance premium	(5,300,000)	560,000	560,000	560,000	560,000	76,847	596,631	596,631	596,631	596,631	596,631
Accounts payable		12,693,766	3,027,279	3,571,913	4,444,000	5,705,925	7,011,706	8,474,817	10,949,616	13,363,215	3,279,807
Cash provided by operations	(25,001,300)	51,507,131	62,371,659	85,885,735	14,868,336	46,380,365	81,837,835	126,929,601	183,804,192	231,808,288	597,049,322
<i>Financing activities</i>											
Project Loan - principal repayment		-	-	-	-	-	-	-	-	-	-
Working Capital Loan - principal repayment		-	-	-	-	-	-	-	-	-	-
Additions to Project Loan	-	-	-	-	-	-	-	-	-	-	-
Additions to Working Capital Loan	-	-	-	-	-	-	-	-	-	-	-
Issuance of shares	368,810,900	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares											
Cash provided by / (used for) financing activities	368,810,900	-	-	-	-	-	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(338,809,600)	-	-	-	-	(9,663,060)	-	-	-	-	-
Acquisitions											
Cash (used for) / provided by investing activities	(338,809,600)	-	-	-	-	(9,663,060)	-	-	-	-	-
NET CASH	5,000,000	51,507,131	62,371,659	85,885,735	14,868,336	36,717,305	81,837,835	126,929,601	183,804,192	231,808,288	597,049,322
Cash balance brought forward		5,000,000	56,507,131	118,878,790	204,764,525	219,632,861	256,350,165	338,188,000	465,117,601	648,921,793	880,730,081
Cash available for appropriation	5,000,000	56,507,131	118,878,790	204,764,525	219,632,861	256,350,165	338,188,000	465,117,601	648,921,793	880,730,081	1,477,779,403
Dividend		-	-	-	-	-	-	-	-	-	-
Cash balance	5,000,000	56,507,131	118,878,790	204,764,525	219,632,861	256,350,165	338,188,000	465,117,601	648,921,793	880,730,081	1,477,779,403
Cash carried forward	5,000,000	56,507,131	118,878,790	204,764,525	219,632,861	256,350,165	338,188,000	465,117,601	648,921,793	880,730,081	1,477,779,403

12 KEY ASSUMPTIONS

12.1 Operating Cost Assumptions

Description	Details
Administration Benefit Expenses	3% of Admin Expense
Communication Expenses	5% of Admin Expense
Office Expenses (stationary, entertainment, janitorial services, etc.)	5% of Admin Expense
Office vehicles insurance rate	10%
Promotional expense % of admin expense	10% of Revenue
Depreciation on Building and Infrastructure	5%
Depreciation on Machinery	10%
Depreciation on Furniture and Fixture	10%
Depreciation on Office Equipment	10%
Depreciation on Office Vehicle	20%
Operating Costs Growth Rate	10%
Accounts Payable Cycle	15 Days
Raw Material Inventory	15 Days
Amortization Of Pre-Operating Expenses	5 Years

12.2 Diagnostic & Surgery Cost Assumptions

Description	Details
Diagnostic Material Cost	15% of Diagnostic Revenue
Surgery Material Cost	10% of Surgery Revenue

12.3 Revenue Assumptions

Description	Annual Growth Rate	Assumptions
Surgery		
- Hemetology/Oncology/Chemo		
- No of operations per month	15%	30
- Average fee per operation	10%	150,000
- Hemophilia/Transfusion/BMT		
- No of deliveries per month	10%	45
- Average fee per delivery	10%	150,000
Room Rent		

- No of Rooms		25
- Working Days		360
- Total Working Days (Weighted)		9,000
- Occupancy Rate	10%	50%
- Occupancy		4,500
- Room Rent per Day	10%	8,000
Emergency		
- No of Beds in Emergency		10
- Working Days		360
- Total Working Days (Weighted)		3,600
- Occupancy Rate	10%	50%
- Occupancy		1,800
- Bed Rent per Day	10%	1,000
Special Ward / Day Care		
- No of Beds in Ward		25
- Working Days		360
- Total Working Days (Weighted)		9,000
- Occupancy Rate	10%	50%
- Occupancy		4,500
- Bed Rent per Day	10%	7,500
ICU/CCU		
- No of Beds in ICU/CCU		15
- Working Days		360
- Total Working Days (Weighted)		5,400
- Occupancy Rate	10%	50%
- Occupancy		2,700
- Bed Rent per Day	10%	10,000
General Ward		
- No of Beds in General Ward		25
- Working Days		360

- Total Working Days (Weighted)		9,000
- Occupancy Rate	10%	50%
- Occupancy		4,500
- Bed Rent per Day	10%	3,000
Diagnostic center		
X-Ray/ Ultra-Sound		
No of patients per month	10%	400
Ultrasound Fee per patient	10%	1000
CT Scan/Interventional Radiology		
No of patients per month	10%	400
X Ray Fee per patient	10%	800
Fluoroscopy/Bronchoscope facility		
No of patients per month	10%	400
ECG Fee per patient	10%	800
Other Tests		
No of patients per month	10%	500
Test Fee per patient	10%	1500

12.4 Financial Assumptions

Description	Details
Equity / Donor Funds	50%

13 ANNEXURES:

1. List of Machinery & Equipment
2. List of Furniture, Fixture & Office Equipment
3. Tentative Layout of departments and infrastructure

13.1 LIST OF MACHINERY & EQUIPMENT

- Microbial Identification System
- Steam Sterilizer
- Electric Pendant
- UPS (200 KVA)
- Chiller
- Hot cell
- Chiller
- Dental Unit
- Bed Pan Washer
- Control Panel
- LED (for Imaging)
- Mortuary Refrigerator Unit
- Fume Hood
- Medical LCD
- Fume Hood (with Canopy System)
- Refrigerator
- Cold Plate
- Epoxy Resin Sinks
- Fume Hood
- Ventilated Biopsy Specimen Storage Cabinet
- Hot Air Oven
- BP, Pulse & Saturation Monitor
- Crash Cart Trolley
- Fluid Management System
- Wheel Chair (MRI Compatible)
- Dental Unit (Portable)
- Digital Weight Scale (MRI Compatible)
- Stretcher
- UPS (6.5 KVA)
- Dictation System (Digital)
- Endorsees Implant Kit
- Dicta Phone
- Weight Scale Chair (Digital)
- Weight & Height Scale (Digital)
- Bed Stretcher
- Closed Trolley
- Hot Plate
- Speech Mic
- Isolation Trolley (Stainless Steel)
- UPS (1 KVA)
- Beta Syringe Shield
- IV Infusion Pumps Pole Clamp/Holder

- Temperature Data Logger (Digital)
- Trolley
- Hospital Beds
- Side Table & Locker

CHEMICAL PATHOLOGY SECTION

- Fluorescence Microscope
- Blood GASS Analyzer
- Special chemistry/HORMONCE analyzer automated
- Centrifuge Machine
- Clinical water bath
- Lab Incubator
- Miscellaneous Lab Equipment
- Refrigerator 2 (for reagents and samples)
- routine Chemistry Analyzer (Automated)

BLOOD BANK

- View Box (Agglutination Viewer)
- Centrifuge Safety Bucket (with Lids)
- Freezer (-80°C)
- Centrifuge for tube
- Centrifuge for Gel (Automated)
- Incubator 37C (75 L)
- Blood bank shakers
- Platelet Incubator
- FFP Thawing Machine
- Tube Sealer
- Weight Machine
- Blood Bank Refrigerator
- Blood Bank Freezer
- Cryofuge
- Jester
- Plasma Extractor
- Plane tube pipettes
- MCS(Apheresis Machine)
- Freezer (-30°C)

MICROBIOLOGY

- Versa Terek 240
- Incubator
- CO2 Incubator
- Biosafety Cabinet SureBio 4F
- Microscope with Camera NIKON G-9
- Urine analyzer (Yarkon)

- Mycobacterial Detection System

OTHER EQUIPMENTS

- Instrument sterilizers
- Instrument cabinets
- Stethoscope
- IV Stands
- Blood Pressure apparatus
- Miscellaneous
- Anesthesia Machine
- Bipolar Diathermy
- Blood Warmer
- Defibrillator
- Doppler ultrasound machine
- DR Printer
- Drip Stand / IV Pole
- ECHO Machine with accessories
- EEG Machine
- Height and Weight Scale
- Hospital Bed (three fowlers)
- Hospital Stretcher
- ICU Ventilator
- Infusion Pump
- Nebulizer
- Nebulizer
- Operating Table
- Operation theater shadow less light
- OT Light double dome
- Patient / Cardiac Monitor
- Patient Stretcher
- Portable X-ray
- Sphygmomanometer desktop
- Suction Machine
- Suction Machine
- Suction Machine with suction cup
- Sphygmomanometer Mobile
- Syringe Pump
- Ultrasound Machine
- Air Mattress
- Anesthesia Machine
- Autoclave
- BP Apparatus (Mobile)
- C-Arm
- Centrifuge Machine

- CPAP
- Defibrillator
- Dialysis/Donor Chair
- Dialysis Machine
- Drip Stand
- Drip Stand Wall Mounted
- Emergency Crash Trolley

LIST OF ICU INSTRUMENTS

- Arcomed (2/BED)
- Pressure Bags (2/BED)
- Feeding Pump (2-3)
- K Thermia
- Transducer (1/BED)
- Medication Trolley
- Oxygen Flow Meter
- Scale
- Splint
- Bare Hagger
- Portable Oxygen Cylinder
- Cuff Pressure

LIST OF O.T INSTRUMENTS:

- Sternum Saw
- Check Cysto Set (without Lens)
- Cutting and Sealing Machine
- Bispectral Index Monitor
- Medical Thora scope
- Scrub Unit
- Head Light (with Complete Accessories)
- Operation Theatre Table (with Accessories)
- Hydraulic Operation Table
- Operation Table
- Operation Theatre Shadow less Light
- Anesthesia Apparatus
- Trolley for Anesthesia
- Autoclave Machine
- Diathermy Machine
- Surgical Diathermy
- Cardiac Resuscitation Trolley
- Cardiac Monitor
- Horizontal and Vertical Autoclave
- Laparoscopic Unit (with Accessories)
- Emergency Oxygen Kit

- Minor surgery set
- Bipolar Diathermy.
- Suction machine.
- Park's anal retractor.
- Yeoman biopsy forceps.
- Proctoscope.
- Mayo table.

RADIOLOGY INSTRUMENTS:

- X-RAY apparatus moving & static with chest PA
- X-RAY Machine D/R (Digital or C/R)
- Fluoroscopy System
- 2 Monitor & Video Recording Tilting Table
- Doppler Ultrasound Machine
- Gamma Camera
- Echo cardiology
- ECHO Machine with Accessories
- CT Scan (Toshiba)
- CT Scanner workstation
- CT Scan Injector (Dual Head)
- Dose Area Product Meter
- Lead Apron
- Printers compatible with X-RAY & CT/MRI
- PACS System
- MRI Machine

OTHERS:

- Elevator
- Genset (200 kVA)
- Instrument cabinets
- Miscellaneous

13.2 LIST OF HOSPITAL FURNITURE REQUIREMENT

Description	No	Cost	Total
Single side liftable beds, including matrices, bed sheets, pillows, Blanket, etc			
Bed rooms, G.Ward, Consultants Rooms, Emergency, ICU, CCU	140	50,000	7,000,000
	140		
Examination couch			
Consultants rooms, Diagnostic Center	13	20,000	260,000
	13		
Furniture			
Sofa set 3 seater			
Reception and waiting room	5	20,000	100,000
Diagnostic	1	20,000	20,000
Bed rooms	25	20,000	500,000
Consultants rooms	8	20,000	160,000
Admin block	2	20,000	40,000
Nursing centres	3	20,000	60,000
Doctors' Room	3	20,000	60,000
Surgeons room	1	20,000	20,000
Lounge	8	20,000	160,000
Nurses' room	1	20,000	20,000
	57		
Chairs			
Reception and waiting room	10	5,000	50,000
Emergency	5	4,000	20,000
Diagnostic	6	2,000	12,000
Sterilization room	2	2,000	4,000
Laboratory	5	2,000	10,000
Consultants rooms	8	7,000	56,000
Admin block	15	7,000	105,000
Nursing centres	6	7,000	42,000
Doctors' Room	6	7,000	42,000
Surgeons room	2	7,000	14,000
Recovery room	2	7,000	14,000
Nurses' room	2	7,000	14,000
	69		
Office tables			
Diagnostic	2	20,000	40,000
Laboratory	2	20,000	40,000
Consultants rooms	8	20,000	160,000
Admin block	4	20,000	80,000
Nursing centres	3	20,000	60,000
Doctors' Room	3	20,000	60,000
Surgeons room	1	20,000	20,000
Nurses' room	1	20,000	20,000
	24		
Bed Side Cabinets			
Bed rooms, G.Ward, Emergency, ICU, CCU	100	8,000	800,000
	100		
Mobile stretcher trollys			
	8	10,000	80,000
	8		
Wheel Chairs			
	8	10,000	80,000
	8		
Instrument Trolley			
	10	10,000	100,000
	10		
Total Furniture & Equipment Cost			10,323,000

Office Equipment Requirement

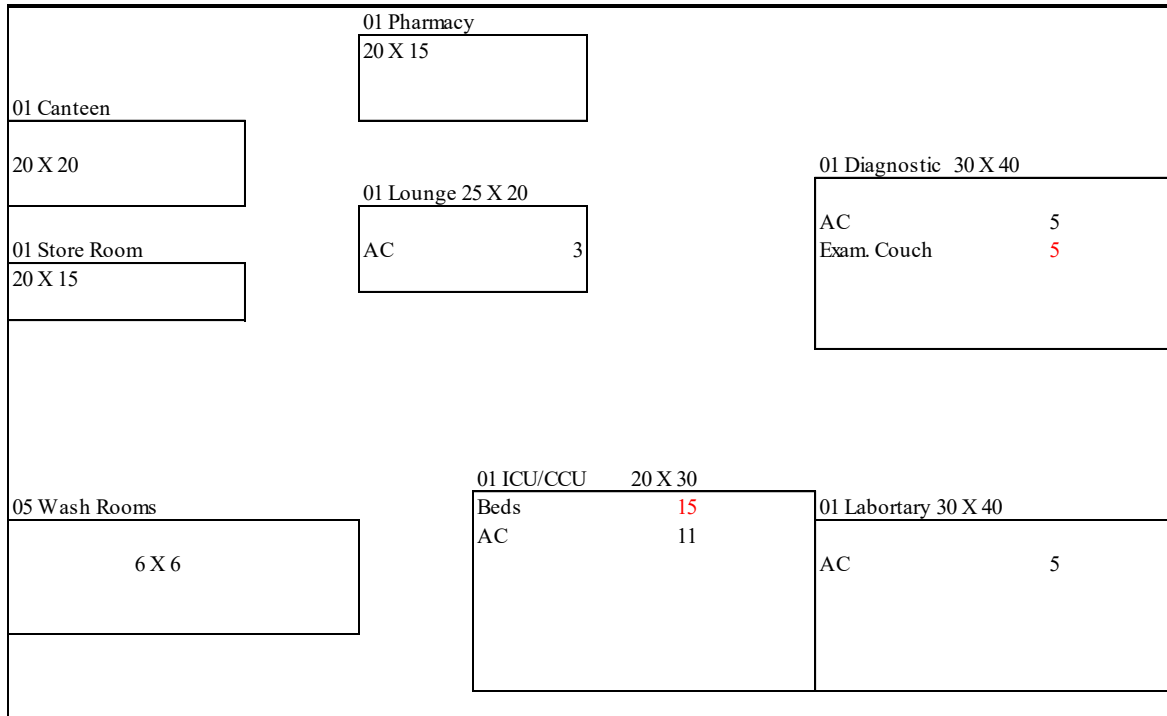
Description	No	Unit Cost (Rs)	Total Amount (Rs.)
LCD for Rooms	30	65,000	1,950,000
LCD for Reception & Waiting Lounge	5	125,000	625,000
Fridge / Refrigerators	30	65,000	1,950,000
File Cabinets	20	25,000	500,000
Electric wiring & lighting	1	3,000,000	3,000,000
Air conditioners (1.5 ton Split)	115	75,000	8,625,000
Total			16,650,000

Office Equipment Required

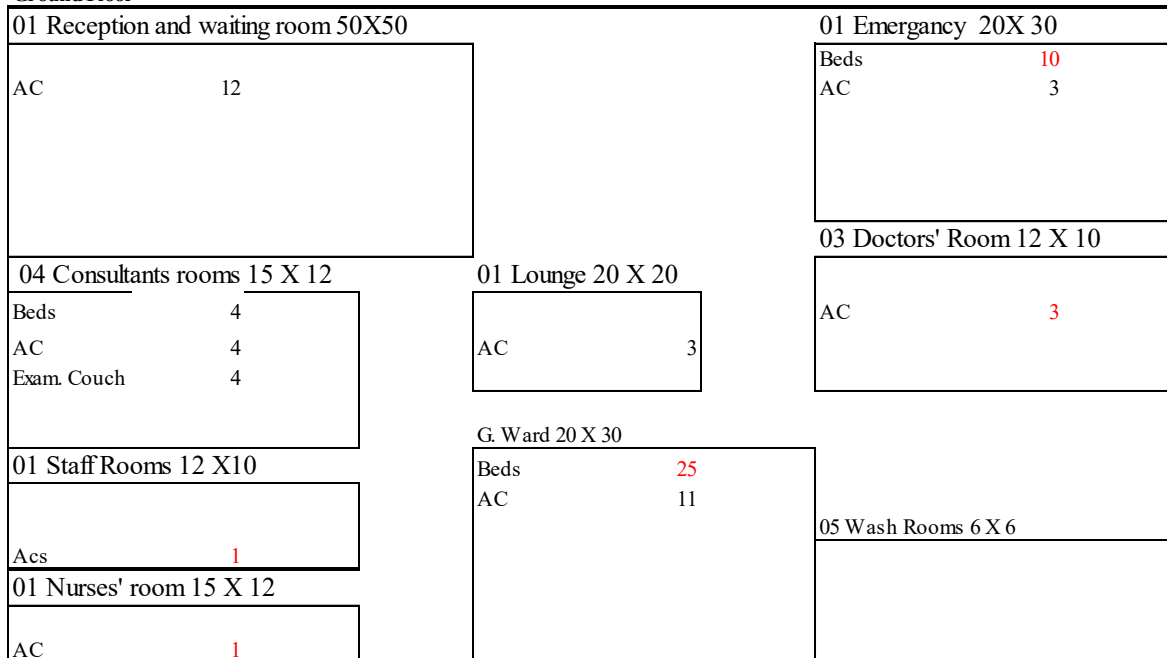
Description	Nos	Unit Cost	Total Cost
Computer server (s)	1	500,000	500,000
Laptop	10	150,000	1,500,000
Computer with UPS	20	70,000	1,400,000
Printer	7	15,000	105,000
Telephone exchange	1	25,000	25,000
Telephone Sets	100	5,000	500,000
Fire Extinguishers	50	15,000	750,000
Total Office Equipment			4,780,000

13.3 Tentative Layout of departments and infrastructure

Basement



Ground Floor



1st Floor

12 Bed rooms 14 X 14		01 Day Care Facility 25 X 25	
Beds	12	AC 3	
AC	12		
04 Consultants rooms 15 X 12		01 Space for Stairs and Elevator	
Beds	4	20 X 15	
AC	4		
Exam. Couch	4	01 Store room 20 X 15	
01 Staff Rooms 12 X 10		01 Special Ward 20 X 30	
AC 1		Beds	25
		ACs	3
		05 Wash Rooms 6 X 6	

2nd Floor

13 Bed rooms 14 X 14		01 Operation theatre 30 X 30	
Beds	13	AC 4	
AC	13		
01 Recovery room 15 X 12		01 Space for Stairs and Elevator	
AC 1		20 X 15	
01 Sterlization room 15 X 15		01 Surgeons room 12 X 10	
Acs 1		AC 1	
01 Staff Room 12 X 10		01 Admin Block 25 X 20	
AC 1		Acs 3	
		05 Wash Rooms 6 X 6	

Small and Medium Enterprises Development Authority

HEAD OFFICE

4th Floor, Building No. 3, Aiwan-e-Iqbal Complex, Egerton Road, Lahore
Tel: (92 42) 111 111 456, Fax: (92 42) 36304926-7

www.smeda.org.pk, helpdesk@smeda.org.pk

REGIONAL OFFICE PUNJAB	REGIONAL OFFICE SINDH	REGIONAL OFFICE KPK	REGIONAL OFFICE BALOCHISTAN
3 rd Floor, Building No. 3, Aiwan-e-Iqbal Complex, Egerton Road Lahore, Tel: (042) 111-111-456 Fax: (042) 36304926-7 helpdesk.punjab@smeda.org.pk	5 TH Floor, Bahria Complex II, M.T. Khan Road, Karachi. Tel: (021) 111-111-456 Fax: (021) 5610572 helpdesk-khi@smeda.org.pk	Ground Floor State Life Building The Mall, Peshawar. Tel: (091) 9213046-47 Fax: (091) 286908 helpdesk-pew@smeda.org.pk	Bungalow No. 15-A Chaman Housing Scheme Airport Road, Quetta. Tel: (081) 831623, 831702 Fax: (081) 831922 helpdesk-qta@smeda.org.pk