BLOOD CENTRE

DOW UNIVERSITY OF HEALTH SCIENCES

STRATEGIC PLAN

(2024 – 2027)

Pioneering Excellence | Inspiring Innovation

To Heal | To Educate | To Discover


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DIRECTOR'S MESSAGE

Regional Blood Centre DUHS pledged to provide safe blood to the masses without any discrimination. At BLOOD CENTER DUHS, we adhere to the international standards of transfusion practices with a stringent screening process to make the collected blood as safe as possible. This is a well-equipped, state-of-the-art facility with trained staff working on FDA-approved instruments for blood screening. We have an ambition to establish a city-wide blood transfusion network from the platform of Dow University to cater to the problem of making safe blood available to patients at times of dire need.

Apart from blood services, we are also providing standard teaching and hands-on training to make the blood bank practices more proficient throughout the region. I am confident that RBC DUHS will be able to recognize itself as a benchmark in the transfusion world and will prove a great boon for poor people who otherwise could not afford quality blood.

Dr. Uzma Ata
Director Blood Centre DUHS

EXECUTIVE SUMMARY

The blood bank of Dow University of Health Sciences was established in 2003 and serves as a hospital blood bank with facilities for blood collection, basic serology including blood grouping and compatibility testing, and blood screening for transfusion-transmitted infections through CLIA and NAT. Blood was issued on a 100% replacement basis.

ABOUT THE BLOOD CENTRE

In 2022, the Sindh government initially planned to upgrade the Dow University of Health Sciences (DUHS) blood bank to a Regional Blood Centre (RBC) under Phase II of the German Development Bank-funded National Safe Blood Transfusion Program. This plan included managing four associated hospital blood banks to provide safe, free blood to public sector hospitals. However, due to funding shortages from the Sindh government, this objective could not be fully realized. The National Safe Blood Transfusion Program (SBTP) provided initial support, including a blood bank software license and essential equipment to support its upgrade.

DUHS Blood Centre now operates on a business model. It functions as a hub-and-spoke system, currently managing four citywide blood banks. Formal contracts were established to bring private blood banks into the network, and they are compensated on a cost-recovery basis, supporting the project's long-term viability.

DISTINGUISHED FEATURES

Nucleic Acid Amplification Testing

All the donor samples are tested individually for NAT (Nucleic Acid Testing) without pooling, hence reducing the residual risk of transfusion-related infections. Blood Collection and safe blood distribution is open 24/7 and 365 days throughout the year.

ICCBBA

In April 2023, DUHS Blood Centre acquired membership in ICCBBA (International Council for Commonality in Blood Banking Automation) and is now working on the Blood Bank Management Information System. This software operates to ISBT 128 standards.

ISBT 128 More than Identification SUPPORTED

At present, we are completely operational on electronic systems using a blood bank management information system that is ISBT 128 supported. ISBT 128 is the global standard for the terminology, identification, coding, and labeling of medical products of human origin (including blood, cell, tissue, milk, and organ products), and provides 100% traceability of the blood unit. This seamless and paperless

workflow enables the blood center to deal with large volumes of blood safely. The current system enables RBC DUHS to have a timely, city-wide supply of blood and blood products. Blood components include red blood cells, platelets, fresh frozen plasma, cryoprecipitate, Cry supernatant, pediatric aliquots, and other modified blood products available for supply in different hospital blood banks.

COLLEGE of AMERICAN PATHOLOGISTS
Laboratory Quality Solutions

Quality defines our every action at the Regional Blood Center D.U.H.S. Our laboratory performance is rigorously assessed through external proficiency testing provided by the College of American Pathologists **(CAP),** a valuable tool for verifying the accuracy and reliability of our test results.

ACCOMPLISHMENTS

TECHNICAL

1. **Implementation of a comprehensive hub-and-spoke model for efficient blood supply across the city:** Recognizing the need for safe blood distribution, DUHS Blood Center has strategically positioned itself as the central hub, partnering with various hospital blood banks in the city. This structure operates under formal contracts, establishing clear protocols and responsibilities for each stakeholder.

2. **Electronic Paperless Operations:** We have successfully implemented a slick, paperless, and technology-savvy electronic blood bank management information system. Eliminated paper-based processes and ensured efficient data capture, tracking, and reporting. This system meets international standards and improves transparency, traceability, and overall blood safety.

3. **ICCBBA Membership and Adherence to ISBT 128 Standards:** DUHS is now a proud member of the **International Council for Commonality in Blood Banking Automation (ICCBBA),** demonstrating its commitment to adhering to the highest international standards in transfusion practices. Our blood bank operates in accordance with the **ISBT 128** barcode labeling system.

4. **Blood Collection:** With an existing load of 18000-20,000 units annually, RBC DUHS has adopted a combined approach to blood collection with both voluntary and replacement donors. We are working on an appointment system, digital blood inventory management, and donor communication to escalate the current volumes due to constantly rising blood demand.

5. **Infrastructure and Expertise:** At present, DUHS Blood Centre boasts a well-equipped facility with modern equipment and technology funded by the

Save Blood Transfusion Program Pakistan (SBTP) in collaboration with the German development bank. Efficiently implemented Standard Operating Procedures (SOPs) to enhance operational efficiency based on AABB standard guidelines. We have a team of trained professionals, including pathologists, blood bank technologists, and technical trainers, ensuring the highest standards of blood collection, processing, storage, distribution & quality assurance.

6. Academics: With the esteemed approval of the Honorable Vice Chancellor of Dow University of Health Sciences, RBC DUHS has started a comprehensive, hands-on certificate program on basic blood banking skills. Also, the re-launch of the MS in Transfusion Medicine is in process, which is an approved program and in the process of revision and further approvals.

7. Establishment of Blood Donor Centre:
   With the generous support of our esteemed corporate partners, the DUHS Blood Center has successfully raised 5.5 million to convert the old huts next to the Sero biology building into a modern blood donor collection center. This compact space is fully equipped with all the necessary facilities to efficiently handle the growing demand for blood collecting. The facility was officially inaugurated by the honorable Vice Chancellor in September 2024.

8. Phenotype Blood
   The DUHS Blood Centre provides comprehensive blood services, including ABO grouping, discrepancy resolution, compatibility testing, and alloantibody screening. We are also the first public sector facility to offer phenotype blood.

9. AABB standards
   At present, the processes and procedures followed by the blood Centre are based on AABB standard guidelines for the collection, preparation, and screening of blood components. All are implemented in accordance with AABB standards.

10. Pre-assessment of ISO 15189 from PNAC
    Having successfully cleared the pre-assessment (January 2025), we have proceeded with our application for the final audit for ISO 15189. This accreditation, which is a hallmark of competent and high-quality medical laboratories, will greatly instill confidence in our consumers.

ACADEMICS

Training and Education Department:

DUHS Blood Center prioritizes ongoing capacity building. New staff receive intensive, structured training and must demonstrate both theoretical (80% pass rate) and practical (100% competent) proficiency before handling live donors and patient material. Capable of training 30 blood bankers, the Blood Center's training science laboratory simultaneously features full audio-visual equipment and all the basic tools for real-time sessions. A blood bank management information system is also available on dedicated training servers on the serology benches.

Certificate Course in Basics of Blood Bank Skills

Two batches of this certificate course have been completed successfully. Professionals working in the field of transfusion gain a comprehensive understanding of blood bank serological techniques through this course. Key topics include antigen-antibody concepts in blood banking, Rh grouping, weak D determination, direct and indirect antiglobulin testing, compatibility testing, alloantibody screening, phenotyping, and quality assurance, enabling them to enhance their critical thinking and problem-solving skills.

Certificate Course on Mastering Patient Phlebotomy and Blood Donor Collection Techniques.

A comprehensive short course has been designed to provide in-depth training in patient phlebotomy and blood donor collection techniques. This program is tailored for patient phlebotomists, blood bank phlebotomists, laboratory science students, and professionals working in transfusion medicine. The course will focus on hands-on skills, including proficient patient phlebotomy, blood donor registration, medical history taking, and performing physical examinations of donors, emphasizing their significance. Participants will also learn donor venipuncture using internationally recognized aseptic techniques, quality assurance in blood collection, and other essential practices to ensure safe and efficient donor procedures.

Masters in Blood Transfusion Medicine

An innovative learning program has been developed for MBBS doctors and pathologists, offering specialized and comprehensive training in blood transfusion medicine. This program combines essential medical knowledge with core competencies in donor and patient care, alongside hands-on procedural skill development. Participants will be trained in internationally recognized best practices to address current and future challenges in blood banking and transfusion medicine.

The program aims to prepare physicians to manage blood bank facilities efficiently and effectively. A major challenge in the country is the unsafe blood supply, driven by inconsistent and varied practices in transfusion medicine, which contributes to

a higher disease burden and compromised patient care. By addressing these issues through standardized training and international best practices, the program will not only improve blood transfusion safety and patient outcomes but also create job opportunities by producing highly skilled professionals in the field of transfusion medicine. This will help meet the growing demand for expertise in this critical area. The course has been reviewed and endorsed by the Board of Studies and is now in the process of awaiting approval from the Higher Education Commission.

INTRODUCTION & OVERVIEW

SCOPE OF SERVICES

1. TESTING FOR TRANSFUSION-TRANSMITTED DISEASES

All the blood bags are meticulously tested for the following infections on clia (chemiluminescent immunoassay technology).

- HBsAg
- Anti HCV
- Syphilis antibodies
- HIV (duo) 1, 2 and p24

Malarial parasites are detected with rapid Immunochromatographic technique (ICT) on blood donor samples.

2. NUCLEIC ACID TESTING

RBC DUHS is Pakistan's first Regional Blood Centre to provide **NAT-tested** blood to the masses. Nucleic Acid Testing is performed on every single donor sample. Viral markers with their discriminatory tests are performed on Cobas 5800 NAT testing machine by ROCHE. Human Immunodeficiency Virus **(HIV)** - Hepatitis C Virus **(HCV)** - Hepatitis B virus **(HBV), thus making the blood products safe for human consumption.**

3. BLOOD PRODUCTS AVAILABLE IN THE BLOOD CENTER:

- Red Blood Cells
- Fresh Frozen Plasma
- FP24
- Platelets
- Cryoprecipitate
- Cryosupernatant
- Pediatric aliquots
- Washed packed cells.
- Neonatal exchange units
- Irradiated blood components

4. SEROLOGY

The following testing services are available for inpatients as well as for outpatients at RBC DUHS

- Blood Group
- Cross Match
- Red Cell Screening

- Red Cell Antibody Identification –
- ABO discrepancy workup
- Blood transfusion reaction workup
- DAT (Poly Specific) - DAT (Mono Specific)
- Adsorption elution techniques - Antibody titer
- Rh Titers
- Phenotype blood (Jka, Jkb, S, s, c, C, e, E, Kell, Fya, Fyb, Kpa)

5. HEMATOLOGY PROCEDURES

(Physician Prescription with medical history and fresh labs are mandatory requirements)

- Therapeutic phlebotomy/venesection
- Platelets Apheresis
- Plasma Apheresis
- Stem cell collection

6. ONLINE SERVICES

- Online Blood Ordering System

The partnering hospital blood banks can order their required amount of inventory online through an online blood ordering system. The order was received at the blood distribution department where the technologist, after reviewing the in-house inventory, confirmed the requested order. Blood is dispatched while maintaining strict cold chains.

- Online Test Ordering System

To provide full spectrum, high-end, complex serology testing, RBC DUHS has established a reference laboratory with skill sets and reagents available to perform problem-solving of difficult cases where different centers in and outside Karachi (HBB's and Thalassemia centers) are unable to provide compatible units. They can request their desired testing through the Online Test Ordering System. All the required testing is performed, and the results are pushed electronically in due course.

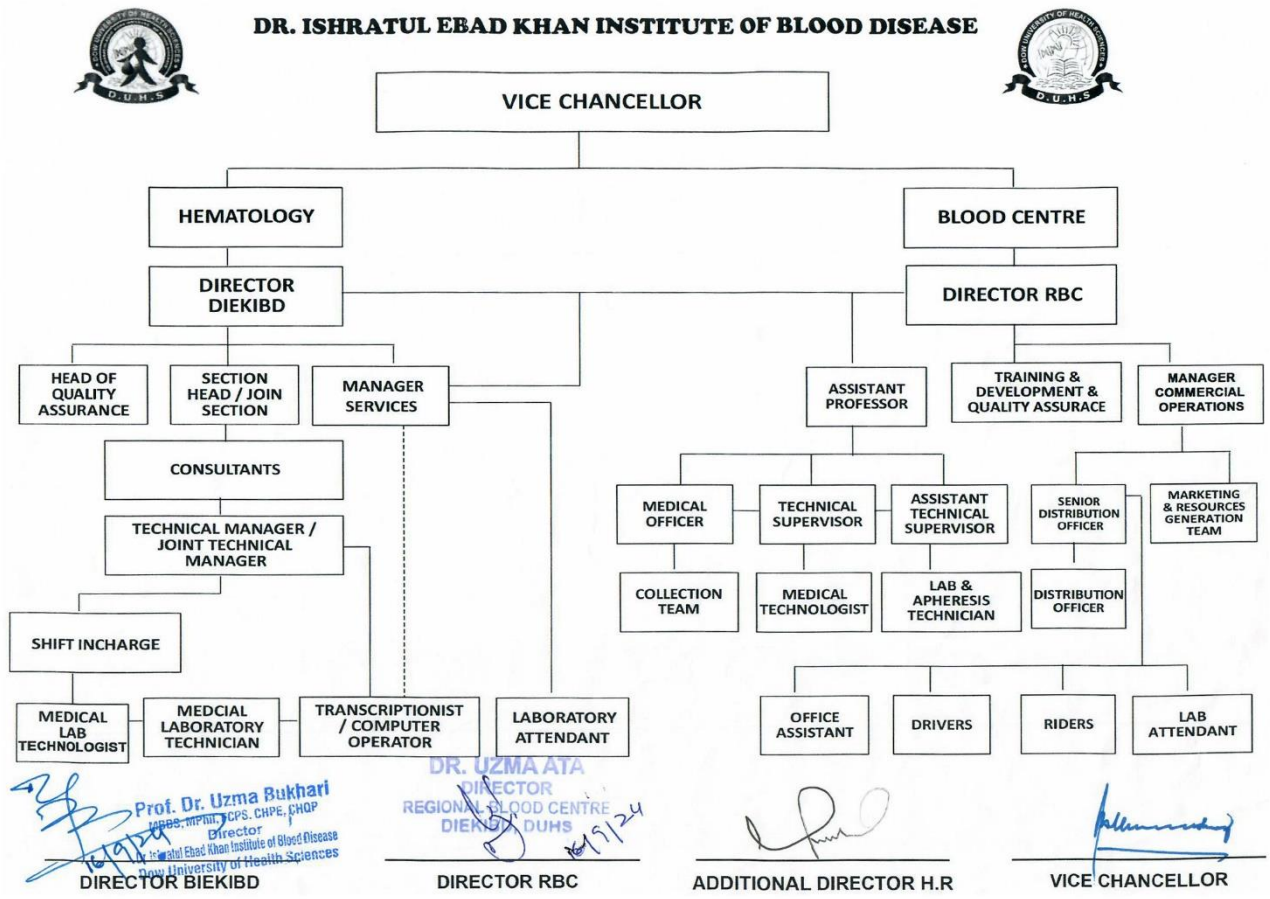
- Reporting Results

The entire blood banking process is driven by in-house developed workflow software, employing ISBT 128 barcode systems, and built around the AABB regulations, thereby ensuring 100% traceability. The software identifies, prevents, and notifies errors in the process through user notifications, incidence reporting, and admin reports. This Blood Bank Information System is integrated with the hospital's Management Information System. The requests from the medical staff are generated in HMIS, which is transmitted in BBMIS in real time and shown on the

screens in the blood center. All the testing is performed at serology benches, and results are immediately transmitted in HMIS and visualized on the floors.

For blood donors, both options are available as they can receive their reports via email in soft copy or by hand as hard copy from DUHS Blood Center.

ORGANOGRAM


DR. ISHRATUL EBAD KHAN INSTITUTE OF BLOOD DISEASE
VICE CHANCELLOR
HEMATOLOGY
BLOOD CENTRE
DIRECTOR DIEKIBD
DIRECTOR RBC
HEAD OF QUALITY ASSURANCE
SECTION HEAD / JOIN SECTION
MANAGER SERVICES
ASSISTANT PROFESSOR
TRAINING & DEVELOPMENT & QUALITY ASSURACE
MANAGER COMMERCIAL OPERATIONS
CONSULTANTS
TECHNICAL MANAGER / JOINT TECHNICAL MANAGER
MEDICAL OFFICER
TECHNICAL SUPERVISOR
ASSISTANT TECHNICAL SUPERVISOR
SENIOR DISTRIBUTION OFFICER
MARKETING & RESOURCES GENERATION TEAM
COLLECTION TEAM
MEDICAL TECHNOLOGIST
LAB & APHERESIS TECHNICIAN
DISTRIBUTION OFFICER
SHIFT INCHARGE
MEDICAL LAB TECHNOLOGIST
MEDCIAL LABORATORY TECHNICIAN
TRANSCRIPTIONIST / COMPUTER OPERATOR
LABORATORY ATTENDANT
OFFICE ASSISTANT
DRIVERS
RIDERS
LAB ATTENDANT
Prof. Dr. Uzma Bukhari
Director
Dr. Ishratul Ebad Khan Institute of Blood Disease
Dow University of Health Sciences
DR. UZMA ATA
DIRECTOR
REGIONAL BLOOD CENTRE
DIEKIBD, DUHS
DIRECTOR BIEKIBD
DIRECTOR RBC
ADDITIONAL DIRECTOR H.R
VICE CHANCELLOR

SECTION I: OVERVIEW OF THE STRATEGIC PLANNING PROCESS

Dow University Blood Centre's strategic plan centers on two key goals: expanding safe blood access to challenging hospital settings and advancing academic excellence in transfusion science. We achieve this through curriculum modernization, research, collaboration, and the creation a technology-forward environment. Ultimately, we aspire to position this public sector facility as a global leader, rivaling any private institution.

STRATEGIC PLANNING COMMITTEE

MEMBERS	DESIGNATIONS
Dr. Uzma Ata	Director Blood Center
Dr. Samra Waheed	Consultant Hematologist
Mr. Waqas Ahmed	Manager Commercial Operations
Mr. Inayat Ullah Khan	Deputy Manager Quality and Training
Mr. Salman Ali	Assistant Manager Technical
Mr. Amjid Hanif	Technical Trainer

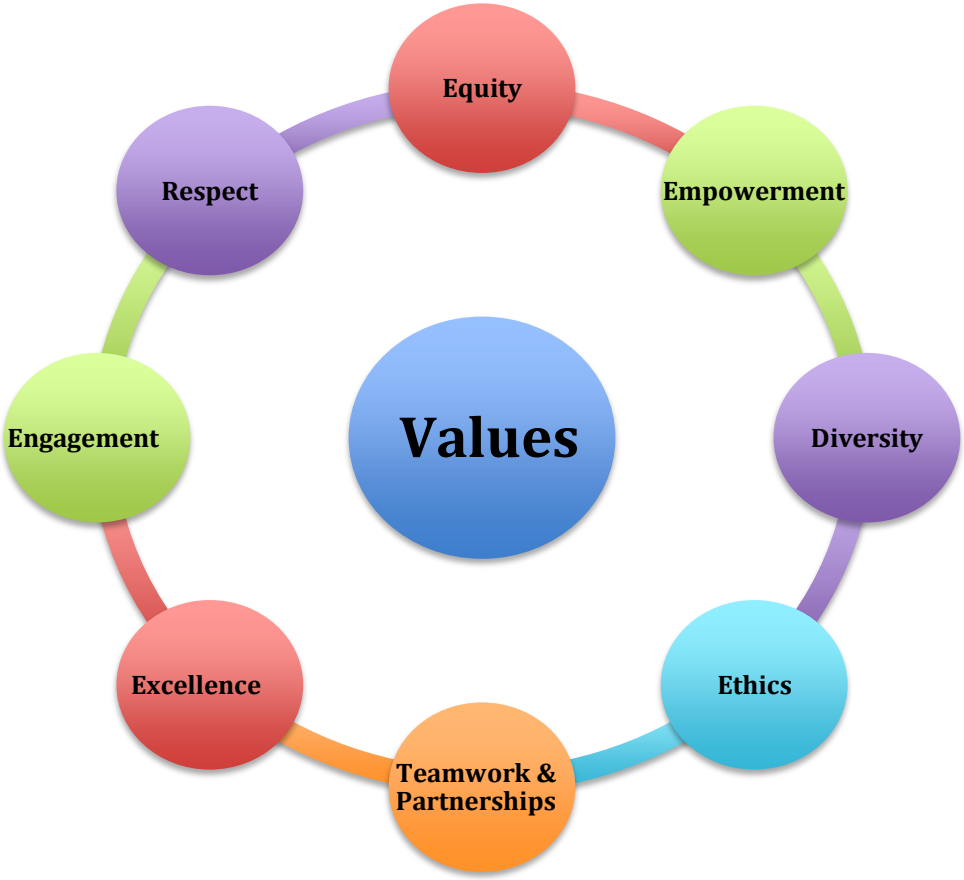
SECTION II: VISION, MISSION, & VALUES

VISION

To be a pre-eminent academic institution committed to changing and saving lives.

MISSION

Providing outstanding patient-centered education, training, and clinical care informed by cutting-edge research and innovation, generating and disseminating new knowledge



VALUES

- Customer Service
  - Put students first
- Empathy & Compassion
  - Understand before you judge
  - Be concerned for the sufferings and misfortunes of others
- Excellence
  - Be the best and commit to exceptional quality and service

- Innovation
    - Encourage curiosity, imagination, creation, and sharing
- Teamwork
    - Engage and collaborate
- Integrity & Leadership
    - Be a role model and influence others to achieve their best
    - Have the courage to do the right thing
    - Hold yourself and others accountable

- Respect & Collegiality
    - Be kind
    - Listen to understand
    - Value different opinions

STATEMENT OF PURPOSE

DUHS Blood Center ensures a consistent supply of safe blood to the community. We are committed to upholding the highest international standards in blood safety while fostering a network that connects blood donors with patients.

SECTION III: ASPIRATIONAL INSTITUTIONS

- NATIONAL INSTITUTIONS

1. The Indus Hospital and Health Network Blood Centre
2. Regional Blood Centre Jamshoro (Managed by IHHN-BC)
3. Regional Blood Centre Multan (Managed by IHHN-BC)
4. Regional Blood Centre Bahawalpur (Managed by IHHN-BC)
5. The Agha Khan Hospital Blood Bank

- INTERNATIONAL INSTITUTIONS/BODIES

1. AABB (Association for the Advancement of Blood & Biotherapies) (https://www.aabb.org/)
2. American Red Cross (https://www.redcross.org)
3. The New York Blood Centre (https://www.nybc.org/)
4. Carter Blood Care (https://www.carterbloodcare.org/)

SECTION IV: STRATEGIC GOALS

Goal 1: **Increase Voluntary Blood Donations**

Objective 1: Voluntary Blood Donation Drives

Goal 2: **Achieve and Maintain ISO 15189 Accreditation and Align current processes with CAP (Transfusion Medicine Standards Checklist)**

Objective 1: ISO 15189 Documentation and Process Alignment

Objective 2: Complete the CAP Transfusion Medicine Checklist

Goal 3: **Strengthen the Hub-and-Spoke Model for Safe City-Wide Blood Distribution**

Objective 1: Formalization of Hospital Blood Bank Agreements

Goal 4: **Initiate Academic Programs in Transfusion Medicine**

Objective 1: Development of Academic Programs in Transfusion Medicine

Goal 5: **Enhance Research and Publication in Transfusion Medicine**

Objective 1: Annual Research Publication

OBJECTIVES, OKRs, & KPIs

Strategic Goal 1: Increase Voluntary Blood Donations							
OKR (Objective and Key Results)							
Objective 1: Voluntary Blood Donation Drives							
Objective	**Key Results**	**KPI**	**Measurement Method**	**Resource Requirement**	**Target**	**Person Responsible**	**Timeline**
Initiating voluntary blood donation drives to achieve a minimum of 1.5% voluntary donations, with a year-on-year increase.	KR1.1: Achieve a 1.5% voluntary donation rate within the first year of implementation.	# of Voluntary blood Donations collected/Total blood donations collected in DUHS-BC	Data from BBMIS of voluntary blood donors vs total donation	Temperature Vehicles, Mobile donation units, and relevant HR required	1.5% of the total draw year-on-year	Manager Commercial Operations, Senior Medical Officer	2024-2030
	KR 1.2: Increase the voluntary donation rate by 1.5% each subsequent year.			Budget required for Awareness campaign and for marketing collaterals/vehicles and fuel expenses			
	KR 1.3: Collaborate with local organizations /community to hold voluntary blood camps	No. of host sites added in a quarter/Annual Target of host sites recruitment	Number of voluntary blood drives arranged in BBMIS	Trained Blood Donors Mobilization Team, Budget, and Marketing Strategic Plan on a mass level with sponsors for voluntary donor mobilization	6 camps /quarter (3 Camps successfully scheduled in one qtr.)	Manager Commercial Operations, Senior Medical Officer	At least 9.0% of the total blood collected in 2030 should be voluntary donations.

Strategic Goal 2: Achieve and Maintain ISO 15189 Accreditation and Align current processes with CAP (Transfusion Medicine Standards Checklist)							
OKR (Objective and Key Results)							
Objective 1: ISO 15189 Documentation and Process Alignment							
Objective	**Key Results**	**KPI**	**Measurement Method**	**Resource Requirement**	**Target**	**Person Responsible**	**Timeline**
Align all documentation, processes, and procedures with ISO 15189 requirements.	KR 1.1: Achieve ISO 15189 full accreditation as an independent blood center facility.	Complete the alignment of 100% of documentation and procedures with ISO 15189 standards within the given timeline.	Results of audit visits by PNAC (by Number of observations and NC)	Budget allocation for the accreditation	100 % documentation as per the checklist	Director Blood Center & Deputy Manager Qat	First Qtr. Of 2025
	KR 1.2: Conduct quarterly internal and surprise audits to ensure ongoing compliance with ISO 15189.	Number of Noncompliance or SOP violations & breaches registered/		CCTV Surveillance, requirements to address gap analysis. Continuous training of QA staff on updated TQM tools	100 % documentation as per the checklist	Deputy Manager QAT and QAT Officer	Quarterly Internal Audit
Objective 2: Complete the CAP Transfusion Medicine Checklist							
Objective	**Key Results**	**KPI**	**Measurement Method**	**Resource Requirement**	**Target**	**Person Responsible**	**Timeline**
To achieve compliance with CAP Transfusion Standards	KR 2.1: Complete all documents and requirements as per the CAP checklist	Percentage of checklist docs completed/ List of documentation required	Acquired CAP checklist for DUHS Blood Centre	All resources and budget allocation for additional testing and other requirements as per the CAP checklist	100 % documentation as per the checklist	Director Blood Centre, Consultant Hematologist & DM QAT	2026-June

Strategic Goal 3: Strengthen the Hub-and-Spoke Model for Citywide Safe Blood Distribution							
OKR (Objective and Key Results)							
Objective 1: Formalization of Hospital Blood Bank Agreements							
Objective	**Key Results**	**KPI**	**Measurement Method**	**Resource Requirement**	**Target**	**Person Responsible**	**Timeline**
Finalize agreements with major hospital blood banks in the city to create a strong network based on clear terms of reference.	KR 1.1: Finalize agreements with at least 1 major hospital blood bank within the next 6 months.	Number of agreements formalized with hospital blood banks / Annual Target	MOUs finalized through the registrar's office	All resources are required to increase blood volumes, including HR, Vehicles & vehicles for camps and blood movements, and blood camp equipment.	Take a minimum of two service partners on board every year	Manager Commercial Operations	At least 08 HBBs till 2025-2030.

Strategic Goal 4: Initiate Academic Programs in Transfusion Medicine							
OKR (Objective and Key Results)							
Objective 1: Development of Academic Programs in Transfusion Medicine							
Objective	**Key Results**	**KPI**	**Measurement Method**	**Resource Requirement**	**Target**	**Person Responsible**	**Timeline**
Initiate different Academic Programs in Transfusion Medicine.	KR 1.1: Design and finalize the curriculum for at least 2 certificate courses in transfusion medicine.	The number of academic programs developed and initiated. /Annual Target	Course launched with Number of student enrollments	Working space, furniture including chairs and tables, cabinets, IT equipment including computer systems, printers, adequate stationary items, consumables, and essential lab equipment.	2 certificate courses each year	Director BC, Hematologist & QAT department	2025(Q1 & Q3)
	KR 1.2: Organize and conduct (at least) 2 workshops and 4 (CME) sessions every year.	Number of workshops and CME sessions conducted/ Annual Target.	CME participant attendance sheet	Funds for CME for credit hours approvals, Refreshments, Handouts, Equipment, and Reagents.	2 major workshops and 4 CMEs in a year	Consultant Hematologist, Director Blood Centre and Deputy Manager QAT	2025-2030
	KR1.3: Develop and get approvals for MS programs in Transfusion Medicine/Blood banking	Initiation of the MS Program	Approved documents/Emails from concerned bodies	Budget and Curriculum approvals from concerned bodies.	Initiate a master's Program in 2025, depending on approvals	Director DIEKIBD, Director Blood Centre and Consultant Hematologist	2025-2026, depending on the time taken for approvals

Strategic Goal 5: Enhance Research and Publication in Transfusion Medicine							
Goal Statement:							
OKR (Objective and Key Results)							
Objective 1: Annual Research Publication							
Objective	**Key Results**	**KPI**	**Measurement Method**	**Resource Requirement**	**Target**	**Person Responsible**	**Timeline**
Publish at least one peer-reviewed research paper annually based on data from the Blood Bank Management Information System (BBMIS) and surveys.	KR 1.1: Identify key research topics and datasets from BBMIS and surveys for analysis.	Number of research topics identified and approved for study/ annual target	Name and publication number with journal name & rating	Data availability, Statistician for analysis, IRB approvals, and relevant required resources	One research paper every year	Director Blood Centre, Consultant Hematologist	2025-2027
	KR 1.2: Complete data analysis and write the research paper	Progress on data analysis and manuscript drafting/annual target		Statistician, Computer Systems, Storage device, and relevant required funds and resources		Director Blood Centre, Consultant Hematologist	

SECTION V: RESOURCE PLANNING FOR ACHIEVING STRATEGIC GOALS

To address critical infrastructure needs, DUHS management must urgently pursue expansion. Recognizing this, RBC management has proactively secured funding to establish a Blood Donor Center, effectively resolving space constraints in the collection area.

Critically, a shortage of collection staff is impacting donor recruitment, and blood inventory, and generating numerous serious complaints daily. This has been adequately covered in the annual budget request by the blood center.

Persistent staff turnover and inconsistent professional conduct necessitate the strict and consistent application of revised HR policies. Additionally, the strategic committee is actively developing internal policies and procedures for approval by HR and relevant authorities.

Competent staff is crucial to blood center success. Ongoing training ensures a skilled workforce for challenging situations.

Adequate funds are defined and allocated to the finance department in the annual budget.

SECTION VI: IMPLEMENTATION AND MONITORING OF STRATEGIC PLAN

- Regular monthly department meetings are held to monitor defined KPIs. During these meetings, data is presented, deviations are analyzed, and solutions are developed
- Each section of the blood center has defined KPIs, which are reported on the first of every month to monitor progress toward established goals
- The internal quality department conducts quarterly audits to ensure operational compliance with defined standards
- Quarterly meetings of the hospital transfusion committee are conducted to address and resolve issues in collaboration with clinical teams.
- Annual meetings of the management review committee are held to assess our Quality Management System
- Staff competencies are continuously assessed to ensure they meet the requirements for achieving future goals
- Research and data collection

SECTION VII: LIST OF APPENDICES

No.	DESCRIPTION
A	SWOT ANALYSIS
B	TOWS MATRIX

APPENDIX A: SWOT ANALYSIS

STRENGTHS	WEAKNESSES
1. Our cost-effective, yet safest possible blood products 2. We have immediate access to volunteers as we operate from inside the University where we can work on NRBD with limited resources. 3. NAT-tested blood at an affordable price 4. We are registering to thalassemia centers, and NGOs, and creating a hub and spoke network that enhances their outreach and impact. 5. Our cost-effective, yet safest possible blood products give us a good place in the market 6. Providing extensive serology services, in the public sector 7. First public sector Blood Centre provides phenotype blood to thalassemia patients.	1. Sometimes we may face challenges in maintaining a consistent blood supply (especially negative/rare blood groups) due to low voluntary donation percentage, leading to shortages during certain times. 2. Unable to conduct regular blood drives due to lack of resources 3. We face wastage on return from transplant units. Where blood is ordered to avoid havoc at the time of bleeding emergencies 4. Transportation and distribution logistics can pose challenges, especially in very hot weather without temperature-controlled vehicles. 5. Budget constraints from the government. 6. Misconceptions about the blood donation process, safety, and usage may deter potential donors, impacting the overall blood supply. 7. Staff unprofessional behavior in the public sector is at times seriously challenging 8. Space constraints

OPPORTUNITIES	THREATS
1. Sitting in a university hospital, we can capitalize on opportunities to educate the public about the importance of regular blood donation and dispel myths surrounding the process. 2. Collaborating with private entities, NGOs, and governmental organizations can open avenues for additional resources, support, and extended outreach. 3. We can introduce mobile blood donation units to facilitate reaching remote or underserved areas, increasing accessibility and donor participation. 4. Investing in research and training to improve blood operations and capacity building.	1. Pandemics and unforeseen civil events can lead to low donor footfalls. 2. Evolving regulations and compliance requirements may pose challenges. 3. Blood centers may face competition with other healthcare initiatives for funding, skilled personnel, and technological resources. 4. Natural disasters, such as earthquakes or hurricanes, can disrupt the supply chain and infrastructure, affecting the timely provision of blood products. 5. Economic downturns and inflation can lead to reduced supplies and high cost of blood components, potentially affecting the operational capacity of the blood center.

APPENDIX B: TOWS MATRIX

	OPPORTUNITIES	THREATS
	1. Sitting in a university hospital, we can capitalize on opportunities to educate the public about the importance of regular blood donation and dispel myths surrounding the process. 2. Collaborating with private entities, NGOs, and governmental organizations can open avenues for additional resources, support, and extended outreach. 3. We can introduce mobile blood donation units to facilitate reaching remote or underserved areas, increasing accessibility and donor participation. 4. Investing in research and training to improve blood operations and capacity building.	1. Pandemics and unforeseen civil events can lead to low donor footfalls. 2. Evolving regulations and compliance requirements may pose challenges. 3. Blood centers may face competition with other healthcare initiatives for funding, skilled personnel, and technological resources. 4. Natural disasters, such as earthquakes or hurricanes, can disrupt the supply chain and infrastructure, affecting the timely provision of blood products. 5. Economic downturns and inflation can lead to reduced supplies and high cost of blood components, potentially affecting the operational capacity of the blood center.
STRENGTHS	SO	ST
1. Our cost-effective, yet safest possible blood products 2. We have immediate access to volunteers as we operate from inside the University where	1. Alumni and students can volunteer and promote voluntary blood donations. 2. Financial strengthening through public-private partnerships by taking different HBBs on board.	1. As a public sector university, we benefit from relatively streamlined access to public offices for budget release and making safe blood available to the masses. However,

we can work on NRBD with limited resources. 3. NAT-tested blood at an affordable price 4. We are registering to thalassemia centers, and NGOs, and creating a hub and spoke network that enhances their outreach and impact. 5. Our cost-effective, yet safest possible blood products give us a good place in the market 6. Providing extensive serology services, in the public sector 7. First public sector, Blood Centre provides phenotype blood to thalassemia patients.	3. Safe blood yet affordable cost in the public sector 4. Adaptation of FDA-approved, advanced technology and best practices will be helpful to provide safe and healthy blood and help achieve the goal of ISO 15189 accreditation. 5. By leveraging the university platform, we can easily launch academic programs in Blood Transfusion Medicine, leading to substantial capacity building, and the development of a skilled workforce with increased institutional revenue and can initiate research. 6. Patients can receive their phenotype blood transfusion through this public health service.	delays in funding can significantly impact the outcomes and overall objectives of the BC project. 2. Utilizing a blood donor registry through BBMIS will enable the blood center to efficiently contact rare blood group donors, ensuring timely blood availability for patients and helping us move on to electronic crossmatch. However, resource limitations, such as a lack of required resources and budget constraints, may impede this process.
WEAKNESSES	WO	WT
1. Sometimes we may face challenges in maintaining a consistent blood supply (especially negative/rare blood groups) due to low voluntary donation percentage, leading to	1. Implementing a rigorous appraisal cycle, coupled with an approved career path policy and a transparent increment system, can effectively retain and attract competent human resources. 2. Non-compliance to laid down SOPs results in mal practices and difficult to achieve required standards.	1. Blood is a critical resource for any blood center. Without a formal donor mobilization team or adequate resources to engage potential donors, we risk an inventory shortage, which will directly impact patient care. 2. An approved emergency plan, involving local bodies,

shortages during certain times. 2. Unable to conduct regular blood drives due to lack of resources 3. We face wastage on return from transplant units. Where blood is ordered to avoid havoc at the time of bleeding emergencies 4. Transportation and distribution logistics can pose challenges, especially in very hot weather without temperature-controlled vehicles. 5. Budget constraints from the government. 6. Misconceptions about the blood donation process, safety, and usage may deter potential donors, impacting the overall blood supply. 7. Staff unprofessional behavior in the public sector is at times seriously challenging 8. Space constraints.	3. Strict and periodic internal audits (financial & technical) from third party can improve the processes and lead to continuous improvement. 4. Insufficient disciplinary action for staff results in a lack of performance improvement in some cases 5. A leading public blood center, boasting advanced lab and testing capabilities, is experiencing rapid growth; however, limited space poses a future challenge, particularly for maintaining accreditation standards.	is necessary to maintain blood inventories during natural and pandemic disasters. 3. Building resilience in our supply chain requires reliance on registered vendors for essential inventory management, particularly during crises like pandemics or natural disasters. A proactive disaster preparedness plan is essential.