



DOW UNIVERSITY OF HEALTH SCIENCES

ANNUAL REPORT 2017-2018

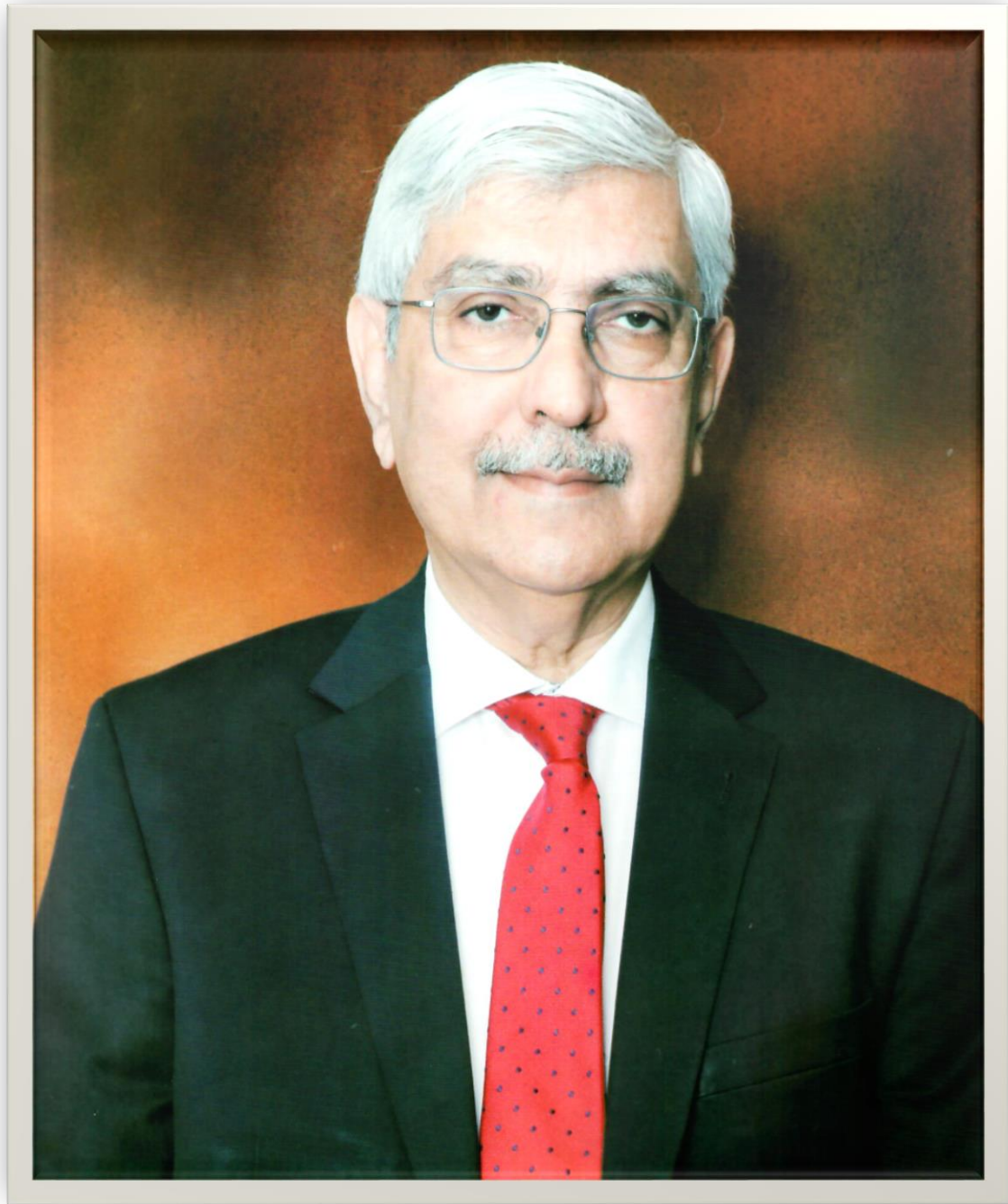


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Prof. Mohammed Saeed Quraishy

Vice Chancellor, Dow University of Health Sciences

Executive Summary

Founded in December 2003, the Dow University of Health Sciences (DUHS) has been developing tradition of excellence in education, research and community service. DUHS has educated and trained more than 8,000 students and residents from 20 academic institutes and colleges. The University currently has nearly 3,000 employees, including approximately 850 faculty members.

The Dow University of Health Sciences (DUHS) offers a multitude of undergraduate and postgraduate programs that cater to the needs of the medical and allied healthcare sciences by providing quality human resources. At the global level, the research creates a demarcation between the curricula of undergraduate and post graduate level studies, and DUHS also emphasizes integrating research as a part of the regular curriculum, in addition to community service. The research, when taught to students at the undergraduate and post-graduate level, develops their habit of learning and acquiring information through primary data sources.

In terms of an Financial Overview, DUHS ended the fiscal year 2017-18 with an overall deficit of Rs. 238 million. Further, during the last year, DUHS has been setting aside the funds against employees' deferred liabilities. The total liabilities stood at Rs. 2722.146 million as on June 30, 2018 however the total assets we were able to earmark on the same date was of Rs. 644.420 million. The major reason of deficit amounting to Rs. 2077.726 million is due to the various announcements of increments by the Government in the past couple of years, such as the change in pay structure in consecutive years and up gradation of posts. Consequently, the difference between assets and liabilities, especially in Staff Pension Fund and Leave Compensated absences, have been widened as a result of revision in government pay scales. Therefore, the University has prioritized and mapped out the parameters for attaining the prime objective of sustainability, which include good governance and strong financial management system.

In 2017-2018, the focus of the University was on acquiring accreditation for all of its programs, with a greater focus on employee development and enhancement of academic and research linkages, in order to make a significant impact in the world of medicine and research. The University is initiating collaborations with international universities, such as AKU for its Bachelors' of Nursing and Master of Science in Nursing Program, and seeking MOUs with talented professionals and scholars to enhance quality of research activities and ultimately, the demand for our graduates worldwide.

VISION OF DOW UNIVERISTY OF HEALTH SCIENCES

To be an academic leader by generating creative, collaborative, contextual resources to improve health and education by all possible means.

MISSION STATEMENT

To provide leadership in creating and imparting knowledge through excellence in research and education with the aim to provide cost effective, contextually relevant and quality community services through its faculty, staff and graduates, with continuous efforts for improvement through reflection and learning.

Colleges, Institutes & Schools of DUHS

	Name of Institute/Colleges
1	<i>Dow Medical College (DMC)</i>
2	<i>Dow Dental College (DDC)</i>
3	<i>Dow International Dental College (DIDC)</i>
4	<i>Dow International Medical College (DIMC)</i>
5	<i>Dr. Ishrat-ul-Ebad Institute of Oral Health Sciences (DIKIOHS)</i>
6	<i>Dow College of Pharmacy (DCOP)</i>
7	<i>Institute of Physical Medicine & Rehabilitation (IPM&R)</i>
8	<i>Dow Institute of Health Professionals Education (DIHPE)</i>
9	<i>Dow Institute of Radiology (DIR)</i>
10	<i>Institute of Nursing (ION)</i>
11	<i>Institute of Health Management</i>
12	<i>Institute of Medical Technology (IMT)</i>
13	<i>School of Public Health (SPH)</i>
14	<i>Dow Research Institute of Bio-Technology & Bio-Medical Sciences (DRIBBS)</i>
15	<i>Dow College of Bio-Technology (DCOB)</i>
16	<i>Dow School of Bio-Medical Engineering Technology (DSBMET)</i>
17	<i>Institute of Basic Medical Sciences (IBMS)</i>
18	<i>Ojha Institute of Chest Diseases (OICD)</i>
19	<i>National Institute of Diabetes & Endocrinology (NIDE)</i>
20	<i>National Institute of Solid Organ & Tissue Transplant (NISOTT)</i>
21	<i>National Institute of Liver & GI Diseases (NILGID)</i>

Academic Departments of Dow University of Health Sciences

1. *Department of Post Graduate Studies (DPGS)*
2. *Professional Development Centre (PDC)*
3. *Office of Research, Innovation, and Commercialization (ORIC)*
4. *Department of Research*
5. *Clinical Trials Unit (CTU)*
6. *Department of Animal Sciences & Advance Research Laboratory*
7. *Digital & Reading Library*

Administrative Departments of Dow University of Health Sciences

1. *Information Technology Department (IT)*
2. *Finance Directorate*
3. *Planning and Development Directorate*
4. *Procurement Directorate*
5. *Examination Department*
6. *Campus Management Solution (CMS)*
7. *Quality Enhancement Cell (QEC)*
8. *Question Bank (Q Bank)*
9. *Admission Department*
10. *Dow Vocational Technical Training Centre (DVTTC)*
11. *Day Care Centre*

The Health System of Dow University of Health Sciences

The Health System of the Dow University of Health Sciences comprises of Dow University Hospital, Dow Diagnostic Research & Reference Laboratory (DDRRL) and Dow Radiology and Diagnostic services.

Brief Profiles of Institutes & Colleges Offering Academic Programs

I. Dow Medical College (DMC)

Dow Medical College (DMC) is one of the oldest medical college in Sindh. Established in 1945, it has a rich history and has been involved in the teaching and training of medical students since the establishment of the college. For more than 60 years, the college has approximately seventeen thousand alumni, who are serving with distinction globally. It is attached to Dr. Ruth Phau Civil Hospital Karachi, Pakistan's largest teaching hospital with departments of all major specialties, and more than 2000 bed occupancy.

The five years course has been divided into 10 semesters. A new system of integrated teaching comprising of applied knowledge has been introduced, in which the students are taught basic subjects in the usual manner, which is later on followed by clinically oriented teaching sessions to explain the clinical application of the basic knowledge spiral after spiral, with enhanced integration of concepts.

II. Dow International Medical College (DIMC)

Dow International Medical College was established in order to facilitate children of overseas Pakistanis as they face various difficulties in entering into medical profession abroad. It is a PM&DC recognized medical college that has been recognized internationally, and included in INTERNATIONAL MEDICAL EDUCATION DIRECTORY (IMED), with approval from the Educational Commission for Foreign Medical Graduates. The laboratories of the college are fully equipped with the latest equipment, including power labs, lecture halls, tutorial rooms and other basic facilities. A state of the art gymnasium and sports and recreational complex also hosts extra-curricular activities for the students. Separate hostels for boys and girls are available, along within the same campus with a regularly monitored security system. Clinical training for the MBBS program of DIMC is provided in the 650-bedded Dow University Hospital, located within the vicinity of the same campus.

III. Dow College of Pharmacy (DCOP)

Dow College of Pharmacy (DCOP) was established in 2007, and it is recognized and accredited by the Pharmacy Council of Pakistan. Dow College of Pharmacy provides pharmacy education to its students, offering graduate and post-graduate degree programs in the field of pharmacy:

- I. Pharm D (Morning and Evening) - A Five years Program for degree of Doctor of Pharmacy*
- II. Master Philosophy in various disciplines, as approved by Pakistan Pharmacy Council.*

Dow College of pharmacy is a leading institute in training of the allied healthcare professionals who are able to conduct innovative research, provide quality pharmaceutical

care and consultancies, along with being at the forefront in formulating pharmaceutical products.

The college is well equipped with audiovisual enabled lecture halls, fully equipped laboratories for *Pharmaceutics, Pharmacology, Pharmaceutical Chemistry, Pharmacognosy, Industrial Pharmacy, Quality Assurance, Instrumentation, Anatomy, Physiology and Pathology, Microbiology.*

IV. Dow International Dental College (DIDC)

Dow International Dental College (DIDC) has been established at OJHA Campus, to meet deficiency of dental surgeons in Pakistan as well as abroad. It is located on the Top floors of DIMC building and offers admissions mainly to overseas students, however due to acute deficiency of Dental Surgeons; the option for admission is also given to local students.

Pakistan Medical & Dental Council (PM&DC) has recognized this college in 2011. This college is fully equipped with most modern facilities including regular library having books, journals etc. besides the digital library.

V. Dow Dental College (DDC)

Dow Dental College (DDC) was established in November 2012 at Dow Medical College (DMC). The College's new building was inaugurated in April 2018 and is under consideration for recognition and registration with PMDC for BDS (4 year) program.

DDC is working to prepare competent and professional dentists in the existing oral health care educational and patient management system in Pakistan and outside the country with a focus to serve community and research and to develop academic excellence and to deliver the utmost quality of scientifically proven preventive, educational and therapeutic services to the community.

This college and its dental hospital are fully equipped with most modern equipment in the laboratories along with simulators to teach clinical procedures at pre-clinical & clinical level. It has highly qualified and experienced faculty who carry out all dental procedures ranging from simple diagnostic procedures to extractions and implant placements.

VI. Institute of Nursing (ION)

Institute of Nursing was established in June, 2006 with the help of Higher Education Commission (HEC) Pakistan. It is envisioned to promote nursing education in Pakistan, preparing the leaders in the nursing and producing a sufficient number of highly skilled and trained nursing professionals who can meet the challenges of modern preventive and curative healthcare.

The Institute of Nursing has a state-of-art building and all the modern facilities of teaching and learning. Both undergraduate and post-graduate programs are offered at Institute of Nursing. For nearly 11 years, the Institute has helped prepare qualified professional nurses to work as highly skilled nursing staff, competent teachers and leaders in public and private health care sectors.

The Institute of Nursing represents a strong and extraordinary community of excellent students, well trained faculty, dedicated staff, and supportive alumni.

All programs, which are offered at Institute of Nursing are accredited by Pakistan Nursing Council (PNC) and Higher Education Commission (HEC), Pakistan.

VII. Dr. Ishrat-ul-Ibad Khan Institute of Oral Health Sciences (DIKIOHS)

Dr. Ishrat ul Ebad Khan Institute of Oral Health Sciences (DIKIOHS) is offering the following programs:

- *Bachelor in Dental Surgery (BDS)*
- *Bachelor in Dental Care Professionals (DCP)*
- *Masters in Dental Surgery (MDS)*

The Dental College for imparting under-graduate dental education leading to the degree of Bachelor of Dental Surgery (BDS), fulfilling the requirements of the Pakistan Medical & Dental Council (PM&DC). Training in all Basic and Clinical Dental sciences, and Community Dental Health is provided under the Semester System. Currently there are departments of Oral & Maxillofacial Surgery, Prosthodontics, Oral Pathology & Oral Microbiology, Oral Medicine, Periodontology, Oral Biology and Tooth Morphology, Sciences of Dental Materials, and Community Dentistry. The attached Dental Hospital with 125 dental chairs has Nine Out-patient Departments, namely Oral Diagnosis, Oral Surgery, Oral Medicine, Oral Radiology, Periodontology, Prosthodontics, Crown & Bridge, Orthodontics and Operative Dentistry, Procedures including extraction of teeth, filling, root canal, capping and emergency oral treatment is offered.

The clinical work at the hospital is augmented by best practices, good sterilization protocols and required gadgetry. All its departments are provided with material and equipment, which are further provided to patients at minimum cost. At the post Graduate Training and Research Centre of DIKIOHS, fellowship (FCPS) Part II training is underway at the Departments of Orthodontics, Prosthodontics, and Oral Surgery, after being recognized by College of Physicians & Surgeon (CPSP).

VIII. Institute of Health Management (IHM)

Institute of Health Management is a constituent part of Dow University of Health Sciences and was established in 2007 to offer programs in Healthcare Management. The institute was established with the aim of creating an environment that facilitates learning and innovation, to bridge the gap between academia and healthcare industry, and to provide quality management graduates to contribute to the healthcare workforce. In order to meet objectives of providing quality health managers, IHM is offering programs at the undergraduate level, with a Bachelors of Business Administration- BBA, along with a Masters of Business Administration - MBA (Regular) & Executive Masters of Business Administration- (EMBA).

IX. Institute of Medical Technology (IMT)

Medical Technologists are recognized globally as important and essential members of the health care team, not only for routine medical and surgical care but also for emergency medicine, critical care and management of disaster victims. The Institute of Medical

Technology of Dow University was established for Human resource development in these key areas, with a four years' degree program in the following specialties:

- *Clinical Pathology*
- *Critical Care Technology*
- *Operation Theatre Technology*
- *Ophthalmology*
- *Perfusion Sciences*

It has eight semesters over four years and comprises of a core course where training is imparted in Basic Computer Skills, English proficiency, Behavioral Sciences, Research Methodology and Fundamentals of Basic Medical Sciences. The Institute has its own state of the art Skills Laboratory and a 26 station Digital library with Internet and PERN connectivity. Practical classes are held in well-equipped Science laboratories.

Additional training programs at Institute of Medical Technology include:

- *Adult Echocardiography / vascular technician course*
- *Cardiac technologist training program*
- *Electrocardiography training program*
- *Technician courses for ultrasound, radiography, CT scan and MRI*

X. Institute of Physical Medicine and Rehabilitation (IPM&R)

Institute of Physical Medicine and Rehabilitation was established in August 2007 and since then it is making a difference in the lives of people with disabilities through multidisciplinary Rehabilitative care to restore fullest possible, physical, mental, social and economic independence. It is one of the only civilian facilities in Pakistan providing such multi-disciplinary rehabilitative care.

IPM&R is committed to provide comprehensive multidisciplinary rehabilitation services and evidence based practice to help the patients return to an active and healthy lifestyle. IPM&R is dedicated to being an internationally significant rehabilitation institute in the promotion, development and dissemination of research and education in the science of Rehabilitation through its activities and partnerships with internal and external communities.

XI. Department of Post Graduate Studies (DPGS)

The postgraduate education in Dow University of Health Sciences is conducted under the overall supervision of Department of Post Graduate Studies. The University bodies such as Board of Advanced Studies and Research, Institutional (ethical) Review Board and Scientific Committee facilitates monitors both the research activity and the overall programs.

Dow University conducts 35 Ph.D., Masters, Fellowship, Diploma and Certificate programs. Each year around 150 FCPS students, complete training form Dow University of Health Sciences. Till date, more than 150 candidates have passed M.Phil. MDS, MSBE, MS diabetes, MS Physiotherapy and obtained MBAs from Dow University of Health Sciences

XII. Institute of Bio- Medical Sciences (IBMS)

Institute of Basic Medical Sciences (IBMS) has been established for M.Phil. and PhD courses in Basic Sciences i.e. Anatomy, Physiology, Biochemistry, Pathology, Microbiology and Pharmacology to develop human resources. It is a part of medical research city at OJHA Campus. The building has spacious air-conditioned lecture halls and seminar rooms having necessary audiovisual multimedia facilities.

The contemporary techniques involved in basic sciences research activities is conducted in the labs of different departments, which are well equipped with modern equipment for variety of anatomical, physiological, biochemical, hematological, pathological, pharmacological, immunological and molecular biological experiments for specific research. The curriculum has been designed with multidisciplinary approach, focusing at molecular and cellular level. In addition, core and supportive courses provide competencies in research Biostatistics, critical analysis, and interpersonal communication. This institute is helping in bridging the deficiency gap of Basic Medical Sciences research in Pakistan.

XIII. School of Public Health (SPH)

Public Health is an important component of health services that is often ignored in the developing world and highly emphasized in the developed world. Keeping in view the needs of Pakistani population, the DUHS took this initiative to establish the first public health school in a public sector university of the Sindh Province.

Dow University of Health Sciences established the School of Public Health (SPH) at OJHA campus in 2012. The aim of this school is to improve the health of our population by addressing the major health issues. The programs at SPH include Master of Public Health, Master of Sciences (Biostatistics and Epidemiology), Master of Sciences in Public Health (Nutrition Sciences, Health Policy and Management, Social and Behavioral Sciences) and Master of Philosophy (Health Education). Pakistan Medical and Dental Council (PM&DC) has approved all these programs.

The faculty and students of SPH are also conducting community based research and health activities. The SPH has various sections to focus separately such as epidemiology division (examining communicable and non-communicable diseases in Pakistani population), nutrition division (studying the role of nutrition in disease development and prognosis) and economic and policy group (examining the impact of economic indicators on health of Pakistani population and health policy).

XIV. National Institute of Diabetes and Endocrinology (NIDE)

It was established in 2006. It provides consultation and counseling of patients suffering from Diabetes and other Endocrine diseases. This institute is offering a two-year Master's program in Diabetes &

Endocrinology. This institute is also conducting public awareness programs regularly as the prevalence of diabetes and endocrine diseases are on the rise in Pakistan, in particular Sindh. This institute also has facilities for management and treatment of eye complications of diabetes through its Eye Care Center, which offers the patients:

- Complete Eye Examinations
- Screening for Diabetic Retinopathy
- Fundus Fluorescein Angiography
- Laser photocoagulation

More than 5000 patients have been registered. A comprehensive facility for diabetic diet consultation, foot care, early diagnosis and treatment based facilities for other endocrine diseases, especially thyroid diseases, growth disorders and obesity, is also offered to the patients.

xv. National Institute of Liver and GI Diseases (NILGID)

The National Institute of Liver & GI Diseases NILGID has been established at Ojha Campus where approximately 100 patients are seen and managed each day in the NILGID OPD, which comprises the full spectrum of liver and GI diseases ranging from functional dyspepsia to Hepatitis B and C, other liver diseases and gastrointestinal tumors. The OPD is conducted from 8 am to 8 pm.

NILGID has state of the art endoscopic equipment and the faculty has the expertise to perform all the GI endoscopic procedures. Approximately 20 to 25 endoscopic procedures are being done daily that includes both the diagnostic as well as therapeutic procedures; Gastrosopies, colonoscopies, polypectomies, and variceal band ligation are routinely being done. In addition, complex therapeutic procedures that involve fluoroscopy like ERCPs, stenting, dilatations are also increasingly being performed in the unit. The Endoscopy department provides round the clock coverage for all GI emergencies; the coverage also includes all public holidays.

NILGID has a novel facility of FIBROSCAN machine through which liver stiffness and fibrosis is measured noninvasively, first of its kind in Pakistan and presently is also in the process of starting Endoscopic Ultrasound, a unique modality incorporating Ultrasound probe within the endoscope, which would be the first in the huge Cosmopolitan city of Karachi. Even in Pakistan only two centers has this facility.

NILGID has dedicated high dependency bleeding care unit with trained staff to take care of variceal and non-variceal bleeders for prompt pre and post procedure management. Various researches as well as randomized controlled trials are being done at NILGID; some of them have been presented in the premier conferences of Gastroenterology like American Association for the study of liver diseases (AASLD), and United European Gastroenterology week (UEGW).

Public Awareness program are regularly held to increase the awareness of GI diseases amongst masses particularly viral hepatitis seminars are conducted by our faculty and masses are educated regarding signs, symptoms and care of viral hepatitis. Similarly, free medical camps are also held routinely to screen people for Hepatitis B and C, with a large population taking part both in medical camps and in education programs.

xvi. Dr. Ishrat-ul-Ebad Khan Institute of Blood Diseases (DIKIBD)

Dr. Ishrat-UI-Ebad Khan Institute of Blood Diseases is a center of excellence in Hematology & related Health Care Management, Research and Diagnostics, established by DUHS in 2012.

This Institute has emerged with excellence in Technical, under graduate, Postgraduate Teaching, Training & Research program. This institute has following components:

1. Hematology Section
2. Blood Banking
3. *Thalassemia Support Program: (for Blood Transfusion Dependent Patients)*
4. *Dow Thalassemia Assistance Program (Dow-TAP): a Volunteer program for Awareness, Screening, Diagnosis & Pre-marriage/pre-marriage Counseling services with DNA analysis*
5. *Research & Development in the field of Hematology*
6. *Post graduate Teaching / Training Programs of DIKIBD:*

The benefit of this Institute includes:

- *Quality Controlled and Screened Blood products like Packed Red Cells, FFP. Platelets & other blood components on “no profit- no loss basis” are provided to the public.*
- *Reliable resource for Hematology related Diagnostic services at an affordable price.*
- *Smooth running of Clinics for Thalassemia and Hemophilia.*
- *To establish a Registry for Leukemia, lymphomas & other blood disorders.*

XVII. Dow Institute of Radiology

The Dow Radiology Complex was established in 2008 to have the highest quality medical imaging, research opportunities, and Radiology educational experiences. Besides providing economic benefits to the patients, the department of Imaging Services is committed to be at the forefront of new developments and clinical applications in the rapidly changing field of medical imaging.

Services include the provision of all modern diagnostic facilities such as

- X-ray
- Ultrasound (09 Nine Machines)
- Fluoroscopy
- Dexa Scan
- Echocardiography
- Mammography
- CT Scan (03 Three Machines)
- MRI (03 Three Machines including one open MRI for Claustrophobic patients).
- 2 MRI Machines (including 1.5 Tesla) and 2 CT Machines, which are functioning 24 hours.

Considering the growing demands of patients, a City Campus on Stadium Road has been established, named as ‘Dow LEJ Campus’ and it provides facilities of CT & MRI also, 24 hours a day. Highly qualified and experienced faculty, staff, and technologists perform all the teachings and services at Dow Institute of Radiology.

XVIII. OJHA Institute of Chest Diseases (OICD)

The OJHA Institute of Chest Diseases (OICD) is also a constituent institute of the Dow University of Health Sciences, since its inception in Jan 2004. It was established in the

early forties, as a TB sanatorium and now recognized as a center of excellence for Tuberculosis by the World Health Organization (WHO).

The diploma course in chest diseases (DTCD) is also conducted at OICD. It is also recognized for fellowship and membership courses in chest diseases.

Four out-patient clinics of OICD in the periphery of the city are also functioning; these are chest clinics of Iqbal Yad, Nazimabad, Lyari and Malir. Each clinic have well-organized DOTS (Directly Observed Treatment), where these patients with TB are provided medicines and health education.

Daily about 600 patients visit these TB clinics for DOTS treatment and follow up. Furthermore, the TB Hospital of 250 beds provides all possible facilities to indoor and outdoor patients for diagnosis and treatment of tuberculosis. Since Multi Drug Resistant (MDR) TB is a great problem, this is an approved National TB approved hospital, and one of the oldest in the country. In Pakistan about 15,000-20,000 tuberculosis patients presently suffering from Multi-Drug Resistant (MDR TB), each patient requires approx. Rs. 500,000 for management including costly medicines and other logistics but at OICD, their treatment is free.

Vocational training program have specially been designed and introduced to engage regular TB patients, while undergoing treatment for at least 9 months, to engage them mentally and simultaneously help them to earn daily living.

XIX. Dow Institute of Health Professionals Education (DIHPE)

The Dow Institute of Health Professionals Education (DIHPE) is the first health professional education program of the country. The idea has been conceived and the initiative finally took the shape of establishment of an institute of health professional education to restructure, organize and optimize the existing professional education activities of the region.

The foundation of Dow Institute of Medical Education is based on the four pillars of Medical Education: Teaching & Learning, Principles of Assessment, Curriculum Development & Innovation and Research. Additionally, we oversee the conduct of various types of Continuing Professional Development short courses ranging from one-day to five-day courses, and even up till three-month exploratory course that are compulsory for the all the MPhil and PhD trainees of Dow University of Health Sciences (DUHS).

Dow Institute of Health Professional Education (DIHPE) will act as a nucleus for DUHS in teaching, scholarship, development and evaluation of educational programs through service provision research and innovation. The scope of its activities includes postgraduate education, continuing professional development and continuing medical education.

XX. Dow College of Biotechnology (DCOB)

The Dow College of Biotechnology is located in the graceful building of Dow International Medical College, OJHA Campus. Currently, a four-year BS Biotechnology program is offered through Dow College of Biotechnology. The College has an excellent teaching faculty, comprising of foreign and nationally qualified PhD. scientists, who are extensively

involved in research activities and hence are well aware of the recent developments in the field of sciences.

Teaching methodology at Dow College of biotechnology is a well-planned blend of theory and practical skills learned in laboratories; therefore, this program is for students who have a passion for becoming scientists. For those students, Dow College of Biotechnology can provide an excellent platform. The college offers the students diverse experiences and expertise, comprising of a quality educational environment that emphasizes learning through integration of theory with practical laboratory and field studies. Our program offers the students the opportunity to work on research projects that provide valuable insight and impact people's lives.

XXI. Dow School of Biomedical Engineering and Technology (DSBMET)

The Dow School of Biomedical Engineering and Technology is a driving force in creating engineering knowledge and novel biomedical technology that improve the human care through the advancement of clinical care and biomedical sciences.

We work closely with medical researchers to identify important problems that impact human health and solve them using our technical expertise. We engage motivated and talented students in the classroom, laboratory and clinic, imparting to them the spirit of our mission as we prepare them for future careers as effective, knowledgeable, and ethical leaders in corporate, professional, and academic communities.

We seek to prepare our students for skilled and ethical service to their communities by creating a free and open learning environment that fosters their intellectual growth, advance the frontiers of scientific inquiry and contribute with distinction to the international community for scholarship and service.

CHAPTER 1

ACADEMIC ACTIVITIES

1.1 Undergraduate Programs

1. Bachelor of Medicine & Bachelor of Surgery (MBBS)
2. Bachelor in Dental Surgery (BDS)
3. Pharm-D (Doctor of Pharmacy)
4. BS Generic Nursing (BSN)
5. Post RN. Nursing
6. Doctor of Physiotherapy (DPT)
7. BS Occupational Therapy
8. BS Prosthetics & Orthotics
9. BS in Dental Care Professional (DCP) Dental Hygiene
10. BS in Dental Care Professional (DCP) Dental Technology
11. BS Medical Technology
12. Bachelors of Business Administration (BBA)
13. BS Nutritional Sciences
14. BS Biotechnology
15. Associate of Applied Sciences (AAS) leading up to BS Radiology
16. BS-Radiology

Postgraduate Programs

Masters in Dental Surgery (MDS-Basic & Clinical)

A 4-Years Program in the following Specialties:

- I. Operative Dentistry
- II. Oral Surgery
- III. Prosthodontics
- IV. Orthodontics
- V. Oral Biology
- VI. Oral Pathology
- VII. Dental Material
- VIII. Comm. Dentistry

Masters in Science Dental Surgery

A 2 year program in the following specialties:

- I. Operative Dentistry
- II. Oral Surgery
- III. Prosthodontics
- IV. Orthodontics
- V. Oral Biology
- VI. Oral Pathology
- VII. Dental Material
- VIII. Comm. Dentistry
- IX. Periodontology
- X. Oral Medicine

-
- ***Masters in Biostatistics and Epidemiology*** (MSBE)
 - ***Masters in Health Profession Education*** (MHPE)
 - ***Masters in Advanced Physiotherapy*** (MSAPT)
 - ***Masters in Nursing*** (MSN)
 - ***Master's in Public Health*** (MPH)
 - ***Masters in Bio-Physics***
 - ***Masters of Business Administration (Morning & Eve) (MBA), with specialties in the following Disciplines:***
 - I. Hospital Management
 - II. Pharmaceutical Management
 - III. Health Services Management

-
- ***Masters in Science (Social & Behavioral Sciences)*** (MSPH)
 - ***Masters in Science (Health Policy and Management)*** (MHPM)
 - ***Masters of Science in (Nutritional Sciences)*** (MSNS)

TWO - YEARS CLINICAL DIPLOMA PROGRAMS:

-
- ***Diploma in Family Medicine*** (DFM)
 - ***Diploma in Medical Jurisprudence*** (DMJ)
 - ***Diploma in Cardiology*** (Dip-Card)
 - ***Diploma in Critical Care Medicine*** (DCCM)
 - ***Diploma in Tuberculosis & Chest Diseases*** (DTCD)
 - ***Diploma in Child Health*** (DCH)
 - ***Diploma in Dermatology*** (D- Derm)
 - ***Diploma in Radiology*** (DMRD)
 - ***Diploma in Anesthesiology*** (DA)

-
- *Diploma in Ophthalmology* (DO)
 - *Diploma in Psychiatric Medicine* (DPM)
 - *Diploma in Laryngo Otorhinology* (DLO)
-

FCPS-II FELLOWSHIP TRAINING IN THE FOLLOWING SPECIALTIES (4-YEARS PROGRAM), AWARDED BY CPSP.

- *Medicine*
- *Surgery*
- *Gynae*
- *Paeds*
- *Cardiology*
- *Radiology*
- *Pulmonology*
- *Ophthalmology*
- *Anesthesiology*
- *Plastic Surgery*
- *Neurology*
- *ENT*
- *Psychiatry*
- *Community Medicine*
- *Operative Dentistry*
- *Oral Surgery*
- *Orthodontics*
- *Prosthodontics*
- *Cardiac Surgery*
- *Orthopedic*
- *Dermatology*
- *Physical Medicine and Rehabilitation*

MS/MD- MASTERS OF SURGERY/ DOCTOR OF MEDICINE PROGRAMS

DOCTOR OF MEDICINE PROGRAM SPECIALTIES (5 YEARS PROGRAMS)

1. Internal Medicine
2. Neurology
3. Cardiology
4. Dermatology
5. Community Medicine
6. Pediatric
7. Critical Care Medicine
8. Family Medicine
9. Pulmonology
10. Anesthesiology
11. Psychiatry
12. Gastroenterology
13. Sports Medicine
14. Radiology

Master of Surgery Program Specialties

1. General Surgery
2. Gynae & Obs.
3. Orthopedics Surgery
4. Plastic Surgery
5. Neurosurgery
6. Cardiac Surgery
7. Ophthalmology
8. Pediatric Surgery
9. ENT

1.2 M. PHIL & PH. D. PROGRAMS

M. Phil in Basic Sciences offered in the following specialties:

1. Anatomy
2. Physiology
3. Pharmacology
4. Biochemistry
5. Hematology
6. Medical Genetics
7. Histopathology
8. Medical Microbiology
9. Chemical Pathology
10. Bio-Technology
11. Molecular Pathology
12. Molecular Biology
13. Molecular Medicine & Bioinformatics

M. PHIL. IN HEALTH EDUCATION AND PROMOTION & M. PHIL IN PHARMACEUTICAL SCIENCES, IN THE SPECIALTY OF PHARMACOLOGY, AS OF 2017.

PH. D. OFFERED IN THE FOLLOWING DISCIPLINES:

1. Ph.D. in Dental Sciences
2. Ph.D. in Clinical Sciences
3. Ph.D. in Basic Sciences
4. Ph.D. in Public Health

1.3 ACADEMIC ACHIEVEMENTS

In the year 2017-18, 1345 students have passed out from various undergraduate and postgraduate programs.

TOTAL PASSED OUT STUDENTS IN UNDERGRADUATE COURSES

S.No	Course Title	No. of Students
1.	MBBS	535
2.	BDS	196
3.	Pham-D	92
4.	DPT	124
5.	BSMT	78
6.	BSOT	09
7.	BSPO	08
8.	BSDCP	26
9.	BS Nursing (Generic)	55
10.	Post RN Nursing	70
11.	BBA	20
12.	AASRT	40
Total Undergraduate Candidates		1253

TOTAL PASSED OUT STUDENTS IN POSTGRADUATE COURSES

S.No	Course Title	No. of Students
1.	MSAPT	08
2.	MPH	06
3.	MPhil	05
4.	MSBE	1
5.	MSDE	02
6.	MS Nursing	04
7.	MSPH	08
8.	MDS	03
9.	MBA	15
10.	EMBA	04
11.	MHPE	01
Total Postgraduate Candidates		57

TOTAL PASSED OUT STUDENTS IN DIPLOMA COURSES

S.No	Course Title	No. of Students
1.	<i>DMJ</i>	02
2.	<i>Dip. Card.</i>	10
3.	<i>D. Derm</i>	1
4.	<i>DMRD</i>	21
5.	<i>D.O</i>	01
Sub. Total Diploma (C)		35

Sub. Total Undergraduate (A)	1253
Sub. Total Postgraduate (B)	57
Sub. Total Diploma (C)	35
<i>Grand total (A+B+C)</i>	<i>1,345 Total Graduated Students</i>

RESEARCH ACHIEVEMENTS

During the years 2017 and 2018, total number of projects approved were 292, in which 37 were newly launched. The research publication for the years 2017 and 2018 were 466.

1.4 FOREIGN ACADEMIC LINKAGES

For the year 2017-18, academic linkages were continued or established with the foreign medical boards/associations/universities, including the following:

◆ Tech4 Life Enterprises Canada Inc.
◆ International Committee of the Red Cross (ICRC), Geneva, Switzerland
◆ Universiti Sultan Zainal Abidin, Malaysia
◆ American Medical Residency Certification Board (AMRCB)
◆ Educational Commission for Foreign Medical Graduates (ECFMG)
◆ Foundation for Advancement of International Medical Education and Research (FAIMER).
◆ Global Health Learning Opportunities (GHLO)
◆ Medical Board of California
◆ University of Illinois-Chicago
◆ International Committee of the Red Cross

1.5 HONORS AND AWARDS:

BRIG. SHOAIB AHMED S.I (M) RTD, EXECUTIVE DIRECTOR INSTITUTE OF BEHAVIORAL SCIENCES RECEIVED THE SITARA E IMTIAZ, MARCH 2017.

1.6 INSTITUTIONAL LINKAGES:

ACADEMICS – FOR THE PURPOSE OF POST GRADUATE TRAININGS, WE ARE LINKED WITH THE FOLLOWING ORGANIZATIONS:

✦ Aga Khan University, Karachi
✦ Jinnah Post Graduate Medical Center, Karachi
✦ Patel Hospital, Karachi
✦ Darul-Sehat Hospital, Karachi
✦ Karachi Adventist Hospital
✦ Tabba Heart Institute, Karachi
✦ Ghulam Muhammad Mehr Medical College, Sukkur
✦ Chandka Medical College, Larkana
✦ Pakistan Council for Scientific And Industrial Research (PCSIR)
✦ Pakistan Standard Quality Control Authority (PSQCA)
✦ Executive Membership from Sindh Province In Scaling Up Nutrition Academia & Research (SUNAR)
✦ Martin Dow Limited
✦ Post-Graduation Diploma & training programs of PIQC Institute of Quality

EDUCATIONAL VISITS OF MEDICAL COLLEGE STUDENTS FROM:

✦ Karachi Medical and Dental College Karachi
✦ Hamdard Medical University Karachi
✦ Sir Syed Medical College Karachi
✦ Liaquat College of Medicine and Dentistry Karachi
✦ Dr. Abdul Wahab Dogar and Associates (AWD Associates), Lahore
✦ Combined Military Hospital, Malir Cantonment Karachi

RESEARCH WORK COLLABORATION WITH:

- ✦ Aga Khan University, Karachi
- ✦ National TB Control Program
- ✦ Pakistan Chest Society

CHAPTER 2

RESEARCH AND DEVELOPMENT

2.1 RESEARCH & DEVELOPMENT – AN OVERVIEW

The establishment of Department of Research took place with the inception of Dow University of Health Sciences. Since then, Research Department is providing its services to enhance university position in research, training and consultation areas. The particular activities of the department are briefly highlighted below:

I. POSTGRADUATE SYNOPSIS AND THESIS REVIEW

A. Scientific Research Committee

This committee was formed in November, 2012 with the approval of Board of Advanced Studies and Research of DUHS. The committee consisted of faculty of DUHS from various fields. In this committee, research proposals of postgraduate students are scientifically reviewed and advised the modifications to the students.

B. PhD Advisory Committee

The purpose of this committee is to evaluate synopses submitted by PhD students. The committee comprises of indigenous experts from different fields. In this committee, research synopses of doctorate students are scientifically reviewed and advised the modifications to the students.

C. Institutional Review Board

Department also administered and organized meetings of Institutional Review Board of DUHS which consists of 14 members from different specialty such as medicines, law, religious scholar, ethics, social work etc. It reviews and approves research proposals conducted by DUHS. Besides, DUHS offers this service to those institutes who have not their own IRB/ERB.

D. Board of Advanced Studies and Research

All the official works related to this Board are administered and organized under Research Department. The Board consists of 13 members under the Chairmanship of the Vice Chancellor.

The functions of this board are:

- | |
|--|
| 1. To advise authorities on all matters connected with the promotion of Advanced Studies and Research in university |
| 2. To propose regulations regarding the award of research degrees. |
| 3. To appoint supervisors for research students to determine the subject of their thesis. |
| 4. To recommend panels of names of paper setters and examiners for research examination after considering the proposals of Board of Studies in this behalf; and |
| 5. To perform such other functions as may be prescribed by the statutes. |
| 6. Furthermore, the Board also gives final approval for the synopsis. |

II. **Academic Research Activities**

- A. Undergraduate Students Research Activities:** *A research component was also incorporated in MBBS curriculum of DUHS five years ago. Each clinical group works under a faculty member of DUHS.*
- B. Fourth Year Research Book:** The researches of undergraduate students are published annually under department of research. This book contains reports of all the clinical groups of DUHS.
- C. Postgraduate Programs:** Research Department is running a postgraduate level program, Master of Science in Biostatistics and Epidemiology (MSBE). MSBE program was started in October 2008. This is a two years program comprises of four semesters with a research thesis work in second year of the program.
- D. Summer Short Courses:** Department has initiated three months summer short courses last year. The courses on Applied Biostatistics, Fundamental Epidemiology, Statistical software in health sciences and Research methodology are taught during June to August. The classes are conducted in weekends.
- E. Training on Biostatistics and Research Methodology:** Department also facilitates training on specific topics of biostatistics and research methodology. Several workshops have been conducted by the faculty of Research Department on the same.
- F. Foreign Scholarship program:** Foreign Scholarship program is funded by Higher Education Commission (HEC) of Pakistan. Twenty scholars were sent for PhD program at overseas universities. Fifteen scholars enrolled in United Kingdom's universities and one each in Australia, Canada, Sweden, Scotland and Germany. These scholars were selected after through screening by Graduate Assessment Test (GAT), subject and protocol writing tests and then following by two interviews based on candidate's research interest and specialty. Eighteen scholars have successfully completed their PhD program and joined the DUHS back.
- G. Research and Bio-statistical Consultation:** The faculty of Research Department also provides research and bio-statistical consultation not only to faculty and students but also to pharmaceutical industries till now. The consultation is classified following three major parts
H. Statistical Consultation: Department consults all kind of statistical works to different academic and research based organizations including pharmaceutical industries. These services include, but not limited to, sample size calculation, data entry, data analysis and formatted table & graph of the output of the analyses.
- I. Research Writing Consultation:** Department also provides consultation in writing analysis and result sections of the research project/report. Besides, investigators who wants to write by themselves, department guides them how to interpret the statistical results.
- J. Research Protocol Review Guidelines:** The faculty also assists research student and faculty about the processes of research work and writing including questionnaire formatting, structure of protocol, literature review and consent form.

III. Other Research Related Activities: Research Posters Competition

Each year, research department celebrates Faculty and Student Research Days. On these days, researches of faculty and students are displayed through posters. The best three researches present their works orally are awarded.

Journal of the Dow University of Health Sciences

Department of Research, DUHS administered and published Journal of Dow University of Health Sciences

(JDUHS) 3 times a year. This journal is approved by PMRC and indexed in IMEMR, PakMediNet and CABI. The journal is also recognized by Higher Education Commission (HEC), Pakistan. The journal is available online and submission and processes of manuscript can be made while emailing to jduhs@duhs.edu.pk.

REGISTRATION OF RESEARCH PROJECTS

All the faculty and students of DUHS have to register their intended research project at the Research Department, so that the projects would not be duplicated by other faculty members and candidates.

ABSTRACT BOOK:

Each year Department compiles and publishes 'Abstract Book' which contains abstracts of research works published by DUHS faculty. The first book was published in 2010.

2.2. Research Projects

2.2.1 Completed

Total number of Approved in 2017	108
Total number of Approved in 2018	184

2.2.2 Newly launched

Total number of Newly Launched in 2017	15
Total number of Newly Launched in 2018	V

2.3. Publications & Authors

Category	2017	2018
W	117	112
X	21	16
Y	17	15
Z	98	70
TOTAL	253	213

2.4. Key Performance Indicators regarding Research of the University

Research at the Dow University of Health Sciences	2017-2018
No. of High Quality Research Proposals	220
Total no. of Research Papers Published	299
No. of Research Paper Published in International Journals of High Impact Factor/HEC Approved Journals	152
No. of Research Paper Published in Other Journals	283
No. of Funded Research Projects (from external organizations)	3

2.5. RESEARCH JOURNAL

JOURNAL OF DOW UNIVERSITY OF HEALTH SCIENCES (JDUHS)

Year 2017:

<i>Volume- 11</i>	<i>Issue- 2</i>	<i>May to August - 2017</i>	
<i>Volume- 11</i>	<i>Issue- 3</i>	<i>September to December - 2017</i>	
<i>Total Issues of Journals in the month of July to December 2017</i>			<i>02 Issues</i>

Year 2018:

<i>Volume- 12</i>	<i>Issue- 1</i>	<i>January to April - 2018</i>	
<i>Volume- 12</i>	<i>Issue- 2</i>	<i>May to August - 2018</i>	
<i>Total Issues of Journals in the month of January to August 2018</i>			<i>02 Issues</i>

2.6. Research Collaborations

2.6.1 Indigenous Research Collaborations:

Aga Khan University, Pakistan

Medics Laboratories Pvt. Ltd.

Sindh Gas (PVT) Limited

Pak Ethanol (PVT) Limited

2.6.2 Foreign Linkages:

University of York, UK

University of Leeds, UK

Provincial TB Control Program, Sindh

Chinese Academy of Sciences

2.6.3 Funding Grants for R&D for the Year 2017-2018

S.no	Principal Investigator (PI)	Project Name	Total Funds	Funding Agency	Time period
1	Dr. Talat Roome	Determination of spasmolytic and anti-spasmolytic activity of bioactive molecules/drugs focusing on tissue receptor /ion channel-based mechanism and molecular mechanism on cell line	2 million	Medics Laboratories Pvt. Ltd. Karachi, Pakistan.	15 April, 2018 onwards
2.	Dr. M. Tahir R. Khan	Project NIJAAT (Integrating tobacco cessation intervention into DOTS under provincial TB control program Sindh: an implementation research project)	14000 USD	WHO-TDR	2017-2018
3.	Dr. Shaukat Ali	Establishment of high cell density culture of <i>Saccharomyces boulardii</i> and scale up using bench scale bioreactor	2,021,100/-	Higher Education Commission	2017
4.	Dr. Shaukat Ali	Demonstration and Promotion of a Series of Tuberculosis Treatment and Prevention Products	2,870,719/-	Institute of Biophysics-Chinese Academy of Sciences	2018
5.	Dr. Shaukat Ali	Development of first Commercial scale citric acid production plant in Pakistan by submerged fermentation of <i>Aspergillus niger</i> using cane molasses as raw material; A milestone yet to be achieved	14 Million	Technology Development Fund (TDF) Higher Education Commission	2018
6.	Dr. Shaukat Ali	Production of bio-diesel from <i>Jatropha curcas</i> seeds- A green alternative to petro-diesel fuel	497,900/-	Social Integration Outreach Program (SIOP)-Higher Education Commission (HEC)	2018
7.	Dr. Shaukat Ali	Hemicellulosic furfural production from sugarcane bagasse	299,000/-	Social Integration Outreach Program (SIOP)-Higher Education Commission (HEC)	2018
8.	Dr. Shaukat Ali	Plantation drive for <i>Moringa olifera</i> (Sohanghna) plant across university campus and awareness campaign regarding its nutritional and medicinal value	335,000/-	Social Integration Outreach Program (SIOP)-Higher Education Commission (HEC)	2018
9.	Dr. Shaukat Ali	Mass production of commercially important micro algae through distillery effluent and selection of specific algal strains	966,000/-	Pak Ethanol (PVT) Limited	2018

2.6.4 Office of Research, Innovation and Commercialization (ORIC)

The Office of Research, Innovation and Commercialization's Vision is to promote a culture of research and innovation, with a purpose to streamline the quality research with commercialization.

Various departments and programs were introduced at the University level to strengthen the advancement of research culture at DUHS. This includes registration and approval of research proposals by Institutional Review Boards (IRB) and also publishing Journal of Dow University of Health Sciences (JDUHS). Faculty research profile and research poster competitions were the other stones for growing a research culture at DUHS. Besides introducing graded courses, degree program and occasional trainings assisted to increase the knowledge of research based courses among faculty and students.

Formation of ORIC

In 2011, under the directives of Higher Education Commission (HEC) of Pakistan, DUHS developed Office of Research, Innovation and Commercialization (ORIC) to promote innovation and commercialization at the university.

The ORIC, DUHS since then, adapted policies for augmenting activities related to innovation and commercialization at DUHS. The ORIC office at DUHS has divided its activities into four diverse segments including research projects, linkage establishment, innovation support and commercialization.

Vision of ORIC

It is the Vision of ORIC, DUHS to promote and align various research projects at the University, which have a direct impact on the society today.

DUHS-DICE Health Innovation Exhibition 2017

The DUHS DICE Health Innovation Exhibition 2017 was inaugurated by the honorable Vice Chancellor Prof. Muhammaed Saeed Quraishy, along with the Chairman DICE Foundation USA, Dr. Khurshid Qureshi (with their core DICE team) where more than twenty (20) reputable universities across Pakistan participated in this mega event in which NED University, NUST Islamabad, Sir Syed University, University of Karachi, Hamdard University, NUR International University, Ziauddin University, and many others were showcasing around 70 health innovative projects. Besides that there were 15 Nutrition projects as well which were presented by Kinnaird College for women and from Nutrition Department of DUHS.

Top (03) top projects awarded cash prizes and trophies:

1. The most innovative idea which won 1st prize, was Design and Development of Physiotherapy Device for Knee Joint and Associated Muscles Rehabilitation presented by National University of Sciences and Technology (NUST) Islamabad was awarded cash of Rs. 100k.
2. The runner up was awarded Rs. 60k for showcasing a Functional Walking Pattern Analysis System to Detect Abnormalities, submitted by Hamdard University.
3. The 3rd prize of Rs. 40k was given to M.U.H.A.F.I.Z. (Military Uniform for Health Analytic military) introduced by Sir Syed University of Engineering & Technology.

These 10 projects were awarded special prize of Rs. 10,000 each for Innovation in Health Sciences:

1. NASR Walking Assistive Device for Elderly People by University of Karachi.
 2. Brain Controlled Intellectual Wheel Chair by Jinnah University for women.
 3. Pakistan's first indigenously developed probiotic – a step forward to knowledge based bio economy by Bio-Technology department DUHS.
 4. Modified Writing Aids by Dow Institute of Physical Medicine and Rehabilitation.
 5. Simultaneous effect of leflunomide in carrageenan induced acute arthritic model.
 6. Production of Cellulose a multitasked enzyme by using bagasse, an industrial waste by Dow College of Bio Technology.
 7. Intravenous Arm by NEDUET.
 8. Microbots by Shah Abdul Latif University of Khairpur.
 9. Application of Bamboo in medical textile.
 10. Detection of loss of knee extension during loading phase by using strain in gauge electro goniometer.
-

DICE SHARK Session

DICE Shark session is basically a pitching session where students from different universities present their health innovative projects to industrialists (from health and related sectors) who aspire to sponsor their projects to make them commercial ready.

There were 6 Projects pitched this category in which following ideas were presented:

1. Skin wound Infection treatment via Topical ointment from Natural Honey pitched by Federal Urdu University of Arts, Science & Technology.
2. Brood Helmet by Institute of Health Management, DUHS.
3. Design and Development of a Noninvasive Glucometer by Hamdard University.
4. Tell me (An AI Assistant for the Visually Challenged) by Sir Syed University of Engineering and Technology.
5. Computer Mouse Actions Control with Eye Movement by Hamdard University.
6. Virtual Therapist by Sir Syed University of Engineering and Technology.

The most innovative ideas were funded with rupees 100-200 PKR by the industrialists.

National Innovation Basket Session (NIB)

Besides the routine activities of the event, this year DICE Foundation has introduced a new edifying segment (NIB). People from academia and health industry joined together in a brain storming session and discussed the SWOT analysis on 5 major modes of health industry medical devices, alternative medicine, health care, pharmaceuticals & Nutrition. The outcomes of this session were noteworthy as each expert has momentarily expounded the fences and prospects of their specific field.

INNOVATION

ORIC, DUHS promotes innovative research ideas at the University through workshops, brainstorming sessions and intellectual property discussions with all major stakeholders of the University.

The following are innovative research projects that have been initiated during financial year 2017-18 at DUHS:

- ◆ Production of cellulose enzyme using bagasse as industrial waste
- ◆ Isolation of Pakistan's first indigenous *Saccharomyces boulardii* for local probiotic preparation
- ◆ Nutrition App development for Adolescents
- ◆ Anti-Venom Vaccine
- ◆ Mass production of commercially important microalgae

COMMERCIALIZATION ACTIVITIES

ORIC, DUHS envisions financial sustainability of the University; therefore, it promotes transformation of innovative discoveries into industrial ventures. The entrepreneurship spirit has been nurtured at the University, leading to commercial projects in the year 2017-18, including the following:

- ◆ **Riva Drinking Water Distribution, an enterprise of Dow University of Health Sciences.**
- **Daily Life Activities (ADL) Devices at the Institute of Physical Medicine and Rehabilitation**
- ◆ **Artificial Limbs (commercialization and ease of access through IPM&R)**

CHAPTER 3

QUALITY ASSURANCE

3.1 Impact of Quality Assurance in the University:

Dow University of Health Sciences has a well-developed Quality Assurance system that monitors the academic programs, in compliance with HEC criteria, Accreditation Councils and benchmarking with international standards.

Worldwide, universities rely on quality assurance procedures to achieve excellence in their academic programs, as well as to sustain it in future. In 2006, as per the directives of Higher Education Commission (HEC) Pakistan, the Quality Enhancement Cell (QEC) at Dow University of Health Sciences was established.

In this regard, number of measures for quality enhancement and assurance has introduced to have an effective quality assurance setup with standardized procedures and practices in health education, which includes:

- Preparation of Program Self-Assessment Reports for all degree awarding programs
- Faculty and course assessment through student feedback.
- Implementation of Quality Management System at Dow University of Health Sciences, in accordance with minimum HEC criteria for graduate level and post-graduate programs.

3.2 Quality Enhancement Cell at Dow University of Health Sciences

The Quality Enhancement Cell at Dow University of Health Sciences was established in the 1st phase of HEC implementation in 2006, along with 29 other cells in various public sector universities throughout Pakistan. The prime objective of QEC is to practice evaluative measures in order to achieve excellence in program delivery. Since its establishment, QEC is continuously involved in monitoring and measurement of Quality Management System (QMS) processes and the academic services throughout the DUHS.

Effectiveness of QEC-DUHS by HEC

In 2017-18, the QEC-DUHS scored 94% and placed in W-category by HEC, which is the top most Category for compliance with benchmarked standards.

Responsibilities of QEC

The responsibilities of QEC include:

- Preparing and reviewing the program evaluation through Self- Assessment.
- Reviewing the Quality of teaching and learning in each subjected area through HEC prescribed feedback forms as per the guidelines given for each form in coordination with QMS coordinators and SAR Program Teams.

- Ensuring that the University's Quality Management System is designed to fit with the requirements of HEC.
- Follow-up on the accreditation of all the degree awarding programs offered by the University.

Major Achievements of QEC-DUHS in 2017-18

The major achievements of QEC DUHS in 2017-18 includes:

Self-Assessment Reports:

- ◆ In 2017-18, QEC-DUHS has completed Self-Assessment Reports in 47 various undergraduate and postgraduate programs of Dow University of Health Sciences and initiated 2nd Cycle of Self-Assessment Report in 15 programs.

HEC prescribed Feedback Forms:

QEC-DUHS successfully conducted the following online proformas for feedback evaluation in all the degree-awarding programs of DUHS:

1. Teacher Evaluation by students
2. Course Evaluation by students
3. Faculty Course Review Report
4. HOD & Peer Evaluation Feedback
5. Faculty Review

Quality Initiatives FY 2017-2018:

The quality initiatives for the Year 2017-2018, in compliance with the Higher Education Commission, Pakistan are the following:

1. Accreditation of All Programs, and grant of NOC from HEC for all postgraduate programs.
2. A greater focus on Employee Development & Training, though, English Language Proficiency programs for faculty and staff. This was a need identified in order to improve the verbal and nonverbal communication skills of our administrative staff, which interact with external and internal stakeholders.
3. A greater focus on delivery of quality services and patient satisfaction by integrating training on quality Nursing Care & Patient Safety. The aim of this training is to ultimately enhance the quality of our nursing care.
4. Establishment of the Student Facilitation Desk/counter for ease of student queries and questions regarding fees/examinations/admissions and Campus Management Solutions.
5. Enhancement of international and national linkages to garner expertise in both academic and research activities, in order to make a significant impact in the world of medicine and research. The university is initiating collaborations with international universities, such as AKU for its Bachelors' of Nursing an Master of Science in Nursing Program, and seeking MOUs with talented professionals and scholars to enhance quality of research activities and ultimately, the demand for our graduates worldwide.

3.3 Membership of Quality Association/ Networks

QEC has valuable memberships of different association/ networks at International/ National levels:

1. Member of Learning Innovation Division, HEC Pakistan since 2005.
 2. Member of Tallories Network since 2009.
 3. American Association of Medical Colleges, Visiting Students Learning Opportunities.
 4. Prospective member of Asia Pacific Quality Network (APQN).
 5. Corporate and Associate Member of Association of National and International Universities, Research and Educational centers.
 6. Accreditation Agency Curacao – AAC
 7. International Network for Quality Assurance Agencies in Higher Education
 8. Pakistan Network of Quality Assurance in Higher Education-PNQAHE
-

3.4 ACCREDITATIONS OF DEGREE AWARDING PROGRAMS FROM ACCREDITATION COUNCILS

1. MBBS program at Dow Medical College (DMC) - Accredited by Pakistan Medical & Dental Council (PM&DC).
2. MBBS program at Dow International Medical College (DIMC) - Accredited by Pakistan Medical & Dental Council (PM&DC).
3. Bachelor of Dental Surgery (BDS) program at Dr. Ishrat ul Ebad Khan Institute of Oral Health Sciences (DIKIOHS) – Accredited by Pakistan Medical and Dental Council (PM&DC)
4. Bachelor of Dental Surgery (BDS) program at Dow International Dental College (DIDC) – Accredited by Pakistan Medical and Dental Council (PM&DC)
5. Pharm D program at Dow College of Pharmacy (DCOP) - Accredited by Pakistan Pharmacy Council (PPC).
6. Post RN Nursing program at Institute of Nursing (ION) - Accredited by Pakistan Nursing Council (PNC).
7. BS Generic Nursing program - Accredited by Pakistan Nursing Council (PNC).
8. Master of Nursing (MSN) program- Accredited by Pakistan Nursing Council (PNC).
9. MPhil (Basic Medical Sciences) at Institute of Basic Medical Sciences- Accredited by Pakistan Medical & Dental Council (PM&DC).
10. Master of Dental Surgery (MDS) program at Dr. Ishrat ul Ebad Khan Institute of Oral Health Sciences (DIKIOHS) - Accredited by Pakistan Medical & Dental Council (PM&DC).
11. Master of Public Health (MPH) at School of Public Health- Accredited by Pakistan Medical & Dental Council (PM&DC).
12. MS in Epidemiology and Biostatistics (MSBE) at School of Public Health- Accredited by Pakistan Medical & Dental Council (PM&DC).
13. MS in Public Health (MSPH) at School of Public Health- Accredited by Pakistan Medical & Dental Council (PM&DC).
14. Master in Health Professional Education (MHPE) at Dow Institute of Health Professionals Education- Accredited by Pakistan Medical & Dental Council (PM&DC).
15. Master of Surgery (MS) at Department of Postgraduate Studies- Accredited by Pakistan Medical & Dental Council (PM&DC).
16. Doctor of Medicine (MD) program at Department of Postgraduate Studies- Accredited by Pakistan Medical & Dental Council (PM&DC).
17. BBA & MBA Programs are in the process of accreditation from National Business Education Accreditation Council (NBEAC).
18. Bachelor of Dental Surgery (BDS) program at Dow Dental College (DDC) is in process of accreditation from Pakistan Medical and Dental Council (PM&DC).

3.5 SEMINARS/ WORKSHOPS & TRAINING EVENTS OF QUALITY ENHANCEMENT CELL CONTRIBUTED OR ORGANIZED IN THE YEAR 2017-2018

Seminars/ Workshops/ Training Events	Dates	Purpose
1. QEC arranged a series of 12 workshops for the administrative employees of DUHS.	12 th August, 2017 to 20 th January, 2018	English Language Proficiency Workshops
2. QEC-DUHS organized a workshop for all the faculty members of Dow University of Health Sciences.	27 th September, 2017	"What is Plagiarism and how to avoid it?"
3. Awareness Session on SAR preparation (Criteria 1 to 4) for PT members of MBBS, BDS and MDS programs of DMC, DIKIOHS, DIDC and DDC, conducted by QEC-DUHS.	26 th October, 2017	Awareness Session on SAR
4. Awareness Session on SAR preparation (Criteria 1 to 4) for PT members of MBA, BBA, M.Sc. Nursing, BS Nursing and Post RN B.Sc. Nursing programs of IHM and ION, conducted by QEC-DUHS.	7 th November, 2017	Awareness Session on SAR
5. Awareness Session on SAR preparation (Criteria 1 to 4) for PT members of Pharm D, M.Sc Diabetes and Endocrinology, Ph.D. and M.Phil. programs of DCOP, NIDE and IBMS, conducted by QEC-DUHS.	14 th November, 2017	Awareness Session on SAR
6. One of the faculty of DUHS attended the 34th HEC Master Trainer Faculty Professional Development Program at Islamabad, and cascaded the program for the faculty of DUHS The Master Trainer conducted the following modules: Communication Skills, Learner's Psychology and Teaching as a profession, Academic Planning and Management, Research Method and Skills	25 th November to 2 nd January , 2018	Faculty Professional Development Program
7. Awareness Session on SAR preparation (Criteria 5 to 8) for PT members of M.Sc. Diabetes and Endocrinology, PhD, M.Phil., MBA and BBA programs of NIDE, IBMS, DCOP and IHM conducted by QEC-DUHS.	13 th December, 2017	Awareness Session on SAR
8. QEC organized three days training on CMS end user	18 th to 20 th December, 2017	CMS End User Training
9. Awareness Session on SAR preparation (Criteria 5 to 8) for PT members of MBBS, BDS, MDS, M.Sc. Nursing, BS Nursing and Post RN B.Sc. Nursing programs of DIMC, DIKIOHS, DIDC, DDC and ION conducted by QEC-DUHS.	3 rd January, 2018	Awareness Session on SAR
10. Assessment Team Meeting to assess SARs of BDS and MDS Programs at DIKIOHS	13 th March, 2018	Assessment Team Meeting to assess SARs
11. Internal Evaluation of PhD Programs of DUHS, conducted by Quality Enhancement Cell	16 th March, 2018	Internal Evaluation of PhD Programs

12. Internal Evaluation of MS/M.Phil. and Equivalent Programs of DUHS organized by Quality Enhancement Cell	17 th March, 2018	Internal Evaluation of MS/M.Phil. and Equivalent Programs
13. Self-Institutional Performance Evaluation of DUHS organized by QEC-DUHS (March 26-27 2018)	26 th March, 2018	Self-Institutional Performance Evaluation
14. Awareness Session on SAR preparation (Criteria 1 to 8) for PT members of all the specialties of MS program, conducted by QEC-DUHS.	12 th April, 2018	Awareness Session on SAR preparation
15. QEC-DUHS organized an awareness session for the Affiliated Colleges/ Institutes of Dow University of Health Sciences.	24 th April, 2018	Quality Assurance Mechanism
16. Internal Evaluation of MS / MD Programs of DUHS, organized by Quality Enhancement Cell at Department of Post Graduate Studies	17 th May, 2018	Internal Evaluation of MS / MD Programs of DUHS
17. QEC organized a workshop on Curriculum Design for the faculty of DUHS	22 nd June, 2018	Curriculum Design
18. One of the faculty members of DUHS was nominated to attend the 36th HEC Master Trainer Faculty Professional Development Program at Islamabad, and cascaded the program for the faculty of DUHS (June 23-30, 2018). The Master Trainer conducted the following modules: <ul style="list-style-type: none"> • Learner's /Adults Psychology and learning as a profession on June 23, 2018 • Communication Skills /Academic Writing, Planning & Management / CLUE on June 26, 2018 • Stress Management and Micro Teaching Cycle on June 30, 2018 	23 rd June to 30 th June, 2018	Faculty Professional Development Program
19. QEC-DUHS organized a Guest Speaker session on "Adaption & Implementation of HEC Plagiarism Policy at HEIs" at Dow University of Health Sciences.	25 th June, 2018	Adaption & Implementation of HEC Plagiarism Policy at HEIs
20. "Effectiveness of Institutional Performance Evaluation" organized by Indus University	4 th October, 2017	Effectiveness of Institutional Performance Evaluation
21. "1st International Community Health Conference" in Kuala Terengganu, Malaysia. The Director QEC-DUHS chaired the session of DUHS speakers.	7 th to 9 th October, 2017	1st International Community Health Conference
22. QEC participated in the "2nd International Conference On Patient Safety"	28 th & 29 th October , 2017	2nd International Conference On Patient Safety
23. QEC participated in workshop organized by IoBM	21 st November, 2017	Six Sigma in Higher Education Commission

CHAPTER 4

FACULTY DEVELOPMENT

Professional Development Center (PDC) DUHS

With the establishment of Dow University of Health Sciences (DUHS) in 2004, it was envisioned that Continuing Medical Education (CME) should be promoted within the faculty and students of Dow University. Professional Development Center started working as the “Office of CME” as of January 2004. Under this office, CME lectures, seminars, symposia and conferences were conducted on a regular basis. Furthermore International Health Days were celebrated regularly. Over a period of a year and a half, the faculty dedicated to PDC managed to organize more than a 100 national and International events, with the dedication and efforts of the Faculty and Alumni abroad.

After the devastating earthquake of 2005, it was thought to add hands-on workshops in addition to the CME lectures, which were mostly theoretical. Thus the Office of CME was amalgamated into a more comprehensive “Professional Development Centre” (PDC) of Dow University of Health Sciences. Also, a formal inauguration was performed by the Chancellor of the University, Governor of Sindh.

Subsequent to its formation, two divisions were formed within the PDC, namely Surgical and Allied and the Medical and Allied, where faculty members were designated as Directors of these two divisions. They were given the task to do a Training Needs Assessment and offer programs for different categories of health Professionals.

The Professional Development Centre has simulated ICU, simulated Operation Theatre, Laparoscopic / Endoscopic Suites, three training halls and a Conference Room. Equipped with the latest audio-visual and multimedia systems, state of art equipment, electronic simulators and manikins, the PDC is a site for all those healthcare professionals looking to enhance their skills with hands-on training.

Professional Development Centre currently provides training facility in the basic and advanced skills to undergraduates, postgraduates, residents, faculty members and other health professionals. PDC has its head office at DMC with its branch at Dow International Medical College (DIMC), Ojha with similar facilities, equipment and instructors. Each wing of PDC has a dedicated Undergraduate Skills Lab.

PDC consists of CME, CPD, Skills, Misc. Programs:

1. Continuing Medical Education (which deals with Seminars, lectures, symposia and conferences).
2. Continuing Professional Development (that deals with long duration & short duration training courses and hands-on workshops).
3. Undergraduate Skills Lab (which deals with the training of undergraduate students).
4. Miscellaneous programs (that include programs like visiting faculty, reproductive health and alumni affairs).

Since its inception in October, 2005 Professional Development Centre has conducted CMEs & Miscellaneous Programs in collaboration with National & International Organizations, like PTC Foundation UK, American Heart Association, North Middlesex University Hospital, London, IMPACT Nepal, Amber Institute of California, INTER BURNS, INFORM, EMAME & EmONC, FALAH, US AID, UNFPA & WHO.

4.1 Faculty Development Programs (MS/Ph.D. local & Foreign):

Passed out indigenous PhD Faculty

S. NO.	NAME	Subject	Degree Status	BASR Status
1.	Dr. Shaheen Bhatti	Medicine	Ph.D. Achieved	(BASR 22-Apr-14)
2.	Dr. Jahan Ara Hasan	Gynaecology and Obstetrics	Ph.D. Achieved	(BASR 29-Mar-14)
3.	Dr. Rumina Tabassum	Gynaecology and Obstetrics	Ph.D. Achieved	(BASR 10-Aug-15)
4.	Dr. Saadia Akram	Histopathology	Ph.D. Achieved	(BASR 10-Aug-15)
5.	Dr. Saba Siddiqi	Radiology	Ph.D. Achieved	(BASR 10-Aug-15)
6.	Dr. Talat Yasmeen	Anatomy	Ph.D. Achieved	(BASR 09-Nov-16)
7.	Dr. Rana Qamar Masood	Medical Education	Ph.D. Achieved	(BASR 12-May-16)
8.	Dr. Iqbal Khyani	ENT	Ph.D. Achieved	(BASR 14-Mar-17)

4.2 Returned Scholars (present in the University)

1	Dr. Sameer Qureshi	Present
2	Ms. Sadaf Khan	Present
3	Ms. Rafat Amin	Present
4	Mr. Shaukat Ali	Present
5	Dr. Mohsin Wahid	Present
6	Dr. M. Asif Qureshi	Present
7	Dr. Kashif Shafique	Present
8	Dr. Nouman Mughal	Present
9	Dr. M. Yahya Noori	Present
10	Ms. Tehseen Fatima	Present
11.	Dr. M. Furqan Bari	Present
12.	Dr. Ashraf Jahanger	Present
13.	Mr. Mushtaq Hussain	Present
14.	Dr. Zia	Present
15.	Dr. Azeem Hussain Soomro	Present
16.	Mr. Zulfiqar Nazir	On Leave

4.3 List of PhD Indigenous Batch 1,2 & 4

S#	Name	Specialty
1.	Dr. Iftekhar Ahmed	Medicine
2.	Dr. Jamshed Ahmed	Ophthalmology
3.	Dr. Muhammad Irfan Ashraf	Anatomy
4.	Dr. Sarla Dodani	Gynae & Obs.
5.	Dr. Umair-UI-Islam	Surgery
6.	Dr. Zaheer Amjad	Anatomy
7.	Sheikh Nadeem Ahmed	Pharmacology
8.	Nighat Rukhsana	Anatomy
9.	Naheed Khan	Anatomy
10.	Khaida Perveen	Anatomy
11.	Tazeen Ansari	Histopathology
12.	Zameer Ahmed	Microbiology
13.	Ambrina Qureshi	Community Dentistry
14.	Muhammad Asif	Dental Materials
15.	Muhammad Adeel Ahmed	Operative Dentistry
16.	Arshad Hasan	Operative Dentistry
17.	Amynah Charania	Oral Biology
18.	Anwar Ali	Oral Surgery
19.	Shaheen Ahmed	Oral Surgery
20.	Shazia Jabbar	Gynae & Obs.
21.	Junaid Ashraf	Neurosciences
22.	M. Asim Khan Rehmani	Neurosciences
23.	Naila Naeem	Neurosciences
24.	Muhammad Masroor	Medicine
25.	Sofia Nigar	Anatomy
26.	Aisha Abdul Haq	Anatomy
27.	Sarwat Jabeen	Anatomy
28.	Durr-E-Sameen	Histopathology
29.	Mahjabeen Khan	Public Health
30.	M. Athar Majeed Khan	Public Health
31.	Azmina Hussain	Public Health

4.4 Pre Service and in Service Professional Development Programs Healthcare Professionals & Other Faculty trained by Professional Development Centre

S.No	Workshop	Dated	Number of Workshops	Faculty				Total Participants
				Professor	Associate Professor	Assistant Professor	Senior Reg./ Demonstrator	
1	Basic Life Support (BLS)	Sept 9, 2017 & Jan 8, 2018	1	0	0	0	2	2

2	Synopsis Writing	14-Nov-17	1	1	1	1	0	3
3	BCQ Writing Skills	3-Oct-17	3	0	0	64	0	64
4	Deformity Correction Planning	21-Oct-17	1	3	0	0	0	3
5	"Recent Advances in the Management of Distal Radius Fractures"	23-Sep-17	1	0	2	6	2	10
6	Management of Acute Severe Malnutrition in Children	17-Oct-17	1	0	0	2	1	3
7	WHO Evidence Based Guidelines for Strengthening Family Planning Service in Pakistan	9-Dec-17	1	1	0	4	0	5
8	Basic Knee Arthroscopy	6-Jan-18	1	3	0	12	4	19
9	Basic Ilizarov Workshop	17-Feb-18	1	0	0	0	1	1
10	Early Recongnition & Stabilization of Sick Child	28-Feb-18	1	0	0	0	2	2
11	MOCK Clinical Exam in Psychiatry	10-Mar-18	1	1	4	5	1	11
12	Workshop Item Analysis	24-Apr-18	1	11	9	2	0	22
13	Temporal Bone Dissection Workshop & Mirco-Ear Surgery Course	December 6 & 7, 2017	1	3	3	6	7	19
14	Integrated Management of Neonatal and Childhood Illness (IMNCI)	August 21 to 26, 2017	1	0	0	0	21	21
Total			16	23	19	102	41	185
						185		

4.5 Achievements of Foreign Faculty

Faculty Name **Member Institute/ Degree/ Diploma / Place of Study**
Department

Dr.Saima Mehmood Dow College of Pharmacy Collaborative work. PhD Turkey

CHAPTER 5

ACCESS

5.1 Basic Enrollment

Total Enrolment during FY 2017-18 is 7689 for all graduate, post-graduate programs.

The detail of undergraduate and postgraduate basic enrollment is attached as Annex-A.

5.2 Equity

In Dow University of Health Sciences, admissions are granted on transparent open merit basis for all applicants, regardless of gender, sex, race or ethnic background.

5.3 Gender-Wise Detail

THE GENDER WISE DETAIL IS PROVIDED IN ANNEX-A.

5.4 Employability

The graduates of Dow University of Health Sciences are serving in almost all prominent health care institutions & organizations of Pakistan, as well as at international levels.

Some major employers of DUHS graduates include the following:

- ✦ College of Physicians and Surgeons, Pakistan
- ✦ Sindh Institute of Urology and Transplantation (SIUT)
- ✦ National and Multinational Pharmaceutical Companies
- ✦ Private Hospitals locally and internationally.
- ✦ Public & Private Sector Medical Colleges & Universities
- ✦ Multinational and Private Limited companies

5.5 Faculty-student ratio

In the year 2017-2018, the faculty-student ratio is calculated as follows:

- ◆ *Total No. of Faculty: 980*
- ◆ *Total No. of Enrolled Students: 7689*
- ◆ *Faculty-Student Ratio of the University: 1:8*

CHAPTER 6
UNIVERSITY BUILDING ECONOMIES

6.1 University- Industry Linkages

Dow University of Health Sciences, Karachi, builds up various linkages with national and international industries and still engaged in the process of enhancing strong linkages.

- ✓ Dow University of Health Sciences has developed university industry linkages with several pharmaceutical companies for Research and development.
- ✓ Dow University has an agreement with National Research Program for Universities, which is a National program.
- ✓ The University enhanced its industry linkage by signing MOU with the international organization, DICE Foundation. It will act as a pragmatic platform for health related innovation & for collaboration among academia, industry, government, entrepreneurs and Expatriate community on all matters pertaining to the growth of health sector in Pakistan.

6.2 New Initiatives

Special Education and Vocational Training Department at IPM&R

The Department of Special Education and Vocational Training for Children was established in 2017 at IPM&R, DUHS. It is the first of its kind in a teaching hospital in Pakistan. The Department of Special Education and Vocational Training for Children has a school and vocational training facility for children with special needs. The team at the Department of Special Education and Vocational Training comprises of special educators, occupational therapist and skill trainers in art, music, computers, sports and product development.

The services offered at the department of special education and vocational training are a school Program and vocational Training Program

6.3 Technology Incubation Centre

The Dow University of Health Sciences, Karachi, is still in process of developing the Technology Incubation Centre. As far as current innovations are concerned, there are various technologies, infrastructure which are used and these may vary product-to-product.

The plans to establish a Technology Incubation Center at DUHS is designed for FY 2018-2019 with funding support from HEC, which was granted in 2018

6.4 Patents/ Trademarks

Dow University of Health Sciences is engaged in process of trademark registration by University Legal Consultant.

The registered trademarks of Dow University of Health Sciences are as below:

S. No.	App. #	Class	Trademark	Date	Status
1	308949	44	DOW	21/10/14	Registered
2	344473	5	Shaffaf (Logo)	05/08/13	Registered
3	344474	32	Riva (Label Mark)	05/08/13	Registered

6.5 Internship and Graduate Placement Office:

CLINICAL ELECTIVES

In the recent years, there is an increasing interest of the final year students of Medicine for doing electives in different medical schools/hospitals in the United States. The Quality Enhancement Cell, QEC-DUHS is also responsible for developing collaboration and linkages with other universities and colleges around the globe in different areas of interest.

DUHS has developed a Memorandum of Agreement with some of the prestigious foreign Medical Schools and associations for clinical electives namely:

Associations of DUHS for clinical electives with the following colleges:

<i>University of Illinois</i>	<i>Chicago</i>
<i>AAMC</i>	<i>Visiting Students GHLO Learning Opportunities</i>

INTERNSHIPS

The Placement office of each College/ Institute or School ensures the student secures a placement, which will support their learning requirements and nurture their professional development.

All work placements must be officially approved by the Registrar-DUHS and primarily involves the process of CV selection and competitive interview (if necessary) by the HoD/ Principal or Director, but can also be secured by direct matching if the student applies directly. The selection process is determined by the host organization. The Placement coordinator provides both group and one-to-one support to the students in the researching, sourcing, securing of placement and ongoing support of student whilst on internship or placement.

We are fully conscious of the utility of earning practical experience for students by undergoing internship(s) during their studies and after completion their studies. Interning in a field of choice will stand out on students' resume and help them with their job search

after graduation. Students/interns should endeavor to gain on-the-job training that integrates education and career development; while organizations and companies hosting interns also benefit from the contributions of creative and innovative students. Students' networking during the course of their internship become subsequently professional "contacts" who can help guide their career path as they make their way into professional world.

The internship placements are taking place at Institute of Health Management for the passed out batches, Institute of Medical Technology, and also at IPM&R. Final year students of Institute of Physical Medicine and Rehabilitation-Occupational Therapy department are placed at different hospitals and clinics for rotations and for learning purposes.

Students at IPM&R are placed at the following institutes under the placement program:

1. Ziauddin Hospital Clifton Campus
2. Ziauddin Hospital North Nazimabad Campus
3. Ziauddin Hospital Kemari Campus
4. Jinnah Postgraduate Medical Center
5. Ma Ayesha Memorial Centre
6. Ashfaque Memorial Center
7. Rabia Moon Trust
8. Indus Hospital
9. Tabba Heart Institute
10. National Institute of Cardiovascular Disease
11. Mamji Hospital
12. Patel Hospital
13. Civil Hospital
14. SMBB Trauma center

Dow college of Pharmacy is also directly involved in facilitating career counseling and internship placement of students. Workshops are organized for students to help them develop an understanding about their career, professional fields and scope of these domains. However, currently a placement office is being constituted at the Dow College of Pharmacy; in the meanwhile, a placement officer has been assigned as coordinator.

Benefits of Internship to Students: The Numbers

In spring & fall -2017, IHM selected 13 students for the BBA program 2013. The placement department offered paid internship for 6 months to 13 Graduates of 2016-2017 who have applied for the internship and selected by the placement committee. They benefited from the internship and were placed in different departments of DUHS after the approval of the Registrar, DUHS. The duration of internships were from May-October, according to the duty roster which was designed on rotational basis (2 months), was handed over the interns, before going to their relevant departments such as Registrar Head office, Finance, OPD, Radiology, IHM and

DDRRL. The purpose of offering them internship was to increase their career related knowledge and provide them valuable work experience.

6.6 Student Counseling and Career Guidance

Student's Counseling Cell has been inaugurated by the Vice Chancellor DUHS, Honorable Prof. Dr. Saeed Quraishy on the occasion of World Mental Health Day 18th October 2018 at the Dr. A. Q. Khan Centre, Institute of Behavioral Sciences exclusively for Dow Students, where they can get free of cost services.

The Student Counseling Services are provided at the departmental level regarding academics, personnel or group counseling, crisis assessment/ management, career exploration and professional training guidelines. Student counseling is also offered through the official mentoring program at the Departmental/Collegiate level. Student Counseling involves meeting with and seeking help from a trained professional who can help you identify your strengths, weaknesses and interests regarding academic/career matters and also offer emotional support and guidance.

Dow University of Health Sciences wants all enrolled students to prosper in life and pursue the career of their interest. Thus, the students can count upon their Departmental Head or faculty members for guidance and mentorship.

The Institute of Physical Medicine and Rehabilitation IPM&R has a well-organized mentoring system at department to provide counseling, guidance and appropriate suggestions to students to rectify their academic, personal and other issues to improve the quality.

Student-teacher interaction also helps us ascertain students' need for career counseling. Teachers and management personnel are always available to the students to hear to their queries. Additionally Dow College of Pharmacy has developed a system of mentoring, which may serve as a platform for addressing needs of the students. Other Colleges & Institutes also have a well-developed mentoring system.

In the mentoring system of DUHS, there are assigned mentors for every 20 students and a chief mentor to lead all the mentors. Apart from this they also periodically organize career counseling sessions in which experts from the industry are invited to guide students.

CHAPTER 7
STRENGTHENING PHYSICAL
INFRASTRUCTURE

DIRECTORATE OF PLANNING & DEVELOPMENT

The Department of Planning and Development of Dow University has completed renovations and refurbishments of old Dow Medical College and a number of old buildings and infrastructure at the Ojha campus.

7.1 Development Projects (Laboratories, Libraries, etc.)

Development of Oral Health Sciences & Support Facilities at Dow Dental College

- ◆ To produce 50-100 quality Bachelors of Dental Surgery graduates each year.
- ◆ To produce Master Degree Dental Care Specialist Doctors
- ◆ To provide highly skilled, qualified and well trained dental auxiliary staff.

Scope:

- ◆ Construction of Faculty of Oral Health Sciences at DMC Campus
- ◆ Construction of Academic Blocks at 100,800 sft.
- ◆ Establishment of Laboratory facilities & Furnishing of departments, provision of books and operational requirements.

Approval CDWP	by 23-09-2014	Approval Date	09-03-2015
Duration of Project	48 Months	Expected CompletionDate	08-03-2019
Capital Cost	PSDP Share	Other	Total
Total Cost	490.209	150.00	640.209 Million

7.2 Research Equipment: Dow University of Health Sciences has modern research equipment which is available for faculty and students to facilitate them in their research work.

7.3 Construction projects: Strengthening of Oral Health Sciences and Support Facilities at Dow University of Health Sciences, Karachi.(On-going)

CHAPTER 8
STRENGTHENING TECHNOLOGICAL
INFRASTRUCTURE

8.1 Digital Library

Digital Library program was propelled by HEC to help researchers and mentor at public sector universities. Digital Libraries developed by Dow University of Health Sciences in their various campuses and institutes give access to global insightful writing in view of online delivery, peer-reviewed journals, databases, articles and e-books crosswise over extensive variety of controls. Through HEC's digital library which is available from all computerized libraries built up in DUHS, clients can get to more than 75,000 electronic substances. Taking after are the rundown of digital libraries at various campuses of Dow University of Health Sciences alongside the quantity of accessible systems.

- ◆ Main Digital Library (Ojha Campus) – 150 Systems
- ◆ Digital Library (DMC Campus) – 124 Systems
- ◆ Digital Library (Institute of Nursing) – 42 Systems
- ◆ Digital Library (Institute of Health Management) – 28 Systems
- ◆ Digital Library (Dow College of Pharmacy) – 14 Systems
- ◆ Digital Library (Institute of Physical Medicine and Rehabilitation) – 26 Systems
- ◆ Digital Library (Institute of Dow International Dental College) – (24 Systems Proposed)

8.2 PERN (Pakistan Education and Research Network)

PERN was initially launched in year 2002 as a part of IT action plan providing Internet facility and interconnectivity between universities for data bank integration, research collaboration and upgrade learning and teaching skills. Dow University of Health Sciences receive a total of 92 MBPS in DMC and Ojha Campus, DUHS is acquiring the services of PERN-II Network. The bandwidth is further distributed to all other campuses.

In addition to PERN, there is the following addition:

- *Dow Medical College Campus – 82 MBPS
8 MBPS Internet Bandwidth Backup link is provided by NTC DSL.*
- *Ojha Campus – 160 MBPS
10 MBPS Internet Bandwidth Backup link is provided by CyberNet Pakistan.*
- *HEC Smart University Project – 248 MBPS for 248 Access Points deployed at Ojha Campus*

8.3 Video Conferencing

Video conferencing facility is provided by the information technology in all campuses. Clary Icon (PC based web conferencing) setup is installed in Ojha Campus for advance conferencing. Huawei TE-50 is installed at the Video Conferencing hall at Head Office DMC Campus. Tandberg 990 MXP (Multiple unit supporting up to 4 sites) is deployed in VC Board Room, DMC campus. Polycom PVX software is utilized in Ojha Campus for seamless video conferencing and web conferencing experience; which works on H-323 protocol.

Cisco WebEx is deployed in DMC campus for conferencing – DUHS currently own license of Cisco WebEx for 25 simultaneous nodes and planning to expend up to 100 users.

APPNA Merit training, CTU (CRCP and CRC) classes, HEC workshops, interviews and official meeting are usually conducted through Cisco WebEx facility of DUHS.

8.4 Campus Management Solution

Dow University has been aiming for provision of facilities to students, faculty, and staff with immediate access to real-time information which connects that information to specific action. Campus Management System CMS is logically divided into several modules, each of which maps to a university function/department. DUHS worked closely with the HEC (Higher Education Commission) and “Campus Management Solution” project was initiated at Dow University first time in any university of Pakistan. Higher Education Commission selected six public sector universities for the implementation of Oracle People Soft Campus Solutions, Dow University did the pilot model, successfully for the initial period of two years.

The Campus Management software is an integrated solution which takes care of the various activities of an educational institution like institution management, student management, administrative functions, etc. The solution is available as a basic integrated application upgradeable to an Intranet / Internet system.

Oracle Corporation has a customized ERP Solution for academic institutions i.e. Campus Management or Student Information System. The solution is a combination of software and hardware. It helps to manage the business processes of an academic institute in an efficient and professional manner.

The integration between various processes and departments i.e. admissions (electronic and manual), enrolment, examination, fees etc. helps in automating the manual and traditional methods of functioning of a campus.

CMS Features and Utilization.

- The web-based features enable the faculty, students as well as the management to interact.
- The application generates various reports useful to the management, to the faculty and to the end user separately, for each module.
- The security levels can be administered at three levels.
- The management has the option to set user's right of the end user, depending on the role and job responsibility.
- CMS make easier to prepare and generate reports from different required aspects.

8.5 Website of DUHS

The website of Dow University of Health Sciences assist in timely update of news, events, information on the official website of the university which is managed by IT department. It provides all the information regarding admissions, curriculum, examination and events planned in the university. Following facility are provided through web portal

- ◆ Accessibility to DUHS official email.
- ◆ Faculty profiles
- ◆ Microsoft for all users
- ◆ Individual academic programs and Colleges/ Institutes and Health Services Data/ Information
- ◆ Professional development center workshops schedule
- ◆ Alumni Association Webpage for Connecting with Dow
- ◆ Tenders and Admissions

- ◆ DUHS CME (Continuous Medical Education)
- ◆ JDUHS (Journal of Dow University of Health Sciences)
- ◆ Curriculum and course outline of MBBS
- ◆ QEC webpage
- ◆ ORIC, Duhs-DICE information portal
- ◆ Computer based degree verification.

8.6 Online Admission System

Online admission assists in reducing work load, avoid data entry mistakes and of course in keeping up to date record by electronic means. DUHS announces admissions in different programs; online admission assists in form filling over the website, provision of electronic copy of prospectus along with related information, eligibility criteria & fee structure of the courses, day to day updates and news alerts about admissions, entry test & interview dates announcements, display of online Merit list.

CHAPTER 9
UNIVERSITY BUILDING COMMUNITIES

9.1 University-Community Interaction

Dow University Hospital

Dow University Hospital was built in the year 2009 with the purpose to provide quality healthcare to the community at cost-effective fees in order to fulfill the motto “Prevention is Better than Cure”.

It serves as a tertiary care University Hospital attached to Dow International Medical College for teaching and training of MBBS & Post-graduate students. The Dow hospital is envisioned to be a five story building (5th floor under construction), with an anticipated capacity of up to a 1000 beds, fully equipped emergency room, spacious general wards, semi-private rooms, private rooms, an operation theater complex and labor rooms.

It is also equipped with modern facilities and units for treatment of surgical and medical illnesses, through the 12 bedded ICU and HDU, Nursery, Special Care Unit, Endoscopy Units, and the first Liver Transplant Center in all of Sindh, Pakistan. The hospital consists of Ultrasound, Echocardiography and 4 Pharmacies, along with Seminar Rooms for teaching purposes, a cafeteria, and various administrative departments, along with an attached OPD and a Trauma Center (under construction).

All types of routine and specialized surgeries are carried out by qualified and experienced surgeons of every specialty, including neurosurgery, cardiac surgery and even plastic surgery. The Intensive Care Unit (ICU) is also fully equipped with ventilators and other required equipment and monitors. High Dependency Unit (HDU) is meant for serious patients, not requiring ventilators. 10 dialysis machines are providing services till late night daily, separate machines are designated for Hepatitis B and C patients.

A new dialysis lab has also been created to meet with demand for dialysis around the clock. A lab collection point is placed within the Dow Hospital to facilitate indoor and emergency patients, besides specialized collection centers all over the city, and interior of Sindh.

Dow University Hospital is also providing round the clock emergency services, subsidized food for patients and medicines at market competitive rates.

This hospital serves as a teaching institution for the Institute of Nursing students, along with the MBBS students of Dow International Medical College.

Some of the service areas within Dow University, of the OJHA campus are:

◆ Dow University Hospital
◆ Dow Institute Of Radiology
◆ Dow Diagnostic Research & Reference Laboratory
◆ National Institute Of Diabetes And Endocrinology (NIDE)
◆ Dental Sections, DIMC & DDC (With 10 Units For Oral & Maxillo-Facial Surgical Procedures) & Dental OPD Of DIKIOHS
◆ National Institute Of Liver And Gastrointestinal Diseases With Liver Transplant Unit (NILGID)
◆ Renal Transplant Unit
◆ Center For Surgical Oncology
◆ Dr. Abdul Qadeer Khan Institute Of Behavioral Sciences
◆ Institute Of Physical Medicine And Rehabilitation

Pharmacy Services:

Pharmacy provides 6 days a week services to its customer. All prescription drugs and over the counter drugs are provided by the IPD & OPD pharmacy to cater to the needs of our patients as well as walk-in patients.

Vaccination Services:

Vaccination services are available as provided by the National Expanded Programme of Immunization (EPI) and free of cost at OICD.

Physical Therapy Services:

The Department of Physiotherapy provides comprehensive inpatient and outpatient services. All Physiotherapists are here to assess and treat patients of all ages and ailments and provide an important support service for our inpatients and out patients in need of dire physical therapists.

In Patient Departments:

- ◆ Surgical
- ◆ Medical
- ◆ Gynae / Obs
- ◆ Orthopedic
- ◆ Paeds
- ◆ Psychiatry
- ◆ E.N.T
- ◆ Dialysis
- ◆ Ultrasound/ VIR

Critical Care Units

- ◆ Medical ICU (11 Bedded)
- ◆ Surgical ICU (06 Bed)
- ◆ Neonatal ICU (06 Incubators)
- ◆ Operation Theater (04 O.T Tables)
- ◆ Labor Room
- ◆ Emergency Department (15 monitored Bed)
- ◆ Fully equipped 24 hours running ER including separate minor O.T, Ultrasound & X Ray.
- ◆ Dialysis lab (Newly built)
- ◆ Sleep Lab (Polysomnography)
- ◆ Pulmonary Function Test
- ◆ EMG / NCV
- ◆ EEG
- ◆ CTG
- ◆ VEP
- ◆ G.A Fitness

9.2 University Role in Building Community

The Dow University of Health Sciences, since its inception has been focusing on community services to provide preventive, diagnostic and treatment facilities for community health care specially to the under privileged class.

The students of various undergraduate and postgraduate programs of DUHS are also actively involved with the faculty members in all the Civic Engagements of DUHS.

Some Civic Engagements of DUHS FY 2017-2018

- ◆ World Diabetes Day Awareness Seminar organized by National Institute of Diabetes and Endocrinology –DUHS.
- ◆ World TB Day awareness of TB National Campaign to stop the spread of TB illness (OICD)
- ◆ World Autism Day, Observed at DUHS- by IPM&R on April 3rd, 2017.
- ◆ Ramadan and Diabetes Awareness Seminar organized by National Institute of Diabetes and Endocrinology –DUHS.
- ◆ Awareness walk and seminar regarding diabetic patients and their relatives organized by National Institute of Diabetes and Endocrinology –DUHS.
- ◆ Developed linkages with different public sector schools in various low income communities across six districts of Karachi as part of NRPU-HEC funded research grant to the School of Public Health on “Association between Micronutrient’s Levels and Cardiovascular Risk Factors Among Pakistani Adolescents”

- ◆ Developed linkages with private Schools situated in middle income communities across six districts of Karachi as part of Scaling up Nutrition Academia and Research (SUNAR) funded grant to “Develop Smartphone Technology For Nutrition Education Delivery Amongst Adolescents”
- ◆ Students at Institute of Physical Medicine and Rehabilitation provide their services to the patients at their home under supervision of senior therapists.
- ◆ By visiting the patient they assess and evaluate the hindrances which affect their mobility and provide home modifications services and ideas to remove the hurdles by replacements of objects according to ideal specifications for their feasibility.

◆ *Social Entrepreneurs’ Provision of Safe Drinking Water*

There is a dearth of safe drinking water especially in slum areas of Karachi. Dow University designed a filter plant, which can operate with solar light and provide clean & safe drinking water to a larger community.

Presently three filter plants are installed at three slum areas one in Karachi and two in the interior of Sindh, which are helping the community.

◆ *Services for Improving Quality of Life Correction of Functional Disabilities*

The incidence of congenital physical and functional disorders is on the rise in Pakistan. Therefore Dow University has established Institute of Physical Medicine & Rehabilitation, a part of which is the child development center which deals with „Autism” a common problem, recognized quite late by the parents. This Centre also conducts awareness programs for the community with the help of students for early recognition of this functional disorder and the required management.

◆ *Tools to Make Dependent Patients Independent: Provision of Physical Aids to Disabled Persons*

The Dow University artificial limb Centre (DUAL), provides artificial limbs, almost free of cost to limbless people so as to make them independent for their daily activities.

More than 3500 people have been provided artificial limbs free of cost until now.

◆ *Creating Awareness for Preventive Strategies At The Asia Health Expo*

Dow Health Expo was held at a very large scale on a span of three days at the Expo Centre Karachi, in 2017-2018, where public was attracted with light entertainment and then checkups of all specialties were offered by specialists free of cost. Blood tests and dental checkups were also done free of cost.

◆ *Helping for Corrections Cosmetic Repair for Severe Burns*

Dow University in collaboration with Ms Hashmat Affendi from House of Charity (Texas USA) got two reconstructive surgery sessions performed by experienced Plastic Surgeons of Houston. Severely disabled patients benefitted from this collaboration.

◆ *Awareness Programs Community Health Work (For Dentistry)*

Students of Dow International Dental College, along with their faculty members, also participated in Community work with free dental checkups.

◆ *Community Health Work (For Medical Checkups)*

Students of Dow International Medical College (DIMC) along with the faculty and an NGO have been holding camps at frequent intervals for general screening and counseling of the public.

◆ *Good Practices in Nursing*

The profession of Nursing in Pakistan's lacks in depth of knowledge and skills in clinical practice which is a great hindrance in quality of health care provided, as Nurses are the back bone of Health Professions along with other paramedical staff. Therefore, students of nursing at Dow University conducted various seminars, not only in various area hospital, but also in the community to attract students in this dynamic profession.

◆ *Helping Patients of Chronic Diseases: Treatment Through Camps and Student Community Service*

Dow University of Health Sciences organized several eye camps at various peripheral areas of the city to provide free consultation and treatment to the under privileged class of the community.

◆ *Free Plastic Surgery For Birth Defects (Outreach Program)*

In Pakistan, there are increasing incidences of congenital birth defects, such as cleft lip & Palate, specially seen in under privileged class of the society due to various reasons including malnourishment. Dow University conducted several camps in this connection mainly in the interior of Sindh.

Students took keen interest in motivating the patient's relatives for operation and maintaining record for further follow-up.

◆ *Training of Health Volunteers for First Aid Treatments*

Professional Development Centre of DUHS is not only training undergraduates, postgraduates and the faculty members in enhanced professional skills trainings, but also providing the Allied health related workers, such as Nurses, Paramedics and other students, with first aid procedures for their knowledge in case of emergency.

◆ *Rehabilitation of Chronically Ill Patients*

The Institute of Physical Medicine & Rehabilitation (IPM&R) provides physiotherapy manually and with machines for wide variety of disorders in the central city of Saddar, Karachi and also at the OJHA Campus.

◆ *Technical Training of Tb Patients During Treatment Phase*

Patients of TB require long term treatment for about 9 months to 1 year, during this period they even lose jobs, therefore the Dow University not only provides free medicines, food and others sorts of treatment but also provides technical training so that they can acquire skills and become self-earner. These skills include candle making, block printing, stitching and computer training etc.

◆ *Blood Donation Campaign*

Dr. Ishrat ul Ebad Khan Institute of Blood Diseases has been established for clinical research in blood diseases post-graduate courses, along with offering blood transfusion services to the community. It is also designed to meet increasing demands of blood needed in treatment of blood diseases, road traffic accidents, gunshot wounds and other such dire conditions.

9.3 Alumni Affairs: Outstanding Achievements

Huge counts of alumni from Dow University of Health Sciences are serving in various medical and allied health sciences of national as well international repute.

For example, Syed A. Hoda is a Professor of Pathology at the Weill Medical College of Cornell University and an Attending Pathologist at the New York Presbyterian Hospital. Hoda is a surgical pathologist with a particular interest in diagnostic breast pathology. He is an example of an exceptional alumnus with outstanding achievements in his field.

International Alumni Outstanding Achievements

Over 3000 graduates of Dow University of Health Sciences are practicing in various medical institutions of USA, UK, KSA and other countries. Majority of them are supervising the different medical departments, contributing in the medical researches etc.

National Alumni: Outstanding Achievements

A large number of graduates of Dow University of Health Sciences are serving humanity throughout the country and hold key posts. Majority of them are the heads of various health care institutions.

Graduates of Dow College of Pharmacy are rendering their services in highly reputable private and public sector organizations. Some notable entities where alumni of our institute are performing their duties include Drug regulatory authority of Pakistan, Aga Khan University Hospital, South city Hospital, NMC Hospital, NIBD, Kiran Hospital, Indus Hospital Korangi, leading pharmaceutical manufacturing companies and many others.

Our alumni have been outperforming alumni from other universities in various fields, one such example is AKUH entrance test for internship programs, where our alumni have been performing extraordinarily each year.

Several graduates are also playing their roles in industrial pharmacy and working in multinational and local pharmaceutical industries including Abbot, GSK, Brookes Pharma (Private) Limited, Bosch Pharmaceuticals, The Searle Company Ltd., Hilton Pharma (Pvt) Ltd, AGP Limited, among many others.

CHAPTER 10

SPORTS

10.1 Inter-Departmental Sports

The Dow University of Health Sciences regularly organizes Annual Sports Week every year. Every year, the student week is held under the name of Dow “Olympics”. The students of all the constituents „colleges/institutes of DUHS actively participate in the event. Sports facilities, including gymnasium and fitness club, have been developed at Ojha Campus, which is free for all students, faculty and staff.

Different types of sports events keep students and even faculty physically fit and active; whereas, debates and other intellectual activities and contests enhance their soul and heart. Sports activities also groom students for their future practical lives. These activities instill them with good communication skills, leadership qualities, team work, and ability to gracefully accept their failures and elegantly celebrate their success.

During the week, various events like Naat, Qirat, English and Urdu Debates, Bait Bazi and cooking competitions are arranged. Outdoor events like cricket (for both boys and girls), Football, Races, Shot put, Javelin Throw etc. are held.

Indoor events, like Basket Ball, Throw ball, Netball, Badminton, and Table Tennis are held in the state of art Gymnasium at Ojha Campus. All the events are supervised and scrutinized by Judges and referees of respected fields for transparency and professionalism.

Prize Distribution Ceremony of All Karachi Inter Professional Medical College Sports Competition 2018, “Mega Event of DUHS” was held on 6th April, 2018 at Muin Auditorium, Dow Medical College. Chief Guest of this ceremony was Syeda Shehla Raza, Deputy Speaker, Provincial Assembly, Sindh, she was received by Prof. Mohammed Saeed Quraishy, Vice Chancellor, Dow University of Health Sciences, Pro Vice Chancellors, Prof. Muhammad Masroor, Prof. Khawar Saeed Jamali and Prof. Zarnaz Wahid, Mr. Javed Ali Memon, Director, Higher Education Commission, Regional Center Sindh and Prof. Mukkaram Ali, Director Sports, DUHS. The program was started with recitation of Holy Quran followed by national anthem.

Nearly 2000 students from all 16 colleges/universities of Karachi participated in this Program. The program was well attended by faculty, staff and students from different Colleges/universities. Runners up were Bahria University and the winners declared were:

- ◆ Amir Rab from DUHS was declared as the best athlete.

Individual students from different colleges/universities received their medals from Syeda Shehla Raza and Vice Chancellor, DUHS. Focal persons from all colleges/universities who were very instrumental in making this event successful were awarded with the mementos.

10.2 Participation in National Championships

The students of DUHS participate in various local and regional competitions and have been given laurels for their efforts on behalf of the University.

10.3 Achievement at Regional /National level

- ◆ Inshal Javed from DUHS secured 1st position in Urdu debate at Regional level.
- ◆ Inshal Javed from DUHS secured 1st position in Urdu debate at Liaquat University of Health Sciences Trilingual Declamation Contest.
- ◆ Inshal Javed & Rida Majeed from DUHS were the runners up in “All Pakistan Declamation Contest” at PAF Academy, Risalpur.
- ◆ Students of DIMT participated in the Inter Karachi All Medical College Sports Competition where they contributed in Cricket, football, badminton and races.
- ◆ DUHS team (girls) for Throw Ball was the winner for the throw ball Competition at Bahria University.
- ◆ DUHS team (boys) for Volley Ball was the winner for the Volley ball Competition at Bahria University.
- ◆ DUHS team (girls) for Volley Ball was the runners up for the Volley ball Competition at Bahria University.
- ◆ DUHS team (boys) for Volley Ball was the runners up for the Volley ball Competition at NED University Sports Fiesta.

10.4 Honors & Awards to Winners.

DUHS awards special shields and certificates of appreciation to the winners of different sports and co-curricular / extra-curricular activities contests held at regional and / or national level. Medallions and shields are also awarded to the winners of inter departmental sports/ contest winners.

CHAPTER 11
UNIVERSITY BUILDING LEADERSHIP

11.1 Faculty Leadership

(Awards and Representation in Government Policy making committees, memberships on various councils etc.)

Faculty Leadership Awards of faculty members are mentioned below:

Name of Faculty Member	Title of Award	Year	Name of Org.
<i>Dr. Tariq Ali</i>	<i>Productive Scientist of Pakistan</i>	<i>2018</i>	<i>Pakistan Council for Science and technology. Govt of Pakistan</i>
<i>Dr. Fakhshena Anjum</i>	<i>Productive Scientist of Pakistan</i>	<i>2018</i>	<i>Pakistan Council for Science and Technology, Govt of Pakistan</i>
<i>Dr. Anab Fatima</i>	<i>Productive Scientist of Pakistan</i>	<i>2018</i>	<i>Pakistan Council for Science and Technology, Govt of Pakistan</i>
<i>Dr. Washdev Amar</i>	<i>Best Young Research Presenter Award</i>	<i>2017</i>	<i>22nd Information Psychiatric Conference</i>

Representation in Govt. Policy Making Committee (FY 2017-18)

Name of Faculty Member	Name of Committee / Representation	Year	Name of Org.
<i>Prof. Nisar Ahmed Rao</i>	<i>Strategic Treatment Advisory Group (STAG)</i>	<i>2017</i>	<i>National TB Control Program Ministry of Health, Pakistan</i>
<i>Dr. Saifullah Baig</i>	<i>Strategic Treatment Advisory Group (STAG)</i>	<i>2017</i>	<i>National TB Control Program Ministry of Health, Pakistan.</i>

<i>Prof. Dr. Arshad Hasan</i>	<i>Syndicate, IRB, Migration Committee, PMDC Committee</i>	<i>2018</i>	<i>Pakistan Medical and Dental Council</i>
<i>Saeed Akhtar</i>	<i>Member</i>	<i>2017</i>	<i>DPT National Curriculum Review Committee (NCRC) HEC</i>
<i>Dr. Nilofer Fatimi Safdar</i>	<i>Sindh Food Fortification Alliance Academia member</i>	<i>2017</i>	<i>Ministry of Planning & Development, Sindh Government</i>
<i>Dr. Nilofer Fatimi Safdar</i>	<i>Fill the Nutrient Gap (FNG) in the "Scaling Up Nutrition" (SUN) Expert member</i>	<i>2017</i>	<i>Ministry of Planning & Development, Sindh Government</i>
<i>Dr. Nilofer Fatimi Safdar</i>	<i>National Nutrition Program, Adolescent Nutrition Expert member</i>	<i>2017</i>	<i>Ministry of National Health Services, Regulations & Coordination</i>
<i>Dr. Mahjabeen Khan</i>	<i>Curriculum for Educational Peace and human rights</i>	<i>2018</i>	<i>Higher Education Commission</i>

Membership in Various Councils (FY 2017-18)

Name of Faculty Member	Status	Year	Name of Council
<i>Prof. M. Saeed Quraishy</i>	<i>President, PSG & GIE</i>	<i>2017</i>	<i>Pakistan Society of Gastroenterology & GI Endoscopy</i>
<i>Atiq ur Rehman</i>	<i>Board of Directors</i>	<i>2017</i>	<i>Pakistan Society Therapy Association (PPTA)</i>
<i>Umesh Kumar</i>	<i>Information Secretary</i>	<i>2017</i>	<i>PPTA (Sindh Chapter)</i>

11.2 Student Leadership

Co-curricular Activities: University dramas, exhibition, expos, competitions & debates at national and international levels

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- ◆ Sarim Ahmed- (Dow College of Pharmacy): Winner of National & Regional English Debate Contests
 - ◆ Inshal Javed–Member of the Youth Parliament, Sindh, Pakistan.
 - ◆ Students at Institute of Physical Medicine and Rehabilitation participated in 2017-2018 DUHS Dice Health Expo and won the special prize. Also, exhibition held in 2018 of students made Adaptive devices and other final projects (already the adaptive devices are innovative project of department).
 - ◆ Psychodrama presentations continuously held in department as the learning outcome of psychosocial rehab.
 - ◆ Programs organized by various departments to celebrate 14th August and also for world Occupational Therapy day is celebrated by different outdoor activities, including awareness sessions in schools and colleges, a charity fun mela for kids, and also a one day food gala for charity. A seminar to post event of occupational therapy day was also conducted.
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CHAPTER 12

FINANCE

Chapter 12: Financial Overview

12.1 University Financial Overview			
12.1	Annual Statement of Accounts	Annual Statement of Accounts for F.Y 2017-18 is in process	
12.2	Financial Year at a Glance		
12.3	Audit Report	DG Audit Sindh Report of 2017-18 is in process.	
12.4	Development Budget HEC	HEC Rs.	145.209
		GOS Rs.	156.685
		UDWP Rs.	1674.134
12.5	Recurring Budget	2611.860	2807.350 (Annex: II)
12.6	Self-Generated Income	1674.200	1587.895 (Annex: III)
12.7	SAP related Activities	Not Applicable to DUHS	
12.8	Trend per Student Spending	Actual Exp. 2807.350 / 7692 Students = 0.36	2017-18
			0.36

12.2 FINANCIAL YEAR 2017-2018 AT A GLANCE

DUHS currently working on the Strategic Plan under which we have built, rehabilitated, remodeled and expanded Physical and Technological Infrastructure that had outlived its utility. The new facilities, expanded rapidly, can now easily last for the next ten years.

Currently, DUHS has 7692 students, 928 faculty members, and 2643 support staff. Now the maintenance of these facilities is a big challenge and still posing an uphill task for the management to control.

DUHS ended the last fiscal year 2017-18 with an overall deficit of Rs. 238 million.

Further, during the last year, DUHS has been setting aside the funds against employees' deferred liabilities. The total liabilities stood at Rs. 2722.146 million as on June 30, 2018 however the total assets we were able to earmark on the same date was of Rs. 644.420 million. The major reason of deficit amounting to Rs. 2077.726 million is due to the various unusual announcements of increments by the Government in the past couple of years such as change in pay structure in consecutive years, upgradation of posts etc. Consequently, the difference between assets and liabilities, especially in Staff Pension Fund and Leave Compensated absences, have been widened as a result of revision in government pay scales. It is not possible for the Institute to cover this huge gap from the recurring streams of income.

Moreover, we believe that the important parameters for attaining prime objective of sustainability are good governance and strong financial management systems.

As per direction of the office of the Hon'ble President of Pakistan and the Higher Education Commission of Pakistan, we have already submitted **Strengthening of Financial Management Systems with Complete ERP solution plan**, capable of providing accurate and timely financial information necessary for taking commendable decision making, that will eliminate administrative efforts and increase efficiency, Internal control and sustainability.

In this regard we already sent you request to please approve additional supplementary grant of **Rs. 100 million** as well.

DOW UNIVERSITY OF HEALTH SCIENCES, KARACHI

FINANCIAL YEAR AT A GLANCE (2017-18) (Annex-I)

A- RECEIPTS:

As per Actuals, total receipts for the FY 2017-18 increased by 8.14%, as compare to Budget Estimates 2017-18, mainly due to the following factors:

Particulars	BUDGET 2017-18	ACTUAL 2017-18	Increase/ (Decrease)	Remarks
HEC	584.129	601.017	16.888	Additional grant released from HEC
Grant for TTS	9.839	9.963	0.124	Additional grant released from HEC
Provincial Govt. Grant	100.000	173.944	73.944	U&B Department Govt of Sindh released Rs. 100 (m) for recurring expenditure and Rs. 73.944 (m) share of Sindh Govt. recurring grant
Donations	7.000	0.620	(6.380)	decreased contribution from society
Any Other Grant	-	195.000	195.000	Rs.195.000 million is grant for stipend of PG's
Self-generated income	1,674.200	1,587.895	(86.305)	decrease in tuition fee, Income from transport and other income from budgeted estimates
Total	2,375.168	2,568.439	193.271	

B- EXPENDITURES:

The Actual Expenditure for 2017-18 have seen a increase of 7.48% as compared to Budgeted Estimates 2017-18. A summarized comparison of different expenditure heads is as follows:

Description	BUDGET 2017-18	ACTUAL 2017-18	Difference
Pay & Allowances	1456.515	1704.546	248.031
Utility	82.500	73.905	(8.595)
Occupancy Cost	55.150	52.958	(2.192)

Travel & Transport	84.400	61.989	(22.411)
Operating Expenses	392.245	401.955	9.710
Employees Retirement Benefits	96.500	103.790	7.290
Repair & Maintenance	73.000	56.599	(16.401)
Research & Feasibility Studies	37.000	33.815	(3.185)
Financial Assistance / Scholarship	100.500	119.350	18.850
Entertainments & Transfer Payment	100.000	112.244	12.244
Physical Assets	95.000	67.092	(27.908)
Civil Work	13.000	1.745	(11.255)
Others	26.050	17.361	(8.689)
Total	2,611.860	2,807.350	195.490

DOW UNIVERSITY OF HEALTH SCIENCES, KARACHI			
12.3 SELF-GENERATED INCOME (2017-18) (Annex-III)			
			[Million Rs.]
Code No.	Budget Heads	2017-18 (Budget)	2017-18 (Actual)
C02813	Education General Fees [301 - 390]	1,429.200	1,373.195
C0281301	Admission Fees	100.000	84.728
C0281306	Tuition Fees - Regular Fee Structure	415.000	531.227

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12.4 RECURRING BUDGET (2017-18) (Annex-II)

			[Million Rs.]
Code No.	Budget Heads	2017-18 (Budget)	2017-18 (Actual)
A012	Pay & Allowances	1,456.515	1,704.546
A031	Fees	2.500	3.379
A03101	Bank Fees	2.500	1.992
A03102	Legal Fees	-	1.387
A032	Communication	11.350	10.185
A03201	Postage and Telegraph	0.050	0.078
A03202	Telephone & Trunk Calls	3.300	1.445
A0320402	PERN	4.500	5.850
A0320403	Internet Charges	2.000	1.830
A03205	Courier and Pilot Services	1.500	0.981
A033	Utilities	82.500	73.905
A03301	Gas	4.000	1.386
A03302	Water	8.500	2.745
A03303	Electricity	70.000	69.774
A034	Occupancy Costs	55.150	52.958
A03402	Rent for Office Building	1.800	-
A03407	Rates and Taxes	0.350	0.153
A03410	Security Charges	20.000	18.029
A03470	Other Occupancy Cost (Janitorial)	33.000	34.776

A036	Motor Vehicles	4.200	3.383
A03602	Insurance	4.000	1.470
A03603	Registration	0.200	1.913
A037	Consultancy & Contractual Work	8.000	0.414
A03702	Management	8.000	0.414
A038	Travel & Transportation	84.400	61.989
A03801	Training - Domestic	4.000	0.004
A03802	Training - International	10.000	-
A03805	Travelling Allowance - TA/DA	3.000	3.060
A03806	Transportation of Goods	2.000	-
A03807	P.O.L. Charges	12.000	11.834
A03808	Conveance Charges - for late sitting	0.400	0.703
A03810	Study Tours	0.500	-
A03820	Transport Expense	52.500	46.388
A039	General Operating Expenses	392.245	401.955
A03901	Stationery	5.000	4.255
A03902	Printing and publications	9.500	13.963
A03903	Conferences / Seminars / Workshops / Symposia	5.000	1.793
A0397006	Convocation Expenses	2.000	9.000
A03904	Hire of Vehicles	-	-
A03905	Newspapers Periodicals and Books	7.000	3.689
A03906	Uniforms and Protective Clothing	-	-

A03907	Advertising & Publicity	8.500	12.960
A03912	Expenditure on Pakistani Delegations to Foreign Countries	0.600	-
A03915	Payment to Govt. Department for Services Rendered	0.200	-
A03917	Law Charges / Professional	4.000	-
A03918	Exhibitions Fairs & Other National Celebrations	1.500	1.155
A03919	Payments to Other services rendered - Audit Fee etc.	2.000	-
A03936	Foreign / Inland Training Course Fee	2.500	-
A03940	Unforeseen Expenditure / Contingencies	3.000	3.785
A0394204	Specific Consumable	8.000	11.937
A03959	Stipends Incentives etc.	260.000	268.533
A03970	Others	19.500	13.956
A0397002	i. Operational Cost- Office of Research Innovation & Commercialization (ORIC)	20.000	22.958
A0397003	ii. Operational Cost of Quality Enhancement Cell (QEC)	5.945	8.707
A0397004	iii. Operational Cost of Financial Aid Development Office (FADO)	1.500	1.128
A0397005	iv. Conduct of Examinations	15.000	10.933
A0397006	v. Sports Activities	1.500	3.128
A0397008	vii. Remuneration to Part-time Teachers / Visiting Faculty	10.000	10.078
A03	Total Operating Expenses	640.345	608.168
A04	Employees Retirement Benefits	96.500	103.790
A04102	Commuted Value of Pension/ GP Fund (University Share)	85.000	76.991
A04114	Superannuation Encashment of LPR	7.000	16.726
A04170	Others - Assistance Package for Families of Emps	4.500	10.073

A13	Repair and Maintenance	73.000	56.599
A13001	Transport	5.000	4.468
A13101	Machinery & Equipment	15.000	12.340
A13201	Furniture & Fixture	3.000	4.325
A13301	Office Buildings	32.000	26.831
A13302	Residential Buildings	10.000	3.720
A13703	I.T. Equipment	2.000	3.362
A13801	Maintenance of Gardens	3.000	0.295
A13901	Lines & Wires - Repair	1.000	1.212
A13920	Others - Repair	2.000	0.047
A021	Feasibility Studies	2.000	-
A02101	Feasibility Studies	2.000	-
A022	Research Survey & Exploratory Operations	35.000	33.815
A02201	Research and Survey	35.000	33.815
A061	Financial Assistance/ Scholarships	100.500	119.350
A0610102	Need Based Scholarships	80.000	119.350
A0610103	Faculty Scholarships	20.000	-
A06103	Cash Awards - for Meritorious Services	0.500	-
A063	Entertainments and Gifts	4.000	6.244
A06301	Entertainments	4.000	6.244
A064	Other Transfer Payments	96.000	106.000
A0640202	Contribution / Transfers to Pension Fund	90.000	100.000

A0640204	Contribution / Transfers to Benevolent Fund	6.000	6.000
A09	Expenditure on Acquiring of Physical Assets	95.000	67.092
A09201	Hardware	20.000	0.070
A09202	Software	5.000	7.889
A09203	Purchase of I.T. Equipment	12.000	13.165
A09501	Purchase of Transport	13.000	10.984
A09601	Purchase of Plant & Machinery	16.000	11.384
A09701	Purchase of Furniture & Fixture	12.000	12.844
A09801	Purchase of Livestock	5.000	-
A09470	Electrical Equipment	12.000	10.756
A124	Civil Works - Buildings & Structures	13.000	1.745
A12405	Electrification Plumbing and Other Infrastructure	13.000	1.745
	Total Expenses	2,611.860	2,807.350
C0281311	Tuition Fees - Self-Support Scheme	113.000	86.004
C0281316	Tuition Fees - Self-Financing Scheme	700.000	617.978
C0281332	Examination Fees - University On Campus Students	30.000	26.439
C0281333	Examination Fees - Affiliated Colleges Students	1.200	1.600
C0281346	Degree / Transcript Fee etc.	4.000	6.150
C0281361	Income from Continuing Professional Development Courses for Business & Community	6.000	2.993
C0281390	Other Misc. Fees from Students	60.000	16.076
C02812	Hostel Fees / User Charges [201 - 226]	80.000	81.771
C0281206	Hostel Room Rent	38.000	38.541

C0281221	Income from Transport / Buses	42.000	43.230
C02810	Income from Endowments	15.000	17.067
C02815	Income from Regeneration & Development Programs [566 - 572]	50.000	15.717
C0281572	Income From Regeneration & Development Programs - Others	50.000	15.717
C02818	Others [809 - 870]	100.000	100.144
C0281830	Sale of Prospectus / Forms	16.000	22.653
C0281840	Rent / Lease of University Buildings / Shops etc.	2.000	1.441
C0281860	Interest on Investments / Cash Balances etc.	40.000	36.541
C0281870	Other Misc. Receipts	42.000	39.509
	Total Self-Generated Income	1,674.200	1,587.895

CHAPTER 13

UNIVERSITY GOVERNANCE

13.1 Syndicate Meetings

2017 (05 meetings)

- ◆ 65th meeting of Syndicate held on Monday, the 31st July, 2017 at 03:00 p.m.
- ◆ 66th meeting of Syndicate held on Monday, the 31st July, 2017 at 03:30 p.m.
- ◆ 67th meeting of Syndicate held on Saturday, the 12th August, 2017
- ◆ 68th meeting of Syndicate held on Saturday, the 14th October, 2017
- ◆ 69th meeting of Syndicate held on Friday, the 17th November, 2017

2018 (05 meetings)

- ◆ 70th meeting of Syndicate held on Saturday, the 27th January, 2018
- ◆ 71st meeting of Syndicate held on Saturday, the 21st April, 2018
- ◆ 72nd meeting of Syndicate held on Wednesday, the 27th June, 2018
- ◆ 73rd meeting of Syndicate held on Saturday, the 21st July, 2018
- ◆ 74th meeting of Syndicate held on Saturday, the 20th October, 2018

13.2 Academic Council Meeting

- ◆ 13th Meeting of Academic Council held on Thursday, the 21st September, 2017
- ◆ 14th Meeting of Academic Council held on Thursday, the 15th March, 2018
- ◆ 15th Meeting of Academic Council held on Monday, the 17th September, 2018

13.3 Board Of Advanced Studies And Research Meetings

- ◆ 53rd meeting of the Board of Advanced Studies and Research held on 14th November, 2017
- ◆ 54th meeting of the Board of Advanced Studies and Research held on 06th February, 2018
- ◆ 55th meeting of the Board of Advanced Studies and Research held on 16th May, 2018

CHAPTER 14
RESOURCE GENERATION &
DEVELOPMENT

The Vice Chancellor of Dow University of Health Sciences leads the functions of Resource Generation & Development. He is responsible to organize, administrate and manage projects for University Development and control the general activities of the University.

The main function of this office is to generate resources for University Development Programs and provide better services to all the stakeholders.

14.1 New Initiatives & Implementation

- ◆ Initiative to develop a central research center for Dental Colleges at Dow Medical College Campus.
- ◆ Implement a student clinical & psychological counseling service for the University.

14.2 Future Plans

- ◆ Extension of College of Pharmacy Building (2,700 Sqft) - Academic Block
- ◆ Institute for Genomics & Genetic Diseases Research & Treatment Center (45,000 Sqft) - Academic Block
- ◆ Hostels for Female Student (for 200 students)- 45,562 Sqft.
- ◆ Auditorium (for 700 students) - 24,200 Sqft
- ◆ Upgrade in ICT Infrastructure (immediate need of 530 systems) in various digital libraries across DUHS- DVTC, ION, SPH, DCOP, IPM&R & DIMC
- ◆ Establishment of an Alumni Database for future fundraising and resource generation activities
- ◆ Establishment of Business Incubation Center Building/floor/area with minimum covered area of 10,000 sq. ft. for BIC activities, including successful development of start-ups and fledgling companies by providing entrepreneurs with an array of targeted resources and services, support linkages between academia and industry, and promote innovative research based initiatives to enhance the competitiveness of Pakistan's economy.

CHAPTER 15
HEALTH CENTRE/MEDICAL FACILITIES

15.1 Medical Facilities of Dow University of Health Sciences

Dow University Hospital was established in the year 2009. It serves as a tertiary care University Hospital attached to Dow International Medical College for teaching and training of MBBS & Postgraduate students. The Dow hospital is a 5 story building, with large capacity of 1000 beds, fully equipped emergency room, spacious general wards, semi-private rooms, private rooms, an operation theater complex and labor rooms. It is also equipped with most modern facilities and units for treatment of surgical and medical problems, like the 12 bedded ICU and HDU, Nursery, Special Care Unit, Endoscopy Units, and the Liver Transplant Center. The hospital consists of Ultrasound, Echocardiography and pharmacy besides Seminar Rooms, a cafeteria, and the administrative departments.

All types of routine and specialized surgeries are carried out by qualified and experienced surgeons of every specialty, including neurosurgery, cardiac surgery and even plastic surgery. The Intensive Care Unit (ICU) is also fully equipped with ventilators and other required equipment and monitors. High Dependency Unit (HDU) is meant for serious patients, not requiring ventilators. 10 dialysis machines are providing services till late night daily, separate machines are designated for Hepatitis B and C patients. A new dialysis lab has also been created to meet with demand for dialysis around the clock. A lab collection point is placed within the Dow Hospital to facilitate indoor and emergency patients, besides specialized collection centers all over the city, and interior of Sindh.

Hospital and Health Care Facilities Established/Managed by DUHS

The Dow University Hospital is supported with the diagnostic facilities from Dow Diagnostic & Research laboratories (DDRRL) and Dow Radiology Complex; both of them are equipped with cutting edge technology, well-trained technologists and faculty. Labor room is also functional round the clock along with Intensive Care Unit, which is fully equipped.

All treatment packages of Surgeries and procedures are bare minimum to meet the running cost on no profit no loss basis. The needy patients are evaluated to be treated from Zakat fund.

In summary, Dow hospital provides following services and facilities to their patients:

1 24 hours Emergency Service Department

2 Out Patient Department (OPD Block)

3 Intensive Care Unit (ICU)

4 High Dependency Unit (HDU)

5 Neonatal Intensive Care Unit (NICU)

6 Dialysis Department

7 24 hours Emergency Service Department

9 Vascular Interventional Radiology (VIR), highly specialized procedure for various diseases minimizing major surgeries

10 Living donor Liver transplant

11 Hepato-pancreatic biliary surgeries

All types of medical & surgical treatments to cardiac patients

Operation Theatre (OT) Complex for all major & minor surgeries

The Dow University Hospital consists of the following departments:

1. General Medicine
2. Diabetes & Endocrinology
3. GI & Liver diseases
4. Chest diseases
5. General Surgery
6. Orthopedic
7. Urology
8. ENT
9. Eye
10. Pediatrics
11. Plastic Surgery
12. Cardiology & Cardiac Surgery
13. Neurosurgery

Dow Diagnostic Research and Reference Laboratory (DDRRL)

Dow Diagnostic Research and Reference Laboratory (DDRRL) was established in October 2007 to provide reliable, high quality diagnostic services of International standards for routine and specialized tests at economical rates (i.e. approximately at 30% as compared to private rates), for all socioeconomic segments of the population. The laboratory is the fastest growing lab in Pakistan, whose internal quality assurance is guaranteed by daily controls. DDRRL also has the provision of online electronic reporting and Image transfer facilities for all patients.

Radiological Testing Services

The Dow Institute of Radiology and Dow Diagnostic Complex are facilitated with services that include the provision of all modern diagnostic facilities like:

- X-rays
- Ultrasound
- Computed Tomography (CT) Scan
- Magnetic Resonance Imaging (MRI)
- Fluoroscopy
- General Radiography
- Dual Energy X-Ray Absorptiometry (DEXA) Scan
- Echocardiography □ Mammography

Operation Theatre (OT) Complex

Dow University Hospital established a huge operation purpose built theater i.e. OT Complex of International standards having 80,000 sq. ft. area which is fully equipped with most modern equipment. The OT Complex has nine 09 operation theatres. Two are designated for Liver Transplant and hepato pancreatic biliary surgeries while two theatres are designated for Cardiac and Orthopedic Surgeries; the required special instruments and gadgets for the purpose are installed and provided.

The remaining five Theatres are also fully equipped with most modern equipment to have operations of General Surgery, Urology, ENT, Plastic Surgery, Neuro Surgery and Thoracic Surgery, Bariatric Surgery etc. This complex also has fully equipped recovery room. The operation floor has a unique channelizing operating in automation to collect the dirty liner with safety, which is then washed, sterilized and stored hygienically preventing infection.

The OT complex has state of art equipment including ventilators, invasive hemodynamic monitoring system and hemodialysis. Since various specialties also provide Postgraduate training, camera recording and CCTV system is also installed for telecasting live operative procedures. This new OT complex has lot of facilities for the doctors, staff and students, including rest rooms, canteens and separate lockers besides other facilities.

Physiotherapy Department

Dow University of Health Sciences also offers physiotherapy services to outpatients through the attached department of the School of Physical Therapy at Institute of Physical Medicine & Rehabilitation (IPM&R). This department provides comprehensive rehabilitation services, i.e. cardiac, neurological musculoskeletal and pediatric rehabilitation, currently providing physiotherapy services to more than 55 patients per day. Since its establishment 14000 patients have been provided with physiotherapy services.

Artificial Limb Centre

The Department of Prosthetics & Orthotics is serving the community by providing high quality prosthetics & orthotics appliances. During the year 2014, approx. 1580 patients benefited from the services of this department. Other than serving patients arriving at the center, this center is also facilitating other medical institutions for artificial limbs and appliances. Some of these services include facilitation offered to Jinnah Post Graduate Medical Centre for the Department of Orthopedics Club Foot Clinic by providing 300 Dennis brown splints for their congenital talipes equi-varus patients and providing Dennis Brown Splints for CTEV Patient (Clubfoot clinic).

Blood Transfusion Services Program

Safe blood is a crucial and irreplaceable component in the medical management of many diseases. In Karachi, because of the massive influx of patients from interior Sindh and other rural countryside, the demand of safe blood for transfusion could not be met with only replacement donors. Blood shortage in Pakistan is documented to be about 40% and this problem is further accelerated by inappropriate use of blood and its products.

Dow University of Health Sciences has taken the initiative towards provision of safe blood products to the needy patients. The overall project objective is to contribute to lowering hemorrhage mortality and to reduce the risk of transfusion transmitted infectious diseases and provision of safe and efficacious blood and blood products. The Voluntary non-remunerated blood donation (VNRBD) is the ideal source of quality blood, which forms less than 15 % of the demand of the blood in Pakistan. Under this initiative, Safe Blood Transfusion Services have been initiated with the strong pillars of voluntary blood donation with considerable community outreach, training of human resource in blood banking and transfusion medicine as per the recent scientific techniques and under the WHO recommended Quality Management principles, developing service delivery in blood banking and transfusion laboratory sciences with continuous education and research in transfusion medicine.

DUHS blood donation services are extremely active under Donor Management Department of the Centre and disseminating the message of Voluntary Blood Donation to the population at large.

The purpose is:

1. **Creation of a culture of voluntary blood donation through communication and education.**
2. **Build a stable blood donor pool by motivating and recruiting new donors from low-risk populations, and encouraging existing or lapsed donors to become regular donors and to recognize the contribution to society made by blood donors.**
3. **Provide quality donor care, so that blood donation is not onerous**
4. **Provide quality assured blood products to all the needy patients**
5. **And create a sustainable foundation of advanced WHO recommended blood banking in Pakistan.**

Ojha Institute of Chest Diseases (OICD) & Chest Disease Clinics

OICD was established in the early forties, as a TB sanatorium and now recognized as a center of excellence for Tuberculosis by the World Health Organization (WHO). The services provided here are free of cost and normally such type of ICU services costs around Rs. 20,000 - Rs. 50,000 / day in private hospitals.

The facilities provided to patients include high quality diet, recreation environment with TV, cable etc. and vocational training and support in the form of training for candle making and stitching etc. The Dow University takes the responsibility to sell their products for them.

Four out-patient clinics of OICD in the periphery of the city are also functioning, these are chest clinics of Iqbal Yad, Nazimabad, Lyari and Malir, Each clinic has a well-organized DOT (Directly Observed Treatment), where these patients with TB are provided medicines and health education.

Daily about 600 patients visit these TB clinics for DOTS treatment and follow up.

TB HOSPITAL of 250 beds provides all possible facilities to indoor and outdoor patients for diagnosis and treatment of tuberculosis.

MULTI DRUG RESISTANT (MDR) TB is a great problem. In Pakistan about 15,000-20,000 tuberculosis patients presently suffering from Multi-Drug Resistant (MDR TB), each patient requires approx 500,000 Rs. for management including costly medicines and other logistics but at OICD their treatment is free.

15.2 Counseling for Stress Reduction

For Students:

Dow University of Health Sciences, Karachi, has taken the initiative to council the University students for their stress reduction by facilitating or providing financial assistance through various Institutions/Organizations. There are various organizations which are not in connection with the University, in such organizations University still facilitates students as a forwarding authority like others. Currently University signed MOU with various philanthropists, to facilitate students as well as channelize system.

Meanwhile, University forwarded applications to the following Institutions with respective assistance/facility;

S #	INSTITUTION/ORGANIZATION	TYPE OF ASSISTANCE
1	Ihsan Trust	Qarz-E-Hasna
2	Professional Education Foundation	Qarz-E-Hasna / Zakat
3	Abdullah T Mohammed Wehwaria & Farhat Aleem Scholarship	Scholarship
4	University Of Karachi Alumni Association	Scholarship
5	Endowment Fund Scholarship	Scholarship
6	Fauji Foundation	Stipend
7	Staff Welfare Organization	Stipend
8	Federal Employees Benevolent and Group Insurance Funds	Stipend
9	NBP Student Loan Scheme	Loan

Dow University of Health Sciences, Karachi, has established a University Advancement Cell and Financial Aid Office for the financial facilitation/assistance to the students. The University is engaged in the process of increasing the number of funding organization / philanthropist and sign MOU with them. The University future planning is to enhance duration of refunding amount of scholarship and develop a new fee structure with emphasis on minimizing the burden of scholarship awardee, to increase promotional activities through workshops, seminars, social media etc. and to arrange Symposium of different funding agencies with students, so that they may explain their program to students directly.

(Prostheses) Artificial Limbs and Braces/Supports (Orthoses)

Department of Prosthetics & orthotics at IPM&R, DUHS is providing (Prostheses) artificial limbs and braces/supports (orthoses) to person with disabilities. Around 975 appliances are delivered free of cost.

Health Insurance Scheme for DUHS employees

Financial responsibilities are considered as the main source of stress. To reduce the financial burden of its employees; DUHS provides medical insurance coverage to its all employees appointed on Regular basis and to /Contractual basis with at least one year service.

The insurance coverage is currently provided by Asia Care Health & Life Insurance Co. Ltd. The details of this health insurance scheme are discussed here as under:

The Employees & their dependents covered are divided in the following categories:-

Benefit Structure for Employees and Staff of DUHS

Benefits / Coverage	Categories and Annual Entitlements in Rs.			
	Plan -A B-21 & 22	Plan -B B-19 & 20	Plan-C B-16 to 18	Plan-D B-1 to 15
Hospitalization Coverage per Insured per Annum	650,000	500,000	350,000	250,000
Daily Room / Bed limit per Insured	Deluxe Room	Private Room	Semi Private Room	General Ward / Room
Maternity Limits for Normal Delivery / Forceps	50,000	30,000	25,000	20,000
Maternity Limits for C-Section / Multiple Births	80,000	45,000	40,000	30,000
Out-Patient Reimbursement per Family per Annum	35,000	20,000	15,000	12,000

Break- Up of DUHS Employees Covered under Health Insurance Plan:

	PLAN A	PLAN B	PLAN C	PLAN D	TOTAL
EMPLOYEES	80	380	746	1160	2366
SPOUSES	38	299	517	825	1679
CHILDREN	77	661	845	1986	3569
PARENTS	32	392	1034	1348	2806
TOTAL	227	1732	3142	5319	10420

Benefits Covered under IPD/ Hospitalization

1. Daily Room & Board Charges.
2. Miscellaneous Hospital Services and Supplies. Drugs, Dressings, Prescribed Medicines, Laboratory Examinations, Physiotherapy, intravenous injections & solutions, administration of blood and blood plasma including cost and any other fluids administered during surgery.
3. Emergency Room treatment for Accidental and Non-Accidental emergencies.
4. Doctor's visits. (Consultant, Specialist, etc.)
5. Surgical Operation Charges.
6. Local Ambulance Charges.
7. Pre-Post Hospitalization covered including Diagnostic Tests, Consultation Charges & prescribed Medicines within 30 days prior to or after Hospitalization.

8. *ICU and Operation Theatre Charges.*
9. *Specialized Investigations & Day Care Surgeries. Dialysis, MRI, CT Scan, Thallium Scan, Angiography, `Cataract, Endoscopy, Echo, Treatment for Fractures, Lacerated wounds, Emergency Dental Treatment due to accidental injuries, Day Care surgical Charges including medicines and investigations.*
10. *Psychiatric Treatments.*
11. *Congenital Birth Defects.*
12. *Interferoherapy of Hepatitis „B“ and „C“.*
13. *Maternity related complications.*
14. *Radiotherapy and Chemotherapy.*

BENEFITS COVERED UNDER MATERNITY

1. **Daily Room & Board Charges / Labor Rom Charges.**
 2. *Ante-Natal Care such as Ultrasound scans, Lab Tests and examinations.*
 3. **Hospital Charges & Obstetricians Fee for Childbirth.**
 4. *Midwife Charges if delivery takes place at home.*
 5. **Operation Theatre /Physician“s /Surgeon“s Charges.**
 6. *Prescribed Medical Supplies & Services during Hospitalization.*
 7. **Anesthesia Charges.**
 8. *Blood Transfusion including Cost of Blood.*
 9. **ICU Charges.**
 10. *Baby Nursing Care while the Mother is confined to the Hospital.*
 11. **Circumcision Charges of Newborn Baby Boys.**
 12. **Post- natal Care immediately following childbirth such as Stitches, Follow up Visits & Prescribed Medicines.**
 13. **Secondary Conditions brought about by Pregnancy such as Backache, High BP, Vaginal Bleeding, Nausea & Vomiting, requiring Hospitalization.**
- In the event of D&C, Normal delivery benefits as mentioned in Benefits Schedule.**

BENEFITS COVERED UNDER OPD

1. *Physician / Consultant’s fees for consultations.*
2. *Psychiatrists and Psychologist’s Fee for Psychiatric Treatment.*
3. *Prescribed Drugs and Dressings.*
4. *Pathology, Radiology and Diagnostic Tests, X-rays & Ultrasounds.*
5. *Vaccinations.*
6. *Out-Patient Surgical Operations.*
7. *Wellness Mammogram, Pap smear, Prostate Cancer Screening or Colon Cancer Screening.*
8. *Dental Treatment including Extractions Teeth, Root Canaling or Capping or Similar Treatment.*
9. *Accident Related Dental Treatment.*
10. *Costs for Treatment by Therapists and Complementary Medicine Practitioners.*
11. *Declared / Undeclared Pre-Existing Conditions.*
12. *Coverage / Treatment from any Hospital / Clinic of the Patient“s Choice.*

ANNEXURE-A

Total Student Enrollment during the FY 2017-18- Gender wise detail

Parameter	Bach 14 Yrs of Edu (M)	Bach 14 Yrs of Edu (F)	Bach 15 Yrs of Edu (M)	Bach 15 Yrs of Edu (F)	Bach 16 Yrs of Edu (M)	Bach 16 Yrs of Edu (F)	Bach 17 Yrs of Edu (M)	Bach 17 Yrs of Edu (F)	Master 16 Yrs of Edu (M)	Master 16 Yrs of Edu (F)	Master 17+ Yrs of Edu (M)	Master 17+ Yrs of Edu (F)	MS/ MPhil 18 Yrs of Edu (M)	MS/ MPhil 18 Yrs of Edu (F)	PhD (M)	PhD (F)	PGD (M)	PGD (F)	Total (M)	Total (F)	Grand Total
Enrollment (Pakistani Regular Students only)	38	64	N.A	N.A	434	2094	751	2474	23	25	28	33	429	730	86	92	59	74	1848	5586	7434
Enrollment Foreign Students only	N.A	N.A	N.A	N.A	1	1	108	145	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	109	146	255
Enrollment Distance Learning only	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
Total Enrollment (Pakistani + Foreign + Distance Learning)	38	64	N.A	N.A	435	2095	859	2619	23	25	28	33	429	730	86	92	59	74	1957	5732	7689