



معهد دسمان للسكري  
Dasman Diabetes Institute

انشأته مؤسسة الكويت للتقدم العلمي  
Founded by Kuwait Foundation for the Advancement of Sciences

# DASMAN DIABETES INSTITUTE ANNUAL REPORT 2017





**H.H. SHEIKH SABAH AL-AHMAD  
AL-JABER AL-SABAH**  
AMIR OF THE STATE OF KUWAIT



**H.H. SHEIKH NAWAF AL-AHMAD  
AL-JABER AL-SABAH**  
CROWN PRINCE OF THE STATE OF KUWAIT



**H.H. SHEIKH JABER AL-MUBARAK  
AL-HAMAD AL-SABAH**  
PRIME MINISTER OF THE STATE OF KUWAIT



# DG's Message

I am pleased to present the Dasman Diabetes Institute (DDI) 2017 Annual Report which provides an overview of DDI's major achievements and activities in 2017. This report sheds light on our endeavors during the past twelve months to improve the management and prevention of diabetes in the State of Kuwait.

DDI continuously strives to deliver on the vision set out by the late Amir, His Highness Sheikh Jaber Al-Ahmad Al-Jaber Al-Sabah. The Institute, established by the Kuwait Foundation for the Advancement of Sciences in 2006, was established as a focal point for the fight against diabetes with a clear Mission: To prevent, control and mitigate the impact of diabetes and related conditions in Kuwait.

DDI aspires to achieve excellence in diabetes management and prevention while building the foundations for financial sustainability. The Institute is comprised of four divisions that constitute the pillars on which we envision the future of diabetes in Kuwait, namely: Research, Medical, Operations, and Directorate. These pillars clearly reflect the Institute's dedication to the improvement of quality of life through effective programs of research, training, education and health promotion.

DDI's multi-disciplinary team of national and international professionals combine their knowledge and experience to create a benchmark for the treatment of diabetes and other chronic diseases. These unique facets of the Institute create an atmosphere of knowledge transfer and sharing amongst its parties; all of which are competent enough to tackle the evolution of diabetes management in Kuwait and its related data.

DDI passionately strives to establish research partnerships with other reputable institutions and encourage synergies among disciplines in various fields of diabetes research and management. We aspire to create a scientific environment that maximizes our research portfolio to attain high-impact translational research and integrate its findings to basic medical practices.

DDI's continued success in shouldering its responsibilities and tasks is driven by the unwavering commitment and zeal of DDI team. The achievements outlined in this annual report are a clear testament to their hard work, and we are profoundly grateful to them for consistently going the extra mile.

Finally, on behalf of DDI's management and team, I avail this opportunity to express appreciation and gratitude to His Highness the Amir of the State of Kuwait Shaikh Sabah Al-Ahmad Al-Jaber Al-Sabah, His Highness the Crown Prince Shaikh Nawaf Al-Ahmad Al-Jaber Al-Sabah and His Highness the Prime Minister Shaikh Jaber Al-Mubarak Al-Ahmad Al-Sabah. We wish them continued success in leading our beloved country towards further prosperity and better future.

**Dr. Qais Al Duwairi**

Director-General of Dasman Diabetes Institute







**DIRECTORATE  
DIVISION**

# PR AND MEDIA SERVICES

## UNIT BRIEF

The Public Relations (PR) and Media Services Department is utilized and available for all the different departments in Dasman Diabetes Institute (DDI). The PR and Media team are responsible for all above-the-line and below-the-line marketing material developed and disseminated to the public. The Department constantly promotes all the ongoing activities and events DDI is involved in, as well as reinforces the Institute's continuous accomplishments. This is achieved via various media outlets such as print advertising, broadcasting stations, and social media channels which include Instagram, YouTube, Facebook, and Twitter. The PR and Media Team is responsible for creating all the Institute's design material, from forming the layout to the final printed product. All processes and procedures are completed in a professional manner, ensuring that DDI maintains its proficient and high standard.

## KEY OBJECTIVES

### Define DDI's Mission

To prevent, control and mitigate the impact of diabetes and related conditions in Kuwait, through effective programs of research, training, education and health promotion and thereby improve the quality of life.

- ◆ Enhance the public understanding of DDI's services
- ◆ Enhance Partnerships & Collaborations with Regional, National and International Entities

### Promote DDI's Vision

To be the leading diabetes Institute in the Gulf Region and the Middle East.

- ◆ Provide information to enhance DDI's services and skills
- ◆ Enhance Partnerships & Collaborations with Regional, National and International Entities
- ◆ Reinforce DDI's Values: Transparency, Integrity, Innovation, Excellence, Empowerment, Dedication, Collaboration

## List of DDI Events

JAN	University of Dundee Graduation
JAN	Loyac Blood Drive Donation at DDI
FEB	First Mubarak Al Kabeer Marathon
FEB	Senior Citizens Day / National and Liberation Day Celebration
MAR	In-house International Academy School Visit
MAR	Martyr's Bureau (Amiri Diwan) Outreach
MAR	In-house Mishref Intermediate School Visit
APR	1st Hematology Board Review Conference
MAY	INJAZ Job Shadow Orientation
MAY	American Academy School Visit
MAY	Afia Forum Event at Crowne Plaza Hotel in Farwaniya
MAY	Muneera Al-Ayaar Health Center Awareness Exhibition
JUN	DDI Girgian Event
JUL	Internal Seminar
AUG	Research Student Summer internship Poster Day
AUG	Internal Seminar



<b>AUG</b>	Internal Seminar
<b>SEP</b>	Advanced Ultrasound Bootcamp For Clinicians: From Benchside to Everyday Practice – Workshop
<b>SEP</b>	Business Continuity and IT Disaster Recovery - Workshop
<b>SEP</b>	KFAS Outreach Event at the Avenues
<b>SEP</b>	The Outlook of Current & Future Lipid Modifying Therapy – Seminar
<b>OCT</b>	Integrating Psychology and Technology into Diabetes Consultation - Seminar
<b>OCT</b>	Kidneys A Wonder Organ? – Seminar
<b>OCT</b>	What Every Health Worker Should Know – Lecture
<b>OCT</b>	What You Should Know About Diabetes - Lecture
<b>OCT</b>	Discover America Fun Run Walkathon in Boulevard – In collaboration with the US Embassy in Kuwait
<b>NOV</b>	Kuwait Healthy Cities Conference & Exhibition
<b>NOV</b>	Muneera Al-Ayaar Health Center Awareness Exhibition
<b>NOV</b>	National Assembly of Kuwait Outreach
<b>NOV</b>	DDI World Diabetes Day
<b>NOV</b>	Scientific Research Methodologies Training Course
<b>NOV</b>	GeoHealth Seminar
<b>DEC</b>	International Diabetes Federation ‘IDF’ Congress Participation

## List of DDI Bus Outreach

JAN	AUK Students Health Checkup and Health Promotion Outreach
JAN	Fahaheel Wataniya School for Girls – Bus Outreach
FEB	Ahmadi Governorate National and Liberation Outreach Activity
FEB	Universal American School Open Sports Day
FEB	First Mubarak Al Kabeer Governorate National and Liberation Days Celebration – Bus Outreach
FEB	Farwaniya Governorate National and Liberation Days Celebration – Bus Outreach
FEB	Fahaheel English School Outreach
FEB	Northwest School in Farwaniya – Bus Outreach
MAR	Gulf American School in Jahra – Bus Outreach
APR	Kerala Doctors Association World Health Day Outreach
APR	Farwaniya Intermediate School Outreach
MAY	Dasman Model School Bus Outreach
MAY	American School in Jahra – Bus Outreach
MAY	Martyr’s Bureau Bus Outreach
JUN	Ministry of Information Ramadan Outreach Event

<b>JUN</b>	Ministry of Information Ramadan Outreach Event
<b>OCT</b>	Kuwait Awqaf Public Foundation Outreach
<b>OCT</b>	Creativity Academy School for Boys – Bus Outreach (in collaboration with Sabah Al Ahmed Creativity and Giftedness Center)
<b>NOV</b>	KNPC Outreach
<b>NOV</b>	Mobile Clinic (DDI Bus) Al-Jeel Al-Jadded School in Hawally – Bus Outreach
<b>NOV</b>	AUK American University of Kuwait Outreach
<b>NOV</b>	ACM – American College of the Middle East Outreach
<b>NOV</b>	Mobile Clinic (DDI Bus) Kuwait Magic Mall Outreach
<b>MAR</b>	Gulf American School in Jahra – Bus Outreach
<b>NOV</b>	Creativity Academy School for Girls – Bus Outreach (in collaboration with Sabah Al Ahmed Creativity and Giftedness Center)
<b>DEC</b>	Mobile Clinic (DDI Bus) Universal American School of Kuwait (UAS) Outreach

## DDI HOSTS THE 9TH ANNUAL BLOOD DONATION CAMPAIGN ‘RIDE TO SAVE’

In collaboration with Kuwait Healthy Living Initiative at Dasman Diabetes Institute (DDI), LOYAC held its 9th annual Blood Donation campaign — ‘Ride to Save’ on Saturday, 21st January 2017 at the Institute. The blood drive was sponsored by Al Ahli Bank of Kuwait and supported by the Central Blood Bank. The blood ride began at LOYAC headquarters at Al Qibliya School, where a swarm of bikers from the BMW Motorcycle Club, Ducati Club, and Motolady Club, as well as representation from several other active motorcycle clubs in Kuwait and the GCC, gathered for pre-registration with medical assistants performing brief examinations to determine eligibility for donation. The bikers then proceeded in a convoy escorted by officials from the Ministry of Interior, demonstrating a spectacle of solidarity for onlookers.

## DUNDEE UNIVERSITY CELEBRATES GRADUATES

Since 2011, the University of Dundee, a world leader in clinical diabetes care and diabetes research, in partnership with the DDI (which was established by Kuwait Foundation for the Advancement of Sciences “KFAS”), with its mission to prevent, control and mitigate the impact of diabetes in Kuwait have created and delivered a Postgraduate Master’s program in Diabetes Care, Education and Management. This program is available to a wide range of Kuwait based healthcare professionals who study part time while in work. Through face-to-face and innovative blended, interactive teaching, the program enables healthcare professionals to provide more effective care for their patients. They gain specialized knowledge of diabetes along with educational and management training that supports them in effective communication with colleagues and patients.

Throughout their studies, students undertook multiple work-based development projects as assignments with the aim of immediately improving and developing diabetes healthcare provision and reflective practice throughout healthcare practices in Kuwait. So far, over 300 students have enrolled on the program and collectively they have achieved over 1000 work-based projects, directly impacting diabetes care in Kuwait.

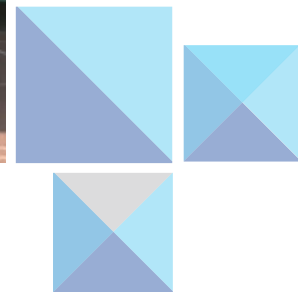
The fourth Graduation Ceremony marks the successful achievements of 48 new graduates who join a group of 139 total graduates across Kuwait. The program still aims to deliver transformational change within the Kuwaiti healthcare system, with a specific focus on diabetes.

Students continue to encourage change through their workplace based projects, publishing dissertation outcomes through journals. For all students the Graduation at the Dasman Diabetes Institute is the pinnacle of three years of hard work and dedication and Sunday’s celebration brings together dignitaries from across Kuwait and Scotland to celebrate their considerable achievements.



## DDI'S MOBILE DIABETES CLINIC PARTICIPATES IN THE AHMADI'S NATIONAL & LIBERATION DAY CELEBRATIONS

DDI's Mobile Diabetes Clinic participates in the National & Liberation Day Celebrations of Ahmadi Governorate on February 10, 2017. The clinic provided free blood sugar and blood pressure testing to over 200 visitors.

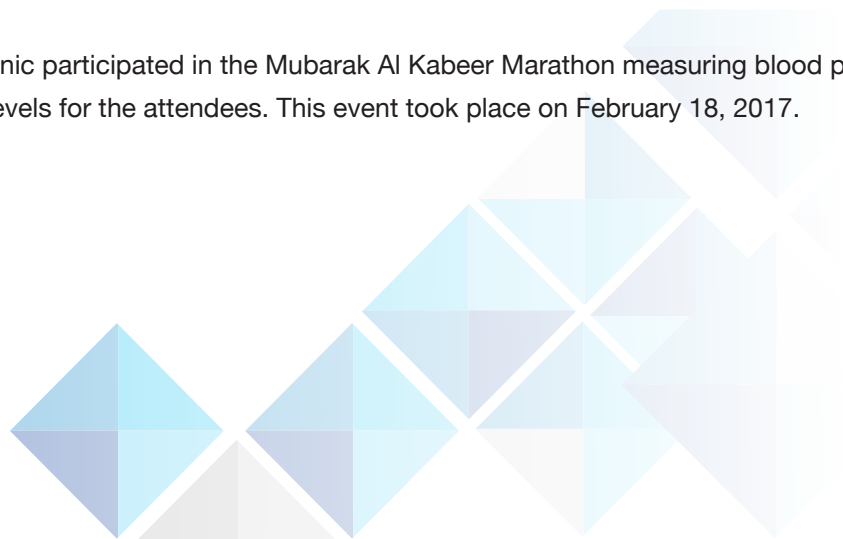


## DDI'S MOBILE CLINIC PARTICIPATES IN THE UAS SPORTS DAY

DDI's Mobile Diabetes Clinic participated in the UAS's Sports Day measuring blood pressure and blood glucose levels for UAS staff and high school students (both diabetic and non-diabetic). place in Salmiya Sports Club on February 16, 2017.

## DDI'S MOBILE CLINIC PARTICIPATES IN THE MUBARAK AL KABEER MARATHON

DDI's Mobile Diabetes Clinic participated in the Mubarak Al Kabeer Marathon measuring blood pressure and blood glucose levels for the attendees. This event took place on February 18, 2017.



## DDI HOSTS THE DUTCH HEALTHY FOOD WEEK: “HEALTHY FOOD, HEALTHY LIFESTYLE“

In collaboration with the Dutch Embassy, DDI hosted the “Healthy Food, Healthy Lifestyle” interactive seminar on February 19, 2017. This seminar aimed to increase awareness and exchange knowledge towards building a healthier next generation. The speakers included the Ambassador of the Kingdom of the Netherlands, his Excellency Mr. Frans Potuyt; the Agricultural Counsellor of the GCC, Mr. Hans van der Beek; Chief Medical Officer, Dr. Ebba Al Ozairi; Director of Nutrition, Dr. Roula Barake; Director of GMBS Business Support, Mr. Maarten Smit; Expert Food Quality Labels and Executive Director of Healthy Choices Programme, Mr. Rutger Schilpzand.



## DDI’S MOBILE CLINIC VISITS THE MARTYR’S BUREAU

DDI in collaboration with the Martyr’s Bureau organized an outreach at the latter on Wednesday 22nd March 2017. The Institute offered complementary blood glucose testing, awareness material, medical consultations any many more to the Martyrs families and staff of the Bureau. This initiative stems from the Institute’s efforts to promote awareness and health education amongst the public.

## DDI’S MOBILE CLINIC AT NAIF PALACE

On June 5th 2017, the DDI Mobile Diabetes Clinic went to a Ramadan Outreach event at Naif Place. Blood Glucose and Blood Pressure tests were performed for the public.

## DDI HELD ITS ANNUAL GIRGIAN EVENT

Under the leadership of DDI's Director General Dr. Qais Al-Duwairi, the Nutrition and PR Departments emphasized the importance of holding the Annual Girga'an event for children with diabetes at Dasman Diabetes Institute. This event is important to make children and their families aware that they can enjoy Girga'an and similar events under specialized supervision.



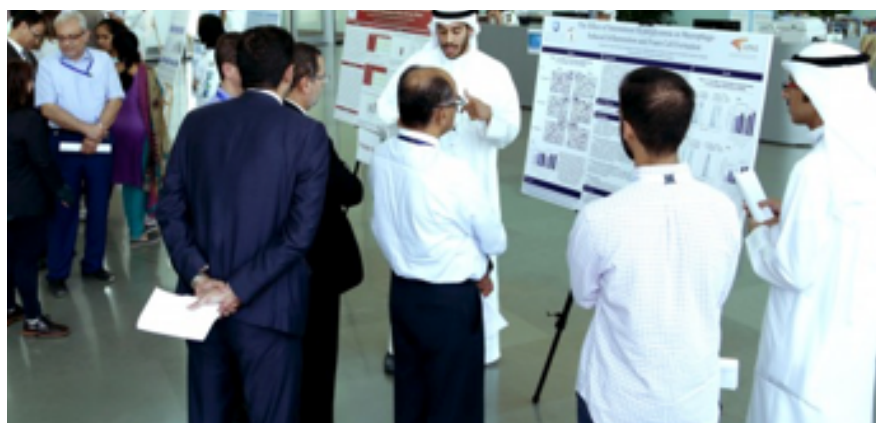
## DDI'S SECOND ANNUAL POSTER DAY FOR SUMMER INTERNS

DDI organized its second annual "Student Posters" research day, under the supervision of the Dr. Qais Al-Duwairi, Director-General of DDI and Professor Jaakko Tuomilehto, Chief Scientific Officer.

The event marked the end of the student's Research Summer Internship Program. The Institute's scientific research team was in attendance to witness the students' accomplishments. The Research Summer Internship Program is one of the summer student activities that offers unique opportunities for learning and acquiring practical skills within the fields of sciences.

The students were admitted from June to August 2017 for ongoing accredited projects. The various training topics were on reading and reviewing scientific sources and books, designing and implementing surveys, studies, statistical analysis and technical writing.

DDI aims to organize such activities to support its Mission and foster the knowledge in its youth.



## DDI PARTICIPATES IN THE KFAS EVENT AT THE AVENUES

Dasman Diabetes Institute (DDI) participated in the KFAS booth at the Avenues Mall. DDI's nursing staff were there to offer blood glucose measurements to the booth visitors. The staff from the Diagnostic Imaging Center (DIC), Medical Fitness Center (MFC) and PR & Media Services were also available to answer any questions about the available facilities and offers at DDI.



## DDI'S ANNUAL WORLD DIABETES DAY CELEBRATION

Dasman Diabetes Institute (DDI), which was established by Kuwait Foundation for the Advancement of Sciences, a leading campaigner for diabetes awareness in Kuwait, held an informative event to commemorate World Diabetes Day on Thursday, 16 November, 2017, at its premises. The event allowed visitors to consult with diabetes specialists and dietitians as well as gather healthy information from booths that explained various facts of diabetes and promoted healthy lifestyle modification. Around 500 guests attended the event underlining the interest in Kuwait to prevent and manage this lifestyle disease. Many of the booths at the event were about educating visitors on proper dietary habits, physical activities and oral health. At this event, there were informative booths offered by the Institute, some of which provided blood glucose testing, funduscopic and podiatric exams, as well as nutritional, educational and fitness consultations by the Institute's experts.

The primary goal of the event is to prevent the complications of diabetes in people with diabetes through raising awareness about the complications and empowering those affected by diabetes to proactively take control of their diabetes and improve their quality of life. The event reflected an exciting environment for everyone and the activities were tailored towards young children through fun shows featuring mascots, a magic show, and other educational activities. This year's event was sponsored by Advanced Technology Company and Kuwait Finance House and had the theme of 'Women and Diabetes – Our Right to a Healthy Future' as per the International Diabetes Federation.

"Holding such events and activities stems from Dasman Diabetes Institute's mission statement, where health promotion and awareness are a priority for the Institute. Since its establishment by the Kuwait Foundation of the Advancement of Sciences in 2006, the Institute organizes and takes part in many events and campaigns annually to shed light on diabetes and health in general. This is in accordance with the Institute's belief that, "Prevention is better than cure", Dr. Qais Al-Duwairi, Director-General



of Dasman Diabetes Institute said. In another statement, Dr. Qais Al-Duwairi said “With a national diabetes prevalence rate of 20% in adults, the Dasman Diabetes Institute is focused on addressing the diabetes epidemic through research, treatment and training. With over 5000 patients and 91 research projects, the Institute continues to unravel fundamental questions in biomedical and clinical diabetes research”.



## DDI PARTICIPATES IN THE 2017 IDF CONGRESS IN ABU DHABI

Dasman Diabetes Institute (DDI) joined the International Diabetes Congress (IDF) 2017 held in Abu Dhabi from December 4th-8th. This marks DDI’s 5th consecutive participation with 5 oral presentations and over 30 research posters from both Medical and Research Divisions.



# HEALTH CARE PLANNING & DEVELOPMENT

## ACCREDITATION CANADA INTERNATIONAL (ACI)

### The Most Advanced QMENTUM Program Education Sessions (Core & Comprehensive)

From September 17-18, 2017, a 2-day orientation session was provided to guide our quality improvement efforts throughout the organization. The Introduction to QMENTUM International Program was provided to any DDI staff who had not previously participated in the program and any staff who requested a refresher session.

### Dasman's Journey with Accreditation Canada International, Second Cycle (2013-2015)

An electronic booklet with information regarding the second completed cycle from 2013-2015 of the Accreditation Canada International QMENTUM journey was created. The booklet will aid in educating concerned parties on the program along with DDI achievements regarding this cycle.

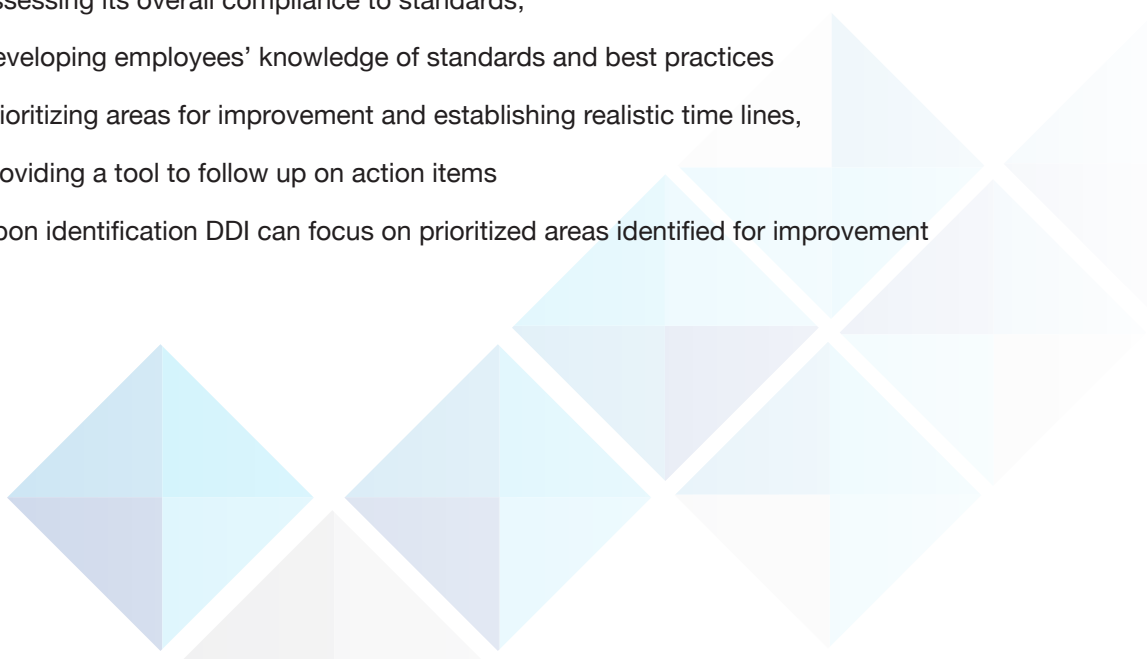
### ACI Self-Assessment Questionnaire

The self-assessment questionnaire process started on August 2017. The questionnaires were completed on the ACI portal for DDI's 8 Internationally recognized standards. Links for completing the questionnaire were sent to the concerned ACI working group team leaders and teams with a specified timeline for completion. All responses were provided to ACI for an analysis which was shared among the teams.

This structured process is an effective tool which provides the Institute ways to identify areas for

#### Improvement by:

- ◆ Assessing its overall compliance to standards,
- ◆ Developing employees' knowledge of standards and best practices
- ◆ Prioritizing areas for improvement and establishing realistic time lines,
- ◆ Providing a tool to follow up on action items
- ◆ Upon identification DDI can focus on prioritized areas identified for improvement



## Dasman Diabetes Institute's ACI Portal

The process of creating an ACI portal for DDI staff was continued. The portal page design was created in collaboration with Information Technology to provide access for DDI's ACI information. The ACI materials received by DDI staff from all three cycles of Accreditation Canada International were included. Some of this information contained: ACI Final & Mock Reports and Presentations, Education & Training information, ACI's Institutional International Standards, DDI Certificates, and DDI's first ACI cycle journey Booklet.

## DDI's ACI Working-Group(s) Meetings & Progress Reports

The Institute had 7 working groups which cover the QMENTUM International Accreditation Program's 8 identified International Standards. These standards make it possible for the Institute to embed practical and effective quality improvement and patient safety initiatives into their daily operations. The working groups met throughout the year and provided progress reports for their standards.

	<b>International Standard</b>	<b>No. of the Standard</b>	<b>No. of Criteria Required</b>
1	Ambulatory Care Services	17	155
2	Diagnostic Imaging Center	17	137
3	Infection Prevention & control	14	96
4	Leadership	17	149
5	Biomedical Laboratory Services	29	175
6	Medication Management	27	148
7	Reprocessing and Sterilization of reusable Medical Devices	13	116
8	Governance	13	87

## THE HEALTH BEHAVIOUR IN SCHOOL AGED CHILDREN (HBSC)

DDI was a part of a research collaboration with the World Health Organization and Kuwait University's School of Dentistry to become a linked project for the Health Behaviors in School Aged Children project.

The project aim was, "to better understand the health status of the young and identify health behaviors that affect their health in their social context."

The project started in 2015 is in the consolidation phase with a report being generated in accordance with the WHO formats.

# DASMAN INCIDENT REPORTING

In alignment with the incident reporting policy and procedure and for the first two quarters of the year, the department received 15 incidents reports from the various departments, units and facilities within the Institute. The incidents were tabulated and provided root cause analysis.

In Q3 the incident reporting responsibility was shifted to the Emergency and Safety Committee based on email was sent to All DDI staff on June 15th of 2017.

## DDI POLICIES & PROCEDURES (P&P) PROCESS

Advance reminder emails were sent to concerned departments regarding upcoming P&P(s) which were due for review/renewal in 2017.

The department received 80 New / Change Request Form requests for P&P reviews and uploaded 96 new and renewed P&Ps. Each upload was announced with a direct link to the P&P for 2 weeks on the portal.

In 2017, a 10.5% increase was observed resulting in 451 P&P(s) available on the Policy and Procedures Site within the DDI Portal.

### Total uploaded and visible policies and procedure per division in 2017

Medical Sector Policy and Procedures	
Departments / Units	Total
Clinical Services Infection Control Department	1
Medical Fitness Center	2
Nursing Department	6
Medical Total	9

Operational Sector Policy and Procedures 2017	
Departments / Units	Total
Building Management & Maintenance Department	3
Human Resources Department	11
Information Technology Department	1
Medical Total	15

Research Sector Policy and Procedures 2017	
Departments / Units	Total
Specialized Equipment	3
Research Central Inventory Facility	3
Research Operations Project Management Office of Research Project Coordination	2
Research Operations Project Management	6
National Dasman Diabetes Biobank	28
Research Total	42

Director-General Directorate Policy and Procedures 2017	
Departments / Units	Total
Healthcare Planning & Development Department	2
Public Relations & Media Services	5
Office of Regulatory Affairs - Human	1
Office of Regulatory Affairs- Animals	22
Director General Directorate Total	30

## DDI DEPARTMENT WORK PLANS, KEY PERFORMANCE INDICATORS (KPIS) & INSTITUTIONAL KPIS WORK PLANS

1st Quarter: Meetings with the operational and DG sectors were conducted in January to update 2016 work plans. If there were any comments and/or delays on any project it was noted along with the reason for the delays. Furthermore, at this point the Research and Medical sectors chose to process their Work Plans separately; however, the department was available in case any assistant was required. In addition, the department worked with Operation and DG sectors to develop new accurate, up-to-date, clear work plans representing the internal functions of each department in 2017.

Meetings with the operational and DG sectors were conducted in June to update work plans. Each meeting went well and included the percentage of activity completion. If there were any comments and/or delays on any project it was noted along with the reason for the delays. The department was available in case any assistance was required from any of the divisions.

### Key Performance Indicators (KPIs)

**1<sup>st</sup> Quarter:** The department worked on the DDI KPIs provided by the Divisions representing the internal functions of each sector. KPIs were submitted to the DG office for review and KFAS submission.

**3<sup>rd</sup> & 4<sup>th</sup> Quarter:** Operations, Medical, Research and Directorate-General Division's KPIs were updated including percentage of activity completion. If there were any comments and/or delays on any project it was noted along with the reason for the delays.



## SOCIAL RETURN ON INVESTMENT (SROI)

SROI is used to provide stakeholders with a way to measure financial and non-financial outcomes from projects and activities. This tool assists in calculating the financial outcomes by providing a social change ratio in a momentary sense by explaining how much money is created from each Kuwaiti Dinar spent and how much is returned from each Kuwaiti Dinar spent.

Evaluative SROI methodology was adapted to measure HCPD activities and programs. This measurement is to understand the societal impact, quantification of impact, assessment of the effectiveness of programs, strengthening accountability, development of real social indicators of change; and understanding the way DDI is driving change within our communities. By using this method, one can come up with the monetary equivalent value because of the investment input into each of the activities.

## ASSESSMENT OF TYPE 2 DIABETES MANAGEMENT OUTCOME AT DDI

The manuscript phase is in process for the electronic health record data of 963 patients within DDI which were statistically analyzed and tabulated.







**RESEARCH  
DIVISION**



# RESEARCH DIVISION

<b>Management</b>	Chief Scientific Officer
<b>Domain</b>	<b>Units</b>
<b>Research Administration</b>	Library & Research Document Management Facility Research Operations and Project Management
<b>Core Facilities</b>	Animal and Zebrafish Core Facility National Dasman Diabetes Biobank Specialized Equipment Core Facility
<b>Biomedical Research Units</b>	Biochemistry and Molecular Biology Unit Clinical Trials Unit Epidemiology & Public Health Unit Family Medicine and Pediatrics Unit Functional Genomics Unit Functional Proteomics & Metabolomics Unit Immunology Unit Islet Biology Unit Population Genomics & Genetic Epidemiology Unit



# RESEARCH MANAGEMENT

## I. CHIEF SCIENTIFIC OFFICER

### UNIT BRIEF:

Dasman Diabetes Institute (DDI) has a pool of experienced researchers in various fields of diabetes research and management. The research work has been gradually developed over the years. The main strength of DDI is that diabetes research in different disciplines can be coordinated within the DDI to maximize the use of various skills that exist in DDI. In addition, active external partnerships at the domestic and international levels that have been initiated is a further strength. DDI has created a scientific environment that will foster investigating the complexity of diabetes and its complications, their determinants, treatment, prevention and care.

All research activities of the DDI Research Division are coordinated under guidance of the Chief Scientific Officer (CSO) assisted by the Research Operations & Project Management Department. Strategic planning is one way to manage DDI's research portfolio to maximize the value of the portfolio through careful examination of its components, the constitute research themes and projects.

### AWARDS AND ACHIEVEMENTS:

#### Awards

- ◆ David Kritchevsky Memorial Lecture Award, Council on Lifestyle and Cardiometabolic Health, American Heart Association, Portland, OR, USA

#### Achievements

- ◆ Editor-in-Chief Primary Care Diabetes; Thomson Reuters Highly Cited Researcher (among <1% most cited globally);
- ◆ Program Committee Member and Chair of Epidemiology & Public Health Stream, IDF World Diabetes Congress, Abu Dhabi, UAE;
- ◆ Member, Organizing Committee of the 15th International Diabetes Epidemiology Group (IDEG) symposium, Abu Dhabi, UAE;
- ◆ Chair, Scientific Committee of the International Conference on Diabetes and Associated Diseases, Mauritius; Member, Selection Committee for the Kuwait Prize 2017 in the field of Applied Medical Sciences;
- ◆ 21: Invited lectures at International scientific conferences

**34** | TOTAL NUMBER OF PUBLICATIONS

# RESEARCH ADMINISTRATION

## I. LIBRARY & RESEARCH DOCUMENT MANAGEMENT FACILITY

### UNIT BRIEF:

The mission of Library and Research Document Management facility is to provide quality reference service to the DDI staff, to develop and maintain a collection of print and electronic resources that support the research needs of the Institute, and to instruct individuals, groups, and classes on the retrieval and effective use of information sources. In addition, the Library is involved in providing research trainings in various reference tools, literature review, assessment and proof reading of manuscripts etc. The Library is also putting its efforts in digitizing all the research source documents and tracking of research participants document and securing the asset of the DDI.

On the other hand, the library is involved in conducting research scientific programs, conducting seminars, and lectures to share the research knowledge among the researchers.

To support the Kuwait young health care students and professionals, the library is organizing research internship summer programs to have practical research trainings.

Another main responsibility of the Library is to Promote research domain-related news and events through e-research newsletters and publications archiving system, and announce the publications achievement to DDI community.

### 01 | NUMBER OF PROJECTS IN 2017

1 | Ongoing approved project as PI

2 | Research projects as Co-PI

### 01 | TOTAL NUMBER OF PUBLICATIONS

#### OTHERS (COMMITTEE / WORK GROUP):

- ◆ Research Scientific Program Committee
- ◆ Internship Committee

## II. RESEARCH OPERATIONS & PROJECT MANAGEMENT

### UNIT BRIEF:

The design of the organizational structure of the DDI Research Division comprises three main contextual domains: operations, scientific domains and platforms. The elements of the research organizational structure contingent on these factors include: formalization, differentiation (both vertical, i.e. number of levels and horizontal, i.e. number of units, Units or subunits), size of administrative component, centralization, span of control, specialization, and channels of communication. To fulfil such approach, the research operation and project management was integrated along with functional research units and the supportive core facilities. Though all research entities will have their independent tasks, they all work in concert with interdisciplinary approach together with other teams within DDI for common goals.

Research Operations & Project Management is a management platform responsible for standardizing project-related governance processes and facilitating the sharing of resources, methodologies, tools, and techniques. The responsibility of this Department will vary from providing project management support functions to principal investigators via the Office of Project Coordination and Office of Research Affairs.

### RESEARCH REGULATORY AFFAIRS:

#### Office of Research Affairs (ORA)

The Office of Research Affairs (ORA) provides highly valued support services that help investigators during the trajectory of research projects' execution. It also oversees the quality and compliance of research projects at DDI regarding the National and International regulations, oversees the collaborative research, liaison with multisite clinical trial studies, which helps bringing cutting edge research to the country or to overall create a research conducive environment. ORA works hand-in-hand with Research Operations and Project Management Unit to contribute to overall institute's mission and management of research. ORA provides administrative support to the following committees: -

#### ◆ Ethical Review Committee (ERC)

Acts as the Institutional Review Board (IRB) at DDI and reviews/monitors the ethical aspects of research projects for protecting the welfare and dignity of human research participants. The ERC of DDI is registered under U.S. Unit of Health and Human Services (HHS).

#### ◆ Animal Care and Ethics Committee (ACEC)

Serves to protect the animals used in experimental research, testing or teaching. Animal model research continues to make vital contributions to the understanding and treatment of many major health problems including cancer, heart disease, and diabetes.

ACEC is strongly committed to the core principle of 3Rs, that is:

**Replacement** of animals with other alternatives if there,

**Reduction** of the number of animals used as much as possible, and

**Refinement** of research procedures and intended end points to minimize pain and distress for experimental animals.

ACEC members include scientists, attending veterinarian, community representative, and head of animal facility.

ACEC mandates that all research and teaching involving animals must receive written approval before commencement.

◆ **Research Audit and Review Committee (RARC)**

Serves to enhance the scientific quality and ethical standards of research proposals by rigorous peer review of submitted research proposals. It pre-evaluates the proposals for scientific and technical merits together with reports from external peer-reviewers and maintains liaison with PIs for feedback during modification process of proposals. In addition, RARC also reviews protocols or monitors situations for adjudicating in matters that relate to the protection and welfare of human participants or research animals.



# CORE FACILITIES

## I. ANIMAL & ZEBRAFISH CORE FACILITY

### UNIT BRIEF:

Rodents and zebrafish are common animal models for diabetes research. Currently, we are maintaining healthy mice, rat and zebrafish colonies by in-house breeding for research purposes at the animal core. The aim is to facilitate diabetes research in animals and to also keep balance between animal welfare and research.

The objectives are as follows:

- ◆ To conduct animal model research as per the international guidelines and standards;
- ◆ To train DDI researchers and interns regarding animal care & handling, biocontainment, inoculations, blood/tissues sample collection, survival surgeries, euthanasia, etc.;
- ◆ To provide rodents/fish for research through in-house breeding;
- ◆ To provide in vivo imaging facility (IVIS); and
- ◆ To aid in broadening scope of techniques available to DDI researchers.

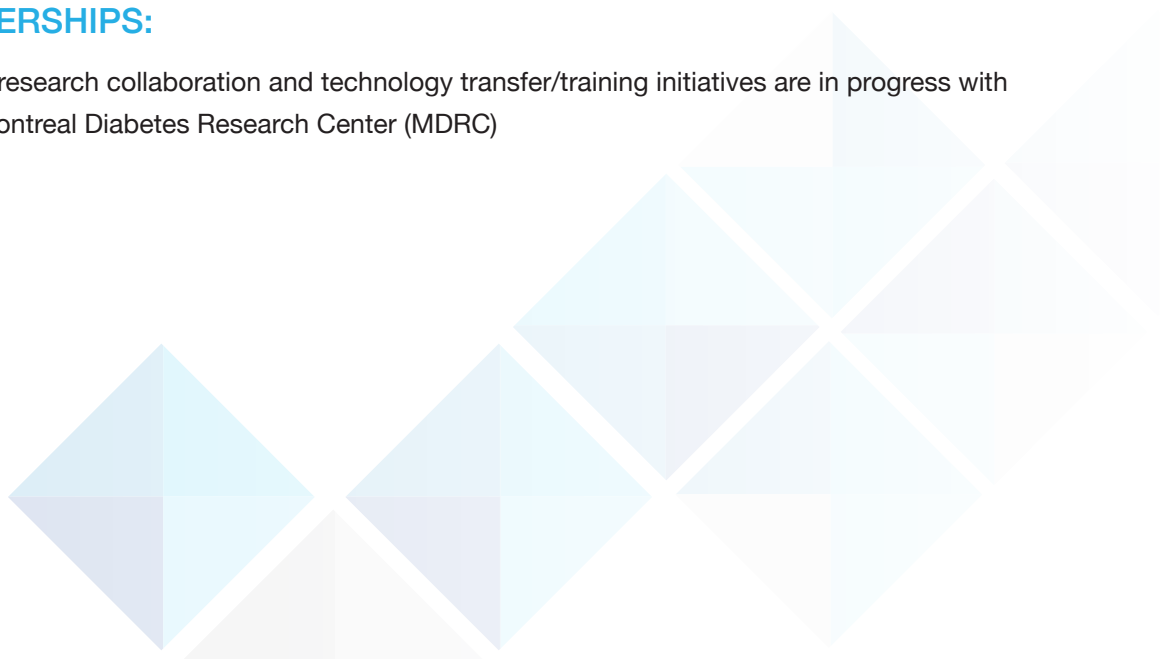
## 03 | NUMBER OF PROJECTS IN 2017

### ACHIEVEMENTS:

- ◆ Peer-reviewed publications by the head of the animal core
- ◆ Zebra fish training received by the facility veterinarian
- ◆ CITI training passed by the research technician

### PARTNERSHIPS:

- ◆ A research collaboration and technology transfer/training initiatives are in progress with Montreal Diabetes Research Center (MDRC)



## II. NATIONAL DASMAN DIABETES BIOBANK

### UNIT BRIEF:

The National Dasman Diabetes Biobank (NDDB) is a core facility functioning under the Research Division. It is able to provide DDI and collaborative project investigators with a variety of repository services for conducting short and long-term research projects related to diabetes, factors associated with it and its complications. The NDDB's wide range of services including, but not limited to sample processing, sample fractionation (aliquot), storage, testing as well as nucleic acid isolation.

NDDB consists of biosafety level 3 with ample laboratory space for blood and other body fluid processing, tissue sample processing (histology and immunohistochemistry lab) and cell culture lab. NDDB is facilitated with secured sample storage rooms with -80° C freezers and liquid nitrogen tanks. More than 30,000 research participants enroll with NDDB and manages more than 250,000 biological specimens using a sample management system, Tissue Auditor (Infonetica Research Solutions, United Kingdom) for freezer inventory and tracking.

NDDB is a member of European, Middle Eastern & African Society for Biopreservation and Biobanking. More than 50 research projects (research and medical division) are currently using NDDB services.

**55** | NUMBER OF PROJECTS  
IN 2017

NDDB is associated with both medical and research division projects:

**45** | Research Division Projects

**10** | Medical Division Projects

**09** | Collaborative Projects (Medical And Research)

**07** | TOTAL NUMBER OF  
PUBLICATIONS

### INVOLVEMENTS:

#### Committee

- ◆ Research Audit and Review Committee

#### Work Group Teams

- ◆ Laboratory & Blood Services and Biomedical Laboratory Services Team
- ◆ Code Brown Team
- ◆ Laboratory Safety Team

### III. SPECIALIZED EQUIPMENT CORE

#### UNIT BRIEF:

Specialized Equipment Core facility (SECF) is overseeing the use and sharing of specialized equipment at DDI. The aim is to support fostering internal research and attract collaborations to tackle diabetes and its complications. At SECF, our research platforms are structured into complementary units through DDI to provide an environment rich in expertise and innovative resources, in close collaboration with biomedical engineering and IT functions. All specialized equipment is made available to all DDI research staff through an online booking system. Other external researchers are using DDI special equipment through collaborators. SECF is also ensuring the availability of required training for the users. Moreover, SECF is performing research projects in collaboration with other functional units, in particular with FPMU. Currently, we are working on various projects related to the role of metaflammation in the onset of obesity and insulin resistance, with a special focus on dysregulated metabolic stress in adipose tissue and beneficial effects of physical activity.

#### AWARDS & ACHIEVEMENTS:

- ◆ 6 posters presented at international conferences
- ◆ DDI prize for Research Internship Summer Student in 2017

**06** | NUMBER OF PROJECTS  
IN 2017

**02** | Completed

**04** | Ongoing

**03** | TOTAL NUMBER OF  
PUBLICATIONS

#### INVOLVEMENTS:

##### Partnerships

- ◆ Collaboration with Qatar Foundation
- ◆ Collaboration with Montreal Diabetes Research Center (MDRC)

##### Committees

- ◆ Research Audit and Review Committee (RARC)
- ◆ Laboratory & Blood Services and Biomedical Laboratory Services (LBS-BLS)
- ◆ Code Brown Team



# BIOMEDICAL RESEARCH UNITS:

## I. BIOCHEMISTRY & MOLECULAR UNIT

### UNIT BRIEF:

Research of the unit is focused on enhancing our basic understanding of metabolic signaling pathways involved in dyslipidemia, oxidative stress and insulin resistance which will allow us to develop novel biomarkers that can lead to improved risk identification for those at risk of T2D occurrence or progression. It will also advance our ability to predict the complications of the disease as well as aid in the design of precisely tailored different therapies. Our unit has been actively applying multi-systems approach utilizing cutting edge proteomics and transcriptomics techniques to identify such clinically relevant biomarkers and establish their role in diabetes and its complications. Data generated from the different assays are merged together to generate models allowing us to integrate our findings with known pathways and potentially uncover new players that modulates obesity and diabetes to foster biomarker and drug discovery for effective therapeutic development. The unit objectives include the following: decipher the role of Angiotensin-like proteins (ANGPTL) and how they contribute to beta-cell function and lipid metabolism, especially ANGPTL8; establish the role of key heat shock proteins and microRNAs in obesity and T2D and finally understand the interplay between biomarkers identified and diabetic complications such as diabetic nephropathy, sleep apnea and cardiovascular diseases.

### AWARDS & ACHIEVEMENTS:

- ◆ International collaboration with the Obesity Center Amsterdam, Sint Lucas Andreas Hospital, Amsterdam, The Netherlands on project “Biomarker study in bariatric surgery patients with and without obstructive sleep apnea”
- ◆ Collaboration with Kuwait university on 2 projects

**08** | NUMBER OF PROJECTS  
IN 2017

**03** | Completed

**05** | Ongoing

**05** | TOTAL NUMBER OF  
PUBLICATIONS

### INVOLVEMENTS:

#### Work Group Teams

- ◆ Laboratory & Blood Services and Biomedical Laboratory Services Team
- ◆ Code Red Team in the Emergency Code Teams

## II. CLINICAL TRIALS UNIT

### UNIT BRIEF:

The Clinical Trials Unit (CTU) aims to advance knowledge and understanding of diabetes and to accelerate the translation of clinical research into health benefits for patients. The CTU is conducting a number of screening, observational and interventional clinical trials, incorporating novel pharmacologic and non-pharmacologic treatments with lifestyle modifications designed to prevent and treat diabetes and its complications. The CTU conducts trials at different levels including phase II, III and IV. These innovative studies implement pioneering, cutting-edge methodology and are conducted independently or in collaboration with international academic centres or industry sponsors, placing DDI at the forefront of clinical research in Kuwait and the surrounding region.

### AWARDS & ACHIEVEMENTS:

- ◆ The 2017 IDF Congress took place in the city of Abu Dhabi in the United Arab Emirates between December 4th and 8th 2017. This congress was chaired by the Clinical Trials Unit Head Dr. Monira Alarouj

**10** | NUMBER OF PROJECTS  
IN 2017

**05** | Completed

**05** | Ongoing

**05** | TOTAL NUMBER OF  
PUBLICATIONS

### INVOLVEMENTS:

#### Partnerships

- ◆ Two pharmacological trials are conducted in partnership with AstraZeneca
- ◆ One investigator-driven multicenter clinical trial is conducted in partnership with multiple clinical centers in Europe, Australia and the United States. Trial coordinator is based in Spain: EVIDEM Consultores and PREDICOR Association- Asociación para la Investigación y Prevención de la Diabetes y Enfermedades Cardiovasculares

### III. EPIDEMIOLOGY & PUBLIC HEALTH UNIT

#### UNIT BRIEF:

The unit is leading two of the DDI strategic initiatives (Epidemiology of Diabetes and Associated Diseases and Prevention and Management of Diabetes), and contributing to all other DDI initiatives (esp. Pathophysiology and Clinical Trials). Several new projects were developed on diabetes prevention, epidemiology and clinical trials since March 2017, in line with the review board recommendations and the DDI strategic research initiatives. We have taken an inter-disciplinary approach involving other units in joint proposals (e.g. GDM with Family Medicine, personalized medicine and nutrition with Proteomics & immunology), and joined publications with other units' researchers.

#### AWARDS & ACHIEVEMENTS:

- ◆ Contributing to WHO healthy cities through our project engagement with Yarmouk, which will be the first city to achieve this milestone in Kuwait and 2nd in the whole of the GCC, (RA-HM-2017-008). The project also involves (KISR, MOH, and Kuwait University).
- ◆ Member of the executive committee of the Asian Society of Nutrition for Sport and Health, Dr Ahmad Alkhatib, Head of EPHU.

**05** | NUMBER OF PROJECTS  
IN 2017

**06** | TOTAL NUMBER OF  
PUBLICATIONS

#### INVOLVEMENTS:

- ◆ Executive Committee Member of the Asian Society of Nutrition for Sport and Health
- ◆ Partnership with the University of Taipei (MoU in preparation)
- ◆ Partnership with University of Cambridge, and University of Mauritius (ongoing)

## IV. FAMILY MEDICINE & PEDIATRIC UNIT

### UNIT BRIEF:

The overall goal of the Family Medicine and Pediatric Unit is to contribute to improved health and well-being of children in Kuwait by conducting high quality research in relevant priority areas and sharing the information with policy makers for translation into policy and large-scale implementation. Until recently, our research agenda has focused mainly on type 1 diabetes and rare forms of diabetes in pediatric patients. During the last year, the work of the unit expanded into the area of childhood obesity to reflect the growing concern of Kuwait's very high prevalence of childhood obesity and related metabolic complications. The Unit has excellent collaborative arrangements with a wide range of relevant stakeholders, Ministry of Health, and works closely with clinicians in the major government hospitals.

### AWARDS & ACHIEVEMENTS:

- ◆ Invited speaker at Saudi Charitable Society Conference (October 2017, Riyadh, KSA)
- ◆ Invited speaker at 6th Saudi Pediatric Endocrinology Group conference and 5th Diabetes Educators Conference (November 2017, Jeddah, KSA)
- ◆ Invited speaker at IDF World Diabetes Congress, (December 2017, Abu Dhabi, UAE)

**07** | NUMBER OF PROJECTS  
IN 2017

**01** | TOTAL NUMBER OF  
PUBLICATIONS

### INVOLVEMENTS:

#### Partnerships

- ◆ Collaborations with Ministry of Health, Kuwait University, Public Authority for Food and Nutrition (PAFN), Kuwait Institute for Scientific Research (KISR), Kuwait Diabetes Society (KDS) and Montreal Diabetes Research Center (MDRC)

#### Committees

- ◆ MOH Insulin Pump committee, Kuwait diabetes Society (KDS), International Society of Pediatric and Adolescence Diabetes (ISPAD), Arab Society for Pediatric Endocrinology and Diabetes (ASPED)

#### Working groups

- ◆ Gestational Diabetes and Childhood Diabetes Registry

## V. FUNCTIONAL GENOMICS UNIT

### UNIT BRIEF:

The unit primarily focuses on the identification and characterization of genes and gene variants increasing the risk of obesity, diabetes and related complications in the Kuwaiti population. We utilize high-throughput genome-wide methodologies, including genome-wide association studies (GWAS), whole genome/exome sequencing, whole transcriptome profiling and high-resolution genotyping. In addition, the unit focuses on the clinical significance of the identified gene/variants to map a translational medicine approach. The molecular function of the identified gene/variant is investigated using different cell types and animal models through innovative techniques; intracellular signaling studies, CRISPR/cas9 technology, overexpression in a variety of cell lines and chromatin immunoprecipitations (ChIP). Other contemporary areas of research include investigating epigenomic alterations, gene-gene interactions, exosomal microRNA profiling and the development of panels consisting of population-specific markers for predicting the risk outcomes of complex disorders.

### AWARDS & ACHIEVEMENTS:

- ◆ Several abstracts presented at international conferences

**06** | NUMBER OF PROJECTS  
IN 2017

**01** | Completed

**05** | Ongoing

**08** | TOTAL NUMBER OF  
PUBLICATIONS

### INVOLVEMENTS:

#### Partnerships

- ◆ KU collaboration
- ◆ Forsyth Institute Cambridge, USA

## VI. FUNCTIONAL PROTEOMICS & METABOLOMICS UNIT

### UNIT BRIEF:

The integrative “Omics” approaches are becoming a pillar for overcoming the challenge of translating basic research findings into clinical applications. Hence, the FPMU with the state-of-the-art scientific technologies and expertise provides various opportunities for internal and external collaborative translational research. The FPMU team is focusing on discovering and validating biomarkers for the prevention from diabetes and the early detection of diabetes-related complications through in vitro and in vivo studies as well as interventional clinical studies. We also use this integrative strategy including proteomics, metabolomics analysis aside with available genetic and clinical data to better understand pathological mechanisms of diabetes and its complications towards a precision/individualized medicine approach in the context of the local population and its specific risk factors and lifestyle. Our team is currently working on various projects related to the early detection and onset of obesity, insulin resistance and cellular stress, with a special focus on dysregulated lipolysis, lipogenesis and adipose tissue as well as diabetic nephropathy.

### AWARDS & ACHIEVEMENTS:

- ◆ Awarded the best poster at HSC poster conference, (Kuwait University held in March 2017) for Young researcher in Basic Sciences
- ◆ 9 posters presented at international conferences
- ◆ Invited speaker for the HUPO world congress (September 2017, Dublin, Ireland)

**09** | NUMBER OF PROJECTS  
IN 2017

**03** | Completed

**06** | Ongoing

**04** | TOTAL NUMBER OF  
PUBLICATIONS

### INVOLVEMENTS:

#### Partnerships

- ◆ Collaborations with Kuwait University, Qatar Foundation, and Montreal Diabetes Research Center (MDRC)

#### Committees

- ◆ Code Brown Team at DDI, Human Diabetes Proteome Project (HDPP)

## VII. IMMUNOLOGY UNIT

### UNIT BRIEF:

The overall goal of Immunology Unit is to carry out research focusing on the identification of novel immune and metabolic biomarkers that can be used as preventive and therapeutic targets in diabetes and associated complications in Kuwaiti adult and children populations. Obesity/diabetes and associated complications are rapidly growing and representing a serious threat to Kuwaiti population as well as worldwide. There is an urgent need to identify the novel immune and metabolic markers to understand the mechanisms underlying diet induced inflammation/diabetes and related complications. Identified novel immune metabolic markers in Kuwaiti population and their mechanistic link with inflammation can be used as potential preventive or therapeutic targets for developing interventions (pharmacology, exercise, nutrition and probiotics/microbiome) most suitable to the needs of Kuwaiti population. Current activities of the unit focus on the immune receptors/bio-markers/epigenetics as well as their mechanistic interactions with high fat dietary components and their role in the development of inflammation, insulin resistance, diabetes and associated complications.

### AWARDS & ACHIEVEMENTS:

- ◆ The L’Oreal UNESCO woman for sciences award to Dr. Fatema Al-Rashed (Post Doctoral Fellow in Immunology Unit)

**11** | NUMBER OF PROJECTS  
IN 2017

**11** | Ongoing

**04** | TOTAL NUMBER OF  
PUBLICATIONS

### INVOLVEMENTS:

#### Partnerships

- ◆ International Collaborations – Harvard Medical School; Stony Brook University
- ◆ A research collaboration/technology transfer and training initiative with Montreal Diabetes Research Center (MDRC) is in progress

## VIII. ISLET BIOLOGY UNIT

### UNIT BRIEF:

The main focus of the Islet Biology Unit (IBU) activities are to study mechanisms involved in the pancreatic islet and beta cell malfunction and failure in diabetes, and to investigate different clinical applicable strategies to prevent and treat their malfunction and failure. These activities will be carried out over a range of “Bench to Bed” research strategies by using biological specimens, cell lines, laboratory animal models, and eligible human subjects enrolled in clinical trials. The outcomes from the research activities in IBT could provide a better understanding of pathophysiology of diabetes, any possible biological link with high incidence rate of diabetes in Kuwait, and potential evident based suggestions to prevent and treat diabetes in Kuwait.

The key objectives under investigation in the theme of IBU include

- ◆ To understand the regulation of beta cell viability, function in an in vitro model of type 2 diabetes and obesity such as lipotoxicity and glucotoxicity,
- ◆ To elucidate the mechanism of the remission of type 2 diabetes and beta cell function after bariatric surgery, and
- ◆ To investigate the mechanism of the beneficial effects of natural products such as Handal seed extract and Abscisic acid in prevention and treatment of diabetes

### AWARDS & ACHIEVEMENTS:

- ◆ 1 collaborative project with Kuwait University
- ◆ 7 posters presented at international conferences

**05** | NUMBER OF PROJECTS  
IN 2017

**01** | Completed

**04** | Ongoing

**08** | TOTAL NUMBER OF  
PUBLICATIONS

### INVOLVEMENTS:

#### Partnerships

- ◆ Laboratory & Blood Services and Biomedical Laboratory Services Team
- ◆ Code Red Team in the Emergency Code Teams



## IX. POPULATION GENOMICS & GENETIC EPIDEMIOLOGY UNIT (PGGE)

### UNIT BRIEF:

The main theme of the Unit is to develop large-scale research on genetics/genomics of Kuwaiti population afflicted with type 2 diabetes and its complications to delineate genetic and epidemiological risk factors and their interaction. The thrust is to map the epidemiological profile of Kuwaiti people with diabetes onto the constitutional genetics and genomics basis of etiology of diabetes in Arabs.

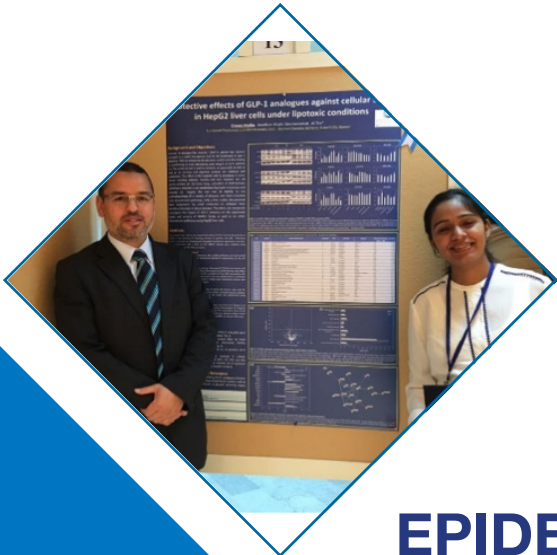
The key objectives are:

- ◆ To delineate the genetic structure of Kuwaiti population and to assess how much of the genome resources developed by global diabetes genetics studies can be transferred to Kuwait;
- ◆ To delineate the genome variome of Kuwaiti diabetes population and their interactions with lifestyle profiles;
- ◆ To risk stratify the Kuwaiti population for targeted health care attention; and
- ◆ To validate the derived hypotheses using rat models as well as mathematical modelling to develop Translational Genetics

**05** | NUMBER OF PROJECTS  
IN 2017

**04** | TOTAL NUMBER OF  
PUBLICATIONS

**03** | Communicated



# EPIDEMIOLOGY & PUBLIC HEALTH UNIT





# CHIEF SCIENTIFIC OFFICER



## FUNCTIONAL PROTEOMICS & METABOLOMICS UNIT




**22<sup>nd</sup> Health Sciences Centre Poster Conference**  
 7-9 March 2017  
 Under the Patronage of the Honorable President of Kuwait University

**Award for Young Researcher for Basic Sciences**

Protective effects of GLP-1 analogues against cellular stress in glucose up-taking tissues under lipotoxic conditions

\*Madhu D, Khadir A, Kavalakatt S, Tiss A

Functional Proteomics and Metabolomics Unit,  
 Dasman Diabetes Institute, Kuwait City

 Prof. Adel K Ayed  
 Dean, Faculty of Medicine

 Prof. Rajaa Al-Attayah  
 Vice Dean for Research &  
 Postgraduate Studies, Faculty of Medicine

 Prof. Khalid M Khan  
 Conference Chairman



# IMMUNOLOGY UNIT



# CURRENT INTERNATIONAL RESEARCH COLLABORATIONS

## BILATERAL

- ◆ Harvard University, Boston, USA: a collaboration agreement was established with Harvard University which includes training of health personnel and research collaboration
- ◆ University of Cambridge, UK: Research collaboration ongoing
- ◆ Stony Brook University, New York, USA: Research collaboration ongoing
- ◆ Qingdao Endocrinology and Diabetes Hospital, Qingdao, China: a collaboration agreement was established for research collaboration
- ◆ Instituto de Salud Carlos III, Madrid, Spain: a collaboration agreement was established for research collaboration and for researcher training
- ◆ Ministry of Health and Quality of Life, Mauritius: a collaboration agreement was established for research collaboration
- ◆ Florida International University, Miami, USA a collaboration agreement was established for research collaboration and for researcher training
- ◆ Oxford University: a collaboration agreement was established for research collaboration and for researcher training
- ◆ Montreal Diabetes Research Center: a collaboration agreement was established for research collaboration and for researcher training
- ◆ University of Sharjah, United Arab Emirates: a collaboration agreement was established for research collaboration
- ◆ Forsyth University, Cambridge, USA: a collaboration agreement was established for research collaboration
- ◆ University of Canberra, Australia: a collaboration agreement was established for research collaboration and for researcher training

## MULTINATIONAL

- ◆ Collaboration with research projects with the research groups and research training activities in the GCC, other Middle-East countries and Turkey. DDI is hosting the Gulf Group of the Study of Diabetes conference in 2018

- ◆ Collaboration with International Diabetes Federation in its international research projects, research training and conference activities. DDI researchers playing central roles in the next World Congress of Diabetes, Abu Dhabi, 2017 (Congress Chairperson, members of the Scientific Programme Committee) and also in the associated International Diabetes Epidemiology Group symposium.
- ◆ Collaboration with the Foundation World Community of Prevention of Diabetes in organizing scientific global congresses: Atlanta, USA in 2016, in Mauritius 2017 and Edinburgh, Scotland 2018
- ◆ European Association of the Study of Diabetes: participation in the researcher training courses in the GCC region
- ◆ International Chair on Cardiometabolic Risk: participation in the researcher training courses.
- ◆ Participation in many multinational clinical trials on diabetes and cardiometabolic risk
- ◆ Participation in many multinational epidemiological and biomedical studies on diabetes and cardiometabolic risk
- ◆ Participation in several workshops, expert groups, research and training activities organized by World Health Organization Regional Office for Eastern Mediterranean on non-communicable diseases
- ◆ European Union: DDI is a national focal point for health research, participation in EU-funded research projects
- ◆ Participation in the multinational study group on proteomics (HUPO)

## AWARDS

- ◆ Keynote Address, Inaugural Seminar of the Faculty of Public Health, Kuwait University, Kuwait, 2016 (Prof. Jaakko Tuomilehto, Chief Scientific Officer)
- ◆ Sir Richard Doll Seminar in Public Health and Epidemiology, University of Oxford, UK, 2016 (Prof. Jaakko Tuomilehto, Chief Scientific Officer)
- ◆ Keynote Address, 9th Annual Student Research Poster Day, Faculty of Allied Health Sciences, Kuwait University, Kuwait, 2016 (Prof. Jaakko Tuomilehto, Chief Scientific Officer)
- ◆ GB Morgagni Prize and Gold Medal on Metabolic Disease Research, University of Padua, Italy, 2016 (Prof. Jaakko Tuomilehto, Chief Scientific Officer)
- ◆ David Kritchevsky Memorial Lecture Award, Council on Lifestyle and Cardiometabolic Health, American Heart Association, Portland, USA 2017 (Prof. Jaakko Tuomilehto, Chief Scientific Officer)

# Research Division Publications

1

Abu-Farha M, Abubaker J, Tuomilehto J. ANGPTL8 (betatrophin) role in diabetes and metabolic diseases. *Diabetes Metab Res Rev.* 8)33;2017).

2

Abu-Farha M, Cherian P, Al-Khairi I, Madhu D, Tiss A, Warsam S, Alhubail A, Sriraman D, Al-Refaei F, Abubaker J. Plasma and adipose tissue level of angiopoietin-like 7 (ANGPTL7) are increased in obesity and reduced after physical exercise. *PLoS One.* 3)12;2017):e0173024.

3

Al-Temaimi R, Abubaker J, Al-Khairi I, Alroughani R. Remyelination modulators in multiple sclerosis patients. *Exp Mol Pathol.* 241-237:(3)103;2017

4

Behbehani R, Abu Al-Hassan A, Al-Salahat A, Sriraman D, Oakley JD, Alroughani R. Optical coherence tomography segmentation analysis in relapsing remitting versus progressive multiple sclerosis. *PLoS One.* 2)12;2017):e0172120.

5

Boudiba A, Al-Arouj M, Robertson LI, Chantelot JM, Al-Rubeaan KA & Charpentier G. Effectiveness and safety of basal-bolus therapy (insulin glargine+insulin glulisine) in patients with type 1 diabetes previously uncontrolled on any insulin regimen: multinational phase-IV study. *Diab Manag* 1)7;2017).

6

Dahdaleh M, Alroughani R, Aljumah M, AlTahan A, Alsharoqi I, Bohlega SA, et al. Intervening to reduce the risk of future disability from multiple sclerosis: are we there yet? *Int J Neurosci.* 51-944:(10)127;2017. \*\*

7

Hassanein M, Al-Arouj M, Hamdy O, Bebakar WMW, Jabbar A, Al-Madani A, Hanif W, Lessan N, Basit A, Tayeb K, Omar M, Abdallah K, Al Twaim A, Buyukbese MA, El-Sayed AA, Ben-Nakhi A; International Diabetes Federation (IDF), in collaboration with the Diabetes and Ramadan (DAR) International Alliance. Diabetes and Ramadan: Practical guidelines. *Diabetes Res Clin Pract.* 16-126:303;2017. \*\*

8

Hassanein M, Ehtay A, Hassoun A, Alarouj M, Afandi B, Poladian R, et al. Tolerability of canagliflozin in patients with type 2 diabetes mellitus fasting during Ramadan: Results of the Canagliflozin in Ramadan Tolerance Observational Study (CRATOS). *Int J Clin Pract.* 10)71;2017). \*\*

9

Hassoun AA, Al-Arouj M, Ibrahim M. The effect of vildagliptin relative to sulfonylurea as dual therapy with metformin (or as monotherapy) in Muslim patients with type 2 diabetes fasting during Ramadan in the Middle East: the VIRTUE study. *Curr Med Res Opin.* 7-161:(1)33;2017. \*\*

10

Barengo NC, Tamayo DC, Tono T, Tuomilehto J. A Colombian diabetes risk score for detecting undiagnosed diabetes and impaired glucose regulation. *Prim Care Diabetes.* 93-86:(1)11;2017. \*\*

**11**

Barengo NC, Teuschi Y, Moltchanov V, Laatikainen T, Jousilahti P, Tuomilehto J. Coronary heart disease incidence and mortality, and all-cause mortality among diabetic and non-diabetic people according to their smoking behavior in Finland. *Tob Induc Dis*, 15:12;2017. \*\*

**12**

Cefalu WT, Buse JB, Tuomilehto J, Fleming GA, Ferrannini E, Gerstein HC, Bennett PH, Ramachandran A, Raz I, Rosenstock J, Kahn SE. Response to Comment on Cefalu et al. Update and Next Steps for Real-World Translation of Interventions for Type 2 Diabetes Prevention: Reflections From a Diabetes Care Editors' Expert Forum. (*Diabetes Care* 1201-39:1186;2016.) *Diabetes Care*. 2017 Feb;2(40):e-23e24.

**13**

Collaboration NCDRF. ...Tuomilehto J et al. Worldwide trends in blood pressure from 1975 to 2015: a pooled analysis of 1479 population-based measurement studies with 19.1 million participants. *Lancet*. 55-37:(10064)389;2017. \*\*

**14**

Gilis-Januszewska A, Lindstrom J, Tuomilehto J, Piwonska-Solska B, Topor-Madry R, Szybinski Z, et al. Sustained diabetes risk reduction after real life and primary health care setting implementation of the diabetes in Europe prevention using lifestyle, physical activity and nutritional intervention (DE-PLAN) project. *BMC Public Health*. 198:(1)17;2017. \*\*

**15**

Holman RR, Coleman RL, Chan JCN, Chiasson JL, Feng H, Ge J, Gerstein HC, Gray R, Huo Y, Lang Z, McMurray JJ, ...Tuomilehto J, et al. Effects of acarbose on cardiovascular and diabetes outcomes in patients with coronary heart disease and impaired glucose tolerance (ACE): a randomised, double-blind, placebo-controlled trial. *Lancet Diabetes Endocrinol*. 886-877:(11)5;2017. \*\*

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Jason F, Fuchsberger C, Mahajan A, Teslovich TM, Agarwala V, Gaulton KJ, Caulkins L, Koesterer R, Ma C, Moutsianas L, ...Tuomilehto J, et al. Sequence data and association statistics from 12,940 type 2 diabetes cases and controls. *Scientific Data*. 4:170179 ;2017.

**17**

Justice AE, Winkler TW, Feitosa MF, Graff M, Fisher VA, Young K, ...Tuomilehto J, et al. Genome-wide meta-analysis of 241,258 adults accounting for smoking behaviour identifies novel loci for obesity traits. *Nat Commun*. 8:14977;2017. \*\*

**18**

Kraja AT, Cook JP, Warren HR, Surendran P, Liu C, Evangelou E, Manning AK, Grarup N, Drenos F, Sim X, ...Tuomilehto J, et al. New Blood Pressure-Associated Loci Identified in Meta-Analyses of 000 475 Individuals. *Circ Cardiovasc Genet*. 5)10;2017). \*\*

**19**

Kulkarni M, Foraker RE, McNeill AM, Gorman C, Golden SH, Rosamond WD, Duncan B, Schmidt MI, Tuomilehto J. Evaluation of the modified FINDRISC to identify individuals at high risk for diabetes among middle-aged white and black ARIC study participants. *Diabetes Obes Metab*. 6-1260:(9)19;2017. \*\*

**20**

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**21**

Liu DJ, Peloso GM, Yu H, Butterworth AS, Wang X, Mahajan A, Saleheen D, Emdin C, Alam D, Alves AC, ...Tuomilehto J, et al. Exome-wide association study of plasma lipids in >300,000 individuals. *Nat Genet.* 1766-1758:(12)49;2017 \*\*

**22**

Manning A, Highland HM, Gasser J, Sim X, Tukiainen T, Fontanillas P, Grarup N, Rivas MA, Mahajan A ...Tuomilehto J, et al. A Low-Frequency Inactivating AKT2 Variant Enriched in the Finnish Population Is Associated With Fasting Insulin Levels and Type 2 Diabetes Risk. *Diabetes.* 32-2019:(7)66;2017. \*\*

**23**

Marengoni A, Rizzuto D, Fratiglioni L, Antikainen R, Laatikainen T, Lehtisalo J, Peltonen M, Soininen H, Strandberg T, Tuomilehto J, et al. The Effect of a -2Year Intervention Consisting of Diet, Physical Exercise, Cognitive Training, and Monitoring of Vascular Risk on Chronic Morbidity-the FINGER Randomized Controlled Trial. *J Am Med Dir Assoc.* 2017; S1-30543(17)8610-1525. \*\*

**24**

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# معهد دسمان للسكري Dasman Diabetes Institute



أنشأته مؤسسة الكويت للتقدم العلمي  
Founded by Kuwait Foundation for the Advancement of Sciences



**MEDICAL  
DIVISION**

# SUMMARY OF THE MEDICAL DIVISION UNITS

## PRIORITY DIVISION DIRECTIVES:

The diabetes population in Kuwait continues to rise. Moreover, many people with diabetes are not aware of the complications and importance of multidisciplinary management. Therefore, the Medical Division not only focuses on patient care and management but also focuses on prevention through outreach activities and education initiatives.

More than 60% of healthcare professionals, working in DDI are certified in good clinical practice. The Medical Division focuses on healthcare professionals and was accredited as a CME provider for all healthcare professionals across Kuwait.

The Medical Division's educational programs are implemented on 1:1 basis, or group education, targeting type I Diabetes through, (DAFNE Program) and creating patient pathway.

Dasman Diabetes Institute (DDI) also hosted insulin pump workshop for one day to improve skills of educators. Competency Course developed in eye screening & foot screening to reduce burden of complications.

### On Educational Level:

20 weekly educational seminars have been conducted in Dasman, and welcomed speakers from MOH, University across all Kuwait, with over 500 attendees.

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## CLINIC OPERATIONS:

We aim to improve our patient's quality of life through patient education and adequate integration in our Medical Division's Patient Pathway. All patients undergo laboratory testing and clinical assessment by a group of multidisciplinary individuals prior to physician's appointment for optimal diabetes management:

- ◆ Pharmacotherapy Clinic
- ◆ Nutrition Clinic
- ◆ Diabetes educator's Clinic
- ◆ Podiatry Clinic
- ◆ Ophthalmology Clinic

The patient pathway creates an opportunity for patients to be seen by physicians and other healthcare professionals to maintain the diabetes standard of care.

The total number of patients seen for retinal screening was 2629, which is much less than expected. Hence competency testing for nurses was developed and patient pathway was created, where urgent action was taken by Ophthalmologist.

Total number of appointments in 2017 was 39820.

More than 60% of healthcare professionals, working in DDI were certified in good clinical practice. Conducting DAFNE and MADAR programs showed significant effects on patients' outcomes. On a research note, and the medical team has initiated their own project on collaborating with the scientists in Kuwait to advance care.

## PHARMACY:

The pharmacy team participated in so many educational and training events and has conducted the American Pharmacists Association (APhA) Diabetes Care program to MOH pharmacists, which was an accredited and certified program in collaboration with LSA.

Research involvement:

- ◆ Involved in 4 collaborative projects

No.	Research Name	Research No.	Role
01	Double blind, placebo controlled parallel design randomized phase 2a trial evaluating the potential activity and safety of hMaxi-K Gene transfer in male erectile dysfunction	ION 04-ED	Co-investigator (Study stopped in November 2017)
02	Double blind, placebo controlled, randomized, multicenter study to assess the safety and efficacy of study drug (Exenatide) once weekly in adolescents with type 2 diabetes.	D5551C00002_ DM type 2 Study	Co-investigator
03	Outcome of Diabetes Education Among Renal Transplant Recipients with New Onset Diabetes After Transplantation (NODAT)	RA2014-049	Co-investigator
04	Early prevention of Diabetes Complications in people with Hyperglycemia in Europe: Study e-PREDICE	RA2016-019	Co-Investigator

- ◆ 2 abstract posters were presented in international conferences as collaborators

The pharmacy team also participated in many awareness campaigns through the different media channels.



## MEDICAL FITNESS CENTER:

- ◆ Total income generated = 70,657KD
- ◆ 124 patients were assessed at the LSP Fitness Clearance Clinic from January to December 2017
- ◆ 80 new members joined the MFC in 2017, and 172 members renewed their memberships
- ◆ 60% of the MFC participants that shown improvement in their HbA1c

## DIAGNOSTIC IMAGING CENTER:

- ◆ Two ongoing DIC internal research projects being conducted by the radiologist and staff of DIC:
  - ◆ Tibial intima media thickness in Type 2 Diabetes - RA 2014-033 (TIMT 2017 – 22 cases performed)
  - ◆ Evaluation of Diabetic Foot with 3T MRI using IDEAL - RA 2014- 044 (MRFT 2017 – 17 cases performed)
- ◆ DIC is actively involved in the following collaborative researches:
  - ◆ Kuwait Well Being Project (RA 2010- 001)

Modalities	First quarter	Second quarter	Third quarter	Fourth quarter (excluding December)	Total
MRI	279	190	257	255	981
CT	20	24	17	88	149
General X-ray	63	31	43	37	174
Dental X-ray	2	2	11	7	22
BMD	148	135	107	73	463
Ultrasound	51	63	85	90	289
Parkflo	14	20	32	44	110

## CLINICAL SKILLS CENTER:

- ◆ Total conducted sessions by CSC was 303 with the aim to improve professional healthcare skills with Basic Life Support in addition to Heart Saver Programs for the public
- ◆ This year CSC became accredited center to conduct trainings in Advanced Trauma Life Support (ATLS), in addition to becoming a CME provider

## CLINICAL RESEARCH UNIT:

- ◆ Total number of ongoing research studies within the medical division = 16 project
- ◆ Total number of publications = 5 publications
- ◆ Total number of staff as Primary Investigators (PI) in research = 15

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## NUTRITION:

- ◆ 172 healthcare professionals from MOH and private sector were trained
- ◆ 8 nutrition students / internship were supervised and supported
- ◆ 1400 consultations were provided for adults and children on one to one
- ◆ Ongoing research project: “AGDAR study: The Use of Cooking Classes, Structural Nutrition Education and Goal Setting Intervention to Improve Health and Quality of Life in Overweight and Obese Children and their families”
- ◆ Two published manuscripts:
  - ◆ “The salivary microbiome is altered in the presence of a high salivary glucose concentration”, Published in PLoS (March 2017)
  - ◆ “Functional Foods and Lifestyle Approaches for Diabetes Prevention and Management”, Published in nutrients (December 2017)

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## EDUCATION & TRAINING:

- ◆ Total of 1186 individual attended public outreach programs
- ◆ 570 students attended inhouse & outreach awareness programs
- ◆ Delivering educational sessions to 119 healthcare providers
- ◆ 1 abstract presented at the ESOT 2017, Barcelona
- ◆ 4 abstracts accepted as poster display in IDF 2017, Abu Dhabi

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## NURSING:

- ◆ Institutional Indicators: Fall 93% compliance with 53% high risk
- ◆ Environmental safety rounds: 97.36% compliance
- ◆ Good Clinical Practices (GCP) certified staff = 30 staff (95%)
- ◆ Out-Reach activities: 1148 patients screened (2 Mobile clinics)
- ◆ Patient satisfaction with nursing care = 95.2%
- ◆ 10 posters presented in World Diabetes Day
- ◆ Research involvement in hours:

Q1	Q2	Q3	Q4	Annual 2017
16RNs	18RNs	19RNs	19RNs	
1012.167 hrs.	1056.234 hrs.	708.75 hrs.	518.333 hrs.	3295.484 hrs.

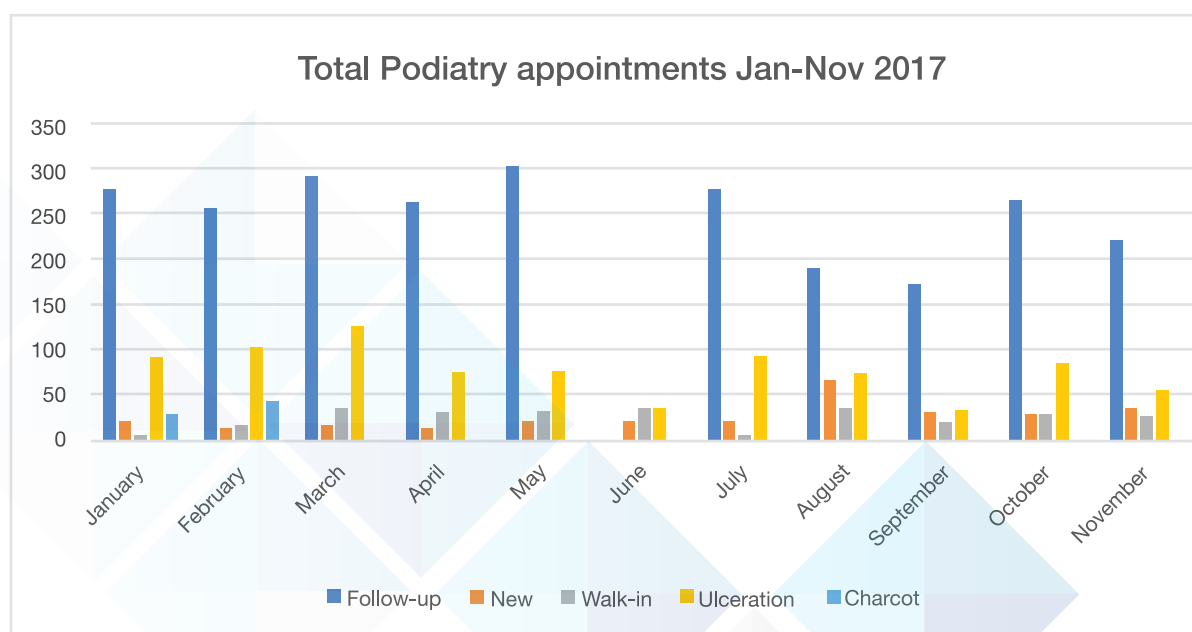
## PODIATRY:

- ◆ Total podiatry clinic consultations = 3177
- ◆ Conducted a five-day diabetic foot screening training course which has been given to eight DDI nurses to ensure competency and to look for cost effective methods of rolling out to community

### Research activities:

Podiatry-led research	RA number	Progress
Assessment of the evidence in the use and effectiveness of antifungals in Diabetic Foot Ulcer Infections: A Systematic Review.	RA-SR-2017-001	<ol style="list-style-type: none"> <li>1. A search for studies has been completed.</li> <li>2. Relevant studies have been identified.</li> <li>3. Data extraction process begun.</li> <li>4. Submitted a manuscript on the study's literature review to ethics for approval.</li> </ol>
A retrospective cross-sectional survey of diabetic foot ulcer outcomes from a tertiary facility in the Middle East.	RA-HM-2017-006	<ol style="list-style-type: none"> <li>1. Project is completed.</li> <li>2. Finalising a manuscript for publication.</li> </ol>

- ◆ Two publications have been submitted to Index Medicus journals
  - ◆ Calciphylaxis: Case Presentation and Review of Literature. Submitted to: Journal of Wound, Ostomy and Continence Nursing
  - ◆ It might be 'gold standard' but why aren't we all doing it? The use of Total Contact Casts in clinical practice. Submitted to: Saudi Medical Journal



## CLINICAL LABORATORY:

- ◆ The Laboratory effortlessly works on complying with local, OSHA and CAP safety standards and requirements.
- ◆ The Lab's quality management plan highlights the role of:
  - ◆ Quality indicators to measure laboratory progress
  - ◆ The internal quality controls
  - ◆ Calibration and calibration verification
  - ◆ Method validation and report summary
  - ◆ External quality assurance program, PT
  - ◆ The new LIS software and HIS went live on November 9, 2017
- ◆ The Lab's staff have a significant involvement in research by performing the tests needed for the following studies:

AGDAR.

Cohort.

ION-E4.

KWB.

Lixiram.

Sleep apnea.

DATES.

## DAFNE- DOSE ADJUSTMENTS FOR NORMAL EATING:

The DAFNE programme is an educational programme for those with type 1 diabetes. The principles of the programme rely on teaching people with type 1 diabetes how to adjust their insulin doses based on their food intake to better control their blood glucose levels, thereby ensuring the patients safety and empowering them to take control of their own health without having to depend wholly on health care professionals.

DAFNE began in 1980 in Germany, and the programme was adopted in the UK and recently in Kuwait. In UK more than 50 peer reviewed publications, some of which are in most prestigious journals BMJ and diabetes Care. The course is currently accredited in Ireland, Australia, New Zealand and Singapore and Dasman Diabetes Institute has been granted the training license for the Middle East.

In Kuwait, 68 DAFNE courses have been delivered, with the number of graduates reaching 442. Since inception in Kuwait, DAFNE Kuwait managed to reduce 70 percent of ambulance calls and 50% reduction of admission to hospitals across Kuwait.

This is an exemplary model of education course leading to transformation of people's lives and delivering highly cost-effective module. The institute aims to roll out the programme to other locations in Kuwait to be able to help all people with type 1 diabetes and to create Hub and Spoke. In addition, it aims to train more health care professionals from the Ministry of Health to be able to fulfill the expansion of the programme. Also, the DAFNE programme in Kuwait is currently only targeted towards those using multiple daily injections, and it is aimed to adjust and tailor the programme for those on insulin pumps and teenagers, who are in desperate need for education to be able to reduce the risk of future complications.

Dasman Diabetes institute has been recognized as the training center for the middle east to run DAFNE program.





**OPERATIONS  
DIVISION**

# SUMMARY OF THE OPERATIONS DIVISION

The Operations Division at Dasman Diabetes Institute (DDI) plays a crucial role in the Institute. The mission of the team rests in being 'enablers' to meet institutional objectives and is a partner in supporting the Mission, Vision and Values of DDI. The team serves in various capacities of operations including Information Technology, Human Resources, Finance, Material Management and Procurement and General Services. The team also coordinates maintenance, upgrades and contractual duties of all scientific and medical equipment through the Bio Medical Engineering department. The team's ethos is adoption of best practices and innovative solutions to drive continuity, sustainability and improvement of the work carried out in DDI. The Institute has undergone multiple expansion and renovation exercises in infrastructure to enable key scientific projects and remains up to date in all facets of IT solutions and programs by using Cloud-based and other enterprise platforms. The hire of top talent and the continuous training across all departments have added depth to the capabilities and resources of the Operations Division through its people.

<b>OPERATIONS DIVISION UNITS:</b>
<b>Biomedical Engineering</b>
<b>Finance</b>
<b>General Services</b>
<b>Human Resources</b>
<b>Information Technology</b>
<b>Purchasing &amp; Procurement</b>



# I. BIO MEDICAL ENGINEERING

The Biomedical Engineering Department offers services to most of DDI departments. The goal is to have uninterrupted service at all times; to achieve that goal, the Biomedical Engineering Department selects the equipment, installs it, commissions it, trains users on it and keeps maintaining it.

## DEPARTMENTAL KEY OBJECTIVES:

- ◆ Ensuring equipment runs properly
- ◆ Automate equipment service requests
- ◆ Tracking DDI Employees' satisfaction with Biomedical Engineering services

## ACHIEVEMENTS:

- ◆ One major achievement for the department is to have a systematic service request through HelpDesk. This made the work flow more efficient.

### Partnerships

- ◆ MOH

### Committees

- ◆ Codes Red & Grey

**02** | NUMBER OF PROJECTS  
IN 2017





## II. FINANCE

The mission of the Finance Department is to accurately report the financial position of DDI for various stakeholders – including BOT, funders (KFAS), auditors, and others who may have a vested interest in the financial activity of DDI. Within the scope of this mission is the responsibility to coordinate and direct all financial transactions recorded in the accounting system of DDI. This responsibility requires that all transactions adhere to DDI policies and procedures, international financial reporting standards, and rules established by the authoritative governing bodies.

### DEPARTMENTAL KEY OBJECTIVES:

- ◆ Develop 2018 Project
- ◆ Continue of implementation of Finance Software
- ◆ Assist in financial sustainability and revenue generation framework development
- ◆ Financial Reporting: internal & external
- ◆ Fixed assets managements

### ACHIEVEMENTS:

- ◆ New Finance policy and procedure completed (Pending BOT approval)
- ◆ Updated financial authority matrix completed (Pending BOT approval)
- ◆ DDI actual expenditure within approved budget, hence no overspending
- ◆ 2018 Budget prepared and approved
- ◆ DDI budget report submitted to BOT

### Committees

- ◆ HR Committee
- ◆ Purchasing & Procurement Committee
- ◆ Little Plato Magazine Committee

**04** | NUMBER OF PROJECTS  
IN 2017

**03** | Completed

**10** | Ongoing

### III. GENERAL SERVICES

General Services strives to provide quality In-house services, such as renovation projects, Electro-Mechanical works and related maintenance, carpentry, painting, cleaning, elevator services, Security, fire-fighting etc.

We ensure the proper and efficient operation of all its physical aspects, creating and sustaining safe and productive environments for Staff/Students and the general public.

#### DEPARTMENTAL KEY OBJECTIVES:

- ◆ Planning Preventive Maintenance of all Electro-Mechanical Equipment
- ◆ Installing / Replacing of DDI Assets
- ◆ Emergency and Safety

#### ACHIEVEMENTS:

- ◆ 13 Renovation jobs carried out at various locations as part of space planning and office allocation process. Also, soundproof of DG and COO offices
- ◆ CCTV system upgrade carried out in 3 stages. Installation of cameras in Electrical rooms and some mechanical areas as per auditor's comments
- ◆ Upgrade of Fire Alarm system completed with additional smoke detectors in 3rd and 4th Floor Labs and connect automatic doors to Fire Alarm System
- ◆ Biobank Project
- ◆ Chemical Dosing system installed and discontinued due to water quality issues
- ◆ Waterproofing of water tanks, B2
- ◆ Preventive Maintenance carried out as planned

#### Committees

- ◆ IPAC - Infection Prevention and Control Committee - IPAC-STERI Accreditation Group
- ◆ Emergency and Safety Committee

**21** | NUMBER OF PROJECTS  
IN 2017

## IV. HUMAN RESOURCES

Human Resources Department's mission is to be a progressive business partner in enabling DDI achieve institutional objectives and be a center of excellence on the foundation of professional development and qualitative HR services, programs and initiatives.

### DEPARTMENTAL KEY OBJECTIVES:

- ◆ Implement HRIS New System
- ◆ Review and Create New HR Policies
- ◆ Review and evaluate the current Performance Management System
- ◆ Deliver Training & Developing DDI Staff
- ◆ Launch HR Orientation & Onboarding
- ◆ Finalize Succession Planning

### ACHIEVEMENTS:

- ◆ Conducted the first merit bonus and increment for DDI in 2017 in lieu of the 2016 career progression framework implemented in DDI
- ◆ Policies - Reviewed and updated policies
- ◆ Forms - Updated 18 HR forms and created 2 new forms reflecting updates and current practices to the HR policies and procedures
- ◆ Introduced air ticket allowance for non-Kuwaiti staff
- ◆ Signed an agreement with KPMG Kuwait to design and introduce an updated Performance Management system for DDI
- ◆ Cleared external audits of Deloitte Consulting with minimal next steps
- ◆ Completed migration of personnel data and leave details from the Fiduciary system to MENA HR
- ◆ Conducted the HR Orientation program to all new staff members joining DDI in 2017

### Committees

- ◆ HR Committee and Emergency and Safety Committee

**03** | NUMBER OF PROJECTS  
IN 2017

## V. INFORMATION TECHNOLOGY

The Information Technology (IT) Department is an enabler to the mission set by the institute. As a service department, the IT Department provides various services to different departments within DDI allowing for their projects to be executed more efficiently. While efficient operation is core to the IT department operation's, transfer of knowledge has also been a focus area during this year. As seen throughout the report, the IT department services included support for DDI departments and units in Research, Medical, and Operations divisions.

In the year 2017, the IT department has invested various resources in building a robust infrastructure for more effective use of data on an institutional level. After the efforts have shifted to focus on internal operations last year, the IT department took part in the establishment of various initiatives that can provide DDI with the infrastructure for a data-driven future. This focus is seen in this year's work plan and the projects the department has taken part of.

### DEPARTMENTAL KEY OBJECTIVES:

- ◆ Launch IT tools that support and computerize business
- ◆ Implement new HER
- ◆ Start operational research through the health informatics unit
- ◆ Build and implement disaster recovery and business continuity site
- ◆ Establish IT Knowledge-base center related to IT services

### ACHIEVEMENTS:

- ◆ DDI Main Website
- ◆ Expansion of HelpDesk System
- ◆ Billing system for HIM
- ◆ IT Training
- ◆ Microsoft Dynamics AX 2012 (ERP Phase II)
- ◆ Improve Call Center
- ◆ Establish IT Knowledge Base
- ◆ Implement New EHR System
- ◆ Establishment of Health Informatics Unit (HIU)
- ◆ Launching the GIS pilot project
- ◆ Improving the Monitoring of SLAs system
- ◆ Infrastructure Upgrade
- ◆ Student Assistance/Internship

## Partnerships

- ◆ MYCA
- ◆ Canberra

## Committees

- ◆ Emergency and Safety Committee
- ◆ Little Plato Magazine Committee
- ◆ Medical Record Team
- ◆ Quality Indicator Committee

**18** | NUMBER OF PROJECTS  
IN 2017

**13** | Completed

**05** | Ongoing

## VI. PURCHASING & PROCUREMENT

Our mission is to improve the procurement process in a transparent and practical manner.

### DEPARTMENTAL KEY OBJECTIVES:

- ◆ Providing the institution with the best products and services in the best possible prices
- ◆ Managing and maintaining our suppliers list to make sure that all our listed suppliers satisfy our needs in their respective areas
- ◆ Monitoring all our contracts to ensure the continuity of the services with no delays
- ◆ Applying high ethical standards to create an environment of fair competition and to avoid any suspicions of conflict of interests

### ACHIEVEMENTS:

- ◆ Procurement Plan Template Approval
- ◆ Added Return item or Cancellation request form
- ◆ Starting phase 2 of electronic system, where the purchasing cycle is fully electronised, many thanks for the IT department support and cooperation

### Committees

- ◆ Purchasing & Procurement Committee

## 01 | NUMBER OF PROJECTS IN 2017



