QATAR CHRONICLE

THE MAGAZINE OF WEILL CORNELL MEDICINE-QATAR WINTER 2019

DOCUMENTING THE ECOLOGY OF A MAN-MADE WETLAND IN QATAR


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Is it a bird? Is it a plane? No, it's our Super Doctor!

Dr. Nigel Pereira has been named as one of the United States' 'Super Doctors'.

"This is an incredible honor and I'm very grateful for it. I owe a lot to WCM-Q and its leadership for what I am today. I was blessed to have very supportive and inspiring mentors at WCM-Q. This honor is a testament to all that they've taught me."

WCM-Q alumnus Dr. Nigel Pereira has been named on a list of the most accomplished doctors working in the US today.

Dr. Pereira, who graduated from WCM-Q in 2010 and now practices in New York City as an assistant professor of reproductive medicine and obstetrics and gynecology, was included on the 'Super Doctors' list of elite-level physicians practicing in the United States. In addition, he was named as one of New York's Rising Stars for 2019 by the Super Doctors organization.

The Super Doctors organization follows a rigorous selection process to identify top doctors in more than 40 medical specialties who have achieved an extremely high degree of peer recognition and professional achievement. Only around five percent of all the doctors working in each respective state or region make it onto the Super Doctors list. To be included in the list, candidates must first be nominated by another doctor and cannot self-nominate.

Dr. Pereira, who works at the Ronald O. Perelman and Claudia Cohen Center for Reproductive Medicine, Weill Cornell Medical College/NewYork-Presbyterian Hospital, said: "This is an incredible honor and I'm very grateful for it. I owe a lot to WCM-Q and its leadership for what I am today. I was blessed to have very supportive and inspiring mentors at WCM-Q. This honor is a testament to all that they've taught me."

After graduating from WCM-Q with academic distinction in 2010, Dr. Pereira completed his residency training in obstetrics/gynecology at Hahnemann University Hospital/ Drexel University College of Medicine, where he was named chief resident.

During residency, Dr. Pereira was the recipient of prestigious awards, including the Golden Apple Award for Excellence in Teaching, the APGO Resident Scholar for Academic Excellence and the Special Resident in Minimally Invasive Gynecology Award for Surgical Excellence from the American Association of Gynecologic Laparoscopists. He completed his sub-specialty fellowship training in reproductive endocrinology and infertility at NewYork-Presbyterian Hospital/Weill Cornell Medical College.

A prolific clinical researcher, Dr. Pereira has published more than 90 research papers in leading scientific journals such as the *New England Journal of Medicine, PLOS One, Human Reproduction, Fertility and Sterility, Obstetrics & Gynecology,* and the *Journal of Minimally Invasive Gynecology.* He has also authored more 70 research abstracts and seven book chapters.

Dr. Pereira's broad clinical expertise encompasses a wide range of reproductive disorders and he is also a skilled surgeon, performing minimally invasive hysteroscopic and laparoscopic surgeries. He is board certified in obstetrics and gynecology and reproductive endocrinology and infertility. He is also certified by the American Association of Bioanalysts as an andrology and embryology laboratory scientist.

Dr. Javaid Sheikh, dean of WCM-Q, said: "Everyone at WCM-Q is absolutely delighted that Dr. Pereira's indisputable excellence as a clinician and a researcher has been acknowledged with this wonderful accolade. Nigel's dedication to his work and his patients is second to none and in his career as a physician he has had a tremendously positive impact on the lives of many, many people. We could not be prouder or happier for him."

Hypothermia to heart attacks

Students learn first aid skills for some of the most common cases they are likely to encounter.

Abdulrahman Al-Janahi tends to a patient with a potential spinal injury.

First-year medical students at WCM-Q had the chance to put theory into practice when they completed a day-long first responder training course at the college.

Under the supervision of qualified emergency medical professionals from Hamad Medical Corporation, the 41 students spent the day learning key first responder skills, such as applying splints and dressings, immobilizing injured patients, dealing with seizures, anaphylactic shock, hyperthermia and heart attacks, as well as clearing airways and giving artificial respiration.

The course, which is part of the medical curriculum, presents one of the first opportunities WCM-Q students have to start attaining practical physicianship skills following two years of largely theory-based study on the pre-medical curriculum. During the day, the students moved between five different stations, learning about a different area of emergency medicine at each one before trying out the skills themselves using a variety of learning aids and tools, such as medical manikins and lifelike anatomical models, a spinal board and a bag valve mask ventilator, among others.

First-year WCM-Q student Rei Myderizzi of the Class of 2023 said: "I really enjoyed the course, especially learning how to deal with hyperthermia, seizures and heart attacks because these are the sorts of cases I think we would be most likely to encounter. The scenarios also helped me get used to the idea of being responsible for a patient's wellbeing and being able to take action to help them and potentially save their life, which is a big source of motivation."

The HMC doctors who delivered the training were: Dr. Adel Ahmed Fraij Zahran, chief specialist at Al Khor Hospital; Dr. Amjad Ali Gauhar, associate consultant at Al Wakra Hospital and educational lead of the emergency medicine residency training program (EMRTP) at HMC; Dr. Lubna Gamal Tawil, senior resident on the EMRTP; Dr. Mahmoud Ahmed Abdelhalim Saqr, associate consultant at Hamad General Hospital and a core faculty of the Emergency Medicine Fellowship; Dr. Zahra Makki, board eligible at EMRTP; and Dr. Hany Kamel, consultant in the emergency department at Hamad General.

Dr. Stella Major, WCM-Q associate professor of family medicine in clinical medicine, said: "The first responder course is a real milestone for first-year students because this is the point at which they really start to feel like doctors and begin attaining the practical skills that they need, as well as beginning to truly understand the responsibilities the role entails. I was extremely pleased and impressed by the mature and serious way they engaged with the learning exercise, and I'm very grateful to our colleagues from Hamad Medical Corporation for sharing their expertise with us today."

The students learned how to deliver emergency life-saving care.

Simply the best

WCM-Q named as Best Research Office 2019 by QNRF as grant funding also announced.

Dr. Rayaz Malik (front) and his research team were awarded funding for their research into corneal confocal microscopy.

WCM-Q has been named the Best Research Office for 2019 at the 11th Annual Forum of Qatar National Research Fund (QNRF).

The honor was bestowed by QNRF on WCM-Q for showing diligence in support of QNRF's processes and research efforts.

WCM-Q was also awarded grants for nine research proposals for studies investigating breast cancer, diabetes, heart disease, dementia and the potential impact of climate change on the built environment in Doha, among others. In addition, WCM-Q will serve as a sub-awardee on five other research grants awarded to collaborating institutions.

Following the event at Qatar National Convention Centre (QNCC), Dr. Khaled Machaca, senior associate dean for research, innovations, and commercialization at WCM-Q, said:

"We are also very appreciative to have once again received extremely strong support from QNRF for our research activities that are targeted toward tackling the health needs of Qatar by understanding them at the basic and clinical levels. QNRF has been a regional pillar in supporting research activities in Qatar and internationally. Despite its young age, QNRF has established the structure of a phenomenally successful funding agency, which is a unique achievement. QNRF's research support represents one of the primary drivers toward the goal contained within Qatar National Vision 2030 of establishing a knowledge-based economy."

"I am sure everyone at WCM-Q will join me in congratulating our research administration staff on winning the QNRF 'Best Research Office Award', which is truly a magnificent honor. We are very grateful that our team has been commended in this way for their exceptional dedication and commitment."

He added: "We are also very appreciative to have once again received extremely strong support from QNRF for our research activities that are targeted toward tackling the health needs of Qatar by understanding them at the basic and clinical levels. QNRF has been a regional pillar in supporting research activities in Qatar and internationally. Despite its young age, QNRF has established the structure of a phenomenally successful funding agency, which is a unique achievement. QNRF's research support represents one of the primary drivers toward the goal contained within Qatar National Vision 2030 of establishing a knowledge-based economy.

"WCM-Q is greatly honored to receive this recognition."

The research program at WCM-Q was established in 2009 with the goal of pursuing cutting-edge biomedical research at the basic, translational and community levels, with a special focus on conditions that are prevalent in Qatar, such as diabetes, obesity and associated complications.

WCM-Q received support for eight proposals in the 12th cycle of QNRF's National Priorities Research Program (NPRP 12-S) and one grant under the Path Towards Precision Medicine (PPM 3) program. In addition, WCM-Q will serve as a sub-awardee on four NPRP12-S grants and one PPM 3 grant submitted by collaborating institutions.

The full list of WCM-Q awardees was as follows:

Title	WCM-Q Principal Investigator
Cancer Metabolism: Target and Predictor of Therapeutic Intervention in Breast Cancer	Dr. Anna Halama
Physiological association between diabetes mellitus and cardiac arrhythmia	Prof. Khaled Machaca
Corneal Confocal Microscopy: A rapid diagnostic and prognostic imaging biomarker for neurodegeneration in dementia	Prof. Rayaz Malik
Characterizing hepatitis C virus epidemiology in Qatar and the Middle East and North Africa: Screening strategies and the path to HCV elimination by 2030	Prof. Laith Abu-Raddad
Molecular and genomic epidemiology of invasive, multi drug resistant gram-negative bacteria in the State of Qatar.	Dr. Ali Sultan
Development of a non-invasive assay for allograft failure prognosis in kidney transplants	Dr. Abdelaziz Belkadi
UBR5, E3 Ubiquitin ligase, in Triple Negative Breast Cancers: Potential role in anti-Tumor Immunity and Cancer Metabolism	Prof. Lotfi Chouchane
Revealing the potential of pathogen-specific antibodies in diabetes patients with the aim of obtaining new diagnostic and prognostic signatures	Dr. Frank Schmidt
The Resiliency of Doha's Built Environment to Regional Climate Change	Dr. Ali Sultan*
Microneedle Arrays Patch Releasing Oxygen and Nitric Oxide for Diabetic Wounds and Ulcer Treatment	Dr. Nasrin Mesaeli*
A Novel Contactless ANFIS-EMG System for Diabetic Sensorimotor Polyneuropathy (DSPN)	Prof. Rayaz Malik*
From molecular etiology to improved reproductive health for male infertility in Qatar (The FERTILITY-IQ Study)	Dr. Amal Robay

**WCM-Q serving as sub-awardee*

PPM 3

Title	WCM-Q PI
Precision Pharmacogenomics in Qatar	Dr. Amal Robay
Qatar Genome Polygenic Risk Score: A precision Medicine Approach to Prevent Diabetic Complications in the Local Population of Qatar (the 10,000 QGPRS Study)	Prof. Shahrad Taheri*

**WCM-Q serving as sub-awardee*

The link between obesity and diabetes

Researchers shed new light on why some people contract diabetes while others remain sensitive to insulin.

Dr. Nayef Mazloum, assistant professor of microbiology and immunology.

Researchers at Weill Cornell Medicine-Qatar have made new discoveries that could help explain a problem that has perplexed scientists for years – why do some obese people get type-2 diabetes while others do not?

The multi-institutional team of researchers, led by WCM-Q's Dr. Nayef Mazloum, analyzed blood samples from 107 people resident in Qatar and identified significant differences in the metabolites of those who were obese but insulin sensitive and did not have type 2 diabetes compared to equally obese individuals with insulin resistance and/or type-2 diabetes.

Dr. Mazloum, assistant professor of microbiology and immunology, said: "One of the key characteristics of type-2 diabetes is reduced insulin sensitivity, which is very strongly associated with obesity. However, some individuals who are obese somehow maintain their insulin sensitivity and therefore have a far lower risk of developing type-2 diabetes and associated complications. In this study we were able to identify for the first time a number of individual metabolites that are involved in helping some obese people maintain insulin sensitivity - we hope that it may eventually be possible to use these discoveries as the basis for developing new diagnostic tools and even therapeutic medicines."

Metabolites are a wide and varied group of molecules involved in the vast complex of chemical reactions that together make up the human metabolism. The research identified metabolites involved in the metabolism of phospholipids, a type of fat found mainly in the membranes of cells. A total of three phospholipid metabolites were identified by the researchers as 'potential novel biomarkers' which, if present, appear to indicate that an obese individual may be resistant to type-2 diabetes. Of the 107 subjects in the study, 32 were control subjects of healthy weight, while 75 were obese, including 20 who were obese and insulin sensitive, 41 who were obese and insulin resistant, and 14 who were obese and had type-2 diabetes. The majority of subjects in the study were Qatari nationals.

The team comprised researchers from WCM-Q, Qatar Biomedical Research Institute, the Biomedical Research Center (BRC) at Qatar University, the Royal College of Surgeons in Ireland – Bahrain, and the University of Groningen in the Netherlands. The research, titled 'Metabolic signature of obesity-associated insulin resistance and type 2 diabetes', has been published in the Journal of Translational Medicine.

Dr. Mohamed A. Elrayess of the BRC at Qatar University, who co-led the project with Dr Mazloum, said: "This in an extremely exciting piece of research for us because if we can understand what makes some obese individuals with lower risk to insulin resistance and type-2 diabetes, we might be able to help those who are prone to developing those conditions or who already have them. However, while we have gained an improved understanding of the metabolic processes at work, the full nature of the underlying metabolic pathways involved is still quite poorly understood. This research does though point the way towards further studies that could help us develop a far richer and more detailed picture of how type-2 diabetes functions, which could potentially help with the development of new diagnostic tools and therapies."

The other researchers who contributed to the study were Haya Al-Sulaiti, Ilhame Diboun, Maha Agha, Fatima Mohamed, Stephen Atkin and Alex Dömling. The study authors are grateful to the support obtained from the Qatar National Research Fund (QNRF; Grant No. NPRP8-059-1-009) for this study, as well as support from the Biomedical

Diabetics have to test their blood sugar levels, but why do some people develop the condition and not others?

Dr. Mohamed A. Elrayess.

"Type-2 diabetes is one of the most pressing health concerns facing Qatar and the wider region, with more people developing the condition and at earlier ages than was previously the case. This research has opened up promising new avenues to identify and validate biomarkers that would, with further studies, hopefully improve our ability to both prevent and treat type-2 diabetes and associated conditions."

Research Program of Weill Cornell Medicine-Qatar, a program supported by Qatar Foundation.

Dr. Khaled Machaca, senior associate dean for research, innovations, and commercialization at WCM-Q said: "Type-2 diabetes is one of the most pressing health concerns facing Qatar and the wider region, with more people developing the condition and at earlier ages than was previously the case. This research has opened up promising new avenues to identify and validate biomarkers that would, with further studies, hopefully improve our ability to both prevent and treat type-2 diabetes and associated conditions."

New course on skin disease

WCM-Q conference hears from global experts on atopic dermatitis.

Professor Alain Taïeb, talked about diagnosing atopic dermatitis.

Weill Cornell Medicine – Qatar has held its first preceptorship on atopic dermatitis, with participants hearing from world-leading experts at a two-day conference.

The event took place at WCM-Q and involved dermatologists from the region and Europe lecturing on a variety of topics surrounding atopic dermatitis, including diagnosis, treatment and complications associated with the disease.

Professor Georg Stingl, professor emeritus at the Medical University of Vienna, began proceedings with explaining the pathophysiology of the condition.

Prof. Stingl said: "Firstly, in many instances it's a disease of childhood or at least it starts in childhood. Also, what differentiates this from other skin diseases is that the skin is very dry and that's why people scratch. Thirdly, the skin is often infected with staphylococcus aureus. Finally, as the skin progresses, the skin loses its smoothness and thickens.

"If you had asked me 20 years ago what the pathogenesis is of atopic dermatitis, I would've said it's an immunological disease; a lot of these patients have asthma and a lot suffer from hay fever. But the real situation is much more different. We are no longer certain that the first pathogenetic event is immunological; it may actually be that there is a defect within the skin."

Prof. Stingl, who has won numerous awards for his work in dermatology and is a highly successful researcher, said the pathology of atopic dermatitis is that the skin barrier is deficient, there is immunogenic inflammation, patients have an altered microbiome, they suffer from neurogenic inflammation, and there is xenobiotic irritation.

The conference also heard from co-organiser Prof. Martin Steinhoff, professor of dermatology at WCM-Q and Weill Cornell medicine in New York who discussed mild and moderate forms of the disease, and Professor Alain Taïeb, professor emeritus at the University of Bordeaux, who spoke about the challenges of diagnosing atopic dermatitis.

Dr, Maryam Ali Al-Nesf Al-Mansouri, head of allergy and immunology at Hamad Medical Corporation gave the delegates an insight into the disease from a pulmonary perspective, while Dr. Rehab Sabry Helal, associate consultant in the Ophthalmology Department at Hamad Medical Corporation discussed how clinicians could manage eye inflammation in patients with the disease.

Dr. Khaled Machaca, senior associate dean for research, innovations, and commercialization at WCM-Q said: "This preceptorship has been highly successful and brought together world-leading experts to Qatar to pass on their knowledge and experience to practicing clinicians and healthcare professionals, improving the care that people receive for atopic dermatitis. We hope this will be a recurring event to support clinical and research training in atopic dermatitis."

Professor Georg Stingl explained the pathophysiology of the condition.

Prestigious award for WCM-Q team

A doctor and student take the honors for their study of calcium deposits and hypertension.

Amal Abdellatif and Dr. Mohamed B. Elshazly.

A doctor and student at WCM-Q have received a prestigious award for their research into the relationship between calcium deposits in coronary arteries and high blood pressure.

Dr. Mohamed B. Elshazly, cardiologist and assistant professor of medicine at Weill Cornell Medicine - Qatar, and Amal Abdellatif, who is in the final year of her medical degree, were presented with the Paul Dudley White International Scholar at Scientific Sessions award for their work on arterial calcium deposits, hypertension and coronary heart disease. The award is given to the highest ranked international abstracts at scientific sessions of the American Heart Association, with the ranking performed by independent cardiovascular researchers.

In collaboration with international researchers, the pair examined whether the presence of calcium deposits in coronary arteries are an indication that doctors should intervene with intensive hypertension treatment to prevent future heart disease, even when other high-risk factors like old age, diabetes and chronic kidney disease are not present.

Working with scientists at a number of international institutions, including Johns Hopkins Hospital I the Us and the National Institute for Prevention and Cardiovascular Health in Ireland, Amal and Dr. Elshazly performed the research at WCM-Q using the US's multiethnic study of atherosclerosis (MESA) database. MESA is a study funded by the National Heart, Lung, and Blood Institute that examines early atherosclerosis – a condition where the arteries narrow through a build-up of plaque.

The research was presented at a scientific session of the American Heart Association, which is the largest annual cardiovascular medicine conference in the world.

Amal said: "I was very fortunate to have had the opportunity to take part in such a study with potentially significant clinical implications. Every stage of the process from study design, up to presenting the poster in a conference hosting pioneers in cardiology, has been remarkably enriching in this stage of my training.

"The study is very important for the entire world including patients with hypertension in Qatar. Moreover, it sets a good example that scientists in Qatar can build international collaborations and do research anywhere across the world."

"Dr. Elshazly has been a wonderful mentor and guide and has gracefully introduced me to the rewarding field of clinical research. I am hoping I can extend what I gained from this experience into my future career to answer more clinical questions."

The research involved examining the records of 1,859 participants with stage one hypertension who are included on the MESA database. Just over half were male and the participants had an average age of 63 years. Whether or not they had coronary calcium deposits - and how severe those deposits were - were then compared with their medical outcomes when other risk factors had been taken into consideration.

The research found that the presence of coronary artery calcium, particularly a score greater than 100, does increase the risk of suffering from cardiovascular disease in patients with mild hypertension.

Dr. Elshazly, himself an alumnus of WCM-Q, said: "This is the first MESA study to be performed by Qatar investigators. It is an important example of how global the process of research has become. A study funded by the US National Institutes of Health with US patients has allowed us, as investigators from Qatar, to analyze the data and produce science that can impact worldwide blood pressure guideline development and around a billion patients with hypertension around the world.

"The study is very important for the entire world including patients with hypertension in Qatar. Moreover, it sets a good example that scientists in Qatar can build international collaborations and do research anywhere across the world."

Dr. Elshazly added: "Amal and I would like to thank all the co-authors and investigators, especially our statistician at the biostatistics core at WCM-Q, Soha Dargham, and our senior investigator Dr. John McEvoy. We would like to thank the other investigators, the staff, and the participants of the MESA study for their valuable contributions."

Biodiversity in Qatar

WCM-Q researcher and students document the wildlife at Al Karaana Lagoons.

Ashghal project manager Salem Hakawati discusses how the lagoons were created.

The biodiversity of the ponds and lagoons created at a wastewater treatment plant is being catalogued by a scientist from WCM-Q.

The rehabilitation of Al Karaana Lagoons began in 2017 and since then the area, which is approximately 60km south west of Doha off Salwa Road, has become a haven for wildlife and is particularly rich in bird life.

Dr. Kuei-Chiu Chen, associate professor of biology at WCM-Q, is now leading a study documenting the many different species at the site and the numbers in which they are found.

Dr. Chen said: "Because Qatar is historically a dry, desert country with no standing fresh water, it will be fascinating to see the difference that Al Karaana Lagoons has made to the biodiversity of the local area.

"We know that Qatar is on the migratory route for many species of birds and Al Karaana may well become a vital stopping-off point, allowing them to rest, drink and feed on their way to their destination."

Dr. Chen will conduct the research with the help of students studying the pre-medical curriculum at WCM-Q, giving them valuable experience of contributing to a professional research project. The data they accumulate will be then compared to pre-2017 ecological studies at Al Karaana Lagoons, before the wastewater was treated.

The lagoons have attracted a range of birdlife, including black-winged stilts.

When completed, the three lagoons will have a total area of 730,000 square meters.

"This collaborative study with Weill Cornell Medicine – Qatar will help us to evaluate the success of the program and is of genuine interest to everyone involved with the revitalization of the lagoons. We hope they will continue to attract wildlife and be an example of environmental sustainability for many years to come."

Studies will be done during both day and night, and a drone will also be utilized to assess where the greatest concentrations of plants and wildlife are. The study will also feed into Qatar National Vision 2030 - which has environmental development as one of the its four central pillars - potentially providing evidence for the long-term protection and sustainability of the site.

Species which may be found at the treatment works include bee eaters, storks and even ospreys, as fish have been introduced to the lagoons.

Eng. Khalid Saif Al-Khayareen, drainage networks projects department manager at Ashghal Public Works Authority, said: "Qatar National Vision 2030 is of the utmost importance to Ashghal and we will do all we can to help our nation achieve its goals. The treatment of the wastewater and hence the creation of this remarkable habitat for birds, plants and fish - right in the heart of the desert - is a significant achievement and a source of pride for everyone who has worked on the project.

"This collaborative study with Weill Cornell Medicine – Qatar will help us to evaluate the success of the program and is of genuine interest to everyone involved with the revitalization of the lagoons. We hope they will continue to attract wildlife and be an example of environmental sustainability for many years to come."

Sand plovers and ospreys (main picture) are just some of the species that can be seen at the lagoons.

The environmental remediation of Al Karaana Lagoons began in 2017 and will be completed by the end of 2019; currently, treated effluent water is being added at a rate of approximately one bathtub per second, enough to offset evaporation even during the height of summer. When finished, the three lagoons will have a total area of 730,000 square meters, providing a desert oasis for plants and wildlife.

Students don white coats

WCM-Q welcomes new trainee doctors with the annual White Coat Ceremony.

Forty students took part in the White Coat Ceremony this academic year.

Weill Cornell Medicine – Qatar's Class of 2023 have donned the white coat and stethoscope of the doctor for the first time at a ceremony in front of faculty, family and friends.

In total, 40 students started the four-year medical curriculum, eight of whom are Qatari, and the white coat is symbolic of the humanity, perseverance and academic excellence that they will need as a physician.

The students will now follow the same curriculum as that operated in Weill Cornell Medicine – New York and will be taught by both faculty at WCM-Q, and faculty in New York via video link. As they become more experienced, they will begin training in partner institutions and will also have the opportunity to work under the guidance of experienced doctors at NewYork-Presbyterian Hospital – one of the world's foremost teaching hospitals.

If successful in their training, they will then receive a Cornell University medical degree.

Dr. Javaid Sheikh, dean of WCM-Q, said the White Coat Ceremony is one of the highlights of the college's academic year and is a memorable and significant milestone for the trainee doctors.

Dr. Sheikh added: "The white coat is recognized throughout the world as a symbol of compassion and healing and it gives me great pleasure to present them to our new medical students.

"These young people are the very future of medicine in Qatar. During their careers, they will learn new medical techniques and use technology that physicians today can only dream about. They will innovate, they will conduct new research, and they will gain new knowledge, but some things will always remain the same; they will save lives and they will bring hope and relief to those in distress.

"Together with Weill Cornell's other alumni, they will be the backbone of Qatar's medical system, delivering world-class healthcare to all of the country's citizens for decades to come."

The White Coat Ceremony is the culmination of WCM-Q's orientation period when new students are welcomed to the college, meet their classmates and faculty members and learn the standards of professional conduct expected of them. It is also an opportunity to formally welcome students onto the six-year medical program, which integrates two years of pre-medical training with the four-year medical curriculum. This year, 46 students were inducted, with each being presented with an Ibn Sina pin, Ibn Sina being one of the most significant physicians of the Islamic Golden Age.

The students and assembled audience heard from the keynote speaker, WCM-Q alumna Dr. Sarah Al-Khawaja, who holds the position of chief resident, dermatology and venereology, at Hamad Medical Corporation, and is a clinical associate in dermatology at WCM-Q.

Dr. Al-Khawaja told the medical students: "Medicine is a journey, not only a journey to acquire knowledge and progress professionally, but a journey of self-discovery. How can we use our time and our talents to help others? You don't need to have the answer to this question now, but you do need to have and cultivate the intellectual curiosity to ask and to find out."

Aljazi Al-Khalifa was one of those to receive her white coat, and is in the first year of the medical curriculum.

Dr. Javaid Sheikh told the students that they would be the "backbone" of the Qatari healthcare system.

"Medicine is a journey, not only a journey to acquire knowledge and progress professionally, but a journey of self-discovery. How can we use our time and our talents to help others? You don't need to have the answer to this question now, but you do need to have and cultivate the intellectual curiosity to ask and to find out."

She said: I'm really happy and proud that I've arrived at this moment after three years of hard work. This is what I've been waiting for. The foundation and pre-medical programs were difficult but manageable with the support of my family and friends, and receiving the white coat is great motivation to continue working.

"I'm now just looking forward to applying what I've learned and becoming the doctor I know I want to be."

Mohammed Al-Mohamedi joined WCM-Q on the six-year medical program, so will spend the first two years on the pre-medical curriculum.

Mohamed said: "I first heard about Weill Cornell when I was at school, and there was a group of students applying so I joined them. I've always wanted to be a doctor, ever since I was young. I know for a fact that it's going to be difficult; I've only been here for a few days, but I can tell it's not going to get any easier. However, becoming a doctor means I can help other people, along with my family."

Sang Gon Yi chose to join WCM-Q despite originally hailing from South Korea.

Gon Yi said he had attended high school in Malaysia and had applied to WCM-Q because of its six-year medical program.

He said: "Medicine is always something I've been looking at but in the US you have to take a four-year undergraduate degree and then another four years at medical school but at WCM-Q it's six years in total and you can then apply for residencies in the US."

He added that the atmosphere of WCM-Q was also a reason for selecting the college.

"In Korea I think it's very competitive and there's no sense of community but having been here for just two weeks I can see that everyone works really well together."

Rawan Hussein receives her white coat from Dr. Javaid Sheikh.

WCM-Q alumna Dr. Sarah Al-Khawaja, who holds the position of chief resident, dermatology and venereology, at Hamad Medical Corporation, delivered the keynote speech.

GEMx student welcomed to WCM-Q

Syrian student gains international experience and a greater understanding of global healthcare.

Dr. Sohaila Cheema, Mohamed Wafa Khoudeir and Dr. Ravinder Mamtani.

WCM-Q welcomed a medical student from Ain Shams University in Cairo to the college through the Global Educational Exchange in Medicine and the Health Professions (GEMx) program.

Mohamed Wafa Khoudeir, who is originally from Syria, is in the sixth and final year of the medical program at Ain Shams University Faculty of Medicine. Through GEMx he spent four weeks at WCM-Q taking an elective course in population health and primary care perspectives.

GEMx, a program of the Educational Commission for Foreign Medical Graduates (ECFMG), based in Philadelphia, USA provides a platform to help match students seeking an international experience with host universities all over the world. Students can use the system to apply for the electives, safe in the knowledge that the host school has signed up to the ECFMG charter, which guarantees established standards of student support and pre-agreed learning outcomes. Since 2014, WCM-Q has hosted students from Nepal, Mexico and Malaysia.

Wafa, aged 24, said: "To come here to WCM-Q is amazing for any medical student because the facilities and teaching are among the best in the world and the US medical system is very advanced in terms of evidence-based care. Doha is very diverse, so I have been able to develop my ability to work and communicate with colleagues and patients from many different cultures."

During his time at the college, Wafa had the opportunity to work through patient case studies with assistant professor of medicine Dr. Sumeja Zahirovic, who specializes in internal medicine and rheumatology. He also observed an objective structured clinical examination – known as an OSCE – conducted by assistant dean for medical student affairs Dr. Mohamud Verjee in WCM-Q's state-of-the-art Clinical Skills and Simulation Lab. Additionally, Wafa worked in three different clinics at Hamad Medical Corporation and the Primary Health Care Corporation (WCM-Q's clinical affiliates), engaged with the WCM-Q Center for Cultural Competence in Healthcare team and worked on a research paper regarding the effect of war on the mental health of Syrian child refugees.

Dr. Sohaila Cheema, director of the Institute for Population Health, said: "It has been wonderful having Wafa here with us. He has brought huge amounts of energy and enthusiasm to every aspect of the experience and he has helped both students and faculty at WCM-Q broaden their understanding of global healthcare."

Wafa added: "I have spent four weeks in Qatar working with absolutely amazing doctors and being made very welcome by my fellow students. It is an experience I will never forget."

Dr. Ravinder Mamtani, vice dean for student affairs-admission, population health, and lifestyle medicine said: "We believe that all medical students should be able to benefit from a global health experience such as the one Wafa has had here with us through the GEMx program. Such experiences enhance our understanding of healthcare in a global context, helping us to transcend cultural barriers to care and ultimately improving healthcare outcomes for patients."

Hopes for new cholesterol drug

WCM-Q teams with US pharma company to develop a new therapy that could improve heart disease.

Dr. Hani Najafi in the lab.

WCM-Q has signed a research agreement with pioneering US biotechnology company Moderna, Inc. to develop a new cholesterol-controlling drug that could lead to radically improved treatments for type 2 diabetes and cardiovascular disease.

Under the agreement, Moderna, which is based in Cambridge, Massachusetts, will sponsor a study by WCM-Q researcher Dr. Hani Najafi to develop and test a new therapy for rebalancing levels of circulating blood lipids by effectively increasing the clearance of atherogenic lipids and enhancing the production of functional, anti-inflammatory lipid species.

Individuals with a high ratio of LDL (low-density lipoprotein) to HDL (high-density lipoprotein) are at an elevated risk for developing cardiovascular disease (CVD) and far more likely to develop conditions such as metabolic syndrome, type 2 diabetes and cardiovascular disease. A safe and efficacious new therapy capable of enhancing the body's own lipid clearance mechanisms would have the potential to further reduce the residual risk of developing these conditions and improve the health and quality of life of individuals already at elevated CVD risk.

The new experimental therapy will be based on the interactions of microRNA and messenger RNA, one of the most exciting and promising targets of drug research, and a field in which both Moderna and Dr. Najafi specialize. MicroRNA is a type of naturally occurring molecule that influences the way DNA is translated from code into the proteins that make up an organism. It does this by interacting with another type of RNA, called messenger RNA (mRNA), which contains a set of instructions for turning the code held in DNA into proteins. Dr. Najafi and the scientists at Moderna theorize that novel microRNA-mRNA interactions could be produced in the lab and used in patients to further reduce the levels of circulating blood lipids with beneficial effects on health.

"This is an important moment for the Biomedical Research Program at WCM-Q as we look to move our discoveries from the lab to the marketplace to help Qatar's sterling efforts to diversify its economy. We are very pleased that the Industry Academia Alliances event played a key role in this collaboration."

Dr. Najafi, assistant professor of cell & developmental biology at WCM-Q, said: "This is an attractive approach for targeted gene therapy where we don't need to manipulate the DNA permanently. Instead, we can potentially use a small RNA (microRNA) to precisely finetune and influence mRNA expression and control the way lipid genes are regulated on a transient basis in response to lifestyle and diet. This novel approach has the potential of reducing unwanted circulating lipids and vascular inflammation in a manner and to a degree that has never been seen. This would give us a highly effective tool for treating or even helping to prevent the development of conditions like type 2 diabetes, metabolic syndrome and cardiovascular disease."

Established in 2010, Moderna has developed what is widely considered to be the pharmaceutical industry's leading technology platform for developing mRNA-based therapies.

Dr. Khaled Machaca, senior associate dean for research, innovations, and commercialization at WCM-Q, said: "We at WCM-Q are absolutely delighted to be working with Moderna on this exciting project. The combination of Moderna's groundbreaking mRNA technology platform and our world-class expertise and facilities here at WCM-Q gives us a great foundation for developing novel therapies that could one day make a real difference to many people's lives."

Dr. Machaca also hailed the role of WCM-Q's annual Industry Academia Alliances event for bringing Dr. Najafi and Moderna together. The event is designed to provide a forum for international biomedical companies and WCM-Q researchers to meet and hatch collaborative projects. Dr. Machaca said: "This is an important moment for the Biomedical Research Program at WCM-Q as we look to move our discoveries from the lab to the marketplace to help Qatar's sterling efforts to diversify its economy. We are very pleased that the Industry Academia Alliances event played a key role in this collaboration."

YHF celebrates Qatar National Day

Installation at Darb Al Saai demonstrates that exercise can be fun.

Children from schools all over Qatar had the chance to try out the virtual reality exercise machines.

Thousands of people visited WCM-Q's Sahtak Awalan – Your Health First installation as it helped celebrate Qatar National Day by encouraging people to exercise.

WCM-Q's flagship health campaign was once again invited to participate in the Qatar Foundation tent at Darb Al Saai, where it has become known for providing high-profile, innovative and entertaining installations for the general public to see and use.

This year was no exception as it brought six state-of-the-art virtual reality exercise machines for families to try out, and the machines proved to be particularly appealing to the young. Giving people the chance to cycle, ski and use a cross-trainer, the machines use virtual reality to provide a totally immersive experience that brought the exercises to life.

Those using the exercise bicycles found themselves cycling through fields or on an adrenaline-inducing course, while the skiing machine allowed users to experience the thrill of hurtling down a snow-covered mountain. Finally, the cross-trainers gave users the chance to run through an obstacle course in a video-game inspired world.

Nesreen Al-Rifai, chief communications officer at WCM-Q, said: "Qatar National Day festivities celebrate Qatar's heritage and history, but we are also looking to the future. We want the next generation of young people to be fit and healthy and able to become the future leaders of the nation, in line with Qatar National Vision 2030.

"Weill Cornell Medicine is already creating the next generation of Qatari doctors, but we also want to help the community to achieve and maintain the very best of health, and that's why Sahtak Awalan-Your Health First is so important to everyone at the college.

"None of this would have been possible without the tremendous support of our strategic partners, Qatar Foundation, the Ministry of Public Health, the Ministry of Education and Higher Education, the Ministry of Municipality and Environment, and ExxonMobil."

Launched in 2012, WCM-Q's Sahtak Awalan – Your Health First campaign is an educational outreach program that works to encourage and empower all members of the community in Qatar to live healthy, sustainable lifestyles, with a particular focus on young people. Its initiatives include Khayr Qatarna, Project Greenhouse, Yalla Natural and the Color Run.

A passion for science

Qatari high school students learn research skills through WCM-Q summer program.

The program shows students what to expect from a career in biomedical research.

Seventeen high school students with a passion for science spent the summer at WCM-Q gaining hands-on experience in biomedical research.

The students, aged 16-18, completed the Research Internship for National High School Students, which gave them the opportunity to learn a wide range of practical research skills while working in the college's state-of-the-art laboratories under the supervision of world-class biomedical research professionals.

In addition to introducing the students to various research techniques, the program also offers Qatari nationals a glimpse of what a career in biomedical research would be like, shows them the study paths available to them, and provides classes on self-directed study, time-management and research administration. Students who complete the program log 50 to 100 hours of voluntary community service, depending on whether they choose the two-week or four-week option.

Delivered by WCM-Q's Research Division, the program has now completed its fifth annual cycle and has delivered research training to 40 high school students. Many of those who complete the program are inspired to apply to study medicine at WCM-Q.

Shahd Al Mughanni, of Al Arqam Academy for Girls, completed the program this year, spending two weeks in the lab of Dr. Frank Schmidt, director of the Proteomics Core at WCM-Q.

Shahd said: "What excites me about research is that you get the chance to think differently and come up with innovative ideas and solutions. In this phenomenal high school research internship, I was completely fascinated by the study of proteomics. I got the chance to work in the lab, observe the diligence of researchers and ask them questions. For future career plans, I am planning to study medicine and serve my country through clinical care and research."

Christy Poppe, senior research training specialist at WCM-Q, said: "This year's cohort showed great intellectual curiosity and real dedication to the program. This positive attitude meant that they were able to have extremely valuable experiences and gain a real understanding of just how rewarding a career in research could be. It is this enthusiasm and talent that will contribute to Qatar's emerging role as a world-leading research destination."

This year's program was completed by students from the following high schools: Qatar Academy, The International School of London, Newton International School, Al Arqam Academy for Girls, Al Bayan Secondary School for Girls, Global Academy International, Ali Bin Jassim Bin Mohammad Al Thani Secondary School for Boys, and Park House English School.

For more information about WCM-Q internships and training opportunities, visit https://qatar-weill.cornell.edu/research/research-training-programs

A taste of Tanzania

Photographs document the experiences of WCM-Q students as they offer health checks and tour the country.

Dr. Dietrich Büsselberg, center, took the photos while accompanying WCM-Q students on a service learning trip.

A photography exhibition documenting a life-changing trip that students at WCM-Q made to Tanzania was held at Multaqa (Education City Student Center).

'Experience Tanzania' – held in collaboration with QF Art – illustrated a service-learning trip which saw WCM-Q's trainee doctors travel to the East African country to offer health checks and basic healthcare services to the local community.

During the visit, the students learned about the lifestyles and traditions of local people, experienced the Tanzanian healthcare system, visited local schools and orphanages, and toured some of Tanzania's national parks, including the famed Ngorongoro Crater.

Their experiences have been documented by keen amateur photographer and WCM-Q professor of physiology and biophysics Dr. Dietrich Büsselberg, whose photographs capture the emotional journey of the students and their work with the Tanzanian people. These are interspersed with awe-inspiring, panoramic images of the landscape and its wildlife, including lions, elephants, and giraffes.

Dr. Büsselberg said: "I have accompanied the students to Tanzania for the last three years now, and it is always revelatory to witness how their experiences of providing healthcare to people in remote villages informs their belief of what it means to be a doctor. In Qatar, we have easy access to some of the best healthcare in the world and working and helping people who live far from mainstream medical services is a humbling experience for most of the students. I hope my photographs capture some of these emotions, along with the majesty of the natural world and the irrepressible spirit of the Tanzanian people."

Hisham E. Nourin, executive director of strategy, administration and projects at QF, said: "We are delighted to collaborate with Weill Cornell Medicine – Qatar to host 'Experience Tanzania'. This is a wonderful exhibition that truly captures the WCM-Q student service-learning trip. And it is for this reason that we will be hosting a guided art tour of the exhibition.

"Part of our wider Art Trail initiative, these unique tours – led by QF art specialists – are designed to showcase exceptional artwork housed in Education City – from the Minaretein Building (Education City Mosque) to Qatar National Convention Centre. Open to the public, we hope to engage and inspire the local community."

'Experience Tanzania' was opened by HE Ms Fatima Mohammed Rajab, the Tanzanian ambassador to Qatar, who was delighted by the exhibition and how the photographs had captured the beauty of Tanzania and its nature.

Ms. Rajab said: "Tanzania is home to many different ethnicities and has great historical diversity. It also has the spectacular scenery of its game reserves including the unforgettable Serengeti and volcanic crater of Ngorongoro, not to forget Africa's highest mountain, Kilimanjaro, and the beautiful beaches and the aromatic spice islands of Zanzibar.

"This exhibition really captures the essence and warmth of the people and the abundance of natural resources we are blessed with that soothe the hearts of visitors from other countries, so they greatly enjoy their stay and feel at home. Tanzania really is a land of peace."

Simulation experts convene at WCM-Q

Symposium discusses strategies for promoting simulation-based medical education.

The delegates were shown the facilities available in WCM-Q's Clinical Skills and Simulation Lab.

Experts in simulation-based medical education (SBE) convened at WCM-Q to share their knowledge at the college's third annual SBE symposium.

Medical professionals from several healthcare institutions in Qatar participated in the event, with speakers from WCM-Q, Hamad Medical Corporation, Sidra Medicine, Qatar University's Colleges of Medicine and Pharmacy, Sidra Medicine, University of Calgary in Qatar and College of the North Atlantic – Qatar. Together, these expert facilitators form the multi-institutional Qatar Simulation Consortium, which was established to enhance the teaching of simulation-based medicine through the promotion of evidence-based best practices.

Simulation-based education utilizes a wide range of hi- and low-tech learning aids and artificially created scenarios to allow medical students to learn and perfect a variety of key practical skills in a safe environment.

The theme of this year's symposium was 'Institutional Culture and Academic Journeys', with a strong focus on helping attendees cultivate a culture of positivity towards simulation-based education in their home institutions. This was based on feedback from the previous two symposia, in which participants noted they faced barriers to the implementation of SBE, such as limited resources, time, skilled staffing, as well as technical skills such as debriefing and scenario writing, among others.

To assist them in prioritizing their needs, and in planning to promote a culture of change, the Simulation Culture Organizational Readiness Survey (SCORS) was selected as the appropriate survey tool to be used in the workshop. In total, 86 physicians, nurses and allied health practitioners completed the SCORS survey, with the resulting data then analyzed in groups of 12-14 with support from a trained facilitator. This allowed the participants to identify the challenges they faced and list priorities for change, such as importance of transparency, open communication (both top-down and bottom-up), documenting commitment for change, considering sustainability, and planning to ensure appropriate manpower, space and budget.

The event benefited from the participation as a speaker

"Many attendees expressed a willingness to contribute to and support the formalization of a special interest group, and my next steps will be to begin the process of formalizing this, as WCM-Q's CSSL continues to support the continuous professional development of simulationists in Qatar."

of one of the world's leading experts in simulation-based medical education, Professor Debra Nestel, professor of simulation education in healthcare at Monash University, and professor of surgical education at the Department of Surgery, University of Melbourne, Australia. Speaking at the event, Prof. Nestel highlighted the importance of faculty development for the implementation of SBE and also discussed the critical need for a framework for procedural skills training. She also emphasized the importance of ensuring that, in order to optimize the learning of clinical skills, teaching strategies must incorporate steps that include elements to engender the development of both cognitive and psychomotor skills.

Prof. Nestel and two other prominent academic simulationists – Prof. Guillaume Alinier, director of research at Hamad Medical Corporation Ambulance Services and Prof. Kim Leighton, executive director at the ITQAN Clinical Simulation & Innovation Center of Hamad Medical Corporation - then discussed their personal career trajectories and highlighted transformative moments.

The participants then took part in the 'Sim Souq', in which seven groups of presenters were represented, with the goal of promoting interactive learning and promoting interprofessional networking opportunities using SBE. The event concluded with a panel presentation by six healthcare practitioners who reflected on how in-situ simulation is used to maintain teams in a state of optimal readiness for practice.

Dr. Stella Major, associate professor of family medicine in clinical medicine, said she was very pleased with the success of the third symposium, and the overwhelming interest that the participants expressed at the end of the day to formalize a community of practice in Qatar.

Dr. Major said: "Many attendees expressed a willingness to contribute to and support the formalization of a special interest group, and my next steps will be to begin the process of formalizing this, as WCM-Q's CSSL continues to support the continuous professional development of simulationists in Qatar."

New greenhouses for schools

Khayr Qatarna campaign is expanded to three more schools and thousands more children.

Students learn about the environment, sustainability and healthy eating.

Khayr Qatarna, a Your Health First – Sahtak Awalan initiative, has installed state-of-the-art greenhouses at three Qatar Foundation (QF) schools to teach students important lessons about food security, environmental sustainability and healthy eating.

QF's Pre-University Education and Your Health First collaborated to build the climate-controlled greenhouses at Qatar Academy Al Khor, Renad Academy and Qatar Academy Al Wakra, giving more than one thousand students the chance to take hands-on lessons in how to cultivate a wide range of fresh produce, including tomatoes, cucumbers, aubergines, strawberries and peppers, among other varieties.

As a part of Your Health First, which is the flagship public health campaign of WCM-Q, Khayr Qatarna was launched in 2018 to boost self-sufficiency in Qatar at the same time as helping the younger generation avoid non-communicable diseases such as obesity and type 2 diabetes by teaching them the importance of a healthy, balanced diet rich in fresh fruit and vegetables.

Mrs. Buthaina Ali Al Nuaimi, president of pre-university education, QF, said: "It is wonderful that, with the Khayr Qatarna greenhouses, we are able to teach our students at Qatar Foundation schools about food security, environmental issues and healthy eating by actually letting them get their hands in the soil and seeing the plants thrive under their careful stewardship.

"This is a truly rich and compelling educational experience and it supports the theoretical lessons the students learn in science class, as well as helping them appreciate where their food comes from and making them very enthusiastic about healthy eating."

In the initial phase of Khayr Qatarna, greenhouses were installed at ten secondary schools across Qatar. Many tons of fresh fruit and vegetables have already been harvested, with the produce distributed with Khayr Qatarna branding to the community through local supermarkets.

All the crops have been granted the status of 'Premium Products' by the Ministry of Municipality and Environment, which has provided valuable support and advice to Khayr Qatarna. Seeing the production process progress through the stages of cultivation, harvest and distribution also provides valuable lessons to the students about economics, agriculture and logistics.

Mrs. Nesreen Al-Rifai, chief communications officer at Weill Cornell Medicine-Qatar, said: "It is absolutely crucial that we not only teach the younger generation about healthy eating and food security but that we also inspire them and give them opportunities to put these lessons into practice through practical initiatives like Khayr Qatarna."

The Sahtak Awalan – Your Health First campaign, which was launched by WCM-Q in 2012 in association with Qatar Foundation, the Ministry of Public Health, the Ministry of Education and Higher Education, the Ministry of Municipality and the Environment, and ExxonMobil.

The program has grown many tons of fruit and vegetables since it was launched.

A passion for proteomics

Leading researchers meet for WCM-Q's inaugural conference on proteins.

Dr. Karsten Suhre.

Dr. Frank Schmidt.

Experts and leading scientists across the region convened for WCM-Q's inaugural Mini-Symposium on Proteomics.

Proteomics is the large-scale study of all the proteins in a cell – a proteome is the complete set of proteins produced in an organism – and the two-day symposium saw researchers from a variety of organizations including Hamad Medical Corporation, Sidra Medical and Qatar Biomedical Research Institute gather to hear about the potential applications of proteomics and how advances in the subject are providing data that will impact upon many other areas of medicine and biomedical research.

The first day focused on human-specific aspects of the proteome while the second day examined the proteome's interaction with human pathogens.

Lecturers included Dr. Stephen Pennington, professor of proteomics at University College Dublin's School of Medicine, who discussed how proteomics can contribute to the development and delivery of personalized medicine, and Dr. Bernd Wollscheid, professor for chemistry and systems biology at the Swiss Federal Institute of Technology, who delivered a talk entitled 'The In Silico Human Surfaceome and Technologies for the Elucidation of the Surfaceome Nanoscale Organization.'

Speakers from WCM-Q included Dr. Anna Halama, assistant professor of research in physiology and biophysics, whose talk 'Uncovering Signatures Associated with T2D using Multi-Omics Technologies' looked at how proteomics could help diagnose conditions associated with the progression of type 2 diabetes, so improving treatment.

Dr. Karsten Suhre, professor of physiology and biophysics and director of WCM-Q's Bioinformatics Core, delivered a speech entitled 'Connecting Genetic Risk to Disease End Points through the Human Blood Plasma Proteome' which looked at how proteomics can highlight the underlying molecular pathways between a genetic mutation and the resulting illness.

The mini-symposium was organized by Dr. Frank Schmidt, assistant professor of biochemistry at WCM-Q, and director of the college's Proteomics Core.

Dr. Schmidt spoke on the topic 'Proteomics and Immunoproteomics in the Field of Host and Pathogen Interaction', how the proteome of pathogenic bacteria and the immunoproteome of patients actually changes after the bacteria cause disease within a human.

Closing the conference, Dr. Schmidt said it had been a fascinating opportunity to explore the world of proteomics and hear about how the research is contributing to improved treatment strategies for a range of illnesses.

He added: "We have seen that proteomics can be used for finding disease biomarkers and selecting candidates for vaccination. Proteins are a key player for life itself which makes the subject so interesting but also so valuable to our understanding of personalized and precision medicine and the very nature of disease itself."

Kids play patients

Children of staff and faculty help trainee doctors learn new skills and techniques.

Nada Mobayed examines a young volunteer.

In the latest phase of their training, students at WCM-Q had to deal with the world's most interesting and unpredictable patients – young children.

The medical students, who are all in the third year of the medical curriculum, attended the clinical orientation week - which incorporates the annual Cornell Stars event - to prepare them to start their full-time clinical courses (clerkships). This involves faculty and staff members at WCM-Q bringing in their own children so that the medical students can learn the best techniques for examining children in a clinical setting.

The event offers students experience of interacting and examining babies, toddlers and children up to the age of seven. The examinations are all held in WCM-Q's Clinical Skills and Simulation Lab, which features a number of realistic mock clinics.

Dr. Amal Khidir, associate professor of pediatrics, and organizer of the Cornell Stars program, said the annual event is a valuable learning opportunity for the students, demonstrating that children and adults make for very different patients and encounters. For example, examining a child may involve encouragement from the physician, help from the parent, but also a willingness to be opportunistic and flexible on the part of the doctor.

Dr. Khidir said: "We are trying to give our students the chance to experience what it is genuinely like to engage a child and perform a basic physical examination of a child, but also to pass on hints and tips that may help with that examination. For example, we show the students how to keep the children calm, maybe let the children listen to their own hearts through the stethoscope, and generally build up a rapport with them. We want them to learn how to negotiate, communicate and be creative in engaging the children and their care-giver in a relaxed environment."

"They were really, really nice and obviously this won't be exactly how it is in the hospital, but it was very good practice. The doctors were really helpful and showed us how to interact with the children depending on their age. We've also been talking to the parents and it was really useful to know how to deal with them as well as it's not just about the children."

The examinations were all overseen by experienced doctors from WCM-Q, Hamad Medical Corporation and Sidra Medical and Research Center, who passed on their years of experience in pediatrics.

Dr. Khidir said that without the invaluable support of Dr. Stella Major, Dr. Madeeha Kamal, Dr. Mehdi Adeli, Dr. Sharda Udassi, Dr. Manasik Hassan, Dr. Suzan Gamel, Dr. Ahmed Eltayeb, Dr. Mohamed Elkalaf, and Dr. Marva Yahya, the Cornell Stars event would not be as successful as it is. She also thanked the members of faculty and staff who brought their children in for the event, and, of course, she thanked the children themselves.

For Class of 2021 student Rozaleen Aleyadeh it was a useful learning experience.

"The kids were so cute," she said. "They were really, really nice and obviously this won't be exactly how it is in the hospital, but it was very good practice. The doctors were really helpful and showed us how to interact with the children depending on their age. We've also been talking to the parents and it was really useful to know how to deal with them as well as it's not just about the children."

Fellow student Sherif Mostafa said it was nerve-wracking at first.

He said: "I was definitely scared of the kids. They are like tiny creatures, but the examinations were easy to navigate as these children were healthy, although I don't know how it will be with kids who are sick. The physical examination was easier than I thought but it's mostly about observation and although it's obvious, I didn't realize it until now as the children can't tell you anything."

Qatar's best high school research team

Winners announced at WCM-Q's High School Medical Conference.

Ahmed Musaed Al Obadi discusses his team's research findings.

Weill Cornell Medicine – Qatar has announced the winner of its search to find the country's best high school student research team.

The High School Research Competition was launched by WCM-Q's Office of Student Outreach and Educational Development to encourage teenagers to explore the fields of medicine and science and consider them as future career options. At a ceremony during WCM-Q's Medicine Unlimited event, the team from Ali Bin Jassim Bin Mohamed Al Thani School, who investigated how UVC light could sterilize germs in air conditioning units, were announced as the winners. They will soon be heading off to an all-expenses paid trip to New York to experience the state-of-the-art laboratories at Weill Cornell Medicine.

Ahmed Musaed Al Obadi is one of the members of the winning team and said the competition had been a great learning experience.

He said: "I've learned a lot by speaking to doctors and professors who gave me lots of advice about how our experiment could be improved. It's helped me to give better presentations, I've made new friends and it's taught me to have confidence in myself and whether we had won or lost I would have left this competition with all these advantages."

The competition initially involved 21 teams from schools across Qatar who were tasked with investigating a research theme connected to the United Nations' Sustainable Development Goals of ensuring healthy lives; ensuring access to water and sanitation; making cities inclusive and safe; and ensuring sustainable consumption and production.

Each team was assigned a WCM-Q mentor and had to use professional, scientific methods to investigate their subject. The 21 teams were reduced to 15 following a judging session earlier in the year, and the 15 were reduced to the final four at the High School Medical Conference. Each team then gave a presentation before the audience and a team of expert judges from WCM-Q, before Ali Bin Jassim School were announced as the winners. The other three finalists were two teams from Bright Future International School, and a team from The Lebanese School.

The conference also featured four professional development workshops for teachers and students on the latest teaching techniques, college readiness as well as admissions requirements.

Dr. Rachid Bendriss, assistant dean for student outreach, educational development and foundation program, said the standard of the entries to the competition had been exceptionally high.

Dr. Bendriss: "The judging team has been astounded at the quality of the entries and the standards to which every single team has aspired. It was a very difficult decision to make to choose the winners as every finalist would have made worthy champions. However, Ali Bi Jassim School just edged the competition.

"The contest has shown that there is a real passion for science among Qatar's young people, a passion that everyone at Weill Cornell will continue to foster, and I hope that many of the students who have participated in the High School Research Competition have been inspired to pursue a career in science and medicine in the future."

The culmination of the competition came at the end of WCM-Q's annual open house event, Medicine Unlimited.

Students, parents and interested members of the community were all able to take a detailed look at the programs offered by WCM-Q, meeting students, staff and faculty, and talking to them about the academic requirements of entry to the college, but also the personal experiences of undertaking a degree in medicine.

Not only that but teaching faculty and research faculty were on hand to explain and demonstrate medical terms and scientific phenomena through exhibits, lectures and practical experiments.

Highlights included the college's Dr. Jim Roach demonstrating how strontium burns bright red, and the chance to have one of your hairs microscopically analyzed through an activity hosted by Dr. Clare McVeigh. There was also the chance to use WCM-Q's state-of-the-art anatomage table and hear more about the various student clubs at the college.

A quiz at the end of the event allowed people to test their knowledge of what they had learned.

Seventeen-year-old Lubna Zar, who attends Newton International Academy – Barwa City, was one of the hundreds of students to take advantage of the conference activities.

She said: "We came to see what it's like and to meet the students currently studying here. The anatomy stand was really interesting; we got to ask questions about the heart and brain and how they are affected by different diseases.

"Ever since I was young, I wanted to be a doctor. You have these people who think about careers later on in their lives but for me it was always apparent what I wanted to do."

WCM-Q's six-year medical program comprises two years of pre-medical training and then four years of the medical curriculum. There are also many research opportunities. WMC-Q also offers a year-long foundation program, which gives students a thorough grounding in English, math and the basic sciences to prepare them for the six-year medical program.

WCM-Q awards its graduates a US-accredited degree, exactly the same as those who graduate from Weill Cornell Medicine in New York.

Application to the medical program is currently open and students interested in applying to WCM-Q can do so at: http://qatar-weill.cornell.edu/admissions.

Dr. Jim Roach demonstrates how strontium burns red.

"Ever since I was young, I wanted to be a doctor. You have these people who think about careers later on in their lives but for me it was always apparent what I wanted to do."

The event is an opportunity for the whole community to learn more about studying at WCM-Q.

Bariatric surgery and pregnancy

New research offers advice and reassurance for expectant mothers who have undergone the weight loss procedure.

Faculty at WCM-Q have contributed to new guidelines to advise on the care of pregnant women who have had bariatric surgery.

Bariatric surgery is used to treat obesity, with the majority of operations carried out to reduce the capacity of the stomach which in turn reduces food intake and results in substantial weight loss. The procedure is increasingly carried out in women who are of childbearing age.

Twenty experts from across the world have now conducted a systematic review of the available research papers to offer guidance on a range of issues which may affect bariatric surgery patients who are pregnant or trying to conceive, including contraception, diet, nutrient levels, gestational weight gain, and breast feeding.

Dr. Shahrad Taheri, professor of medicine and director of clinical research at WCM-Q, was one of the experts to contribute to the paper, entitled 'Pregnancy after bariatric surgery: Consensus recommendations for periconception, antenatal and postnatal care.'

Dr. Taheri said: "Bariatric procedures are increasingly available and cause physiological changes in the body that change processes like energy balance and fat metabolism. Pregnancy is a major physiological and nutritional challenge so the health of pregnant women who have undergone bariatric surgery needs to be watched. There needs to be careful monitoring to ensure that women receive sufficient nutrients to allow them and the fetus to grow and remain healthy."

Global obesity almost tripled between 1975 and 2016, with 650 million people now classified as being clinically obese. For women, obesity increases the possibility of complications during pregnancy, and poor maternal nutrition can have a long-lasting impact on the infant, so it is recommended that women try to lose weight before conceiving. In addition, the report states that men should also lose weight if they and their partner are trying to have children.

Other guidance includes the advice that women who have undergone bariatric surgery should postpone pregnancy until their weight has stabilized and that quickly absorbed carbohydrates should be avoided; meals should instead comprise protein and low-glycemic index alternatives.

As with standard pregnancies, expectant mothers should take a variety of supplements, and their levels of micronutrients monitored before they conceive and then during each trimester. But the systematic review found that breast milk is not compromised after bariatric surgery and that breastfeeding should be encouraged.

"Bariatric procedures are increasingly available and cause physiological changes in the body that change processes like energy balance and fat metabolism. Pregnancy is a major physiological and nutritional challenge so the health of pregnant women who have undergone bariatric surgery needs to be watched. There needs to be careful monitoring to ensure that women receive sufficient nutrients to allow them and the fetus to grow and remain healthy. Pregnancy can be a confusing time for all first-time mothers with a lot of information to absorb about optimal nutrition, supplements and exercise alongside the fact that the body is physically changing and has different requirements. This confusion can be compounded for pregnant women who have undergone weight-loss surgery, and by contributing to this first international guideline, I and my colleagues hope that we can simplify the messages being delivered and offer some reassurance to expectant mothers."

Dr. Taheri said: "Pregnancy can be a confusing time for all first-time mothers with a lot of information to absorb about optimal nutrition, supplements and exercise alongside the fact that the body is physically changing and has different requirements. This confusion can be compounded for pregnant women who have undergone weight-loss surgery, and by contributing to this first international guideline, I and my colleagues hope that we can simplify the messages being delivered and offer some reassurance to expectant mothers."

To read the full research paper, visit https://onlinelibrary.wiley.com/doi/full/10.1111/obr.12927

Thank you!

WCM-Q pays tribute to its affiliated faculty for their work with the college's trainee doctors.

WCM-Q's Dr. Douglas Bovell welcomed the affiliated faculty to the event.

The important contributions made by WCM-Q's affiliated faculty to the teaching of the college's medical students were recognized with an appreciation evening.

A key element of the medical training at WCM-Q is the exposure to the clinical environment that students receive throughout their medical studies at the college's affiliated institutions, which comprise Hamad Medical Corporation, Sidra Medicine, the Primary Health Care Corporation, Aspetar Orthopaedic and Sports Medicine Hospital and the Feto Maternal Medical Centre.

During these clinical rotations, WCM-Q students work closely with affiliated faculty members from these institutions. These experiences help students learn the practical skills required to provide excellent patient care, develop very high standards of professionalism, and gain a keen understanding of the ethical and moral dimension of the doctor's role. Many affiliated faculty also teach in the foundational sciences courses at WCM-Q.

Each year, WCM-Q holds an appreciation evening to acknowledge the dedication of the affiliated faculty, as well as the importance of their role as teachers, mentors and leaders. For many students, the doctors they work with on clinical rotations have a profound influence on their future careers and development. WCM-Q currently has a total of 668 affiliated faculty members.

Giving a speech at the event, third-year WCM-Q medical student Raihan El-Naas of the Class of 2021, said: "We as a class could not have made it this far without the help and support of the affiliated faculty, clinicians and healthcare professionals at all the various hospitals and clinics across the country. We are extremely fortunate to be taught by top-notch, high-caliber faculty who have helped shape our career paths and ignited our love for medicine with their immense knowledge and true interest in helping us learn and understand."

Dr. Javaid Sheikh, dean of WCM-Q, said: "It is not only that you as affiliated faculty are helping students who are going to become the leaders of healthcare in Qatar of tomorrow, but in many ways you are creating history by contributing to Qatar's incredible vision to transform the whole country in one generation into a truly knowledge-based society. All of us at WCM-Q are extremely grateful for the wonderful work you do."

Cardiologist and WCM-Q affiliated faculty member Dr. Thar Elbaage is assistant professor of clinical medicine at Sidra Medicine and also works at Hamad Medical Corporation Heart Hospital. Dr. Elbaage said: "I'm always very impressed by WCM-Q students because not only are they technically very good but they also have excellent communication and critical reasoning skills that seem to be the hallmark of a Cornell student. They are confident and they can discuss things clearly and think quickly on the spot, which are of course very important attributes for a doctor."

Dr. Javaid Sheikh offered his gratitude to the affiliated faculty.

Visiting Vietnam

WCM-Q students visit Ho Chi Minh City to learn about global health issues.

The students spend some of their time working with children with neuromuscular disorders.

WCM-Q students visited Vietnam to learn about the challenges of providing healthcare in a lower middle-income country, explore the unique Vietnamese culture and develop an understanding of the ethics related to short-term global health experiences.

During the 12-day global health experiential trip to Ho Chi Minh City, the nation's capital, the six first-year pre-medical students worked as volunteers at the Orthopedic and Rehabilitation Hospital, observed basic health checks and physiotherapy sessions being conducted by local physicians, and learned about common health issues and treatments in Vietnam. The students also spent time working with special needs children in a daycare center and had the opportunity to meet many local people and learn about Vietnam's culture, history and language.

The program, implemented by the Institute for Population Health at WCM-Q, is designed to give students a chance to see first-hand how healthcare is delivered in a different part of the world, helping them gain an appreciation of global citizenship and develop their ability to provide care across cultural and linguistic boundaries.

"The visit to Vietnam gives the students an opportunity to see how healthcare works in a different part of the world."

For student Ateeque Mohamed Ali, the trip was transformative and inspiring. He said: "From working with the patients and the special needs children, I felt I could truly relate to them. Eventually, I stopped seeing the cultural barriers between us. Moreover, seeing how the hospital staff, despite the low-resource setting, gave every patient their due rights when it came to treatment, drove home the point that medical care is a right and not a privilege."

In the Orthopedic and Rehabilitation Hospital, the students observed physicians, nurses and allied healthcare practitioners cleaning and dressing wounds, repairing fractured bones in the operating theater, and using massage, acupuncture and other physiotherapy techniques to relieve pain. They also observed basic healthcare duties like mixing injectable medicines and taking blood pressure measurements, all under the supervision of trained professionals. At the daycare center, the students worked closely with children with cerebral palsy, Down's syndrome and other neuromuscular disorders, keeping the children entertained with games and songs and helping the local staff with engaging the children in specific movement exercises, customized learning programs and their mealtimes.

Although Vietnam's economy has grown rapidly in recent years, its GDP per capita is less than US$2,500 and accessing healthcare is difficult for many people. The students learned about key healthcare challenges facing the country, which include a high incidence of motorcycle accidents, stroke and cardiovascular diseases. They also took Vietnamese language classes, learned about the history of the US-Vietnam War and its legacy, visited a street market, explored Vietnamese cuisine during a food tour and were taught to cook classic Vietnamese recipes.

The program is directed by Dr. Sohaila Cheema, director of WCM-Q's Institute for Population Health, who accompanied the students on the trip, along with Dr. Amit Abraham, instructor of healthcare policy and research.

Dr. Cheema said: "The visit to Vietnam gives the students an opportunity to see how healthcare works in a different part of the world, helps them transcend cultural barriers and inspires them to reflect on their future roles as medical professionals in a global context. I was truly impressed by their dedication, and the humility with which they conducted themselves."

Students experience college life

High school students from across Qatar learn more about what it takes to train as a doctor.

Dr. Ameed Raoof, associate professor of anatomy in radiology, demonstrates the anatomage table.

"The cohort of students on our summer enrichment programs impressed us greatly with their appetite for learning, their excellent levels of academic achievement and, most of all, their tremendously positive attitudes. We hope that many of them will choose to pursue their careers in medicine and to work hard to achieve their dream."

High school students with a passion for science had the opportunity to explore careers in medicine courtesy of two summer enrichment programs offered by WCM-Q.

A total of 73 students were invited to spend two weeks at WCM-Q participating in the Qatar Medical Explorer Program (QMEP) and the Pre-College Enrichment Program (PCEP). The programs, which are run twice a year, help participants understand what life as a medical student and as a doctor is like through a series of presentations, clinical skills workshops and problem-based learning sessions, as well as giving them the chance to formulate a clear impression of their own interests, strengths and areas for improvement.

This summer, 34 grade 10 and 11 students took part in the QMEP, while 39 grade 11 and 12 students took part in the PCEP. The programs help students develop useful practical skills for college applications, such as interview techniques and how to write personal statements. Participating students were drawn from schools in Qatar, Lebanon, Kuwait, other parts of the Gulf region, the US and Canada.

During their fortnight on campus, the students completed a busy schedule of lectures, labs, workshops and orientation sessions. Subjects covered included human anatomy, dissection, clinical skills, medical ethics, biomedical research, lab safety and the liberal arts, among others. They also met with current WCM-Q medical students, heard about student clubs and societies, toured the world-class teaching and research facilities at WCM-Q, and worked on group presentations to present to their peers.

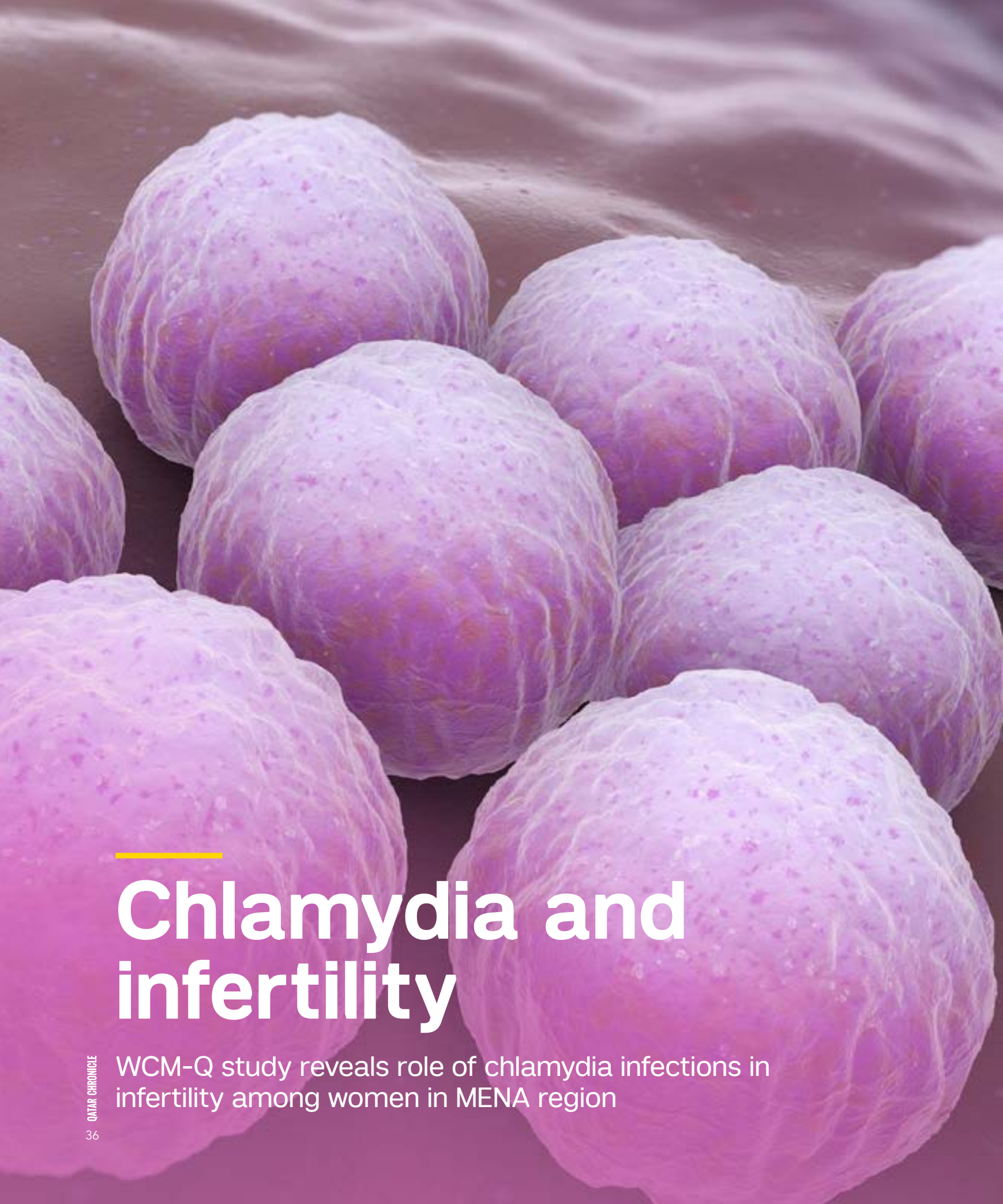
Speaking at the closing event, Noha Saleh, director of outreach and educational development, said: "The cohort of students on our summer enrichment programs impressed us greatly with their appetite for learning, their excellent levels of academic achievement and, most of all, their tremendously positive attitudes. We hope that many of them will choose to pursue their careers in medicine and to work hard to achieve their dream."

Other activities included visits to Sidra Medicine for the PCEP students and to Qatar National Library for the QMEP students. Both sets of students also had the chance to take sessions in WCM-Q's state-of-the-art Clinical Skills and Simulation Lab, where they worked with animatronic medical manikins and other hi-tech learning aids and took part in role plays with standardized patients.

Giving an address at the closing event, QMEP student Rami Amir Kokash of The International School of Choueifat-Doha, said: "I believe that my critical thinking abilities have been dramatically enhanced during my two weeks here and I think that everyone is going to leave this course as a better person, a more knowledgeable, proficient and well-versed human being. I would like to thank everyone at WCM-Q for making this possible for us."

PCEP student Reem Al Janahi of Qatar Academy Doha said: "This program gave us an insight into the exciting future we have ahead of us and the possibilities and goals we can strive for. We have learnt from each other's experiences and different backgrounds and gained incredible memories we will never forget."

The summer enrichment programs at WCM-Q are open to students from all over the world. Attending this year from the US was Emre Milis, aged 17, a grade 12 student from Collegedale Academy in Tennessee. He said: "Medicine has always been something I've been passionate about and I have had a great time here these past two weeks. I'm really looking forward to applying to WCM-Q and hope to be back before too long."



Chlamydia and infertility

WCM-Q study reveals role of chlamydia infections in infertility among women in MENA region

Researchers at WCM-Q have discovered unexpectedly high levels of chlamydia infection among the general population in the Middle East and North Africa (MENA), and higher levels still among women in the region who are infertile or suffer pregnancy complications.

The research, published in the prestigious UK journal *The Lancet Global Health,* reports that chlamydia infection appears to be responsible for a substantial proportion of infertility cases among women in this part of the world.

Chlamydia is a bacterial reproductive tract infection that is often symptomless, and which is usually, but not always, transmitted sexually. When a woman acquires the infection, the pathogen travels to the internal reproductive organs, damaging them and making it difficult for an infected woman to conceive a baby. If an infected woman does manage to conceive, the infection can cause miscarriage or preterm labor and delivery, or the baby can be infected leading to low birth weight or death of the fetus before delivery. Chlamydia can also cause neonatal infections such as conjunctivitis and pneumonia in babies after birth.

Because chlamydia is often symptomless, most women are unaware of their infection unless they have been screened using a diagnostic test. If diagnosed, chlamydia infection can be easily treated with a course of a specific antibiotic.

Despite chlamydia infection being well-studied globally, the rates in the MENA region were poorly known before the WCM-Q study, which was conducted by the college's Infectious Disease Epidemiology Group (IDEG). The research, which was based on an in-depth multi-year investigation using data from more than 250,000 individuals from 20 out of the 23 MENA countries, marks the first time in which a detailed characterization of chlamydia infection levels in the region has been reported.

"Rates of infertility among women in MENA are the highest worldwide, but the causes of such rates remain poorly understood. It was striking for us to discover that chlamydia infection appears to be a major cause of infertility in this region," said Hiam Chemaitelly, co-lead author of the study and senior epidemiologist at WCM-Q.

The study indicated that three percent of the population of the MENA region is currently infected with the chlamydia bacteria, a rate comparable to that found in other regions. The rates of infection were also found to be stable for at least the last three decades. Meanwhile, the infection rate in infertile populations was 11 percent and the rate in women who had experienced miscarriage was 12 percent, highlighting the toll of this pathogen on women's reproductive health. Despite this pressing health problem, there are virtually no public health programs in MENA countries to tackle chlamydia infection.

"Our study shows that even though chlamydia may be hidden to the public eye, its complications are easily seen, but are not linked to the real cause. The impact of these complications on women are far-reaching, especially in a region where fertility, children and family values are highly regarded," said Dr. Alex Smolak, co-lead author of the study and research fellow at WMC-Q.

Although chlamydia screening and treatment programs are a standard practice in many developed countries, such programs very rarely exist in the MENA region. The study indicated that the virtual absence of these programs is probably behind the unexpectedly high levels of this infection; infected individuals carry the bacteria for a long time, thus passing the infection to more individuals before the infection is cleared.

"When we started this study nearly a decade ago, the last thing we expected was to be confronted with these high chlamydia levels," said Dr. Laith Abu-Raddad, principal investigator of the study and professor of healthcare policy and research at WCM-Q. "We cannot escape the need for programs to tackle this infection, which are common practice in other parts of the world. Otherwise the region will continue to endure serious health and social complications and will fail to reach the World Health Organization's goal of eliminating this infection as a public health threat by 2030."

The study, 'Epidemiology of Chlamydia trachomatis in the Middle East and North Africa: a systematic review, meta-analysis, and meta-regression', was conducted at WCM-Q with funding from Qatar National Research Fund, a Qatar Foundation member, through the National Priorities Research Program (NPRP 9-040-3-008). Funding was also provided by the WCM-Q Biomedical Research Program (BMRP).

Key scientific findings of the study

- About three percent of the population of the Middle East and North Africa region is infected by chlamydia without being aware of their infection.
- The rates of infection are even higher in infertile populations (11 percent) and in women who have experienced miscarriage (12 percent).
- Women in fertility clinics and with pregnancy complications had higher rates of chlamydia, suggesting a link between this infection and infertility and pregnancy complications in the MENA region, yet the infection's disease burden is neglected and poorly recognized.

Summer of research

Qatari high school students return to WCM-Q to recount experience in US laboratories.

The students said the visit to WCM New York and Cornell University had been inspiring.

Three Qatari students who traveled to the US for a two-week research experience after winning WCM-Q's Healing Hands essay competition returned to the college to speak about their trip.

Dalal Khalid Al-Fadli, from the Academic Bridge Program, Dyana Hamad Al Blooshi, of Qatar Academy, Doha, and Haya Khalid Rahimi, who attends Newton International Academy, Barwa City, each won 'Doctors of the Future' scholarships when their essays on the topic 'Lifestyle Medicine in Qatar' were judged the best from a field of 37 submissions back in May.

During the summer, the students spent two weeks gaining experience in Weill Cornell Medicine's world-class biomedical research laboratories in New York, as well as attending lectures with faculty and meeting students. They then moved upstate to Cornell University in Ithaca where they stayed at the campus, toured the wide range of facilities that the Ivy League university offers, and marveled at the natural beauty of the area. The scholarship also provided for the students to be accompanied by family members as chaperones.

Following the experience, Dalal, Dyana and Haya returned to WCM-Q to attend a completion ceremony and discuss the trip with Dr. Javaid Sheikh, dean of WCM-Q, and other senior faculty members.

Dalal, who joined the WCM-Q Foundation Program soon after the US visit, said: "The trip was one of the best experiences of my entire life. Visiting the campus at Ithaca was amazing; I am a books person, so I absolutely loved visiting the beautiful old library there. We went all over the campus together and heard about lots of different subjects, which helped me decide that I wanted to study medicine and join WCM-Q."

Haya also found the trip inspiring. She said: "We got a great introduction to medicine and met so many interesting people. I loved being at the medical college in New York because the students and the doctors there were so focused and dedicated to their work, which really energized and inspired me."

The Healing Hands essay contest is held annually and is designed to encourage high school students to think critically about relevant healthcare and scientific topics and to consider a career in medicine. Since its launch in 2008, the Qatar Future Doctors scholarship program has proven to be extremely successful at inspiring and encouraging Qatari students to study medicine and help fulfill the goals of Qatar National Vision 2030. The program is implemented by the Office of Student Outreach and Educational Development to help promote medical careers to Qatari students. The contribution and support provided in recent years by Dr. Randi Silver, professor of physiology and biophysics and associate dean at Weill Cornell Graduate School of Medical Sciences in New York City, who has hosted and mentored many Qatari high school students, is evidence of the strong ties between WMC-Q and the Weill Cornell Medicine campus in New York City.

Dean Sheikh said: "It was been wonderful to hear about the experiences of these three very intelligent, very impressive young students. We are so fortunate to have such high-caliber students here in Qatar who want to come to WCM-Q."

Scientists of the future

Medical students work in leading laboratories as they learn more about a career in research.

Two of Weill Cornell Medicine – Qatar's student doctors experienced research in world-class laboratories after completing summer-long overseas internships.

Nasser Al-Kuwari and Khalifa Al-Sulaiti, who are now in the second year of the medical curriculum, applied to Harvard Medical School and the National Center for Global Health and Medicine in Tokyo respectively. Both were accepted and got to work alongside some of the world's finest scientific minds.

Nasser, who went to Harvard, worked with Dr. Xiqun Chen in the Department of Neurology at Massachusetts General Hospital (MGH). Prior to going, Nasser wrote that he planned to study potential neuroprotective therapies in genetic models of Parkinson's disease.

He explained why he chose the subject and the research program.

He said: "As a student who is not only interested in neuroscience but also neurology as a possible future specialty, I found the MIND research internship at MGH an opportunity for me to explore both neuroscience and neurology with world-class researchers of Parkinson's disease. Dr. Chen had great contributions to the progress of the understanding of Parkinson's and developing effective treatments for it, specifically the association of PD with melanoma. She gave me an opportunity to be responsible for a part of the project for eight weeks under the supervision of a postdoctoral researcher and it was a chance for me to get an insight into the challenges of research, both logistical and experimental.

"The several journal clubs and formal meetings I had with Parkinson's researchers at MGH were special experiences that showed me that nothing is impossible, and I can be in their shoes in the near future."

Khalifa applied to Drs. Takao Shimizu and Keisuke Yanagida to work with them on lipid signaling at the National Center for Global Health and Medicine in Tokyo, saying that he hoped to develop a system that would mimic how the brain creates a thin layer of cells called the endothelium, before examining what happens to a certain chemical compound once it is incorporated into the endothelium.

Khalifa said that despite the language barrier, Japan was an attractive overseas research destination because of the high standard of education it offers and the cutting-edge research it conducts. It was also valuable work experience.

Khalifa said: "I was able to investigate and use all the advanced research methods that my institution had to offer for mimicking the brain endothelium model.

"Studying abroad, especially in Japan, is highly valued by employers as the experience develops gold skills such as cultural awareness, adaptability, determination, and patience; attributes that are transferable into the workplace."

Second-year medical student Khalifa Al-Sulaiti at the National Center for Global Health and Medicine in Tokyo, Japan.

Nasser Al-Kuwari at work in the lab.

Nayef Mazloum, assistant professor of microbiology & immunology at WCM-Q and assistant dean for student research, agreed and said the experiences are invaluable in giving students with an interest in biomedical research the opportunity to work on real-life studies in world-class laboratories.

He added: "These internships allow students to see how relevant laboratory research is to primary healthcare and teaches them to become independent, critical thinkers and to use their own initiative to find mentors and collaborators from across the world.

"It allows them to get outside of Qatar and network with professional scientists and it shows them what it would be like to conduct research full-time as a career."

Nasser and Khalifa were among several students awarded the Medical Student Research Award (MSRA) 2019. The MSRA is an opportunity offered by the Research Division at WCM-Q to provide funding for first year medical students to complete a total of eight weeks of research in the summer at any location in the world. The program has a tremendous impact on the students and not just at an academic level, as it increases their motivation and makes them take responsibility for themselves. The MSRA further helps to mold WCM-Q students as physician scientists who will enrich Qatar's healthcare system.

Exploring alternative medicines

Students hear from proponents of complementary and alternative therapies.

First-year medical students had the chance to learn about three complementary and alternative medicines (CAM) when a chiropractor, an acupuncturist and a homeopath visited WCM-Q to give presentations about their disciplines.

Students heard presentations by Dr. Ai Honglan, acupuncture expert with the Qatar Armed Forces Military Medical Specialty Center, chiropractor Dr. Matthys Le Roux of the International Physiotherapy Centre in Doha, and Ms. Niloofar Rezai, a homeopathic consultant. The lecture was part of the Essential Principals of Medicine (EPOM) course.

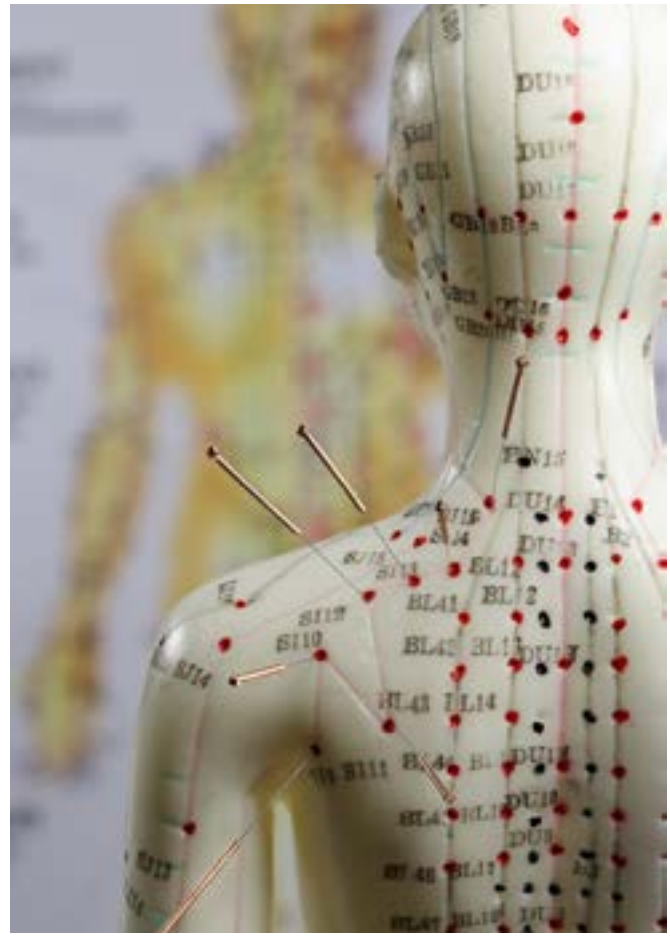
Dr. Ai said that acupuncture is used to treat a range of conditions, including musculoskeletal diseases, such as pain in the muscles and joints, herniated discs, fasciitis, tendinitis and spondylosis. Acupuncture is also used to treat neurological conditions, such as Bell's palsy, headaches and migraines, as well as digestive diseases, diseases of the ear, nose and throat, and even fertility issues. Treatments include insertion of steel needles into the skin, fire cupping and wet cupping (using cups to create suction on the skin) and fire needling (quickly inserting and withdrawing a red-hot needle).

Dr. Ai said: "Acupuncture is a key component of traditional Chinese medicine. It is a treatment that encourages the body to promote natural healing and improve function. The essence of acupuncture is microinjury, which causes increased blood-flow to the area and brings healing to the area."

Dr. Le Roux said that chiropractic is most commonly used to treat pain in the back, neck, shoulders and extremities, as well as related issues like tension headaches and migraines, and underlying conditions causing joint pain, like arthritis. Chiropractic courses last for four to six years, and students study many of the same subjects as medical students but begin to specialize much earlier, he said. The treatment is primarily based on manipulation of the spine and joints to improve mobility and promote self-healing.

He said: "The philosophy is that the body is a self-regulating organism, so there is a big focus on spinal manipulative therapy and the manipulation of specific joints to restore mobility and allow the body to heal itself. These are very specific, high velocity, low amplitude manipulations delivered to a specific articulation."

Ms. Rezai said that homeopathy focuses on treating the whole patient rather than just the specific ailment. She explained that homeopathic medicines are made by taking natural ingredients, such as onion, and agitating them in water in very low concentrations. The end product is then placed onto a carrier substance – usually a small pill of sugar – and given to the patient to take orally.



Acupuncture can be used to treat a range of musculoskeletal and neurological illnesses.

First-year student Mai AlSubaie said: "It was very good to learn more about complementary and alternative medicine approaches because when we become doctors, we will have patients who use them, so we need to understand them. I found them fascinating, especially homeopathy, which I knew very little about."

Dr. Stella Major said: "As physicians it is extremely important to have a good working knowledge of complementary and alternative medicine in order to be able to speak confidently with patients who may use them and provide sensible advice. I was therefore very pleased that the students were open-minded and engaged with the CAM practitioners, and I feel they got a great deal from the learning experience."

Workshop for medical educators

WCM-Q & ACGME run course to develop enhanced assessment skills for doctors and teachers.

The course was particularly aimed at residency and fellowship program directors, and associate program directors.

WCM-Q and the Chicago-based Accreditation Council for Graduate Medical Education (ACGME) teamed up to run a two-and-a-half-day training course on competency-based medical education for healthcare leaders and educators.

The workshop, developed by WCM-Q's Division of Continuing Professional Development in association with Innovations in Global Health Professions Education (IGHPE), helped the 42 physicians and educators in attendance develop enhanced assessment skills, with sessions on key concepts and theories in professional development and learning, advanced assessment and feedback tools, identifying and remediating struggling learners, and techniques to improve direct observation.

The course was coordinated jointly by WCM-Q's Division of Continuing Professional Development, ACGME and Vanderbilt University Medical Center (VUMC) of Nashville, Tennessee, and was facilitated by IGHPE, a global forum for the presentation and discussion of innovative concepts in health professions education. The visiting expert speakers were Dr. Eric Holmboe, chief of research, milestone development and evaluation officer at the ACGME, Dr. Sandra A. Moutsios, assistant professor of internal medicine and pediatrics, and director of the internal medicine-pediatrics residency program at VUMC.

WCM-Q speakers at the event included Dr. Thurayya Arayssi, senior associate dean for medical education and continuing professional development. She said: "Learners rely very heavily on feedback and assessment to attain the competencies they need to eventually provide high-quality care to their patients, so these are very important skills for anyone involved in providing competency-based medical education. We are delighted that our colleagues from the ACGME and Vanderbilt University contributed their wonderful expertise to this highly successful course."

The other WCM-Q staff and faculty who also spoke at the event were Ms. Deema Al-Sheikhly, director of continuing professional development, Dr. Amal Khidir, associate professor of pediatrics, Dr. Amine Rakab, assistant professor of clinical medicine and assistant dean for clinical learning, and Dr. Sumeja Zahirovic, assistant professor of medicine.

The course was facilitated by a regional ACGME training hub established in Qatar as part of a memorandum of understanding (MoU) between WCM-Q and the ACGME, which is the body responsible for accrediting the majority of graduate medical training programs for physicians in the United States. Through the MoU, the ACGME and WCM-Q, in alignment with the mission of IGHPE, intend to advance health professions education programs in Qatar and the wider region in order to improve healthcare provision and population health. Members of WCM-Q's Division of Continuing Professional Development visited the ACGME's headquarters Chicago earlier this year to undergo training to enable them to establish the ACGME training hub in Qatar.

Dr. Holmboe, said: "We are extremely pleased to be working with WCM-Q to help physician-educators in Qatar and the region meet the very highest standards of excellence in graduate medical education. Given that this was the first event since WCM-Q and the ACGME established the training hub here in Doha, it was immensely encouraging that we had so many participants. We look forward to working together to provide many more learning experiences in the future."

The course was particularly aimed at residency and fellowship program directors, associate program directors, and faculty members with responsibility for the assessment of residents and/or fellows.

The event, titled 'Assessment in Competency Based Medical Education: A Faculty Development Program' was accredited locally by the Qatar Council for Healthcare Practitioners-Accreditation Department (QCHP-AD) and internationally by the Accreditation Council for Continuing Medical Education (ACCME).

The ACGME and WCM-Q intend to advance health professions education programs in Qatar.

Support for leadership skills

WCM-Q graduates and healthcare professionals learn how to manage and mentor colleagues.

The participants took workshops on subjects such as management and leadership styles, performance management, decision-making, and presentation and communication skills.

Doctors trained at WCM-Q and physicians from Hamad Medical Corporation (HMC) completed a rigorous training course designed to enhance their ability to lead, manage and mentor colleagues.

Sixteen consultants, residents and fellows from HMC, six of whom graduated from WCM-Q, convened at Multaqa (Education City Student Center) to complete the seven-day ILM Level 5 Certificate in Leadership and Management program. The certificate, awarded by the UK-based Institute of Leadership & Management, helps project managers, department heads and middle managers develop a range of skills to improve the performance of the teams they lead.

The participants took workshops on subjects such as management and leadership styles, performance management, decision-making, and presentation and communication skills. The training, delivered by UK firm Leadership Focus, also featured modules on managing change, emotional intelligence, influencing and assertiveness skills, and coaching and mentoring skills. Two further 16-physician cohorts took the course in November and December so that now, 48 have completed the training. Of those, 24 are graduates of WCM-Q.

Dr. Ayobami Omosola, a member of WCM-Q's first ever graduating class, the Class of 2008, is now a fourth-year cardiology fellow at HMC Heart Hospital.

She said: "One of the most useful things was learning about strategic leadership and how to face challenges. We work with extremely capable leaders and you sometimes wonder how they manage it. The course really helped to demystify leadership and show us a path towards being effective, high-performing leaders."

Dr. Shereen Darwish, a fourth-year senior pediatrics resident at HMC and Sidra Medicine, graduated from WCM-Q in 2016. She said: "The course gave us a great opportunity to learn about different leadership and management styles and work out which of them suits us best. We also got to meet and learn from the experiences of other professionals who were also taking the course."

The course, coordinated jointly by WCM-Q's Office of Alumni Affairs and the Office of The Chief Medical Officer at HMC, concluded with a closing ceremony and certificate presentation at which speeches were given by Alia Taub, chief executive of Leadership Focus, Dr. Ahmed Zarour, chief of acute surgery and executive director surgical services at HMC, and Dr. Robert Crone, vice dean for clinical and faculty affairs and professor of pediatrics and anesthesiology at WCM-Q.

Dr. Crone said: "For any medical institution to deliver truly excellent healthcare it needs not just great doctors, but also great leaders who are willing and able to take responsibility for maintaining and continuously improving standards. We are very pleased that so many physicians, including a great many WCM-Q alumni, completed this course, which will enable them to take on leadership positions and play very significant roles in the mission to continuously improve healthcare in Qatar."

Boost to health research

Workshop attracts healthcare professionals from around Qatar keen to learn more about healthcare studies.

Dr. Ravinder Mamtani delivered part of the course.

"This event is a great way for healthcare professionals with an interest in conducting their own research to gain the necessary skills to get started. We believe the insights they will be able to gain from the workshop will contribute a great deal to the practice of evidence-based medicine and public health in Doha, which will subsequently lead to improved healthcare outcomes."

Healthcare professionals belonging to healthcare institutions and clinics from all over Qatar convened at WCM-Q for a workshop explaining the key principles of health research.

Fifty physicians, dentists, pharmacists, nurses and other healthcare professionals attended the two-day workshop, which was designed to provide basic knowledge of epidemiological and biostatistical concepts to allow them to understand the evidence-based approach to healthcare and medical practice and interpret published research findings.

The event featured sessions led by WCM-Q faculty and staff on the design of research studies, biostatistics, ways to measure health and disease, clinical trials, screening in healthcare and many more topics.

Dr. Ravinder Mamtani, WCM-Q vice dean for student affairs-admissions, population health and lifestyle medicine, said: "This event is a great way for healthcare professionals with an interest in conducting their own research to gain the necessary skills to get started. We believe the insights they will be able to gain from the workshop will contribute a great deal to the practice of evidence-based medicine and public health in Doha, which will subsequently lead to improved healthcare outcomes."

Dr. Hassan Ahmed, a dentist with the Ministry of Interior Medical Service, was in attendance at the event: "I specialize in orthodontics and I'm very interested in conducting clinical research to discover which treatments work best for my patients. I have done some secondary research before but I wanted to learn some more research skills so I can start doing primary research and the workshop has been extremely useful in that regard."

The workshop was coordinated and delivered by WCM-Q's Institute for Population Health (IPH). The workshop sessions were led by WCM-Q faculty and staff, comprising Dr. Mamtani, Dr. Sohaila Cheema, director of the Institute for Population Health and assistant professor of healthcare policy and research, Dr. Amit Abraham, projects specialist and instructor of healthcare policy and research, Dr. Karima Chaabna, instructor of healthcare policy, research and population health and communication specialist, and Ms. Sonia Chaabane, IPH projects specialist.

Dr. Cheema, who was also the course director for the workshop said: "There is a great appetite among the healthcare community in Qatar to learn and practice evidence-based medicine. This requires that they are able to review published literature, critically appraise it and subsequently translate relevant evidence into medical practice. Our workshop provides them with the relevant information and practical skills to do all this. We are very happy to contribute towards building capacity among healthcare professionals in Qatar."

The workshop, titled 'Understanding Basics of Health Research' was accredited locally by the Qatar Council for Healthcare Practitioners-Accreditation Department (QCHP-AD) and internationally by the Accreditation Council for Continuing Medical Education (ACCME).

Dr. Sohaila Cheema was the course director.

Treating kidney disease

College runs workshop for Qatar Red Crescent physicians on the best practice for kidney disease.

The workshop was targeted at doctors from Qatar Red Crescent Society.

A workshop run by WCM-Q provided updates for Qatar Red Crescent Society (QRCS) physicians on the latest best practice in the diagnosis and management of chronic kidney disease.

The one-day workshop, which was offered on two separate days, was designed in collaboration with QRCS and aimed specifically at QRCS doctors, who frequently encounter chronic kidney disease when providing emergency or primary care to patients.

Two WCM-Q alumni who now work at Hamad Medical Corporation (HMC) – Dr. Essa Abuhelaiqa, nephrology & dialysis consultant, and Dr. Mohamad Alkadi, nephrology consultant – were the speakers at the event. They explained how to diagnose kidney disease, evaluate kidney function, prescribe medication, and provide education for patients on nutrition and self-management of their condition.

The activity, which was coordinated by WCM-Q's Division of Continuing Professional Development (CPD), also explained how to manage acute kidney injury, the stages of chronic kidney disease, the burden of kidney disease in diabetes, the effects of nutrition on kidney disease, and the criteria for referral of patients to kidney specialists.

The course directors of the activity were Dr. Mohamed Al-Abiad, QRCS head of medical supervision, Medical Affairs Division, and Dr. Thurayya Arayssi, WCM-Q professor of clinical medicine/senior associate dean for medical education and continuing professional development. Dr. Arayssi said: "The large and growing number of people with type-2 diabetes means that chronic kidney disease, which is a complication of diabetes, is becoming more common. We are delighted that we were able to work with Qatar Red Crescent's extremely dedicated physicians to offer them the latest updates on the management of chronic kidney disease for the benefit of their patients. I am very grateful to our alumni, Dr. Abuhelaiqa and Dr. Alkadi, now of HMC, for returning to their alma mater to give us the benefit of their immense expertise and knowledge."

The activity was accredited locally by the Qatar Council for Healthcare Practitioners - Accreditation Department (QCHP-AD) and internationally by the Accreditation Council for Continuing Medical Education (ACCME).

The workshop concluded with a case discussion, a question and answer session, and a wrap-up summarizing the key points covered in the workshop.

Dr. Ghanem Al-Sulaiti, director of the QRCS Training, Research & Development Center (TRDC), said: "We are very happy to collaborate with WCM-Q's Division of Continuing Professional Development on this important learning activity, which will help our outstanding QRCS doctors to provide even better care for their patients."

Dr. Mohamad Alkadi.

Dr. Essa Abuhelaiqa.

Sharing knowledge of CME

College shares expertise on continuing medical education with leading accreditation organization.

Deema Al-Sheikhly, right, shares her experiences of delivering high quality continuing medical education.

Laudy Mattar and Deema Al-Sheikhly.

WCM-Q was invited to share its expertise on providing high-quality continuing medical education (CME) at the annual conference of the Accreditation Council for Continuing Medical Education (ACCME) – recognized as the leading accreditation body in the US.

WCM-Q is well-qualified to provide advice on CME matters, having been awarded the ACCME's highest level of accreditation - Accreditation with Commendation – earlier this year. Thanks to that success, members of the WCM-Q Division of Continuing Development (CPD) were asked to join an expert panel at the ACCME's annual meeting in Chicago to share their strategies, tools and advice on attaining the top level of accreditation with other international medical education institutions.

As part of their involvement, WCM-Q CPD team members Deema Al-Sheikhly, CPD director, and Laudy Mattar, CPD manager, presented a workshop entitled 'Digital Tools to Engage our Lifelong Learners' at the three-day conference. Ms. Al-Sheikhly also joined a panel of senior executives and CME staff for a discussion session entitled 'Actualizing Best Practice with ACCME's Menu of Criteria of Accreditation with Commendation'. In addition, a submission outlining WCM-Q's innovative programs developed to meet the needs of an evolving healthcare system was published on the ACCME conference app.

Ms. Al-Sheikhly said: "We were delighted to be asked to share our experiences of achieving accreditation with commendation from the ACCME with other ambitious CME providers from across the US and beyond. Developing high-quality CME activities for physicians and other medical professionals is a crucial part of ensuring standards of medical care and patient outcomes are continuously improved, so we were extremely keen to both share our knowledge and learn from our peers at other leading medical education institutions."

WCM-Q achieved accreditation with commendation in January by following 'Option B', the second of the ACCME's two sets of advanced accreditation criteria, which requires organizations to advance interprofessional collaborative practice, address public health priorities, create behavioral change, show leadership, leverage educational technology, and demonstrate the impact of education on healthcare professionals and patients.

Dr. Thurayya Arayssi, senior associate dean for medical education and continuing professional development said: "I am extremely proud and pleased that our WCM-Q CPD team has created a CME program of such quality that we are being invited to share our expertise with other leading medical education institutions around the world. This is testament to the hard work and ambition of Deema Al-Sheikhly and the rest of our extraordinarily dedicated CPD team."

WCM-Q's CME/CPD program was initially accredited by the ACCME in 2016, becoming one of the first medical education colleges in the world outside the US to receive such accreditation, which confers the rights and responsibility to designate AMA PRA Category 1 Credits™ (American Medical Association Physician's Recognition Award). The ACCME Accreditation with Commendation awarded in January extends WCM-Q's accreditation period until November 2024.

Happenings

Breast Cancer Week

Students at WCM-Q participated in Breast Cancer Week, fundraising for charity and increasing awareness of the disease.

Happenings

Dean's Honor Dinner

Students who achieved an average GPA of 3.75 or higher across a whole semester were rewarded with a dinner and induction on to the Dean's Honors List.

Happenings

Health and Wellness Fair

WCM-Q's Institute of Population Health hosted a Health and Wellness Fair to raise awareness of ways in which people can take control of their health.

Happenings

Orientation-PM

Students joining WCM-Q in August 2019 had a week of activities introducing them to each other and life at the college.

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