

# QATAR CHRONICLE

THE MAGAZINE OF WEILL CORNELL MEDICINE-QATAR

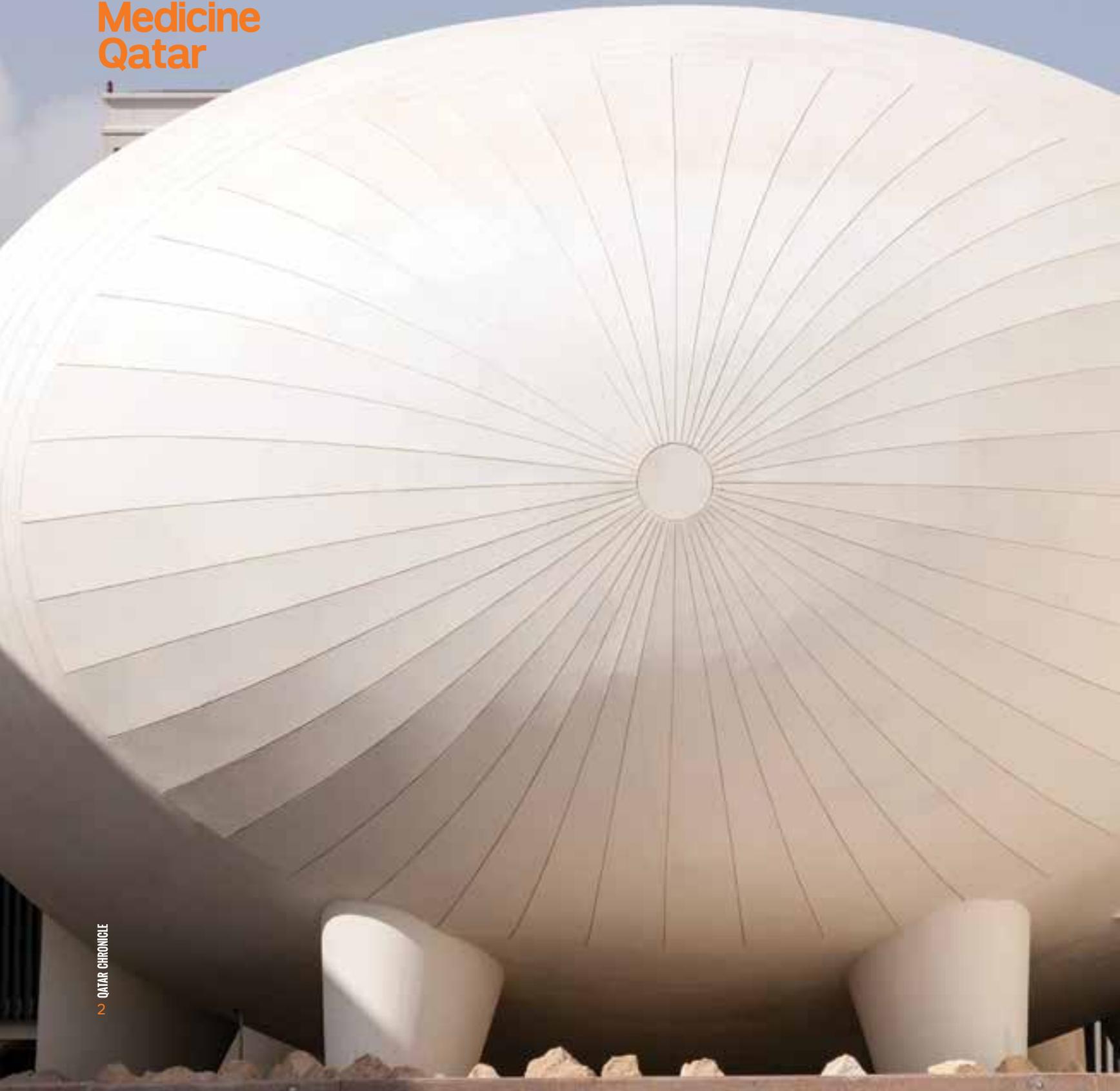
WINTER 2017



**HI-TECH SKILLS  
LAB LAUNCHED**



**Weill  
Cornell  
Medicine  
Qatar**



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DEAN  
**Javid Sheikh, MD**

CHIEF COMMUNICATIONS OFFICER  
**Nesreen M. Al-Rifai**

EDITOR  
**Richard Harris**

SENIOR WRITER  
**John Hayward**

PHOTOGRAPHER  
**John Samples**

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# High-achieving students honored

Award given to undergraduates who have achieved a GPA of 3.75 or above.



In all, 43 students were honored.

**W**eill Cornell Medicine – Qatar (WCM-Q) has honored 43 high-achieving students by recording their names on the Dean’s Honors List.

The students’ hard work was recognized at a dinner in their honor on 12 October, an event that is seen as one of the highlights of the medical college’s academic year. To appear on the Dean’s Honors List, each student has had to achieve an average GPA of 3.75 or higher in either the Fall 2016, or Spring 2017 semesters, a sign of exemplary academic achievement.

Dr. Javaid Sheikh, dean of WCM-Q, invited the students on stage to receive a commemorative gift, and paid tribute to their commitment to their studies.

Dr. Sheikh said: “Everyone on this list should feel extremely proud of what they have achieved. Academic success requires hard work, perseverance and focus and I am sure your professors, family and friends are as impressed as I am at your dedication to your studies.

“You all have very bright futures ahead of you.”

The students, along with an audience of faculty, staff, family and friends, heard from Dr. Tania Jaber, an alumna

of WCM-Q who graduated in 2011. Now working in the field of endocrine cancers, Dr. Jaber gave the 43 students some advice.

She said: “Be humbled by what you know but more importantly by what you do not know. Don’t be afraid to ask questions and don’t be afraid to answer them. To look for the answers. To devise the experiment, the research study, the protocol. You will be surprised where it may take you.

“Secondly do not be afraid to choose for yourself. To choose what you think is right or what works best for you. To choose your passion and your happiness.”

Salma Al-Mohannadi, who is in her first year of the medical curriculum, was one those inducted onto the list. She said in the first couple of years she hadn’t found it too difficult to maintain a 3.75 grade average, but with the advent of the new subject material it was getting harder. However, a new study schedule had helped her.

She added: “I’m very honored to be on the Dean’s List and I feel like my efforts have been recognized and appreciated. Hopefully it will look good on my resume and open some doors for me in the future.”



WCM-Q alumna Dr. Tania Jaber gave the keynote speech.



Dr. Javaid Sheikh addresses the ceremony.

## THE DEAN'S HONORS LIST

Haya Al-Taweel  
 Shaheen Rizly  
 Nasser Al-Kuwari  
 Ameena Shafiq  
 Salma Al-Mohannadi  
 Raihan El-Naas  
 Mohamed Hussine  
 Kawthar Al-Najar  
 Khalifa Al-Sulaiti  
 M Fatin Ishtiaq  
 Mohamad Alebrahim  
 Abdallah Elshafeey  
 Adeeb Narangoli  
 Ahmed Fares  
 Zain Burney  
 Mohammad Salameh  
 Jungyoon Jung  
 Ibrahim Mohammed  
 Shahryar Rana  
 Hania Ibrahim  
 Ajay Menon  
 Amina Kunnummal  
 Karen John  
 Lolwa Al-Theyab  
 Abdallah Tom  
 Ramez Bodair  
 Heta Ladumor  
 Basel Humos  
 Rozaleen Aleyadeh  
 Moza Almohannadi  
 Tehniyat Baig  
 Muhammad Hassan Rehman  
 Mahmood Alorphaly  
 Wajjha Yousuf  
 Sarah Khan  
 Nada Mobayed  
 Seon Woo Kim  
 Isha Lamba  
 Shawn D'souza  
 Heba Altarawneh  
 Tasnim Mushannen  
 Najla Al-Eshaq  
 Aljazi Al-Khalifa

# Inaugural medical conference launched for students

High school students win research prize at new, inspirational conference



Saif Al Hajiri, left, and WCM-Q's Dr. Marco Ameduri, right, present the winning team with their prize.

Qatar's first High School Medical Conference (HSMC) has been held, inspiring students to forge a career in medicine or the sciences.

The conference was organized by WCM-Q at Qatar National Convention Center and comprised lectures and talks, workshops for teachers, a school exhibition, and student research presentations.

Noha Saleh, director of student recruitment and outreach at WCM-Q, said the aim was to offer students an experience that they don't usually have, to show them what a career in medicine has to offer, and to provide them with a platform to showcase their skills and knowledge.

A highlight of the conference were the research presentations. Schools across Qatar were given the chance to participate in a student research contest based on the UN's Sustainable Development Goals. Twenty-five teams

from both independent and private schools entered and chose a topic under one of four following themes: Ensuring healthy lives and promoting well-being for all at all ages; ensuring access to water and sanitation for all; making cities inclusive, safe, resilient and sustainable; and ensuring sustainable consumption and production patterns.

They then took part in a poster presentations competition last March. Fourteen teams made it through to the finals at the High School Medical Conference with the top three then selected by a panel of WCM-Q research experts. The winning team from Qatar International School received a fully-funded trip to Cornell University in Ithaca in the United States, while the runners-up - 2nd placed Bright Future International School, and 3rd placed Musab Bin Omair Secondary School - received invitations to attend a research symposium at Sidra Medicine along with iPads



The conference was honored to receive a visit from Fawziya Al-Khater, assistant undersecretary for educational affairs at the Ministry of Education and Higher Education.

or gift vouchers respectively. The flights were provided for by Sahtak Awalan – Your Health First, WCM-Q’s health campaign.

Dr. Rachid Bendriss, WCM-Q’s assistant dean for student recruitment, outreach and foundation programs, said the level of professionalism achieved by the student researchers had been amazing.

He added: “The goals of this conference were to help foster a love of science in high school students and provide them with the opportunity to participate in new experiences and engage in critical thinking with not only their peers, but professional academics, researchers and doctors.

“The conference has been a great success in this respect and I am sure will become a significant highlight in the academic calendar of Qatar’s schools.

“Through events like this, we can instill a passion for research and medicine in our young people which will eventually lead to greater national capacity in the scientific fields, contributing to the goals of Qatar National Vision 2030.”

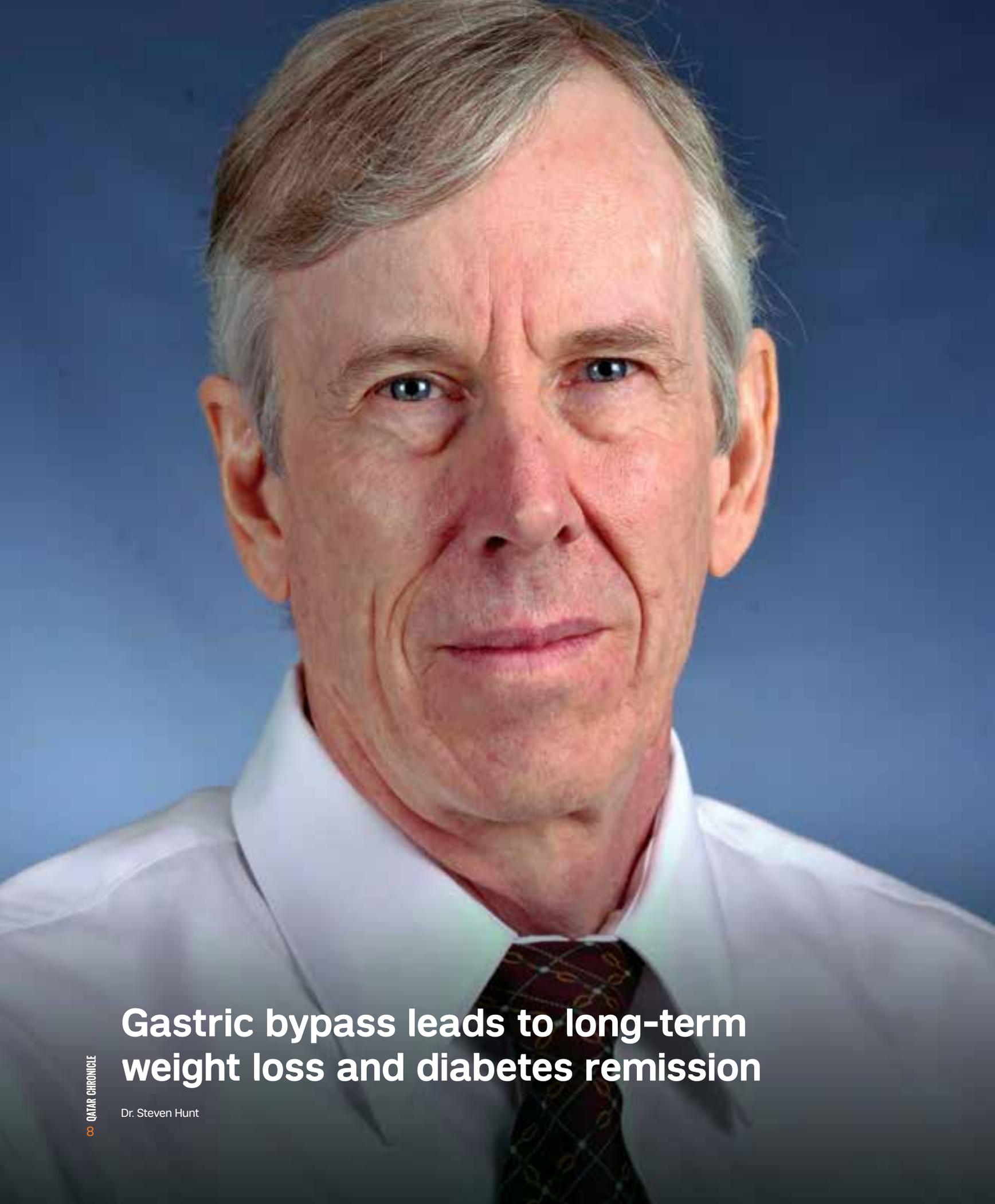
In addition to the presentations, the student delegates also heard from Fawziya Al-Khater, assistant undersecretary for educational affairs at the Ministry of Education and

Higher Education, Dr. Marco Ameduri, associate dean for pre-medical education at WCM-Q, and three WCM-Q alumni: Dr. Aisha Al-Yousuf, Dr. Khalid Al-Khelaifi, and Dr. Karima Becetti.

Dr. Al-Yousuf is now the medical director of reproductive surgery at Sidra Medicine, Dr. Al-Khelaifi is a sports orthopedic surgeon at Aspetar, and Dr. Becetti is a rheumatologist at Hamad Medical Corporation.

Finally, the high school teachers and counselors were able to benefit from professional development workshops in a number of topics including ‘Mastery Learning in the Physical Sciences’, ‘Critical Reading and Writing’, and ‘Preparing Biology Students for the Transition to University’.

It is intended that the conference will become an annual event, bringing together highly motivated students aspiring to become the next generation of medical leaders. Although the main focus of the conference is raising awareness about the careers that medicine has to offer, science, technology, engineering and math (STEM) will remain a fundamental core that will enhance and support the national economy. The conference also presents a great platform to engage educators across these various disciplines to achieve an integrated approach for students and prepare them for the future.



# Gastric bypass leads to long-term weight loss and diabetes remission

Dr. Steven Hunt

**A** researcher has helped to demonstrate that gastric bypass operations lead to maintenance of weight loss as well as remission and prevention of type 2 diabetes, high blood pressure and high cholesterol 12 years after the surgery.

Dr. Steven Hunt, professor of genetic medicine, played a key role in a long-term research project that found that patients who underwent a type of gastric bypass operation called 'Roux-en-Y' had lost an average of 35kg (77lbs) of body weight 12 years after surgery.

Furthermore, 51 percent of patients who had type 2 diabetes at the time of surgery no longer had the disease 12 years after their gastric bypass procedure. Patients who had the surgery also had higher rates of remission and prevention of hypertension (high blood pressure) and dyslipidemia (high cholesterol) than those who did not have the surgery.

In a Roux-en-Y gastric bypass, a surgeon staples off a section of the upper stomach to form a small pouch about the size of an egg. This section is then attached to a part of the small intestine called the Roux limb, forming a Y-shape and bypassing the majority of the stomach. This severely limits the amount of food the patient can eat, which aids weight loss.

The observational study, entitled 'Weight and Metabolic Outcomes 12 Years after Gastric Bypass', has now been published in *The New England Journal of Medicine*, one of the world's foremost medical journals.

The research, which drew upon the expertise of researchers at WCM-Q and a number of institutions in the US, analyzed data collected over a 12-year period from 1,156 patients with severe obesity who visited a bariatric surgical center at Rocky Mountain Associated Physicians or the University of Utah in Salt Lake City, Utah. Researchers compared the outcomes of patients in three groups: 418 patients who sought and underwent Roux-en-Y gastric bypass surgery; 417 patients who sought but did not undergo surgery, mainly for insurance reasons; and 321 patients who did not seek surgery.

The results of the study provide strong evidence for the efficacy of Roux-en-Y surgery for long-term weight loss and prevention and remission of type 2 diabetes, hypertension and dyslipidemia. Those who underwent surgery also showed lower incidence of mortality and cancer than those who did not.

Dr. Hunt said: "This is really the only long-term controlled study of Roux-en-Y gastric bypass outcomes and the results are encouraging. A lot of people are keeping a lot of weight off and new-onset type 2 diabetes was almost done away with. For those who did have type 2 diabetes at the start of the study, most went into remission, particularly if they had not yet started diabetes medication. Even those with type 2 diabetes who were already on medication went into

remission, though they were at greater risk of the diabetes coming back. However, even when the diabetes came back, in many cases they were free of the disease for six to 12 years, which means they are more likely to have delayed onset of typical diabetes complications like neuropathy, impaired vision and amputations, which would be a very good outcome.

"In a larger Utah study of gastric bypass surgery, total mortality was significantly reduced. Incidence and mortality of cancer was also reduced, especially in obesity-related cancers."

However, patients who have Roux-en-Y gastric bypass surgery are less able to absorb nutrients like calcium and vitamin D, and experience higher incidence of depression, death by accidental poisoning (thought to be caused by substance abuse) and death by suicide than those who did not have the procedure.

Dr. Hunt added: "While patients who have the surgery generally report improved mobility, health and health-related quality of life, they often still have psychosocial difficulties. Some surgeons are starting to address this by doing more preoperative evaluation of psycho-social factors, giving more counseling and being more proactive in the prescription of drug therapies for mental health issues."

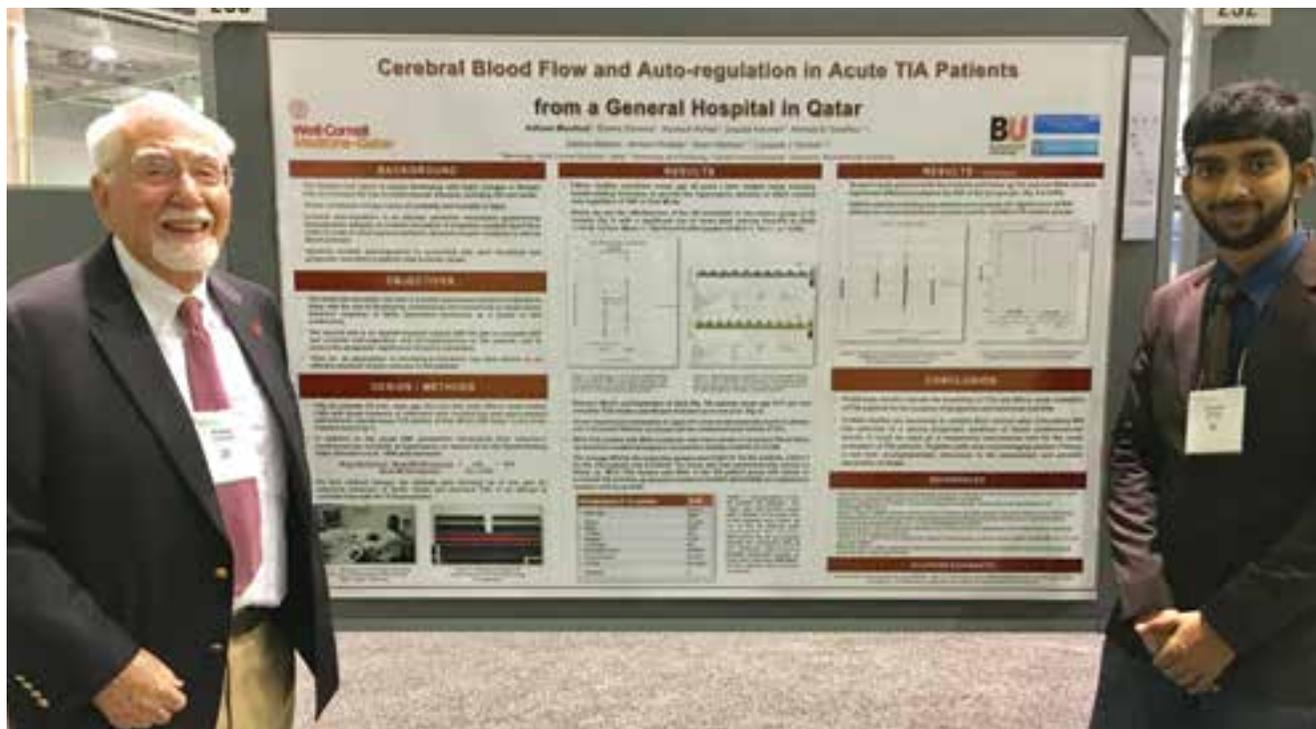
Other institutions involved in the research along with WCM-Q included the University of Utah, Brigham Young University, Duke University Health System and Intermountain Healthcare in Utah, among others.

The study was supported by funds from WCM-Q's Biomedical Research Program and grants from the US National Institute of Diabetes and Digestive and Kidney Diseases of the National Institutes of Health, and the US National Center for Research Resources.

Dr. Khaled Machaca, associate dean of research at WCM-Q, said: "The impact of this long-term follow-up study cannot be overestimated as it validates beyond doubt the beneficial effect of the Roux-en-Y surgery in terms of sustained weight loss. This affects the attitudes of both physicians and patients alike toward the approach as they consider potential ways to manage both obesity or diabetes. This significance of the study is reflected by its publication in *The New England Journal of Medicine*, the premier journal of clinical and translational medicine. Dr Hunt's contributions attest to the caliber and impact that research conducted by WCM-Q faculty can have internationally."

# Breakthrough in stroke prediction

Student doctor invited to present his work at international neurology conference.



Dr. Leopold Streletz and Adham Mushtak at the conference.

**A** trainee physician at WCM-Q presented research at an international conference that could herald a sea change in the way doctors assess stroke patients.

Adham Mushtak is in the third year of the medical curriculum at WCM-Q and is currently conducting research into the likelihood of a patient suffering a stroke, and how severe that stroke is likely to be.

Working with Dr. Leopold Streletz, associate professor (emeritus) in neurology at WCM-Q and principal investigator of the research, Adham submitted the abstract 'Cerebral blood flow and auto-regulation in acute TIA patients from a general hospital in Qatar', to the American Academy of Neurology. The academy then invited him to present his work at their annual conference, which is attended by international neurology specialists.

Adham explained that the research involves a non-invasive technique to ascertain the likelihood of a person suffering a stroke, and how severe that stroke will be. To do this, Adham and Dr. Streletz use ultrasound to measure the velocity of the blood flow inside the blood vessels of the brain. The patient is then asked to hold their breath for 30 seconds. If the blood velocity does not increase, then the patient is at risk of a stroke.

Adham said: "This has never been done before with blood vessels in the brain; it's a pioneering project. So far, we've worked with 54 patients in the study but this will be increased to 120 people and we will follow them for the next two years.

"With regards to the benefits for the community, if we find that this is a reliable prognostic resource, it could become a quick, simple and non-invasive method to determine a patient's susceptibility to strokes for emergency physicians across the world."

Adham, who is 23 and grew up in Qatar, said that the study is being carried out in partnership with researchers and physicians at Hamad Medical Corporation and Bournemouth University in the UK and he said that the American Academy of Neurology conference had been a real "eye-opener".

He said: "I met a lot of people and I had a lot of questions answered about neurology sub-specialties giving me a clearer picture of the career paths within the subject.

"I'd also like to thank WCM-Q as they provided me with a financial grant to cover the cost of travelling to the conference, and Dr. Streletz for all his support and guidance."

## Hi-tech skills lab launched

The new center offers students the opportunity to practice medicine on medical mannequins that can simulate a range of symptoms.



**S**tudents at WCM-Q are now learning to become doctors in one of the region's most technologically advanced facilities after the college launched its Clinical Skills and Simulation Lab (CSSL).

The newly expanded and upgraded state-of-the-art facility is now equipped with a wider selection of cutting-edge teaching aids that simulate real-world clinical situations, allowing students to gain the practical skills they need in a risk-free environment under the guidance of WCM-Q's highly trained teaching faculty.

The hi-tech equipment includes uncannily lifelike medical mannequins that are able to simulate a vast range of symptoms, from a racing heartbeat and dilated pupils, to a swollen tongue or a full-blown seizure, among many others - all controlled remotely by a technician. Students working with the mannequins can practice responding to an almost

limitless array of conditions as if they were in a real ER, such as a cardiac arrest, respiratory infections, heatstroke or even childbirth.

The CSSL, formerly known as the Clinical Skills Center, has been expanded from 8,500 to 10,500 square feet and now has 12 clinical examination rooms, up from six previously. Each examination room is fully equipped with diagnostic instruments for examining the ears and eyes and measuring blood pressure and temperature. Students learn to utilize these instruments under instructor supervision and with the help of 'standardized patients' - individuals trained to play the role of patients.

Other facilities in the revamped suite include hi-tech training aids for practicing administering joint injections, taking blood samples, inserting intravenous lines and using portable ultrasound machines. There is also a



Dr. Stella Major, far right, leads a tour of the new facility.

cardiopulmonary patient simulator and a variety of 3D anatomical models.

Dr. Stella Major, associate professor and director of the CSSL, said: "The new Clinical Skills and Simulation Lab really offers learners at WCM-Q the opportunity to benefit from state-of-the-art facilities during their medical training. Students now have the chance to practice and perfect a wide range of communication and procedural skills before entering the real world of patient care. While in clinical training the students can also benefit from the center by using it to augment their skills and address their skill gaps and needs in a safe environment, to attain a very high level of proficiency. This will help them to be extremely well prepared for the demands of modern medicine.

"The expanded space permits more students to engage in simulation-based educational activities at any one time, and therefore requires less time to be taken from their busy curricular schedules. This is a tremendously exciting moment for all of us because we feel this new facility ensures that the education offered at WCM-Q remains up there with the very best anywhere in the world."

Simulation-based learning is a key emerging trend in the education of medical practitioners and numerous other health professions. Research has shown that students and qualified healthcare practitioners who practice and retain their expert skills in a simulated environment have markedly higher success rates in performing a variety of medical

procedures and see a dramatic reduction in errors in patient care, thereby enhancing patient safety. They also show improved teamwork and inter-professional communication and enjoy greater professional fulfillment.

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**"The new Clinical Skills and Simulation Lab really offers learners at WCM-Q the opportunity to benefit from state-of-the-art facilities during their medical training."**

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Working with standardized patients allows medical students to develop critical interpersonal skills that help put patients at ease, while working in teams on practical tasks accurately recreates real-world clinical practice. Having begun with 12 standardized patients back in 2005, WCM-Q now has about 75 standardized patients.

Lan Sawan, manager of the CSSL, said: "We are very pleased that we now have this extremely advanced facility available to help our students gain the practical skills they need to provide absolutely world-class care to their patients when they enter the clinic on rotations and after they qualify."

The CSSL also has a newly updated high-definition audio-visual system with remotely controlled cameras placed in strategic locations. This allows evaluators to

discreetly observe and evaluate students without disturbing learning activities. Students can reflect on their own skills by accessing their videos from college premises, helping them to identify and address their skill gaps and reinforce their strengths, as they learn to become more self-aware.

Enhancing and expanding the CSSL complements the integrated Six-Year Medical Program at WCM-Q, which comprises a two-year pre-medical curriculum and a four-year medical curriculum, both of which place more emphasis on the attainment of practical physicianship skills than tradition medical curricula. Upon graduation, students receive the same MD degree awarded to students at the Weill Cornell Medicine campus in New York.

Dr. Javaid Sheikh, dean of WCM-Q, said: "At WCM-Q we have always been enthusiastic early adopters of new technologies that enable us to continuously enhance the standard of education we offer to our students, and the re-launched Clinical Skills and Simulation Lab adheres to this important principle. The new facility not only brings WCM-Q up to date with the latest innovations in medical education but puts us ahead of the curve, which will be of enormous benefit to both our students and the patients they will care for after they graduate."



The CSSL is officially opened.

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**"The expanded space permits more students to engage in simulation-based educational activities at any one time, and therefore requires less time to be taken from their busy curricular schedules."**

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The CSSL has medical mannequins able to simulate a range of conditions, including pregnancy.

# WCM-Q hails work of affiliated teaching faculty

Local physicians are vital to ensuring graduates have hands-on skills and practical experience of a healthcare environment.



WCM-Q's affiliated faculty are vital to the teaching of Qatar's student doctors.

**T**he essential role played by hundreds of local physicians in the education of WCM-Q students has been celebrated with an appreciation evening held in their honor.

WCM-Q students benefit from the expertise, mentorship and experience of more than 500 physicians and other healthcare professionals who work at WCM-Q-affiliated institutions across Doha, such as Hamad Medical Corporation, Sidra Medicine, Primary Health Care Corporation, Aspetar Orthopaedic and Sports Medicine Hospital, Feto Maternal Medical Center and the Ministry of Public Health. Students spend a total of 55 weeks on clinical rotations in the final two years of their medical training, during which time they work closely with affiliated faculty and patients to learn the practical, hands-on skills demanded of a fully qualified doctor.

To acknowledge the contributions made by faculty at these affiliated institutions, WCM-Q invited them to a reception dinner at the Grand Hyatt Hotel in Doha.

Thanking the affiliated teaching faculty for their hard work and dedication, Dr. Robert Crone, vice dean for clinical and faculty affairs, said: "We are enormously grateful for the incredible work that you, our affiliated faculty, have done with WCM-Q over the past 15 years and which you continue to do. You are an integral part of the world-class education that our students receive and we cannot thank you enough."

Third-year medical student Merna Hussein gave a speech to thank the affiliated faculty on behalf of all WCM-Q students. She said: "In the profession of medicine, knowledge is passed on from one generation to another. As you pass on these pearls of wisdom to us you are probably remembering the teachers that taught you and have left an impact on you. I want to thank you for your gift of time, expertise and encouragement. And we also want to promise you that just as you have taught us, we will carry your legacy forward to future doctors who come after us."

Akhnuwkh Jones, senior consultant in internal medicine at Hamad Medical Corporation, said: "I really enjoy teaching because it is exciting and rewarding to nurture the talent and skills of the next generation of physicians. It reminds me of all the great teachers that I had in the past and I feel honored to be able to pass on the knowledge they gave to me."

Dr. Thurayya Arayssi, senior associate dean for medical education and continuing professional development at WCM-Q, said: "Our students consistently tell us how inspired they are by the example set by our affiliated faculty and we are truly grateful to them for this contribution. Through their professionalism and hard work, they help our students to learn not only key practical skills but also important lessons about professionalism, treating patients with understanding and respect, and maintaining the very highest standards of care at all times."

# Graduate comes full circle

Alumna from the Class of 2011 hopes to return to Qatar soon to practice endocrinology.

**A**n alumna of Weill Cornell Medicine – Qatar (WCM-Q) hopes to return to the country soon and help train the next generation of doctors.

Dr. Tania Jaber, who graduated in 2011, returned to WCM-Q briefly to give the keynote speech at an event to celebrate students who had been inducted onto the Dean's Honors List. She also delivered a Grand Rounds lecture entitled 'Radioactive iodine in thyroid cancer; past, present and future direction'.

Dr. Jaber said research had found that thyroid cancer is the second most common cancer in the GCC region and that between 1998 and 2002, Qatari females had the highest incidence of the disease of any group at 13.5 individuals per 100,000, versus Kuwait with 7.7 and Oman with 5.9.

Dr. Jaber, who grew up in Lebanon was awarded a full scholarship to study at WCM-Q, undertook a residency in internal medicine at Cleveland Clinic in the US following her graduation, before taking a fellowship in endocrinology at the University of Texas and then an advanced fellowship in endocrine cancers at MD Anderson Cancer Center. She now hopes to return to Qatar to teach and practice, thereby completing the circle and fulfilling the aims of Qatar Foundation.

She explained why she chose endocrinology to specialize in: "It's a very cerebral and varied field, and there is lots of physiology involved in order to understand the pathology. It's also a very fast-paced field, particularly in relation to things like diabetes and thyroid cancer."

Having lived and studied in Qatar before, Dr. Jaber hopes to return to the country with her husband and two children next year to practice endocrinology, undertake research and take up a teaching role, ideally at WCM-Q.

She said: "WCM-Q prepared me for a career in medicine as well – and probably better – than any other institution would have. We were very lucky to train and study here and form the relationships we did, both with our tutors and our classmates; we've since attended each other's weddings, bridal parties and baby showers and one classmate also became an endocrinologist, so it is quite surreal seeing her at meetings and conferences."

Looking to the future, ten years from now, Dr. Jaber hopes to have founded her own clinic.

She said: "If I'm in Qatar I'd love to have an endocrine cancer center here. There's a big volume of endocrine cancers in the Gulf countries so I'd love to establish a clinic and give back to the community, both from the perspective of patient care but also research."

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**"WCM-Q prepared me for a career in medicine as well – and probably better – than any other institution would have. We were very lucky to train and study here and form the relationships we did, both with our tutors and our classmates."**

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After WCM-Q, Dr. Jaber took up a residency at the highly renowned Cleveland Clinic in the US.

# Your Health First joins Qatar National Day celebrations

Thousands of people have fun and learn about healthy lifestyles with the Yalla Natural roadshow.



A young guest to the Yalla Natural roadshow gets a helping hand.

**S**ahtak Awalan - Your Health First, the flagship public health campaign of Weill Cornell Medicine-Qatar (WCM-Q), shared inspirational health messages, advice and activities at Darb Al Saai as thousands of people gathered to celebrate Qatar National Day.

As the celebrations got underway with a flag-raising ceremony, the Your Health First Yalla Natural trailer was in place inside the Qatar Foundation tent at Darb Al Saai to dispense free health tips and seed pots, offer health-related art sessions and give visitors the chance to make healthy fruit smoothies using only pedal power on the ever-popular blender bikes.

The Yalla Natural trailer will be at Darb Al Saai for the entire ten days of celebrations, helping to spread a message of health, wellness and togetherness that supports the inspiring Qatar National Day vision of community solidarity.



Qatar National Day is a sense of huge pride for residents and citizens of Qatar alike.



Young visitors had the chance to learn about sustainability and healthy lifestyles.

Schoolchildren flocked to the Your Health First trailer, enjoying the opportunity to create health-themed artworks, receive free healthy recipe cards, plant seed pots to grow their own fruit and vegetables at home, pedal on the blender bikes and sample tasty fruit smoothies.

Rakan Rageh, aged 10, of Al Qadeseya Model School made a smoothie on one of the blender bikes. He said: "I loved going on the bike. I like exercising and eating healthy food and I know that they are important so that you don't get sick."

Mahra Al Enazi, aged 6, of Qatar Academy Sidra, was painting a picture of a strawberry at the art table. She said: "I love watermelon, strawberries and oranges and they are all good for you. We learned that if you eat lots of chocolate and sweets it's not very good for you. If you eat lots of sugar you can get a problem with your teeth but if you eat fruit it's much better."

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. Sahtak Awalan – Your Health First, which works towards the goals of Qatar National Vision 2030, is supported by its strategic partners, the Ministry of Public Health, the Ministry of Education and Higher Education, Qatar Foundation, Oxy Qatar and ExxonMobil.

Nesreen Al-Rifai, chief communications officer at WCM-Q, said: "We are very happy and proud that Sahtak Awalan – Your Health First is able to contribute to the Qatar National Day celebrations and to support the vision of health, happiness and community harmony that this very special and important occasion stands for. Working together we can achieve good health for all, both now and far into the future."

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**"I loved going on the bike. I like exercising and eating healthy food and I know that they are important so that you don't get sick."**

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Making a smoothie with pedal-power.



## Scientists create blood in the laboratory

Technique could one day lead to individuals having an unlimited personal source of blood.

**R**esearchers at WCM-Q have made a breakthrough which could lead to personalized blood and heart tissue being created in a laboratory.

Working with colleagues at Pr. Rafii's Ansary stem cell laboratory at Weill Cornell Medicine in New York, in collaboration with Dr. Arash Rafii Tabrizi's Lab in Doha, it was postulated that endothelial cells – the cells that line the walls of blood vessels – are responsible for organ development.

Dr. Rafii Tabrizi, whose work has been funded by Qatar National Research Fund, said: "We hypothesized that the endothelial cells are the masterminds of organ development and different organs have different endothelial cells that express different and specific factors called angiocrine factors that lead to the development and function of the organ."

To test the theory, Dr. Tabrizi and his team isolated endothelial cells and forced the expression of transcription factors using DNA vectors.

After 20 days, the cells began to multiply and were essentially transformed into hematopoietic stem cells, which are the basis for all types of blood cells, including red blood cells, platelets, and white blood cells, which are a vital part of the immune system.

Dr. Tabrizi, who is associate professor of genetic medicine in obstetrics and gynecology at WCM-Q, said that the next step would be to translate the research to a human model, to test whether the findings can be translated to tackle different human diseases

Dr. Tabrizi said: "If you have leukemia, for example, we would retrieve your endothelial cells and we could transform that into blood. It would be an unlimited personal source of blood for each individual. However, it is too early at this stage to make these assumptions in the absence of concrete human data."

Importantly the power of the endothelium to support cellular differentiation for blood cells is also successful with cardiac cell regeneration. By combining endothelial cells with cardiomyocytes – the heart's muscle cells – the researchers were able to create muscle cells in a petri dish that beat together in a regular rhythm, similar to endogenous cardiomyocytes.

Dr. Jennifer Pasquier, research associate in genetic medicine at WCM-Q who performed these experiments said: "Some organs function to secrete substances so, for example pancreatic cells would have to be sensitive to blood sugar levels and secrete insulin. But for cardiac cells we want them to integrate and beat in synchrony with each other. The problem is, if you transplant cardiac cells into your heart and then they beat at a different rate from the other cells, this would be catastrophic for the individual."

However, the research team believes that the endothelial cells are creating a 'bridge' between the cardiac cells, ensuring they act as one and as they would in the human heart. If true, the technique could one day be used to help

heal cardiac infarctions or support people with a heartbeat too weak due to degenerative heart disease such as in ischemic disease or diabetes.

Dr. Tabrizi said: "With an infarction, your heart cells die and are replaced with fibrosis meaning that the cells can't regenerate themselves. There is no beating in the fibrotic area so this can lead to heart failure. The question is, if we transplant the cardiac cells that have been generated in the laboratory, will they then form a bridge with the existing cardiac cells in the heart?"

At the moment, that is the million-dollar question, so the next step is to create a model of heart ischemia in mice and see if the properties and functionality that the team hopes will be seen are seen.

The research was only possible due to support from Qatar National Research Fund with grants NPRP8-1898-3-392 and NPRP 6-1131-3-268.

Dr. Khaled Machaca, associate dean of research at WCM-Q, said Dr. Tabrizi's research provides an excellent example of how QNRF support of basic research translates into tangible results that are likely to improve the health of the Qatari population in the long term.



Dr. Jennifer Pasquier and Dr. Rafii Tabrizi.

# Graduates complete research program

The internships increase the nation's research capacity and contribute to the success of QNV2030.



Dr. Khaled Machaca presented the interns with Certificates of Completion.

**F**ive aspiring scientists took an important step towards building successful careers in research recently when they graduated from the Biomedical Research Training Program for Nationals of WCM-Q.

Kholoud Al-Najdi, Fatima Al-Dasim, Amal Saif, Wadha Al-Marri and Shaikha Al-Abdul-Jabbar spent six months working alongside WCM-Q's world-class scientists in the college's state-of-the-art laboratories. In addition to learning a comprehensive range of research competencies, including practical lab skills, how to conduct clinical research and knowledge of research administration, the interns were also able to gain hands-on experience of biomedical research by contributing to ongoing scientific studies carried out at WCM-Q.

In recognition of their successful mastery of these skills and competencies, the interns were presented with certificates of graduation at a special ceremony held at WCM-Q.

Dr. Khaled Machaca, the college's associate dean for research, said: "All of us at WCM-Q have been truly impressed by the dedication, enthusiasm and raw talent

of these young scientists during their time here with us. Through the Biomedical Research Training Program for Nationals these young people have gained essential skills and experiences to become outstanding members of Qatar's new generation of researchers and innovators, as well as leading contributors to the growing R&D sector of the Qatari economy toward the 2030 vision of a knowledge-based economy."

This is the seventh annual cycle of the Biomedical Research Training Program for Nationals, which was launched in 2011 and to date has helped 33 graduates take the first step on the path to a successful career in research. The internship cycle runs from January to July each year. In addition, this year the program expanded its interaction with the SIDRA Nationals Development Program by hosting two SIDRA trainees as full-time participants in the program and four additional trainees who participated in the didactic parts of the program. Close collaborations among different biomedical institutions to enhance research training nationally goes a long way toward preparing the next generation of researchers.

All of the interns who completed the Biomedical Research Training Program for Nationals this year are graduates of leading universities in Qatar. This year's cohort graduated from Qatar University, Carnegie Mellon University in Qatar and Texas A&M University at Qatar.

Texas A&M University at Qatar chemical engineering graduate Kholoud Al-Najdi spent her six months at WCM-Q interning in research administration. Kholoud said: "Transitioning from being a university student to a working professional can be intimidating, so this program was the ideal opportunity for me to make a smooth transition. I got to work in a comfortable and welcoming environment as part of the research training team in research administration. Although the program was challenging in the beginning, the research training team was always there to help me. They cared about what we had to say and were always open to suggestions."

Fatima Al-Dasim, a graduate of the biomedical sciences program at Qatar University, participated in clinical research under the guidance of WCM-Q professor of psychiatry and leading researcher Dr. Ziad Kronfol. Fatima said: "Being involved in this program has improved my research skills remarkably. The courses of the program guided me through the ethics of research, writing a proposal for grants, applying for IRB (Institutional Review Board) approval, recruiting subjects, practicing lab work and analyzing data using statistical software. I would definitely encourage graduates to seize this chance if they are considering medical research as a prospective profession. Joining the Biomedical Research Program for Nationals is an outstanding opportunity for any scientist."

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**"Transitioning from being a university student to a working professional can be intimidating, so this program was the ideal opportunity for me to make a smooth transition. I got to work in a comfortable and welcoming environment as part of the research training team in research administration. Although the program was challenging in the beginning, the research training team was always there to help me. They cared about what we had to say and were always open to suggestions."**

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## **GRADUATES OF THE WCM-Q BIOMEDICAL RESEARCH TRAINING PROGRAM FOR NATIONALS 2017**

### **Wadha Al-Marri**

Alma mater: Carnegie Mellon University in Qatar, biological sciences.

WCM-Q mentor: Dr. Jeremie Arash Tabrizi, associate professor of genetic medicine in obstetrics and gynecology.

Employment: Graduate associate in research at Sidra Medicine.

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### **Kholoud Al-Najdi**

Alma mater: Texas A&M University at Qatar, chemical engineering.

Interned in research administration.

Mentor: Christy Poppe, senior research training specialist.

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### **Amal Saif**

Alma mater: Qatar University, biomedical sciences.

WCM-Q mentor: Dr. Joel Malek, assistant professor of genetic medicine/director of the genomics core.

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### **Fatima Al-Dasim**

Alma mater: Qatar University, biomedical sciences.

WCM-Q mentor: Dr. Ziad Kronfol, professor of psychiatry.

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### **Shaikha Al-Abdul-Jabbar**

Alma mater: Qatar University, biomedical sciences.

WCM-Q mentor: Dr. Khaled Machaca, associate dean for research.

Employment: Graduate associate in research at Sidra Medicine.

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# Exploring the impact of art therapy

Technique can be used to address a range of illnesses including Alzheimer's disease and schizophrenia.



From left: Deema Al-Sheikhly, Sara Powell, Sarah Roach, Dr. Aicha Hind Rifai, Dr. Alan Weber and Andrew Wright.

**T**he impact of the visual arts on medicine, healthcare and patient wellbeing, including art therapy interventions, was explored at a symposium at WCM-Q.

The Visual Arts and Medicine event, part of the WCM-Q Lives in Medicine series, explained the theory and practice of art therapy in patient care, and also discussed ways in which visual art in healthcare settings such as hospitals can positively affect mood and therefore potentially lead to better healthcare outcomes.

Sara Powell and Andrew Wright, two licensed art therapy specialists, gave a joint presentation summarizing the theory of art therapy and its applications in patient care, and presented a sample case study demonstrating the effectiveness of art therapy in practice.

Dr. Aicha Hind Rifai, assistant professor of clinical psychiatry at WCM-Q, gave a joint presentation alongside her colleague Dr. Alan Weber, associate professor of English.

Dr. Weber addressed the visual arts. He said: "Visual art can have a very significant impact on healthcare in many ways. This includes the effect that the décor of a hospital has on a patient's sense of wellbeing, the use of comic books to help medical students understand their patients better, and encouraging students to study fine art to develop their ability to interpret and assimilate complex visual information, which is particularly important when interpreting physical symptoms or medical images such as x-rays or CT scans."

Dr. Rifai explained the use of art therapy along with medications to address the symptoms of apathy and social withdrawal in patients with schizophrenia. She also described the benefits of using art therapy in the treatment of patients with Alzheimer's disease who are able to engage in such therapies even after they have lost their language ability and many other aspects of their cognition.

Dr. Rifai said: "Art therapy was born in the second part of the 19th century as the discipline of psychiatry developed and interest in the inner world of patients grew. Psychological theories supported the use of the visual arts as media for the diagnosis and the treatment of various psychiatric conditions, from psychological trauma to anxiety and depression.

"Art therapy can be an extremely effective treatment but it is not widely practiced in the Gulf region. This event forms part of a wider effort to encourage the use of art therapy in Qatar, where appropriate, for the benefit of patients."

The activity was open to healthcare professionals of all disciplines from WCM-Q and other healthcare institutions and was accredited locally by the Qatar Council for Healthcare Practitioners-Accreditation Department and internationally by the Accreditation Council for Continuing Medical Education.

# Migration and mortality

Influx of healthy, physically fit young men into Qatar affects the national death rates.

**N**ew research showing how death rates among the population are skewed by the effects of migration could have implications for health policy in the region.

Researchers at the Institute for Population Health, which is part WCM-Q, demonstrated that high immigration of young healthy adults reduces the mortality rates. This means that further research may be necessary to ascertain the true effectiveness of current health programs and health policies.

Dr. Karima Chaabna, the report's lead author and a population health and communication specialist at WCM-Q, explained that the work was conducted after she saw in the Global Burden of Disease Study – the most comprehensive research to date into worldwide mortality at international, national and regional levels – that mortality rates in Gulf countries were falling. Dr. Chaabna questioned why this was, and whether better healthcare was the only answer.

She said: "More than 80 per cent of Qatar's population are migrants. Using statistical analysis, we looked at the association between the variation in Qatar's population size and death rates and found that there was a significant association.

"Essentially, the overall mortality rates have been reducing because migration has been increasing. The majority of migrants are physically fit, male, blue collar workers who are also screened for conditions like tuberculosis, hepatitis and HIV.

"Their good health essentially improves the average for the country, and reduces the death rates."

Dr. Chaabna said that further research would have to be conducted with individual groups – for example Qatari nationals or long-term residents of other nationalities – to ascertain and better understand the efficacy of various healthcare and outcomes.

Dr. Sohaila Cheema, director of the Institute for Population Health and co-author of the paper, explained: "The research does not negate the fact that Qatar has made huge strides forward in improving mortality rates and general healthcare.

"WCM-Q is at the forefront of helping the country in moving forward with its public health agenda."

Dr. Ravinder Mamtani, senior associate dean for population health, capacity building and student affairs at WCM-Q and co-author of the research, said: "No matter where you are in the world, healthcare remains an evolving process. There is always room for improvement but Qatar has advanced rapidly. Life expectancy, for example, is now at around 79 to 80 years and the government is making every effort to reduce injury and premature death; a case

in point is injuries from motor vehicle crashes. Qatar has done phenomenally well with policies and interventions that have reduced the number of road traffic fatalities. Use of speed cameras, improving triage, availability of good quality emergency and trauma care, traffic laws and their enforcement, and police vigilance have all contributed to this improved situation and declining deaths. Improvements have been also noted in other areas of non-communicable diseases. But we need to do more.

"I can honestly say that healthcare is improving in all sectors and is helping to achieve the goals and objectives of Qatar National Vision 2030."



Dr. Karima Chaabna, population health and communication specialist at WCM-Q.

# Inspired to follow a career in medicine

Qatari high school students return from scholarships in the US keen to apply to WCM-Q.



The winning students with Dr. Javaid Sheikh, center, and WCM-Q faculty and staff.



Mashaël Al-Naemi and Khalifa Elmagarmid with Dr. Stefan Worgall.

**F**our Qatari high school students who won summer scholarships to the US have returned to the country eager to pursue careers in medicine.

The four students all won the prize in Weill Cornell Medicine Qatar's (WCM-Q) annual Healing Hands essay competition. The four each received a fully-funded, one-week Doctors of the Future Scholarship to study in the world-class biomedical research laboratories at Weill Cornell Medicine in New York City. They also attended lectures and learned what life is like for a medical student at one of the world's top medical colleges. In addition, the four spent a week at Cornell University in Ithaca in upstate New York which gave them a more varied view of student life. This section of the trip was designed by Dr. Krystyna Golkowska, WCM-Q's associate professor of English, and aimed to give the students an idea of what it is like to study for an undergraduate degree and to acquaint them with Cornell as an institution. Each winner was accompanied by a member of their families as a chaperone.

The winners – twins Alia Salman Ashkanani and Ghalya Salman Ashkanani, both of Michael E. DeBakey High School; Khalifa Ahmed Elmagarmid from Qatar Academy; and Mashaël Salem Al-Naemi of American School of Doha – have now returned from the US and spoke of their experiences at a ceremony at WCM-Q attended by staff, faculty and

Dr. Javaid Sheikh, dean of the college. They also received a certificate from Dr. Sheikh to mark their achievements.

Ghalya Ashkanani said she and her sister had been placed in the laboratory of Dr. Randi Silver, associate dean of the Weill Cornell Graduate School of Medical Sciences and professor of physiology and biophysics.

Ghalya said: "In New York the experience was laboratory-oriented. We were divided into two pairs and our lab was concerned with asthma in premature children and the development of their lungs.

"I loved it as it was about pediatrics, a subject I'm really interested in and I loved that I was able to share the experience with my sister. I'm applying to WCM-Q and the experience made my resolve stronger and showed me what I could do as a doctor."

Mashael Salem Al-Naemi was involved with the culture of cells during her time at Weill Cornell Medicine in New York, and the ways that cells can be grown outside of the human body.

She was placed in the laboratory of Dr. Stefan Worgall, distinguished professor of pediatric pulmonology and chief of the Division of Pediatric Pulmonology, Allergy and Immunology, and said the scholarship had been an amazing experience.

She said: "At Ithaca we attended classes and then we had field trips and we got to have the full college experience. I really got to apply the knowledge that I've learned in school. I think the most important thing I learned during the whole trip was that in later life I really want to be involved in research and that I also want to be a physician specializing in sports medicine."

Dr. Javaid Sheikh, dean of WCM-Q, said the standard of entries to the Healing Hands competition had been extremely high this year, and that the four winners had truly excelled themselves and had been excellent ambassadors for Qatar.

He added: "WCM-Q's Healing Hands competition is about inspiring the next generation of Qatari scientists and in Alia, Ghalya, Khalifa, and Mashael I think we have succeeded. These four young people show outstanding promise and I have no doubt that they will make a significant contribution to the scientific and medical landscape in the future."

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**"WCM-Q's Healing Hands competition is about inspiring the next generation of Qatari scientists and in Alia, Ghalya, Khalifa, and Mashael I think we have succeeded. These four young people show outstanding promise and I have no doubt that they will make a significant contribution to the scientific and medical landscape in the future."**

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Sisters Alia Salman Ashkanani and Ghalya. Salman Ashkanani studied asthma in premature children.

# Exploring medical careers at WCM-Q

College-bound students meet trainee physicians and faculty and learn what being a doctor involves.



Dr. Mohamud Verjee, assistant dean for medical student affairs, introduces some visiting students to a medical mannequin.

**A**round 70 high school students had the chance to sample life as a medical student at WCM-Q when they took part in the college's two Summer Enrichment Programs organized by the Office of Student Recruitment and Outreach.

The 34 grade 10 and 11 students on the Qatar Medical Explorer Program (QMEP) and 35 grade 11 and 12 students on the Precollege Enrichment Program (PCEP) spent two weeks at WCM-Q taking a series of classes modeled on the real curriculum followed by WCM-Q students.

The students, aged 15-17, had the opportunity to take classes on infectious diseases, neurology, psychology, emergency medicine and cancer research, as well as lab safety, the history of medicine, DNA extraction techniques and human anatomy. They also had the chance to take a dissection class in the WCM-Q biology lab, learn about the human heart by working with hi-tech robotic mannequins – in the state-of-the-art Clinical Skills and Simulation Lab, and visit Hamad Medical Corporation, WCM-Q's clinical partner.

Overall, the students gained a comprehensive snapshot of what it is like to study medicine while also discovering some of the many career paths that a WCM-Q MD degree can lead to, which broadly include practice in a variety of medical specialties, biomedical research, and teaching, or a combination of all three.

Qatari student Fatma Essa Al-Kubaisi of the International School of London, Qatar, completed the PCEP program. She said: "My experience at WCM-Q's Summer Enrichment Program was beyond expectation. I got a taste of university life, made new friends, and developed and discovered my skills through different sessions. The two-week program provided me with a fantastic and unique opportunity that every prospective medical student would wish to have."

Other highlights of the two-week programs included classes on animal care and use in research, an introduction to medical ethics, and a chance to meet current WCM-Q medical students and graduates for a Q&A session. The program culminated with the students giving presentations about a medicine-related topic and taking part in an academic debate.

Participating students were drawn from 34 schools in Qatar and across the wider region. Students were selected using an application system that mimics the admissions process for the WCM-Q six-year Medical Program. Selection is based on the candidate's English skills, demonstrated aptitude for the sciences, their interest in pursuing medicine as a career and their academic achievements. These two programs, QMEP and PCEP, are part of the Summer Enrichment series organized annually by the Office of Student Recruitment and Outreach at WCM-Q. This year

marks the tenth anniversary of the Summer Enrichment Programs

Student Tariq Nasir visited from Jordan, where he attends King's Academy. Tariq, who completed the PCEP program, said: "This program is one of a kind - one that taught me how to think outside of the boundaries, one that gave me a unique taste of college, and one that totally locked in my interest for a medical career. I definitely recommend it for all students interested in pursuing medicine."

Dr. Clare McVeigh, senior lecturer in biology, guided the visiting students through a dissection class, which was a completely new experience for most of group. Dr. McVeigh said: "Dissecting a frog for the first time is an excellent learning experience for prospective medical students, giving them an opportunity to develop their manual dexterity and also to apply what they know from textbooks to a real organism. The students responded extremely well and took full advantage of the learning experience."

Qatari student Noor Faisal Alsayegh of Albayan Secondary School completed the QMEP program. She said: "QMEP is a valuable experience that does not only enlighten students with topics relevant to our scientific interests, but it is also a journey that helps answer all sorts of questions that can cross high school students' minds and improve the qualities that make the best out of us, such as by boosting our self-esteem and appreciation of team work."



The programs provides a holistic view of studying medicine.

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**"This program is one of a kind - one that taught me how to think outside of the boundaries, one that gave me a unique taste of college, and one that totally locked in my interest for a medical career. I definitely recommend it for all students interested in pursuing medicine."**

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The students learn about lab safety, the history of medicine, DNA extraction techniques and human anatomy.

# Students flock to open house event

Annual event attracts hundreds of potential medical students to WCM-Q to learn about life at the college.



Dr. Raphael Courjaret, assistant professor of research in physiology and biophysics, shows a group of visitors around his lab.

**M**iddle and high school students from all over Qatar and the wider region attended Medicine Unlimited, the flagship student recruitment and outreach event of WCM-Q.

More than 400 students and family members visited the college to tour the state-of-the-art facilities, meet current students, faculty, researchers and staff, and engage with hands-on simulations of the workings of genes, molecules and the human body.

Medicine Unlimited is designed to give middle and high school students a glimpse of the world of science and medicine, as well as the chance to explore whether a career as a healthcare professional, and training on WCM-Q's world-class Six-Year Medical Program, would be a good fit for them.

The exceptionally well-attended event saw students and their families fill WCM-Q's South and North Halls and interact directly with senior faculty and students at 19 stalls covering subjects such as human anatomy, neurology, pediatrics, psychiatry, transplant surgery and the basic sciences of biology, chemistry and physics.

The event also featured a welcome address to prospective students and their families by Dr. Rachid Bendriss, assistant dean of student recruitment, outreach and foundation, in a giant tent erected in the WCM-Q grounds, as well as a quiz with prizes for the winners.

Dr. Bendriss said: "Medicine Unlimited brings an incredible buzz to WCM-Q and this year's event was no exception. The prospective students showed amazing enthusiasm for learning about science and medicine through our many

interactive simulations and demonstrations. The event captures the sheer excitement of scientific discovery and the power of knowledge and is a source of great inspiration for students and their families. We look forward to receiving many applications to join WCM-Q's renowned medical program from students who visited us today."

Students at the event learned that WCM-Q awards its graduates a US-accredited MD degree, and is the only university outside the United States to do so. The college's recently introduced Six-Year Medical Program comprises a two-year premedical curriculum and a four-year medical curriculum, and also provides many opportunities for students to engage in biomedical research projects.

Prospective students can also opt for WCM-Q's 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 graduates have excellent career prospects and an extremely strong record of gaining entry to residency programs at elite teaching hospitals in the US and Qatar, including NewYork Presbyterian/Weill Cornell Medical Center, Johns Hopkins Hospital in Baltimore, Yale New-Haven Hospital in Connecticut and Hamad Medical Corporation, among many others.



The event gave visitors the chance to learn some new practical skills.



Med T's Abdallah Tom mans a stall.



Dr. Ameer Raaf demonstrates the use of the anatomy table.



Medicine Unlimited affords potential students the chance to see what life at WCM-Q would be like.

# Poster competition inspires high school students

The contest aims to motivate high school students and help them realize their ambitions.



Twenty-three teams from 14 schools took part in the contest.

Students from local high schools competed in a research poster contest aimed at inspiring talented young people to pursue careers in medicine.

Twenty-three student teams from 14 schools presented posters at the High School Research Competition event at WCM-Q, with topics ranging from the prevalence of vitamin D deficiency in Qatar, to the impact of type-2 diabetes, to public attitudes to mass transport systems in Qatar, among many others.

Earlier this year, the Office of Student Recruitment and Outreach announced its first High School Medical Conference for local and international schools in Qatar, as a pilot initiative. The main aim of the conference is not only to raise awareness about the excellent careers that medicine has to offer but also foster a strong interest in the science, technology, engineering and math (STEM) subjects.

The High School Research Competition is one element of WCM-Q's new High School Medical Conference, a three-part outreach initiative that also comprises a series of professional development workshops designed for teachers and counselors who advise students interested in careers in medicine. The third element was an exhibition, held at QNCC in November.

Dr. Rachid Bendriss, assistant dean for student recruitment, outreach and foundation programs, said: "I want to congratulate every team and every single student that entered a research poster in the competition because the standard was exceptionally high. We were extremely impressed by the quality of the research, the very high level of presentation and the deep understanding each student demonstrated about his or her subject area."

In addition to presenting their research in poster form, the students also had to explain their findings to the WCM-Q faculty on the panel of judges, which comprised Dr. Bendriss, Dr. Dietrich Büsselberg, professor of physiology and biophysics, Dr. Raphael Courjaret, assistant professor of research in physiology and biophysics, Dr. Sohaila Cheema, director of the Institute for Population Health, and Dr. Yasser Majeed, postdoctoral associate in microbiology and immunology.

It proved to be a nerve-racking but exciting experience for Noura Rakab and Yasmin Zamel, both aged 16, from American School of Doha, who presented a poster about the implications for public policy of vitamin D deficiency in Qatar, which they worked on with Aya Al Thani and Maryam Hussain under the supervision of their teacher, Pamela Keigley.

Noura said: "We really enjoyed the research and the event because it was a challenge that took us out of our comfort zone and made us push ourselves further than we thought was possible."

Yasmin added: "We are both really interested in careers in medicine so it was great to work on this project together. We are looking forward to applying to medical school next year."

Each team was paired with a WCM-Q teaching specialist or faculty member who provided useful guidance on how to refine the research questions, conduct research and interpret data. The teaching specialists who actively engaged with the students were: Dr. Ali Chaari, Dr. Majda Sebah, Dr. Nandeo Choony, Dr. Branislav Aleksic, Ms. Melanie Fernandes, Ms. Robin Theron and Mr. Anthony Overy, in addition to faculty member Dr. Ghizlane Bendriss.

Noha Saleh, director of student recruitment and outreach, said: "This was the first event of our new High School Medical Conference initiative, which we have designed to reach out to highly motivated and talented high school students to help them realize their ambitions of becoming Qatar's next generation of medical leaders.

"We are delighted with the enthusiastic response we received from high schools, students and teachers."



The event aims to foster interest in science, technology, engineering and math.

# Specialist obesity center opens

New center is first of its kind in the Gulf region and will help reduce the high rates of obesity and diabetes.

**A** new National Obesity Treatment Center at Hamad Medical Corporation (HMC) which WCM-Q helped plan will be the first of its kind in the Gulf region to specifically address medical weight management, endoscopic procedures for obesity, bariatric surgery, and obesity research.

The center, which was officially opened by Her Excellency Dr. Hanan Mohamed Al Kuwari, the Minister of Public Health, is a significant collaborative achievement for two major departments at HMC (Medicine and Surgery) and multiple institutions in Qatar, and is expected to have a significant impact on the health of people in the country. It brings together services, treatments and technology related to obesity and obesity-related illnesses under one roof, meaning that patients will receive more integrated treatment from specialists in their field.

Dr. Shahrada Taheri, professor of medicine and assistant dean for clinical investigations at WCM-Q and assistant chair in medicine at HMC, was a key member of the multi-professional team that planned the new center. Dr. Taheri said that an integrated approach to obesity will provide holistic therapies, treating not just the causes of obesity, but also associated metabolic illnesses and complications like diabetes and heart disease.

He added: "Obesity is one of the most serious health issues facing Qatar today, encompassing a range of diseases from diabetes to cardiovascular disease. WCM-Q and HMC recognize the importance of bringing the obesity epidemic under control, not only for individuals but also for the good of the nation, and with the National Obesity Treatment Center we will have a range of specialists, services and technology under one roof.

"Reducing obesity will have significant economic and social benefits and will help Qatar achieve the goals of QNV2030."

The center will be under the umbrella of the Qatar Metabolic Institute (QMI) led by Dr. Abdul Badi Abou Samra, chairman of medicine at HMC and professor of medicine at WCM-Q. Dr. Abou Samra stated that the new center is a good example of HMC supporting the national health needs and creating synergy amongst institutions to provide the best care and research for obesity and its complications.

He added: "QMI and the new center are achieving the collaboration needed in Qatar to advance patient care and research. This will significantly benefit future generations."

The center will be directed by Dr. Monica Skarulis Young, senior consultant in endocrinology at HMC. Dr. Skarulis Young said that the center will be a good example of multiple professionals working together to achieve the best patient outcomes.

She added: "We have the latest equipment and technology to provide holistic care for all patients."

Dr. Taheri will lead the medical management team in the center while the bariatric surgery team will be led by Dr. Moataz Bashah, senior consultant in surgery at HMC and instructor in clinical surgery at WCM-Q.

The center will be located in building 311 at Hamad Bin Khalifa Medical City and will bring together the obesity clinics previously found at other locations. Endocrinologists, bariatric physicians, bariatric surgeons, gastroenterologists, dieticians, and physiotherapists will all be based at the site. Working together, they will be able to create long-term health plans to ensure patients improve their lifestyles and health and better manage associated illnesses like diabetes.

Qatar has a high prevalence of obesity and metabolic illnesses, as does the entire Gulf region, and the new center will be a beacon for addressing the problem.



Dr. Hanan Al Kuwari, Minister for Public Health, takes a tour of the facilities.



The center was officially opened by Her Excellency Dr. Hanan Al Kuwari, Minister for Public Health.

# Learning footballing skills with Your Health First

Sahtak Awalan and Generation Amazing team up to teach children about sport and health.



Professional footballer Abdulla Afifa plays a game with some of the visiting schoolchildren.

**S**chool children and families from across Qatar have been learning about health and have had the chance to learn new skills from professional football coaches thanks to Sahtak Awalan and the Supreme Committee for Delivery and Legacy.

Sahtak Awalan – Your Health First, which is the health campaign of WCM-Q, partnered with the Supreme Committee’s Generation Amazing initiative to provide a range of fun, exciting and healthy activities at the Wise Innovation Summit for Education (WISE) Festival at Katara Cultural Village.

Sahtak Awalan’s Yalla Natural Trailer was there offering advice about fresh, organic sustainable food and recipes, the planting tables allowed children to plant seeds and take them home to grow, and the blender bikes proved to be another hit, letting children make their own delicious and healthy smoothies using only pedal-power.

The main draw for the crowds, though, was the football pitch, allowing children to play games and learn new skills from professional coaches.

As well as attracting thousands of guests throughout the week, schools from across Qatar were invited to visit the activities each morning.

Eleven-year-old Shaheed Badr from Cairo Private School for Girls had taken advantage of the presence of football coaches.

“She said: Playing football was the best thing about the morning; it was so fun and I really enjoyed running around. The coaches taught me how to run with the ball and how to stop and control it better.”

Unfortunately, that didn’t help her team as they lost 2-1, but Shaheed added: “It’s very healthy to play football and it helps me to lead a healthy life.”

Faisal Jaber visited the Sahtak Awalan and Generation Amazing activities with Al Hammad School.

Ten-year-old Faisal said he had enjoyed going on the blender bikes and making his own smoothies and had planted parsley seeds to grow at home.

He said: “I’ve learned a lot about plants and also about exercise and how it’s important for your health.”

The football pitch gave the students a chance to burn off some energy.

Nesreen Al-Rifai, chief communications officer at WCM-Q, said the event had been a great success.

Mrs Al-Rifai said: “It has been a pleasure to partner with the Supreme Committee for Delivery and Legacy and support the wonderful work that WISE is doing.

“Through this event, I hope that WCM-Q and the Supreme Committee have played a part in educating our children about health and how they can look after themselves through exercise and diet.

“They are the future of Qatar and we need to furnish them with the knowledge to make the right choices to protect their health.”



Students were able to learn about nutrition, recipes and plant their own seeds.



## Keeping a steady beat

Heart expert produces a best-practice guide for doctors around the world.

**A** professor at WCM-Q has had his work into heart palpitations published by one of the world's most respected and prestigious medical journals.

Dr. Charbel Abi Khalil, assistant professor of medicine and genetic medicine at WCM-Q, and consultant cardiologist at the Heart Hospital – Hamad Medical Corporation, wrote a paper entitled 'Investigating palpitations, the role of Holter monitoring and loop recorders.' The work has now been published by the *British Medical Journal*.

Heart palpitations make an individual feel that their heart is racing, missing a beat, or has an irregular rhythm, and although they usually have a benign cause, like stress, they can be indicative of a more serious, underlying heart condition. Holter monitoring involves having a battery-operated monitor attached to a patient's clothing which monitors electrocardiogram (ECG) readings through electrodes attached to the skin. The Holter monitor can be worn for as little as 24 hours or up to two weeks to gain a fuller picture. Loop recorders operate in a similar manner, but are implanted beneath the skin, detecting the heart's electrical activity over time in order to diagnose an irregular pulse.

Dr. Abi Khalil has now written about the best approach for doctors faced with a patient who suffers from palpitations, detailing the steps they should take in order to make the most accurate diagnosis and prognosis.

Firstly, Dr. Abi Khalil states that physicians must consider the history and lifestyle of the individual. For example, symptoms that also include dizziness and blacking out might suggest a serious form of arrhythmia, which is caused by disorganized electrical activity in the ventricles. Alternatively, palpitations that are preceded by exercise or the consumption of caffeine may suggest a less worrying condition. A cardiovascular examination may also reveal heart disease so the palpitations could be a sign of congestive heart failure or valvular heart disease.

As well as issues with the heart, palpitations can also be caused by metabolic disorders like hypoglycemia, induced by certain medications, or even be symptoms of a psychiatric problem like panic attacks or depression.

The first medical investigation that should be performed is to get a full blood count, thyroid and kidney function test, and measurements of blood sugars and electrolytes, as Dr. Abi Khalil said these give an indication of common metabolic disorders that could be causing the irregular heartbeats.

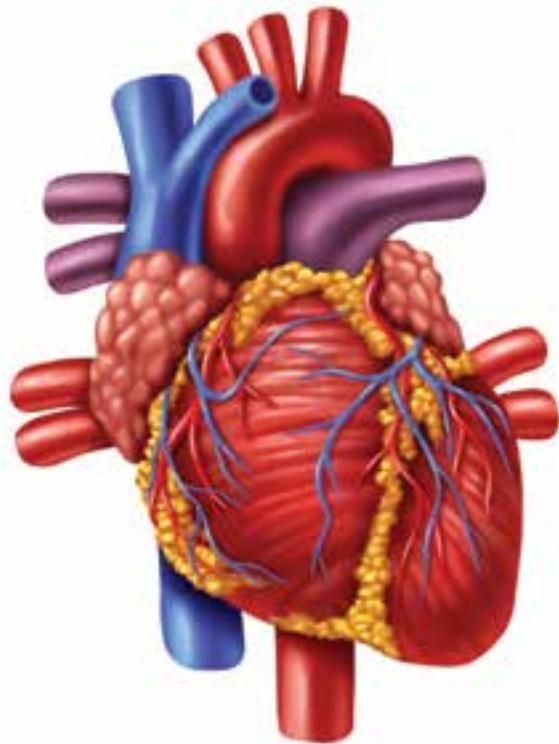
The next step would be to use a Holter monitor. These can be used as a diagnostic and prognostic tool but also as a method of monitoring patients with a diagnosed condition to ascertain how they are responding to the treatment. If a Holter monitor is used but no arrhythmia is found, Dr. Abi Khalil said it is then advisable to use a loop monitoring system, which can be worn for a much longer period of time.

However, physicians should be aware that under certain circumstances, a patient who is complaining of palpitations should be referred immediately to a cardiology clinic rather than undergoing monitoring. These circumstances include a history of cardiac disease or premature death in the patient's family; palpitations associated with chest pain or an abnormal electrocardiogram reading.

Patients should be immediately referred to the emergency department if they report persistent chest pain or display symptoms of heart failure.

The paper was supported by Qatar National Research Fund through the grant NPRP 9-169-3-024.

Dr. Abi Khalil said: "As a cardiologist myself, it is always useful to have your knowledge refreshed about the latest best practice and - thanks to the support of Qatar National Research Fund - I hope that this paper provides a template for the wider medical community, ensuring the people of Qatar receive the very best of care. I would also like to acknowledge the work of my colleague Dr. Jassim Al Suwaidi, associate professor of clinical medicine and senior consultant in cardiology at Hamad Medical Corporation's Heart Hospital. His support and provision of examples of Holter monitoring were invaluable to the writing of this paper."



# Healthcare in Vietnam

Pre-medical students learn about foreign medical systems and gain international awareness.



The students were able to shadow doctors and nurses during their time in Ho Chi Minh City.

Vietnam's healthcare system was one of the subjects explored by students of WCM-Q who were accepted onto a new service learning trip.

The six pre-medical students visited Ho Chi Minh City to spend time at a rehabilitation and orthopedic hospital. Accompanied by WCM-Q faculty members, the trainee doctors were able to interact with patients and staff and observe surgical procedures. They met US medical students and – the highlight of the trip – spent time at a special needs center for children with neurological disorders.

The experience was organized by WCM-Q's Institute of Population Health and the college's Division of Pre-Medical Education with the aim of providing a global service learning trip that allows students to develop intercultural sensitivities and experience foreign healthcare systems in countries with different economies.

Dr. Ravinder Mamtani, senior associate dean for population health, capacity building and student affairs, said international awareness was vital for the modern physician.

He said: "One of the things that WCM-Q does is provide educational, clinical and community experiences to the students that are not available to them as part of the traditional curriculum. To us in pre-medical education, medical education and the Institute of Public Health, we feel that is important because with the changing focus of healthcare there is a dependence on global collaboration and partnerships, so any such overseas experience becomes valuable."

Dr. Mamtani added that the service learning trip also

made the students appreciate the healthcare system in Qatar, which as a country with a high GDP, provides a free and comprehensive healthcare service. In Vietnam, patients must pay 30 per cent of their treatment cost. Some also have their family staying with them in hospital to help look after them.

The trip also encouraged the trainee physicians to take a practical role in certain parts of healthcare, and strengthened their commitment to medicine.

Nada Al Mulla was one of the pre-medical students who visited Vietnam.

She said: "During the experience, I shadowed doctors and spent time with the nurses. I was able to observe orthopedic surgeries, acupuncture, mixing medicines, wound cleaning, plasma technology, physiotherapy, and electric therapy. I also realized how privileged we are in Qatar to have access to quality healthcare at a minimal cost since whereas this was not the case in Vietnam. Furthermore, I saw firsthand how health is influenced by culture and traditions and the environment we live in.

"What I gained from this trip cannot be taught in a classroom and I feel the impact of this trip on my future career is limitless."

Fatin Ishtiaq was also on the trip.

He said: "The experience gave me an insight into my future life as a doctor. It gave me a great motivational boost to go through my journey of medicine despite the hardships. I intend to use this experience to remind myself as to why I joined this vocation in the first place."

# Back to school with YHF

Initiative will help ensure children are educated about health from a young age.

Children across the country returned to school with a passion for health, thanks to a partnership between Sahtak Awalan – Your Health First and the Ministry for Education and Higher Education.

As part of the Ministry of Education's Back to School program, Your Health First distributed thousands of school bags, lunchboxes, water bottles, pencil cases and food information cards to young students at the Mall of Qatar over the Eid Al Adha period. The gifts were branded with the Sahtak Awalan – Your Health First campaign, an initiative of WCM-Q. The campaign aims to change unhealthy habits into healthy behaviors, and educate a generation about the importance of diet and exercise. The food cards explain the nutritional benefits of a wide variety of different foods, helping parents and young people to plan healthy meals and understand the benefits of the foods they are eating.

Nesreen Al-Rifai, chief communications officer at WCM-Q, said: "The partnership between the Back to School campaign and Sahtak Awalan is so important for our children and young people. If we can educate our children about health at a young age, they will take those lessons with them into later life. In that way, we can help create a healthy generation in the future who are able to meet the goals of Qatar National Vision 2030.

"I would like to thank everyone for their support with this, particularly the Ministry of Education and Higher Education but also our strategic partners; Qatar Foundation, the Ministry of Public Health, Occidental Petroleum Qatar and ExxonMobil who offer such valuable help.

"Obesity and related disorders are diseases from which we must do all we can to protect our children, but by working together we are making a real difference to the health of our most precious asset – our young people."

Along with the nutrition cards, the water bottles will help ensure that the students returning to school stay well-hydrated throughout the day, and a magnetic food guide for the refrigerator will serve as a reminder at home about the importance of diet in staying fit and healthy.

WCM-Q and its Sahtak Awalan – Your Health First campaign, has already done much to educate children about health, having installed greenhouses at government schools so the pupils could learn to grow and then eat their own fresh, organic fruit and vegetables. Once again, that project could not have been realized without collaboration with the Ministry of Education and Higher Education, and the backing of Sahtak Awalan's strategic partners.



Your Health First distributed thousands of bags, lunchboxes, water bottles and pencil cases.

# The ethics of death

WCM-Q Law & Medicine symposium discusses ethical end-of-life care and how to maximize quality of life for patients.



The Law and Medicine series provides professionals with practical guidance about legal and ethical issues.

**T**he legal and ethical issues surrounding end-of-life care were discussed at the latest installment of WCM-Q's series on the intersections between law and medicine.

More than 200 physicians, nurses and other healthcare professionals convened at WCM-Q to hear expert speakers from around the globe explain and explore key themes in end-of-life care. Themes included maximizing quality of life for patients in their final days, palliative care in the global context, strategies for ensuring effective communication among healthcare professionals, patients and their families, and the legal and ethical issues inherent in providing palliative care in a multi-national, -cultural, and -religious community, among others.

Dr. Randi Diamond, assistant professor of medicine at Weill Cornell Medicine in New York, said: "Palliative care focuses on providing patients with relief from the symptoms, pain and stress of having a serious illness, regardless of what the diagnosis may be. While palliative care is often for people who are nearing the end of their life, it is also beneficial for people who have a serious illness but are likely to live for an extended time. The overall aim of palliative

care is to help the patient and the family achieve the best quality of life in whatever time they may have remaining. Interdisciplinary palliative care teams work side by side with a patient's other primary care and specialist physicians."

The symposium, entitled 'Law and Medicine Series: Legal and Ethical Issues in End-of-Life Care', was the sixth Law and Medicine event hosted by WCM-Q. The series provides healthcare and legal professionals with practical information about legal and ethical issues affecting provision of medical care in Qatar and the wider region. Andrea Tithecott, partner at corporate law firm Al Tamimi & Co., discussed the legal issues relating to end-of-life care, institutional liability, patients' rights regarding refusing care and defining the legal capacity of patients and medical research subjects. Dr. Stefan Rohrig, senior consultant anesthesia & SICU-HGH at Hamad General Hospital, gave a physician's perspective on determining the capacity of patients to make informed decisions and provided a comparative analysis of end-of-life care in different jurisdictions.

Additionally, Dr. Mohammed Ghaly, professor of Islam and biomedical ethics at the Center for Islamic Legislation

and Ethics at Hamad Bin Khalifa University, spoke about the legal capacity of patients with mental disabilities, and explored legal capacity from an Islamic ethical perspective. Ms. Hiba Salem, psychologist from SANAD Home Hospice Organization of Lebanon, discussed the roles of non-profit institutions, family and society at large in improving quality of life for patients receiving palliative care.

Dr. Abdulaziz Sachedina, professor and Endowed International Institute for Islamic Thought Chair in Islamic Studies at George Mason University in Virginia, USA, spoke about Islamic bioethics and end-of-life care in which he examined ethical questions arising in care of people in their final days, analyzed related philosophical and religious issues, and outlined the religious and ethical deliberations related to end-of-life care in the Islamic tradition.

During his visit to Qatar, Dr. Sachedina also gave a presentation at WCM-Q's Grand Rounds series, entitled 'Patient Care and Islamic Ethics'. In his presentation he said: "As medical professionals we deal with human beings, complex beings, whose physical make up does not tell us everything about them. Maintaining this human entity with all its dignity is our role as scientists, as ethicists, as those who know religion, those who know humanity. All of these considerations must inform the decisions we make about caring for this patient and their loved ones."

Both activities were accredited locally by the Qatar Council for Healthcare Practitioners-Accreditation Department and internationally by the Accreditation Council for Continuing Medical Education.

Dr. Sunanda Holmes, deputy chief administrative officer & associate university counsel and assistant professor of healthcare policy and research at WCM-Q, said: "We are extremely grateful to Dr. Sachedina and all of our esteemed speakers who have shown us that by approaching end-of-life care with sensitivity, honesty and humility we can help patients and their families find comfort and peace in their final days, while also respecting their cultural and religious needs, the law and ethical considerations."

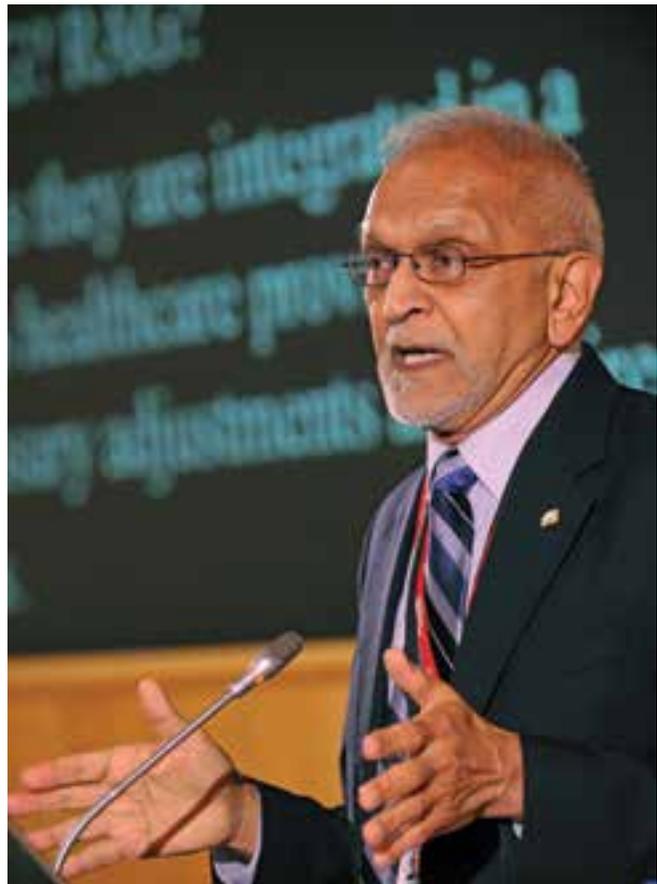
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**"As medical professionals we deal with human beings, complex beings, whose physical make up does not tell us everything about them. Maintaining this human entity with all its dignity is our role as scientists, as ethicists, as those who know religion, those who know humanity. All of these considerations must inform the decisions we make about caring for this patient and their loved ones."**

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Dr. Randi Diamond.



Dr. Abdulaziz Sachedina.

# Cornell stars help students learn new skills

Program offers trainee doctors their first experience of performing a physical examination of children.



Merna Hussein examines a young volunteer.

**M**edical students at WCM-Q took on their toughest challenge to date on the most difficult patients in the world – children.

Each year as part of the Introductory Clerkship Course, WCM-Q holds its Cornell Stars event, where faculty and staff members bring in their own children so that the students can learn the best techniques for examining youngsters while also ensuring they remain relaxed and happy.

Using the mock surgeries at WCM-Q's state-of-the-art Clinical Skills and Simulation Lab, the students, who are all now in the third year of the medical curriculum, perform a basic physical examination of the children under the guidance of WCM-Q faculty and doctors from Hamad Medical Corporation, Al Wakra and Sidra Hospitals.

Dr. Amal Khidir, associate professor of pediatrics, and organizer of the Cornell Stars program said the event allowed young children to be educators to teach the medical students at WCM-Q.

Dr. Khidir said: "We are trying to role model what a pediatrician does, the best ways of engaging a child and their family, and how to persuade the child to allow

themselves to be examined. We show the students how to perform a basic physical examination and the creative ways that pediatricians use to soothe the child, keep them calm and get them to comply; for example, we might let them listen to their heartbeat with the stethoscope."

She said that the nature of the examination is opportunistic and that with an adult, physicians would be methodical and go from head to toe, but with children they have to take opportunities when they present themselves. Usually a doctor will start at the heart and lungs of young child and go on to the abdomen, before examining the ears and finally the nose and throat so as to minimize any distress.

Dr. Mai Mahmoud, assistant professor of medicine and director of the Introductory Clerkship Course, added: "The Cornell Stars program is incredibly important to the development and education of our students as fully-rounded doctors. I would like to thank all of the parents and children who took part for their valuable support, as well as our colleagues for sharing their time and experience: Dr. Najla Sharahil of Hamad Hospital, Dr. Wail Ali Seleem and Dr.

Abdussalam Shah of Al Wakra Hospital, Dr. Sharda Udassi and Dr. Amin Salem from Sidra Medicine, and Dr. Mohamud Verjee, of WCM-Q.

In all, 45 medical students took part in the Cornell Stars event and it was the first time they had been presented with children as 'patients'.

Tala Altaji, who hopes to become a pediatrician following graduation, said: "It was a really lovely experience. It was nice to have hands-on experience with children as it's something that we haven't done before – all our clinical work has been with adults so it was interesting to examine a child and make a mental note of what has to be done differently.

"I think with children you have to be very amicable and to get across your message in very simple terms."

Her classmate Sonia Allouch added: "This was my first time working with children in a clinical setting and it was a really intriguing experience because you have to use a different set of skills and a different approach to when you examine an adult. We examined a little girl who was only ten months old and we manage to keep her calm by keeping her close to her mother as much as possible, speaking softly and making it a playful experience for her."



Rana Abualsaud examines a young 'patient'.



The program allows students to learn how to examine children in a controlled environment.



The Cornell Stars program is a valuable learning experience for the students.

# Oral health in Qatar

Research team investigates how Qatari nationals maintain good dental health and the correlation with societal matters.



Dr. Ravinder Mamtani, senior associate dean for population health, capacity building and student affairs.

**A**n in-depth study by researchers at WCM-Q has shed light on the factors affecting oral health in Qatar.

The WCM-Q team analyzed data from the STEPS survey conducted in 2012 by the World Health Organization in collaboration with the Ministry of Public Health and discovered that approximately 40 percent of Qataris rated their own oral health as either poor or average.

The research also found that women, people with diabetes, older people, people with lower levels of educational attainment and people who smoke or use smokeless tobacco products like snuff or chewing tobacco were more likely to report their oral health as poor than other groups. Women were also more likely than men to report problems such as mouth pain, trouble chewing and embarrassment over the appearance of their teeth, the study found.

Dr. Sohaila Cheema, director of WCM-Q's Institute for Population Health, is one of the lead authors of the research, which is entitled *Oral Health Behavior and Factors Associated with Poor Oral Status in Qatar: Results from a National Health Survey*. The study has now been published in the prestigious *Journal of Public Health Dentistry*.

Dr. Cheema said: "Oral health is an integral component of overall health and a very important determinant of quality of life. People with poor oral health often suffer pain and difficulty eating, and they may also have speech problems and suffer from low self-esteem. This research helps us to understand the true nature of oral health among Qataris

and could prove very useful to help formulate effective public policy to protect oral health."

The anonymous STEPS survey asked 2,496 Qataris (1,053 men and 1,443 women) a variety of questions about their oral health, such as how they rated the state of their teeth and gums, how many natural teeth they had and whether they used removable dentures. The WCM-Q team then collated this data and used statistical analysis to categorize each respondent's oral health as 'good', 'average' or 'poor'. They then cross-referenced this information with basic personal data such as gender, age, tobacco use, health status and education level to build up a detailed picture of oral health status within a social context.

The survey also quizzed participants about their methods of maintaining oral health. Unsurprisingly, the vast majority use a toothbrush (96.7 percent), while 27.6 percent said they use dental floss and 30.6 percent said they use miswak, the traditional teeth-cleaning twig made from the *Salvadora persica* tree, which has natural antibacterial qualities. Surprisingly, the study found no association between body mass index and oral health, contrary to findings in other countries, such as the US and Jordan.

The paper was produced with contributions from the Ministry of Public Health, the Department of Dentistry at Hamad Medical Corporation (HMC), the Primary Health Care Cooperation, the European Institute of Oncology in Milan, Italy, and New York Medical College in the US.

Sheikh Dr. Mohammed Al-Thani, director of public health in the Ministry of Public Health, said: "The study findings can be helpful in planning appropriate dental awareness campaigns and at the same aid dentists in better evaluating and managing their patients."

He added: "We are glad to cooperate with the Institute for Population Health at Weill Cornell Medicine-Qatar on studies that help us better understand the problems of public health importance in the State of Qatar."

Dr. Ravinder Mamtani, senior associate dean for population health, capacity building and student affairs at WCM-Q, is also a lead author of the paper. He said: "An estimated 3.9 billion people worldwide suffer from oral disease and up to 20 percent of adults worldwide have severe periodontitis so oral health is a very important component of public health. Understanding more about the oral health situation in Qatar therefore makes a significant contribution to ongoing efforts to protect public health here.

"We are grateful to the Ministry of Public Health, the Department of Dentistry at HMC and our other collaborators for their excellent contributions to this important piece of work."

# Promoting patient safety

Students and healthcare professionals convene to discuss patient safety strategies.

**T**he crucial role of effective communication and teamwork in ensuring patient safety was discussed at an immersion program coordinated jointly by WCM-Q, Hamad Bin Khalifa University (HBKU) and the World Innovation Summit for Health (WISH).

The five-day immersion program, held at the HBKU Student Center and accredited by both QCHP and ACCME, brought a team of experts from the US-based Academy for Emerging Leaders in Patient Safety to Doha to deliver their world-renowned patient safety program. The program was attended by healthcare leaders, educators, and medical students wishing to broaden their knowledge of patient safety and risk reduction.

The event, which marked the second time the Academy for Emerging Leaders in Patient Safety has visited Doha, was co-sponsored by the Ministry of Public Health and WCM-Q, and supported by MedStar Health, a US-based not-for-profit healthcare organization.

Patient safety is a field of medical research that has garnered much attention since a landmark paper was published in 1999 by the Institute of Medicine (IOM) by the title of "To Err is Human" which suggested that as many as 98,000 people die in U.S hospitals each year as a result of medical errors.

Opening the conference, Dr. Amine Rakab, assistant dean for clinical learning at WCM-Q, said: "WCM-Q is firmly committed to delivering a robust curriculum that promotes patient safety education to our medical students starting from the first year of medical school. We strongly believe that medical students can be a driving force to change the culture of healthcare organizations to one focused on continuous improvement in patient safety, based on the very best research available."

The first two days of the conference were aimed at faculty members and practicing healthcare professionals, while the final three days were aimed at students. Speakers at the conference discussed case studies in which medical errors occurred, explained how games and role-playing exercises can help healthcare providers develop problem-solving skills, explored the role of care givers and family members in patient communication, and discussed concepts of shared accountability and transparency. The speakers also addressed issues such as informed consent, shared decision-making, indicators of improved patient safety within institutions, and barriers to transparency and the reporting of medical errors, among other topics. Participants also had the chance to develop their teamwork skills by taking part in a teeter-totter, or see-saw, exercise.



Med 3 student Ramez Rawhani takes part in the discussion.

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Dr. Rakab said: "Creating a culture of patient safety amongst our medical students is a top priority. The barriers to patient safety are often the fear of punishment for reporting errors, the lack of systemic analysis of mistakes, and inadequate communication and teamwork. WCM-Q's curriculum, in conjunction with this immersion program, teaches our students to recognize unsafe conditions, systematically report errors and near misses, and empowers them with the knowledge, tools and techniques necessary to lead change at their home institutions."

Dr. David Mayer, vice president of quality and safety for MedStar Health, said: "I think in the last 15 years we have realized more and more that providing care for patients and their families carries inherent risk. Because of this, good people working with the best of intentions can sometimes unintentionally cause harm to their patients. Our aim is to foster collaborations and share techniques and strategies that allow those who take care of patients to work more safely and put processes and systems in place that help protect patients from these inherent risks. We at the MedStar Health Institute for Quality and Safety are excited about working with WISH, Qatar Foundation and WCM-Q to make care safer for the communities we serve."

Fatima Al-Maddid, a fourth-year medical student at WCM-Q, said: "The opportunity to engage in this conference on patient safety has allowed us as students to grow as individuals within the system. I am excited that we have these conversations early on in our careers, which is something that our training at WCM-Q does and that this conference enhances. This, coupled with the inter-professional team of healthcare personnel at the conference, means that we as a group understand the centrality of the patient in healthcare. This appreciation of the patient-first approach is something we can all take away from the three days of talks, case analysis and simulations."



Adham Musthak makes a point.



The event was open to students as well as qualified health professionals.

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**"Creating a culture of patient safety amongst our medical students is a top priority. The barriers to patient safety are often the fear of punishment for reporting errors, the lack of systemic analysis of mistakes, and inadequate communication and teamwork."**

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# Understanding the Zika virus

Survey finds that the majority of residents in Qatar have little knowledge of the disease's transmission or treatment.

**T**he Zika virus is not currently judged to be a direct threat to the Gulf region. It is, however, present in Brazil, Argentina, Florida in the US and Singapore – all areas with direct flights to Doha – which marginally increases the likelihood of importation of the disease. Furthermore, the region is home to the *Aedes aegypti* mosquito, one of the primary species responsible for the transmission of Zika virus. No vaccine exists for Zika virus, which can also be transmitted by sexual intercourse and blood transfusions.

The research team of WCM-Q's Institute for Population Health (IPH) surveyed 446 people in Qatar from GCC or other Middle Eastern countries and asked a range of questions about Zika. The results showed that 66 percent of participants had 'poor' knowledge of Zika, defined as not knowing that it is transmitted by mosquitos and/or that anyone can get the virus and/or that there is currently no vaccine. Twenty-seven percent had 'basic' knowledge of Zika, defined as knowing that there is currently no vaccine, that the disease is transmitted by mosquitos and that anyone can get it.

Just seven percent of respondents were found to have 'broad' knowledge, defined as having 'basic' knowledge and additionally knowing that it can be transmitted through sexual intercourse, blood transfusions and from mother to baby during pregnancy, and that if a pregnant woman has Zika virus there are health risks for her baby.

Lead author of the study Dr. Sohaila Cheema, director of the Institute for Population Health and Assistant Professor of Healthcare Policy and Research at WCM-Q, said: "Our aim with this study was not to make people worried about Zika virus becoming prevalent in Qatar, because the risk of that happening is very low, although future cases are indeed possible because of Doha's position as a global transport hub. Rather, our aim was to look at an emergent public health issue that received widespread coverage in the media and discover whether the general public gained useful practical information that they could use to protect their own health.

"The results are slightly concerning for us because it appears that although the Zika virus was extensively covered by international media, this does not appear to have resulted in people gaining anything more than a superficial understanding of the disease and the nature of the risk it poses."

The article, entitled 'Knowledge and Perceptions about Zika Virus in a Middle East Country', has been published in the prestigious international health journal *BMC Infectious Diseases*. Other contributors to the study included Dr.



The Zika virus is spread by the *Aedes aegypti* mosquito.

Javaid Sheikh, dean of WCM-Q, and Dr. Ravinder Mamtani, professor of healthcare policy and research in WCM-Q's Institute for Population Health. WCM-Q collaborated on the study with researchers at New York Medical College in Valhalla, New York, Qatar Computing Research Institute, and the European Institute of Oncology in Milan.

Dr. Ravinder Mamtani, said: "One of the key ways in which we try to mitigate public health risks is by the dissemination of useful practical information and advice, and this study has demonstrated that the mainstream international media is not a reliable or effective tool for doing so.

"The Zika virus is a serious emerging infectious disease that can cause devastating health issues. Because global air travel means we are well-connected to areas of the world where Zika virus is prevalent, it is important that we understand the disease. Therefore, we concluded that an educational program about Zika virus would be valuable as a preventive measure against the spread of the disease in the Gulf region, especially for people traveling to afflicted regions."



## Success for med student

Student's research project examined the fertility of Arab women compared to Caucasians.

Dr. Nayef Mazloun, assistant dean for student research, with Aya Tabbalat.

**T**he research of a first-year medical student at WCM-Q has been published in a leading scientific journal thanks in part to the mentorship of a WCM-Q alumnus who is now on the faculty at Weill Cornell Medicine in New York.

Aya Tabbalat's research project on the fertility of women in the Arabian Peninsula was published in the Journal of Assisted Reproduction and Genetics following a summer of research at Weill Cornell Medicine in New York, where she was mentored by Dr. Nigel Pereira, who graduated from WCM-Q with academic distinction in 2010.

Aya, who joined WCM-Q's Premedical Program in 2014, is the first author on the paper, titled 'Arabian Peninsula ethnicity is associated with lower ovarian reserve and ovarian response in women undergoing fresh ICSI cycles'. The Journal of Assisted Reproduction and Genetics is an official publication of the American Society of Reproductive Medicine.

Aya said: "I am very happy to see my research published and extremely grateful to Dr. Pereira for being such a proactive and encouraging mentor. His guidance, knowledge and passion for his work was so beneficial and inspiring, and it was great to be able to work with a fellow member of the WCM-Q community."

The research paper studied the cases of 763 female patients; 217 of Arab Peninsula ethnicity and 546 Caucasians, and used a statistical modeling technique to compare the success of assisted reproductive techniques (ART) between the two groups. The study found that women of Arabian Peninsula heritage responded less well to ART than the Caucasian group. But the study also found that Qatari women in the Arab group responded more positively to ART than women from other parts of the region. All data used in the study was anonymized.

Aya added: "In the context of the opportunities presented by the emergence of personalized medicine, understanding the genetic or ethnic basis of responses to ART is an area of research we feel is very worthwhile. I am pleased that this paper provides insight into an important health issue for our region."

WCM-Q's Six-Year Medical Program is designed to give students multiple opportunities to conduct their own research in order to produce physician-scientists who not only provide excellent care but also drive progress in medical science. Aya's research at Weill Cornell Medicine in New York was supported by the Medical Student Research Award, an initiative that facilitates research experiences for students who demonstrate an aptitude for scientific enquiry.

Dr. Pereira, who now holds the position of assistant professor of reproductive medicine and obstetrics and gynecology at the Ronald O. Perelman and Claudia Cohen Center for Reproductive Medicine at Weill Cornell Medicine-New York, provided mentorship to Aya throughout her research experience. He said: "It has been a great privilege

to have the opportunity to offer mentorship to such a diligent and focused student as Aya. I am incredibly pleased that her exemplary attitude has been rewarded with the publication of an original research paper.

"Aya is my first research mentee from WCM-Q and she was extremely professional and also, most importantly, an active learner. Our research forms the basis for ethnicity-based variations in IVF outcomes, which is an important topic that has not been explored in the Arabian Middle East. Her publication is a fantastic achievement and one that Aya thoroughly deserves."

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**"I am very happy to see my research published and extremely grateful to Dr. Pereira for being such a proactive and encouraging mentor. His guidance, knowledge and passion for his work was so beneficial and inspiring, and it was great to be able to work with a fellow member of the WCM-Q community."**

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Dr. Pereira is a prolific researcher and has published 75 research papers and letters in leading journals, with a particular focus on assisted reproductive techniques (ART) and the short- and long-term health of children conceived using ART. He is a named author on the research paper published by Aya.

Dr. Nayef Mazloum, assistant dean for student research at WCM-Q, said: "To be published in a prestigious journal at such an early stage in one's career is a rare and extremely significant achievement.

"We are very pleased that Aya's hard work has been rewarded and we are delighted that her research was supported by one of our own WCM-Q alumni, Dr. Nigel Pereira, who is one of our most talented and dedicated former students."

The research paper can be read in full at: <https://www.ncbi.nlm.nih.gov/pubmed/29063502>

# Diabetes Conference Goes from Strength to Strength

The event provides the opportunity to share the latest thinking and treatments with doctors who may not have access to the most up-to-date information.



Dr. Syed Abbas Raza addresses the audience.

**W**CM-Q hosted its third successful International Diabetes Excellence Academy (IDEA) conference, welcoming around 40 doctors locally and from Pakistan to the college to learn about the latest approaches for diagnosing and managing patients with diabetes.

The two-day IDEA conference featured lectures and debates led by expert speakers, plus Q&A sessions on a wide variety of topics, such as new diagnostic methods for neuropathy and ischaemic heart disease, dietary and pharmacological recommendations, insulin treatment, diabetes and stroke, diabetic foot and managing diabetes in pregnancy, among others.

WCM-Q's Division of Continuing Professional Development coordinated the IDEA conference in partnership with Dr. Rayaz Malik, WCM-Q professor of medicine, Dr. Syed Abbas Raza, consultant diabetologist/endocrinologist at Shaukat Khanum Cancer Hospital and Research Center and the National Hospital in Lahore, Pakistan, and Dr. Hamed Farooqi, director of the Diabetes Centre in Dubai.

If diagnosed early and managed carefully, diabetes patients can lead normal lives, but poor management of the disease increases the likelihood of serious complications such as premature blindness, renal failure and amputation, as well as death caused by myocardial infarction or stroke. The World Health Organization estimates that by 2030 almost 14 million people in Pakistan will have diabetes, up from just over five million in 2000. This will create a major problem in terms of providing adequate treatment for all these extra patients, in a country with already limited resources.

Dr. Raza said: "Currently the data shows that in Pakistan we are among the top 15 countries in the world in terms of the prevalence of diabetes. However, newer data suggests that the true prevalence may actually be even higher and we may be among the top ten, which is extremely concerning.

"The IDEA conference is important because doctors in Pakistan may not have access to the latest information about how to treat diabetes and its complications. Through IDEA we can give these doctors that information to help them provide the best possible treatment for their patients. The response to IDEA has been so positive that we are running it twice a year now to meet demand."

Dr. Shahzad Alam Khan practices in the city of Multan in the Punjab region of Pakistan. He said: "We have been given a vast amount of information in two days and the event has been quite excellent. I have been practicing for seven years and I have seen the prevalence of diabetes increase hugely - it is reaching the level of an epidemic. Unfortunately, in Pakistan we do not have the latest medicines or the information about treatment that we need. Our set-up for dealing with diabetes requires a lot of improvement and this event has shown us some ways we can achieve that."

Dr. Malik said: "Helping doctors to diagnose diabetes early and manage it successfully in the long-term is very important because the complications of the disease can be extremely debilitating, which is particularly problematic if the affected person is the sole breadwinner in their family. We are very encouraged that so many doctors were able to visit WCM-Q from Pakistan to learn the latest information they need to treat their diabetes patients most effectively."



Dr. Rayaz Malik, WCM-Q professor of medicine.

# The first step to becoming a doctor

Annual celebratory event marks the time that WCM-Q's students officially begin the medical curriculum.



The White Coat Ceremony is a highlight of the academic year.

**Q**atar's future doctors have taken the symbolic first step towards their chosen career by donning the white coat of the physician.

The 49 students of Weill Cornell Medicine – Qatar's Class of 2021 were presented with their new white coats and stethoscopes in front of an audience of family, friends and WCM-Q faculty and staff. The presentation is a symbolic turning point, and marks the moment when the students, more than a third of whom are Qatari, begin the four-year medical curriculum at WCM-Q.

Lolwa Al-Theyab was one of the students who participated.

Lolwa, who previously completed two years of pre-medical education at WCM-Q, said: "It's just an honor and it's very exciting. We've worked so hard for it over the last two years. It's wonderful to be finally starting the medical curriculum, it's what we came here for."

Lolwa said she chose to embark on a career in medicine because it will give her the chance to help others, while also being intellectually stimulating and science-based.

Dr. Javid Sheikh, dean of WCM-Q, said the White Coat Ceremony was one of the highlights of the college's academic year and was a time of real optimism and pride.

Dr. Sheikh said: "It gives me great pleasure to welcome all of our new students to WCM-Q. The physician's white coat and stethoscope are hugely symbolic and are recognized throughout the world and it is my honor to present them to our new students.

"Putting on the white coat for the first time is a defining moment for all doctors. It is the moment when they take their first step into medicine and begin to learn the practical skills that will allow them to heal patients and to make a real difference to their local communities and the wider world.

"These trainee doctors are Qatar's future healers. They will bring innovation, they will conduct new research, they will share their knowledge with others and, most importantly, they will save lives. They are part of the generation that will deliver a world-leading healthcare system for Qatar and the region."



Abdulrahman Al-Mohamedi receives his white coat from Dr. Javaid Sheikh, dean of WCM-Q.

The ceremony was addressed by Dr. Abdul Badi Abou-Samra, chairman of medicine and deputy CMO at Hamad Medical Corporation, professor of medicine at WCM-Q, and chairman of Qatar Metabolic Institute, who in his keynote speech told the students that wearing the white coat carried many responsibilities.

Dr. Abou-Samra said: "As a concept, many patients, while they are suffering, will not know the difference between a student, a resident, a fellow and faculty. They may not know who is specialized or sub-specialized. They may not know which department or subspecialty they have been admitted to. What matters to them is that they came to a healthcare facility and everybody wearing a white coat is an important healthcare professional from whom they expect care. The boundaries of graded responsibilities, of departments and subspecialties mean nothing to the patient. They expect compassionate care and they should get what they expect. When you walk in a hospital with a clean, shiny white coat bearing the symbol of a prestigious medical college, many patients would see in you a scholar coming to specifically help them.

"Therefore, my advice is to remember this and to imagine that each patient is a family member, such as a sister, a brother, a mother, a father, a grandmother or a grandfather."

The ceremony also welcomed 43 students - a quarter of whom are Qatari - who are joining WCM-Q's six-year medical program, which integrates two years of pre-medical training and the four-year medical curriculum. A further 24 students - 19 of whom are Qatari - have joined WCM-Q's foundation class, a one-year program intended to be a pathway to entry to the pre-medical program.

Wadha Al-Lakhen is one of those who have joined the pre-medical program

The 27-year-old said: "I'm probably a little different from the majority of students here as I already have a bachelor's degree in finance, but I've always had an interest in medicine and biology and how the human body works. I think it's such a rewarding job to be a doctor and to be able to help people and studying medicine offers you so many opportunities further into your career.

"Cornell has one of the best programs in medicine and that's what attracted me here. Also, being Qatari and having this college in Qatar is very helpful as it means I can stay in my home country with my family and still study."

The White Coat Ceremony is the finale of WCM-Q's Orientation Program, where all of the college's new students are introduced to the faculty and staff, and learn more about the state-of-the-art facilities that are available to them. They also participate in 'icebreaker' sessions, join Q&A panel discussions on career development with qualified physicians, learn more about the curriculum and gain advice about learning strategies, health and safety in the medical environment and legal issues in medicine, among other subjects.

The Class of 2021 will now spend four years training in all aspects of medicine from faculty members based in Qatar and also from Weill Cornell Medicine in New York.

They will gain experience working directly with patients at WCM-Q's clinical affiliate Hamad Medical Corporation, and they will also have the opportunity to work at New York Presbyterian/Weill Cornell Medical Center in New York City, one of the world's foremost university hospitals.

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

# Towards effective blood management

WCM-Q brings experts in patient blood management to Doha to discuss new and advanced processes.

**M**ore than 40 physicians and other healthcare professionals met at WCM-Q for five days of seminars, workshops and panel discussions about the management of bleeding in patients undergoing surgical procedures.

The Perioperative Bleeding Management – Patient Blood Management symposium, a collaboration between WCM-Q, Hamad Medical Corporation (HMC) and Danube University Krems, Austria, addressed topics including blood management in trauma and critical care patients, as well as in patients undergoing cardiac, liver or orthopedic surgery.

The symposium also discussed bleeding management in pediatric surgery, the effects of drug treatments and inherited disorders on bleeding and coagulation, iron therapy, thrombosis, and the role of red blood cells, plasma and platelets in blood transfusions. The event, which was coordinated by WCM-Q's Division of Continuing Professional Development, was attended by some of the world's leading physicians and healthcare professionals in their fields, which included anesthesiology, intensive care, internal medicine, surgery, transfusion medicine and blood banking.

Effective blood management is a crucial element of perioperative care, which covers the three phases of surgery: preoperative, intraoperative and postoperative. As such, medical practitioners are working to develop new and enhanced blood management processes to maximize healthcare outcomes.

Dr. Marcus Lancé, senior consultant in the Department of Anesthesiology, ICU & Perioperative Management at HMC, said: "In Europe and the US the medical profession is moving towards a more standardized approach to perioperative bleeding management with established best practices based on very good data. The benefit of this symposium is that we are able to impart that knowledge here in Qatar to help with the continuous process of enhancing healthcare outcomes."

Other speakers at the event included one of Europe's foremost anesthesiologists, Dr. Donat Spahn, professor and chairman at the Institute of Anesthesiology, University Hospital of Zurich, Switzerland. Other leading medical institutions represented by speakers at the event were HMC; Glenfield Hospital, University Hospitals of Leicester NHS Trust, UK; Maastricht University Medical Centre, Netherlands; Santa Maria University Hospital, Udine, Italy; and the Fundeni Clinical Institute, Bucharest, Romania.

The event was accredited locally by the Qatar Council for Healthcare Practitioners-Accreditation Department and internationally by the Accreditation Council for Continuing Medical Education.



The event was attended by leading healthcare professionals.

Instrumental in the coordination of the collaborative event were the WCM-Q Division of Continuing Professional Development, Dr. Marcus Lancé, Dr. Robert Crone, vice dean for clinical & faculty affairs, professor of clinical pediatrics and professor of clinical anesthesiology at WCM-Q, and Prof. Marco Marcus, chairman of the Department of Anesthesiology, ICU and Perioperative Medicine at HMC and adjunct professor of clinical anesthesiology at WCM-Q.

Dr. Robert Crone said: "This was an extremely important and highly effective event that brought some of the finest medical professionals in their respective fields to Doha to share their expertise with a cadre of interested physicians from the region and around the world. Following established best practices in perioperative bleeding management has the potential to significantly enhance healthcare outcomes for patients in Qatar, which is a key element of Weill Cornell Medicine-Qatar's mission."



The event was a collaboration between WCM-Q, Hamad Medical Corporation and Danube University Krems, Austria,

# Teaching language through music

WCM-Q professor and acclaimed pianist team up to author innovative book chapter.

**W**CM-Q associate professor Dr. Alan Weber has published a chapter co-authored with Grammy-nominated Dutch pianist Vincent Corver in a ground-breaking new book on teaching language skills using music.

The collection of teaching assignments, entitled *New Ways in Teaching with Music*, was published by TESOL Press and was edited by Jean Arnold and Emily Herrick. The book is currently the only available academic textbook for teachers who want to use music to teach English writing, listening and speaking skills.

Importantly, *New Ways in Teaching with Music* has been designed to be suitable for teaching culturally diverse student groups and as such contains a series of innovative assignments and learning activities that are sensitive to Islamic values.

Dr. Weber, an expert in literature and the medical humanities, said: "Music is an extremely effective and valuable tool for teaching and learning languages but many popular Western songs are not sensitive to the cultural sensibilities of Muslim students. The aim with the chapter and the book is to bring the power of music as a learning resource to a wider audience by providing more inclusive materials."

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**"Ethnomusicologists agree that all human societies produce music, so the topic and methods of teaching will have international and universal appeal in motivating students to learn languages."**

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Dr. Weber's collaborator on the chapter, Vincent Corver, is an official BMG Artist and was pre-nominated for the 2013 Grammy Awards by Warner Music Group. His recordings, original compositions, film scores, and performances have received critical acclaim from The Gramophone Magazine, BBC Music Magazine, The Guardian, The Independent, American Record Guide and many others. His Debut CD on the CPO label received the Diapason D'Or Record Award in 2009. In July 2017 Corver was invited by Universal Music Group to present a new piano arrangement of John Williams' "Hedwig's Theme" from the Harry Potter series. In October 2017, he released "While You Were Gone", the opening track on the new album by Global DJ Paul van Dyk, which is currently being performed at major music festivals around the world.



Vincent Corver, left, and Dr. Alan Weber, middle right, have collaborated before, with WCM-Q's Dr. Rodney Sharkey, middle left, and Dr. Mohamud Verjee.

Although there are many books on the market aimed at teaching students and journalists how to write music reviews for music journals, the authors believe *New Ways in Teaching with Music* is the only academically-oriented textbook designed for high school and undergraduate students that can be used in a wide variety of contexts, including English as a Second Language (ESL), English for Academic Purposes (EAP), and general English and literature courses.

The basis of the book is provided by recent studies in neuroscience, neurolinguistics and neuroimaging, which suggest that there is a strong link between music and language learning. According to Jean Arnold and Emily Herrick, the editors of the volume: "Research suggests a link between how the brain processes language and music. Both language and music require processing syntax (musical and grammatical structures) and both require remembering seemingly random items (vocabulary and sequences of notes). Neuroimaging and behavioral studies have shown the brain uses the same structures to process both musical and linguistic rules or syntax. In addition, investigations into brain wave patterns have shown that a second region of the brain is used for memorization of both linguistic and musical information."

Dr. Weber added: "The strength of this book is that it provides practical step-by-step lesson plans useful to both music educators and English language teachers. Ethnomusicologists agree that all human societies produce music, so the topic and methods of teaching will have international and universal appeal in motivating students to learn languages."

# High school students head to the laboratory for a summer of research

Program is designed to inspire students and offer them an insight into what a career in science would involve.

**H**igh school students with a passion for science have experienced life as a researcher as part of a program initiated by WCM-Q.

The Research Internship for National High School Students is now in its third year, and offers Qatari students who are considering a science-based career, or those with a passion for the subject, the chance to undertake work experience in WCM-Q's state-of-the-art laboratories.

Working side-by-side with scientists conducting biomedical research, the students learn about WCM-Q and research theories, but most importantly get hands-on experience.

Mashaal Al Naemi, who attends American School Doha, was one of this year's nine students to participate in the program. She interned in the laboratory of Dr. Karsten Suhre, professor of physiology and biophysics and director of the bioinformatics core.

The 17-year-old, who plans to apply to WCM-Q to study medicine, said: "I've done other research programs in the past in Boston but this was one that was at home and something I could do during the summer vacation before school starts again.

"I want to apply to Cornell in the future so being able to come and work in the laboratories before my decision was really useful."

"In the future, I want to be a physician specializing in sports medicine and taking these internship programs will also help me to pursue research interests on the side as well."

While at WCM-Q, Mashaal learned the Western blot technique, which is used to detect specific proteins in a cell.

Mashaal said: "I have really enjoyed the experience. The program is a good balance between classroom and laboratory work and I really liked how I got to have hands-on experience and that the researchers trusted me to perform tasks myself."

As part of the program, which is administered by WCM-Q's Research Division, the interns also take classes on time-management techniques, self-directed study skills and how to prepare strong college applications.

Christy Poppe, senior research training specialist at WCM-Q, said the aim of the internship scheme was to encourage potential scientists and biomedical researchers to pursue the subject as a career, and so ultimately increase research capacity within Qatar, fulfilling one of the goals of Qatar National Vision 2030.



The Research Internship for High School Students is now in its third year.

She added: "The aim of the course is to also provide interns with a genuine insight into what a career as a biomedical researcher is really like. By working alongside professional researchers, they get the chance to discuss the day-to-day work and ask questions in a professional environment.

"The students also receive guidance on preparation for undergraduate courses and insights into what college programs are looking for in their application processes."

The Research Internship for National High School Students program targets Qatari nationals who are 16 years old and above. The program also counts towards students' voluntary community service hours, with students who complete the course logging between 50 and 100 hours of service, depending on whether they take the two-week or four-week option.

# Delegates learn disease containment strategies

Annual seminar deals with all aspects of health and safety and uses examples from real life.



Thomas Doyle and Sean Kaufman, center, with the seminar's delegates.

**S**trategies on how to contain diseases like MERS or ebola in a hospital setting was the topic for the latest Health and Safety Seminar Series at WCM-Q.

Now in its seventh year, the annual course deals with all aspects of health and safety within both in a laboratory and clinical healthcare setting. This year's theme was Clinical Containment Strategies for Emerging Infectious Diseases.

Almost 300 nurses, physicians, dentists, pharmacists, researchers, medical technologists, and administrative professionals attended WCM-Q to hear from Sean G. Kaufman, a recognized US expert and trainer in behavioral sciences, infectious disease control, emergency preparedness and risk communication.

The seminar used an interactive approach to deliver tangible and real-life lesson examples to help mitigate and manage risks to medical and laboratory staff that work with and around potentially infectious disease threats. The seminar taught clinical containment strategies including lessons learned from the front line of infectious disease

research and management of isolation unit staff when treating infectious patients.

Thomas Doyle, director of environmental health, safety & security at WCM-Q, said the seminar, which is fully accredited, was very important for people who may be working with infectious diseases in a clinical setting.

Mr. Doyle said: "It is critical that healthcare and laboratory personnel review their behavior and practices when working with or around potentially infectious agents in an effort to develop or improve infection control programs and techniques.

"This one-day seminar series proved particularly popular and I'm very pleased that so many people joined us and proactively engaged with the course and its goals."

Topics that the seminar examined included the creation of isolation units, personal protective equipment, the mitigation of biological risk, and emergency medical triage strategies.

# Botox ineffective against obesity

Toxin can reduce hunger but research finds this is not translated into significant or sustained weight loss.

Using botox injections to the stomach to treat obesity does not lead to long-term weight loss, a study by researchers at WCM-Q and Hamad Medical Corporation (HMC) has found.

Botox, more commonly used as a cosmetic treatment to reduce the appearance of skin wrinkles, works by causing partial muscle paralysis that makes the overlying skin look smoother. The theory behind botox injections to the stomach is that by paralyzing the muscles involved in moving food the stomach will feel fuller, helping the patient feel less hungry, eat less and lose weight.

However, after a comprehensive review of all published papers on the subject, the WCM-Q and HMC researchers found no evidence that stomach botox injections in obese patients leads to effective long-term weight loss. Furthermore, botox injections to the stomach can also cause harmful side-effects, such as pain and swelling in the area of the injection, nausea and indigestion.

The quality of the studies examining the role of stomach botox in weight loss was generally poor, the WCM-Q and HMC researchers found. Some studies reviewed by the researchers reported that obese patients who had stomach botox injections had lost weight after one month, and patients reported feeling full earlier after eating less food than previously. But in most studies, after three to six months, patients had either regained the weight they had lost, weighed more than they did before the procedure, or had minimal total body weight loss. Other studies examined by the team found little difference in appetite, weight loss and feelings of fullness between subjects who had botox injections with those who had saline injections. The only trial that demonstrated significant total body weight loss placed all participants on a very low-calorie liquid diet for eight weeks. Furthermore, the effect of the botox injections wears off after three to six months.

Hadya Elshakh, a final-year WCM-Q medical student and volunteer research assistant in the college's Clinical Research Core, is the lead researcher on the review. She said: "We examined a large number of research studies, both clinical trials and case-based studies, and found no compelling evidence for the use of botox injections to the stomach for treatment of obesity. It does not appear to lead to long-term weight loss."

Botox – or botulinum toxin type A (BTX-A) to give it its full name – is a neurotoxin produced by the bacterial species *Clostridium botulinum* that causes partial paralysis by blocking the release of a neurotransmitter called



acetylcholine. The toxin has been used with some success as treatment for various medical conditions, such as muscle spasms caused by stroke or spinal-cord injuries, among many others. As a treatment for obesity, physicians use an endoscope to allow them to inject the BTX-A into the gastric muscles.

Unfortunately, while the treatment appears to have been successful in early animal studies, the data available from humans do not suggest that it leads to sustained weight loss, the review concludes. The paper, which is entitled *The Role of Endoscopic Intra-Gastric Botulinum Toxin-A for Obesity Treatment*, has now been published in *Obesity Surgery*, one of the world's foremost obesity journals. Dr. Khalid Al-Ejji of the Department of Gastroenterology at HMC, also contributed to the study. Dr. Al-Ejji, who also works in HMC's National Obesity Treatment Centre, part of the Qatar Metabolic Institute, said: "Obesity is a major problem in our region, and indeed, worldwide. It is therefore essential to provide evidence-based treatments for obesity. We hope that our work will help to improve current practices and patient care."

Dr. Shahrad Taheri, professor of medicine and assistant dean for clinical investigations at WCM-Q, and lead consultant physician in obesity at the National Obesity Treatment Centre at HMC, also contributed to the study. He said: "Most of the clinical trials we reviewed showed that while some obese patients who had endoscopic intra-gastric BTX-A treatment reported early satiety and delayed gastric emptying, that did not translate into significant or sustained total body weight loss. Given that injecting botox into the stomach muscles can also result in undesirable side effects, and given that its effectiveness has not been proven, it is not to be recommended as a treatment for obesity."

The research paper can be read in full at <http://bit.ly/2u3j6ff>

# Global health challenges in Tanzania

Trainee doctors deliver health screenings and learn about healthcare challenges in a developing economy.



Zaid Shahreri makes friends with some local youngsters.

**S**tudents from WCM-Q experienced the challenges of delivering healthcare in a low-income environment when they spent a week in Tanzania where they had the chance to work on public health projects.

First-year medical students Zaid Shahreri, Fawzi Zghyer, Abivarma Chandrakumaran, Sudarshan Srivats and Saad Sameer, and fourth-year student Zahra H. Rahman spent a week in Mwanza in northern Tanzania, where they worked alongside local medical students and medical residents from NewYork-Presbyterian Hospital in the US. The students provided volunteer service work for Tanzanian initiative called RASA (Reach All, Serve All), a licensed governmental organization that provides community-screening services to inhabitants that live in remote locations in northern Tanzania in the Lake District that surrounds Lake Victoria.

The team was joined by Swahili-speaking volunteer health care workers and screened more than 1,200 inhabitants who came to one of three mobile clinics, which were set up near schools in the district of Sengeremo and the market place in Mwanza city.

Student Zaid Shahreri said: "Visiting Tanzania made me realize how fortunate we are to have access to very good healthcare services in Qatar. We saw people suffering very severely from diseases that are relatively easy and cheap to prevent with vaccinations."

The WCM-Q students were guided on the trip by WCM-Q's Dr. Stella Major, associate professor of family medicine in clinical medicine, and Faten Shunnar, director of student affairs.



The students also had the chance to experience the beauty of Tanzania.

The Division of Student Affairs at WCM-Q sponsors a number of WCM-Q students to visit the east African country each year to help them gain a new perspective of global health issues and contribute to health outreach programs. Tanzania is a resource-poor country where GDP per capita is approximately \$1,300 and healthcare facilities are extremely limited. Life expectancy is 51 years. In the area the students visited, Lake Victoria serves as the main source of water for most of northern Tanzania's inhabitants, despite being infested with schistosomiasis and bilharzia (parasitic diseases).

For three days, the team conducted screening activities for close to 500 men and women each day. The screenings involved a brief cardiac risk-factor assessment, a height and weight check to determine the body mass index, and measurement of blood pressure and blood glucose levels. Patients were counseled on modifiable risk factors, and were referred on to receive further care when necessary.

In Mwanza the students also visited Weill Bugando University College of Health Sciences, a center of excellence in medical training supported by Weill Cornell. The training center is affiliated with Bugando Medical Centre, a 900-bed referral hospital, which the students also visited. They also learnt about the risks albino communities in East Africa face, and how local security forces work with healthcare agencies to enhance community awareness about albinism, and ensure that these vulnerable communities are cared for by the provision of adequate sun protection treatments, as well as safety from abuse.

Fourth-year medical student Zahra H. Rahman said: "This trip has made me feel even more strongly about the importance of global health. Many of the same problems Tanzania has affect public health in my home country of India and this has strengthened my resolve to one day return home to help people there."

The team was also able to visit the Ngorongoro Conservation Area, which is home to lions, black rhinoceros, wildebeest, zebra and gazelles. It is also the location of the Ngorongoro Crater, the world's largest inactive volcanic crater.

Dr. Major said: "The students gained a great appreciation of Tanzania's beauty, but also an acute understanding that if you venture just a little way from the tourism spots you can find some extremely serious public health issues. We were very impressed by their professionalism and compassion."



Abivarma Chandrakumaran takes someone's blood pressure.

# Colleges unite to improve patient care

Healthcare students from four different disciplines share knowledge and learn how to work effectively and safely with their colleagues.



The students came from Qatar University College of Pharmacy, WCM-Q, University of Calgary in Qatar and the College of the North Atlantic - Qatar.

**M**ore than 100 students from four of Qatar's leading healthcare colleges convened at Weill Cornell Medicine-Qatar (WCM-Q) for a day of inter-professional education (IPE) workshops designed to foster collaboration among trainees of four different health professions.

A total of 116 students comprising trainee pharmacists, doctors, nurses and respiratory therapists from Qatar University College of Pharmacy (QU CPH), WCM-Q, University of Calgary in Qatar (UCQ) and the College of the North Atlantic - Qatar (CNA-Q) respectively, met at WCM-Q to learn vital collaborative working skills to help them deliver coordinated care packages when they enter the healthcare profession after graduation. This was the sixth IPE session to be held by these colleges during the 2016-17 academic year, and the second to be held at WCM-Q. IPE activities are organized by the Inter-Professional Education Committee (IPEC), which convenes at Qatar University and includes representatives from most of the healthcare colleges in Qatar.

After an icebreaker session, the students worked in groups to consider care scenarios in which an elderly female patient had been admitted to hospital following a stroke. In each training scenario the students were presented with different challenges, such as the patient suffering from pneumonia, an outbreak of flu at the hospital that caused regular nurses to be replaced by inexperienced agency staff, and the patient having a severe allergic reaction to her medication.

The students of all four professions worked from the same evidence-based literature on systems-based healthcare and effective patient sign-off procedures, which they discussed in groups, learning from each other's impressions of the material. They then applied the theories put forth in the literature to analyze a patient's journey through hospital, identifying the points at which safety 'breakpoints' that compromised the patient's health occurred, and proposing ways these errors could be prevented.

The students gained key knowledge of dealing with systems issues such as ways to work safely despite disruptive challenges, including staff shortages, shift



WCM-Q student Mohammed Al-Abdulla, right, speaks at the inter-professional education event that brought together students from four healthcare colleges.

changes and issues with electronic health records. This is very pertinent as Qatar’s healthcare sector relies heavily on electronic health records, which, when used effectively, can minimize medical errors.

WCM-Q second-year medical student Nasser Binmarzook said: “I think this form of collaborative learning is very beneficial. We know that we will need to work closely with other healthcare professionals in order to serve our patients so it is essential to understand how nurses, pharmacists and respiratory therapists work and how our different skills can complement one another. It is good to begin learning to communicate with one another effectively at this early stage.”

Katarina de Pedro, a third-year respiratory therapy student at the College of the North Atlantic - Qatar, said: “I really learned a lot from this session. For me, the most valuable thing was simply beginning to communicate with people from other professions. It’s clear that good communication is really key to providing good care to patients.”

Inter-professional education has emerged as a key element in the training of healthcare professionals in recent years in response to developments in medical science that have made care packages more sophisticated and complex. As such, WCM-Q, QU CPH, UCQ and CNA-Q have united to form and support communities of inter-professional learners. The learning objectives and case study scenarios for this IPE activity were developed collaboratively by faculty from each of the four colleges prior to the event,

and delivered by 20 experienced faculty members who facilitated the activity.

Ikram Zoukh, a second-year student at Qatar University’s College of Pharmacy, said: “It was amazing – I discovered so many things about the other health professionals that I didn’t know. I think we all found it extremely helpful to come together and actually interact and work with students from other health professions rather than simply learning about what they do from a book. I’m very excited to take part in other inter-professional education exercises during my training.”

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**“I think this form of collaborative learning is very beneficial. We know that we will need to work closely with other healthcare professionals in order to serve our patients.”**

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Hodan Ahmed, a second-year nursing student at University of Calgary in Qatar, said: “This was my first experience of joint learning with doctors, pharmacists and respiratory therapists and I think it was very useful. I think that learning together while we are still training makes it far easier to communicate with one another than if we were to wait until we are all fully qualified and already busy in the hospital.”

# Happenings

## DeLib Open House



DeLib's Ross MacDonald gives Reggie Cruze and Humayun Rehman a lesson in computing.



Paul Musseiman talks about the services offered by DeLib.



Reya Saliba with Dr. Ziad Kronfol.



Carol-Ann Nonino at the DeLib open day.



Annemarie Kilshaw, Irina Buynichenko and Wumi Akinade.

# HR Open House



Rashid Al-Sowaidi and Noha Saqr with ITS's Nafe Atari.



Diana Serrao and friends pool their knowledge for the HR quiz.



Girlie Montoya, Annemarie Kilshaw and Sandra Pais.



Russell Clarke takes on the HR quiz.



Rashid Al-Sowaidi, Omar Baki, Hussein Mohamed and Madonna de Mesa.



Girlie Montoya outlines HR's services.

# Happenings

## QLA visits the Anatomy Lab.



Students from Qatar Leadership Academy were welcomed to WCM-Q's Anatomy Lab.



Dr. Ameer Raouf shows the students the anatomage table.



Above and below: Dr. Avelin Malyango lets the students get to grips with organ models.



## YHF teams up with WISH.



The blender bikes allowed the students to make their own smoothies with pedal power.



Nada Hassan distributes lunchboxes to the visitors.



Above and right: The event was a chance to help educate children about health.



# Happenings

## WCM-Q's ROTA Thanksgiving Dinner



The event was a chance to thank WCM-Q's contracted staff for their hard work.



Dr. Sunanda Holmes and Dr. Rodney Sharkey, center front and back, with WCM-Q ROTA members.



WCM-Q's ROTA Club held a Thanksgiving dinner for the college's contracted staff at the house of Sunanda Holmes, deputy chief administrative officer and associate university counsel.

# Breast Cancer Awareness



Dr. Sohaila Cheema, Dr. Mohamud Verjee and Raji Anand.



Dr. Sohaila Cheema, Rana Abualsaud and Merna Hussein check out the cosmetics.



Sara Alhousseiny asks tests visitors' awareness of breast cancer.



Nada Darwish sells cupcakes in aid of breast cancer.



WCM-Q's Amjad Abdo fills out a survey.

# Happenings

## Staff Appreciation Lunch



Rashid Al-Sowaidi receives his Star of the Year award from Dr. Javaid Sheikh.



ITS take a break from their computer screens.



The WCM-Q Family Tree allowed everyone to leave their mark.



Med Ed's admin staff pose for their picture.



Researchers escape the lab.



The weather allowed guests to lunch outside.



Dr. Javid Sheikh with the long-serving employees and Stars of the Year.



The CSSL group and their star employee, Lan Sawan.



Student Recruitment enjoy a relaxing afternoon.



The event was a chance for colleagues to relax together.



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