DAY 02 TUESDAY 29 JANUARY 2019

arab health

DAILY DOSE

THE OFFICIAL DAILY NEWSPAPER OF THE ARAB HEALTH EXHIBITION

Deputy Ruler of Dubai Opens Arab Health 2019

His Highness Sheikh Hamdan bin Rashid Al Maktoum, Deputy Ruler of Dubai, and UAE Minister of Finance, inaugurated the exhibition yesterday

His Highness Sheikh Hamdan bin Rashid Al Maktoum, Deputy Ruler of Dubai, UAE Minister of Finance and President of the Dubai Health Authority, officially inaugurated Arab Health Exhibition & Congress 2019 yesterday, followed by a tour of the exhibitions.

More than 84,500 healthcare and trade professionals from 160 countries and 4,150 exhibiting companies from 66 countries are expected to convene at the exhibition, the largest healthcare event in the Middle East.

Commenting on the opening of Arab Health 2019, Ross Williams, Exhibition Director, Arab Health, said: "With healthcare spend in the GCC expected to reach $104.6 billion by 2022 and growing private sector participation expected to boost long-term growth of the regional healthcare industry, Arab Health provides an important platform for the MENA healthcare industry to build relationships with international stakeholders and facilitates the exploration of new business opportunities in the global healthcare field."

At this year's exhibition, more than 36 hospitals, clinics and other healthcare facilities, from both the public and private sectors will be showcasing their expertise and latest offerings. Once again showing their support for Arab Health are public sector entities including the UAE Ministry of Health and Prevention, Department of Health Abu Dhabi, Dubai Health Authority, and Dubai Healthcare City Authority.

Allan Boston, CEO – American Hospital Dubai, said about their participation at Arab Health 2019: "At American Hospital Dubai, we pride ourselves in clinical excellence and quality care and we are committed to working hand in hand with our healthcare partners to successfully innovate and maintain the quality care.

"As an enabling platform for innovators, thought leaders, key buyers, practitioners and policy makers in healthcare, Arab Health has reinforced Dubai's status as an accelerator of healthcare and innovation, and now we can see Dubai as a major hub for healthcare, medical tourism and technological innovation. For American Hospital Dubai, we have been an integral part of the UAE's healthcare journey from the very beginning, which makes Arab Health a unique opportunity to showcase our services on a regional scale."

Organised by Informa Exhibitions - Healthcare, Arab Health 2019 will also welcome 4,500 delegates from across the region to benefit from 11 business and Continuing Medical Education (CME) conferences at the Arab Health Congress across disciplines such as public health, orthopaedics, anaesthesia, emergency medicine, obs & gyne, to name a few.

Dubai Dental Hospital Inaugurated

His Highness Sheikh Hamdan bin Rashid Al Maktoum also inaugurated the Dubai Dental Hospital yesterday, the first and largest dental hospital in Dubai, in presence of Dr. Amer Al Zarooni, CEO, Dubai Healthcare City Medical, Dr. Amer Sharif, Chief Executive Officer, Dubai Healthcare City Authority – Education Sector, and Dr. Ramadan Al Blooshi, Chief Executive Officer, Dubai Healthcare City Authority – Regulatory (DHCR).

The hospital, which started out as a clinic (Dubai Dental Clinic) in 2008, has increased its capacity by 125 per cent with eight specialties under one roof with fully-equipped dental lab, post-surgery rooms, and an in-house sterilization department. Accredited by Joint Commission International, Dubai Dental Hospital is equipped with state-of-the-art technologies, the hospital has its own imaging department with 3D radiology, Computer-aided Design / Computer-aided Manufacturing (CAD/CAM), an Intra Oral Scanner and a dental laboratory and Digital teeth scanning. The revamped Dubai Dental Hospital includes 63 dental chairs, making it the largest specialised dental facility in Dubai.

Dubai Health Forum Discusses Importance of Mental Health Strategy

Article provided by Dubai Health Authority

In 2018, Dubai Health Authority (DHA) launched the Mental Health Strategy for the emirate. The strategy known as Happy Lives.....Healthy Community is Dubai's first comprehensive mental health strategy and is applicable across all public and private health entities in the emirate.

According to World Health Organization (WHO), mental health is a 'state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.'

During the launch of the strategy, His Excellency Humaid Al Qutami, Director General of Dubai Health Authority had discussed the importance of such a strategy.

He said, "The strategy demonstrates the commitment of the DHA to build a world-class healthcare system to meet the needs of its residents. It clearly reflects the DHA's vision towards a healthier and happier community. It also reflects the greater Dubai 2021 vision for the city of Dubai to be a smart and sustainable city, with people who are happy, creative and empowered, a society that is inclusive and cohesive, and to be the preferred place to live, work and visit."

The strategy is part of the overall Dubai Health Strategy 2016-2021, that was designed after comprehensive analysis of the heath sector and after identifying gaps and challenges as well as strengths and opportunities.

Dr. Nadia Dabbagh, Consultant Child and Adolescent Psychiatrist at Rashid Hospital and Programme Lead for the Mental Health Strategy at the DHA, highlighted during the ongoing Dubai Health Forum that the implementation plan is divided into waves based on priorities, needs and resources and according to the four pillars of the strategy. The pillars are: legislation and governance; promotion, prevention and early intervention; service delivery and treatment; and community integration.

His Excellency Humaid Al Qutami, Director General of Dubai Health Authority

Dr. Dabbagh said, "Dubai's mental health strategy is under-pinned by guiding principles that are based on international, evidence-based research and best practice, as well as incorporating the views of local subject matter experts working in Dubai. The key guiding principles include respect for the rights and needs of service users and their families, prevention and early intervention across the life span including vulnerable groups, recognition of the spectrum of mental health difficulties and the need for equitable service delivery across the health continuum with a commitment to a recovery-oriented approach and social inclusion."

Farah Aqel, Strategic Planning Specialist in the Data Analysis, Research and Studies Department at the DHA, said that since the launch of the strategy, the Authority has made steady progress in implementing initiatives that will help the Authority achieve the 10 mental health development and improvement programmes in Dubai by 2021, which is a core part of the strategy.

The nine initiatives of the strategy are

1. Mental health legislation
2. Governance and regulation
3. Promotion and awareness
4. Prevention
5. Early intervention
6. Innovative models of service delivery
7. Workforce development, recruitment and retention
8. Facilities and infrastructure
9. Patient empowerment programmes

Aqel said in 2018, DHA provided its feedback and comments about the mental health act and the mental health policy for the UAE. This initiate was spearheaded by the Ministry of Health and DHA participated in it and provided its expert opinion on the matter.

In 2018, DHA was invited to participate in an event organized by Harvard Medical School Center for Global Health Delivery – Dubai to discuss Scaling Up Community Health Worker-Delivered Interventions for Common Mental Disorders. The Mohammed Bin Rashid University (MBRU) in Dubai Healthcare City organised the workshop.

DHA also participated in a focused Child and Adolescent Mental Health Creative Lab known as "With Hope Dubai" that was conducted by The Executive Council to evaluate and address the existing gaps in meeting the mental health needs of Dubai's children and youth.

The team is also working closely with the Public Health Protection Department at the DHA to chalk out initiatives that will help raise awareness of mental health issues and the importance of early intervention the community.

Increasing Prevalence

According to WHO, more than 450 million people suffer from mental disorders worldwide, and one in four people will develop a mental or behavioural disorder during their lifetime. These disorders include schizophrenia, bipolar affective disorder, depression, alcohol and other drug disorders and a range of anxiety disorders. The prevalence of mental and behavioural disorders is about 10 per cent for the adult population worldwide. Twenty percent of the adolescents under the age of 18 suffer from developmental, emotional, or behavioural problems.

Globally, mental disorders are expected to be second only to heart disease as a leading source of the global burden of disease by the year 2020.

Mental disorders are costly to the individual, families and communities. The Global Happiness Survey Report 2018 that was released at the Government Summit in February 2018, states that untreated mental illness reduces the GNP of countries by four per cent. Many other costs associated with mental illness are indirect or hidden.

Inspiring Innovation and Change in the NHS

By Daily Dose Staff

The UK Government has recognised health technology as one of the vital engines of its economy. The Life Sciences Industrial Strategy, the AI and Ageing Society Grand Challenges and the new NHS Long Term Plan all demand that the industry harness leanings from around the world to accelerate its transformation.

Ahead of the show, Noel Gordon, Chairman, NHS Digital, NHS, London, UK, shared that new and improved technology and digital services are at the forefront of modernising the health and care system. He highlighted that the NHS is embracing innovations in new technology at a rapid pace and the outlook for the health technology sector looks bright.

He said: "Over the coming years we will work closely with our partners across the health and technology sectors to expand digital access to health and care services for all our citizens. A key focus will be allowing patients to better manage their own health and care."

According to Gordon, a wide range of digital services will support individuals to take a much more proactive and responsible approach to monitoring their own health and well-being, enabling them to recognise their individual health risks and symptoms as early as possible, and manage their personal response to these risks. This, in turn, reduces the demand for health and care services.

"To achieve this, we need robust interoperability which connects technologies more effectively. This accelerates the adoption of new technology so the NHS can deliver its new models of care and new clinical pathways.

"New and existing systems should be safe and secure, and we can support health and care organisations to adopt strong processes around data management and security, which will improve the availability and integrity of data.

"Embracing the international nature of the NHS and the shared challenges most health and care systems face is important to transforming the way we design and deliver modern health systems. Harnessing the digital age is our challenge but with this mix of passionate individuals, and the fantastic NHS workforce behind it, I believe anything is possible," he added.

Data-Driven Care

Healthcare is vast and complex, with varied demands on an ageing population and new demand for digital access. The relationship between health provider and patients is underpinned by trust, which is the foundation of all effective health and care provision. This mutual trust is the catalyst for introducing innovative new treatments and models of healthcare based on digital technology, which is fully embraced by both patients and healthcare professionals.

Gordon said: "Inspiring innovation and change in the NHS poses many challenges but these must be overcome to achieve full digitisation, benefit from the richness of data and embed a culture of continued innovation to safeguard the future. Data has the power to drive improved patient care so it's important to have a data strategy that differentiates between direct and indirect care and to consider end to end delivery of care.

"Establishing a critical national infrastructure to aid interoperability and provide real time updates will ensure services are built around clinical requirements and can scale quickly. We must focus on the benefits to encourage uptake of digital and explain to citizens the various ways technology is instrumental in providing better care for all."

Gordon is the keynote speaker at the Innov8 Talks and will discuss 'The digital transformation of the National Health System and the challenges' today at 12:00.

TODAY AT A GLANCE

ARAB HEALTH 2019 CONGRESS

Conference	ROOM	Location	Start	Finish
Total Radiology	Level 2	Conrad Dubai	08:25	18:15
Obs & Gyne	Level 4	Conrad Dubai	08:20	18:00
Orthopaedics	Abu Dhabi B	1st floor above Rashid Hall, DWTC	08:45	16:40
Surgery	Umm Al Qwain	2nd floor above Rashid Hall, DWTC	08:30	17:00
Paediatrics	Ajman D and Fujairah A	Above Hall 7, DWTC	08:45	18:00
Diabetes	Dubai C & Dubai D	Above Sheikh Maktoum Hall, DWTC	08:20	17:00
Gastroenterology	Ras Al Khaimah	2nd floor above Rashid Hall, DWTC	08:40	18:05

ARAB HEALTH DAILY DOSE

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Your Guide to Workshops

Leading healthcare entities will be delivering expert-led workshops and training modules to visitors at the show. This will focus on advanced techniques with the latest state-of-the-art equipment across different modalities.

These include:

- Roche Women's Health Symposium. ***(Today, Room Al Gatis, Level 4, Conrad Dubai)***
- Ansell Workshop - Safety Innovations in the OR: New technologies in barrier protection. ***(Today, Al Ain J, Above Hall 4, DWTC)***
- Masterclasses Ultrasound - Liver and Musculoskeletal (MSK) & Small Parts. ***(Until Jan 31, Khasifa Room, Level 2, Conrad Dubai)***
- Cardiology Hands-On Training: Hot topics of coronary interventional cardiology & crash course on TAVI. ***(Until Jan 31, Room Dubai B, Above Sheikh Maktoum Hall, DWTC)***
- Hands-on Training on Bariatric and Colorectal Surgeries. ***(Until Jan 31, Room Dubai A, Above Sheikh Maktoum Hall, DWTC)***
- Endoscopy Workshop. ***(Until Jan 31, Hatta H, Above Hall 2, DWTC)***
- Olympus Workshop on Endoscopy. ***(Until Jan 31, Olympus stand - H3.C30, Hall 3, DWTC)***
- Incrediwear Workshop - Innovation in Anti-Inflammatory Orthopedic Supports. ***(Jan 30, Room Abu Dhabi A, First Floor, Opposite Hall 5, DWTC)***

Innov8 talks.

The Innov8 Talks

Today's theme: Disease Prevention and Management

Location: Plaza Hall, DWTC

Moderator: Assistant Professor Thomas Boillat, Healthcare Innovation and Technologies, College of Medicine, Mohammed Bin Rashid University of Medicine and Health Sciences (MBRU)

12:00 ***Keynote: The digital transformation of the National Health system and the challenges***
Noel Gordon, Chairman, NHS Digital, NHS, London, UK

15:00 ***The shift to 'consumer centricity'***
Michael Schelper, General Manager, Emerging Markets, Cerner, Dubai, UAE

15:45 ***Transforming healthcare delivery through translational innovation***
Sarper Tanli, Group CEO, Manzil Healthcare Services

16:15 ***The future of regeneration and cell therapy market - growth opportunities***
Sandeep Sinha, Associate Partner & Head, Healthcare and Life Sciences, Frost and Sullivan, MEASA

THE PITCHES

12:30 – 14:30: ***This will feature 8 talks, for 8 minutes***

B3 Digital Solutions: Med tech company using genetic data to help in preventative diagnosis and treatment plans

Corbit: Digital health company targeted towards assisting the elderly in getting preventative help early and quickly

DiabiLive: An app developed for efficient diabetes monitoring

MyWay Digital Health: Online self-management platform for diabetes care

Optimus: Solution to automate the patient and healthcare provider's experience, to provide an encompassing and seamless patient journey

TPP: Developed machine learning algorithms to assist in the early detection of cancers

UE Life Sciences: Using a hand-held device for the early detection of breast cancer

Xylexa: Using AI technology to have cost-effective diagnosis of breast cancer

THE JURY

- Dr Mohammad Al Redha, Director, The Executive Office for Organizational Transformation, Dubai Health Authority
- Mohamed Hamdy, Head of Venture Capital, Dubai Future Foundation
- Saqr AlHemeiri, Chief Innovation Officer, Ministry of Health and Prevention
- Mubaraka Ibrahim, Director of IT Department, Ministry of Health and Prevention
- Marwan Abdulaziz, Executive Director, Dubai Science Park
- Daniel Amir Raduan, Head of Digital Health, Etisalat
- Akbar Moideen Thumbay, VP – Healthcare Division, Thumbay Group

"Innovation Delivers Healthcare Right in Patients Homes"

Interview with Paolo Rotelli, President, Gruppo Ospedaliero San Donato (GSD)

By Deepa Narwani, Editor

With 'Innovation in Healthcare' taking centre stage at Arab Health 2019, Paolo Rotelli, President of Italy's Gruppo Ospedaliero San Donato (GSD), one of Italy's largest private hospital groups, believes that innovation is completely changing the way healthcare is delivered.

In an interview with *Daily Dose*, he says: "Innovation makes it more and more possible to deliver care immediately. It is transforming the way you contact and converse with doctors. One of the biggest problems patients face when they have an ailment is that they don't know where or whom to go to? They have to move from their location in order to get immediate attention.

"This is where telemedicine comes in. It doesn't require the patient to move and will surely revolutionise the healthcare landscape. It is a known fact that the more you wait, the worse the problem can become. Treating the patient early results in reduced costs as well as in delivering effective care. Innovation delivers healthcare in the homes of the patient, and right in their hands."

The second change, he highlights, that innovation in healthcare will bring about is that it will reduce errors through digitisation. Having digital records and technologies such as Artificial Intelligence (AI) will enable doctors in having a clear vision and making informed choices.

At the show, GSD is hosting hands-on-training sessions for cardiologists and is bringing renowned physicians to demonstrate Italian know-how to doctors in the region. GSD also hosted the first-ever Global Health Pioneer Awards, in association with UAE Genetics Disease Association and Arab Health, on the eve of the exhibition.

Rotelli says: "Arab Health is interesting for us and for everyone attending due to two factors. The first is that visitors get to discover the level of technology available in different countries and to help us understand where we should aim in 2019/2020. It helps us comprehend where healthcare is going and gives us an insight into where the biggest companies in the industry, be it pharma or hospitals, are headed in the near future. We don't just want to witness change; we want to be a part of it. The event is also a great platform for entering into Memorandum of Understandings (MoUs) with leading institutions in the region."

Last year, GSD started teaching and training programmes in the UAE, through GSD Healthcare, its UAE arm. These programmes, held in association with the Dubai Health Authority (DHA), bring some of the most renowned surgeons to pass on their expertise in the region. Its training centre in Dubai, targets medical and healthcare professionals from the GCC and Middle Eastern region to provide high quality, accredited courses in a multitude of medical, surgical and healthcare management topics.

He says: "We will continue with this approach of our experts visiting and training doctors in the region, as we believe the best investment is investing in people. We also hope to work with local institutions beyond training and collaborate in building efficient hospital management systems as well as engage in cultural exchanges. However, I would like to reiterate that our goal is to create know-how between the region and Italy."

Defining the Perfect Healthcare Delivery System

According to Rotelli, the keywords that define a comprehensive healthcare delivery system are integration and transparency of information.

"Most countries are strong in primary care, general practitioners (GP) etc., but not one institution can solve a problem 360-degrees," he explains. "The perfect healthcare system, according to me, is based on digital medical records that can be accessed by any doctor, anywhere. By just clicking a button, a physician can have all the required details and avoid mistakes. Then there should also be a system that helps GPs, hospitals as well as outpatient clinics to share everything about the patient and exchange opinions with each other."

Furthermore, he believes that the best system is when the government pays for healthcare but it is managed privately, so that it creates competition not in terms of price, but only in terms of quality. "For example, in Italy's healthcare system, the competition is on quality. The patient will go to the best doctor but at the same time, it will be at a minimal cost. This is why public-private partnership is key in building an efficient industry," he adds.

Rotelli also stresses the importance of medical research. Even though healthcare has advanced tremendously over the years, he feels that we are still very far away from knowing about the human body or how genetics work.

He emphasises: "For example, we don't know what causes headaches? We know why it's caused but not what causes it. So, even though the advancements seem impressive, we don't know a lot.

"In European countries, investment in medical research is going down. But without believing in medical research you stop to progress and start to regress. For example, even though these concepts are being discussed in the industry, it will still take the next 10 to 20 years for personalised medicine to be the next big trend, as not much is yet known about it. Focusing on and investing in medical research is definitely a central topic for us."

On a parting note, he shares a profound piece of advice he received from his father: "Companies and hospitals are not made of something complicated, they are made of human beings. They exist because people are working in it. The buildings and technology are not as important as the people inside it. What is important is the know-how.

"We have doctors who go to countries in Africa that don't have fancy buildings or equipment but the output they deliver is the same they would in our state-of-the-art facilities in Italy. Of course, we cannot disregard the importance of technology and buildings, but if you want to cure, you need to invest in the know-how of the people. To be a good healthcare manager, you need to focus on training people."

Hands-on-training for Cardiologists

At the show, GSD is hosting two courses for cardiology professionals.

Course 1: The aim of the session is to present and share updated information in hot topics of coronary interventional cardiology.

Course 2: A crash course on TAVI: a focused training for interventional cardiologists, cardiac surgeons, cardiac imaging specialists and Cath lab personnel.

The courses will run throughout the show from 10:00 to 17:30 at Room Dubai B, Above Sheikh Maktoum Hall, DWTC.

Paolo Rotelli

ROBOTS:

Reducing Medical Costs One Delivery at a Time

Article provided by Ampronix

The planning, implementation, and coordination of delivering drugs, infusions, or blood products, is an essential part of the daily operations of a hospital. The demand for improving the day-to-day operations is at an all-time high. Hospitals are now able to manage drugs and other medical supplies more efficiently, improve the drug inventory turnover, and reduce the overall management costs with the new Robo Go S robotic courier from ROBO.

ROBO's vision is to use robots and artificial intelligence to solve the problem of insufficient high-quality medical resources, making it possible for 7 billion people in the world to enjoy high-quality medical care equally. The Robo Go S courier accelerates hospitals logistic process so the hospital can develop a new, safe, efficient, and flexible system. The courier has a large enclosed storage space that requires a card or a password to lock and unlock the storage cabinet. It secures and automates deliveries typically made through pneumatic tubes or manual couriers including controlled substances and refilling carts. The 360-degree anti-rolling emergency stop design makes it extremely safe and reliable.

The disinfection supply center is the hospital department that offers sterile supplies and has an integral connection with many other clinical departments within a hospital. For example, after the sterile products come out of the disinfection supply center, they will be distributed to most hospital departments including the emergency department, inpatient department or center, etc. Some of the medical trash will go to the disposable room, and the remaining supplies will return to the disinfection supply center for disinfection and sterilization.

The robotic courier delivers the medical materials on time whenever instructed to, with the loading capacity of up to 300kg. It's capable of delivering test samples, treatment packages, prescription drugs, infusions, or blood products from the disinfection supply center, PIVAS, or the secondary pharmacy. The machine is also able to cross floors and achieve interactive control with elevators, adapting to the hospital settings.

Medical personnel can automatically have the courier return to the charging station when the battery level has reached below 25 percent. It can work continuously for eight hours after charging for only four hours. The machine uses advanced laser radar, and simultaneous localization and mapping (SLAM) algorithm, which ensures the courier will not deviate from the target destination. The robot receives instructions through a human–machine interface. Automated delivery enables pharmacy technicians to focus on performing high-value tasks, without error.

The automated ROBO system is a great benefit to the hospital industry. By using the Robo Go S robotic courier, clinicians can focus on patients as well as other tasks to complete high-value activities; whereas, the robot can handle all delivery tasks. The robot can work around the clock, so fewer employees are necessary for night shifts. Staff can spend more time with patients or assist nursing instead of transporting goods through the hospital. Moreover, nurses do not have to carry around heavy loads and can avoid related injuries.

"The Robo Go S is a game changer in regards to automating material transport," said Michael Thomas, Director of Marketing at Ampronix.

Robotic couriers can meet the performance requirements of the system while maintaining cost efficiency. For clinical laboratory and pharmaceutical deliveries, a group of six robotic couriers can achieve significant performance gains regarding turn-around time and delivery variability over the current system of three human couriers per shift. Previous research shows a 34% decrease in turn-around time and a 38% decrease in delivery variability.

Autonomous machines are increasingly infiltrating our lives, in other words, robots can safely work alongside humans to boost their productivity, eliminate repetitive tasks and free their schedules to perform more cognitive-focused tasks.

Ampronix will be showcasing the Robo Go S robotic courier at Arab Health at their booth in Hall 1 / H19. For more information please contact us at contact@ampronix.com or visit our website www.Ampronix.com.

Keep Your Health 'In Check'

Article provided by The London Global Practice

The London Global Practice, a private GP service is attending the show to highlight the importance of preventative health and annual screening.

The practice offers a range of evidence-based screening programmes to enable early diagnosis. Screening can identify issues such as cardiovascular disease, breast, bowel and colorectal cancer.

In addition to comprehensive general health checks, The London Global Practice also offers Well-Woman and Well-Man health screening, to address gender specific health concerns. These include cervical smears, pelvic scans and mammograms for women, as well as prostate tests and scans for men.

Dr Paul Ettlinger, founder of The London Global Practice, said: "Annual health screening is an essential part of looking after yourself and maintaining your health and wellbeing. We have developed a range of health screening checks for people that help them stay in the best possible condition, enjoy life and achieve their full potential. Taking responsibility for your health is key to maintaining optimal wellbeing. We truly believe that prevention is better than cure!"

As well as offering health checks, The London Global Practice provides general medical services, coordinating patients' medical needs from their first consultation, and providing reassurance throughout their treatment. It also operates a 24hr service visiting patients at home, hotel or work premises, any time day or night.

The London Global Practice will be located on the Harley Street Medical Area Stand on the UK Pavilion (Hall 7 Stand E30).

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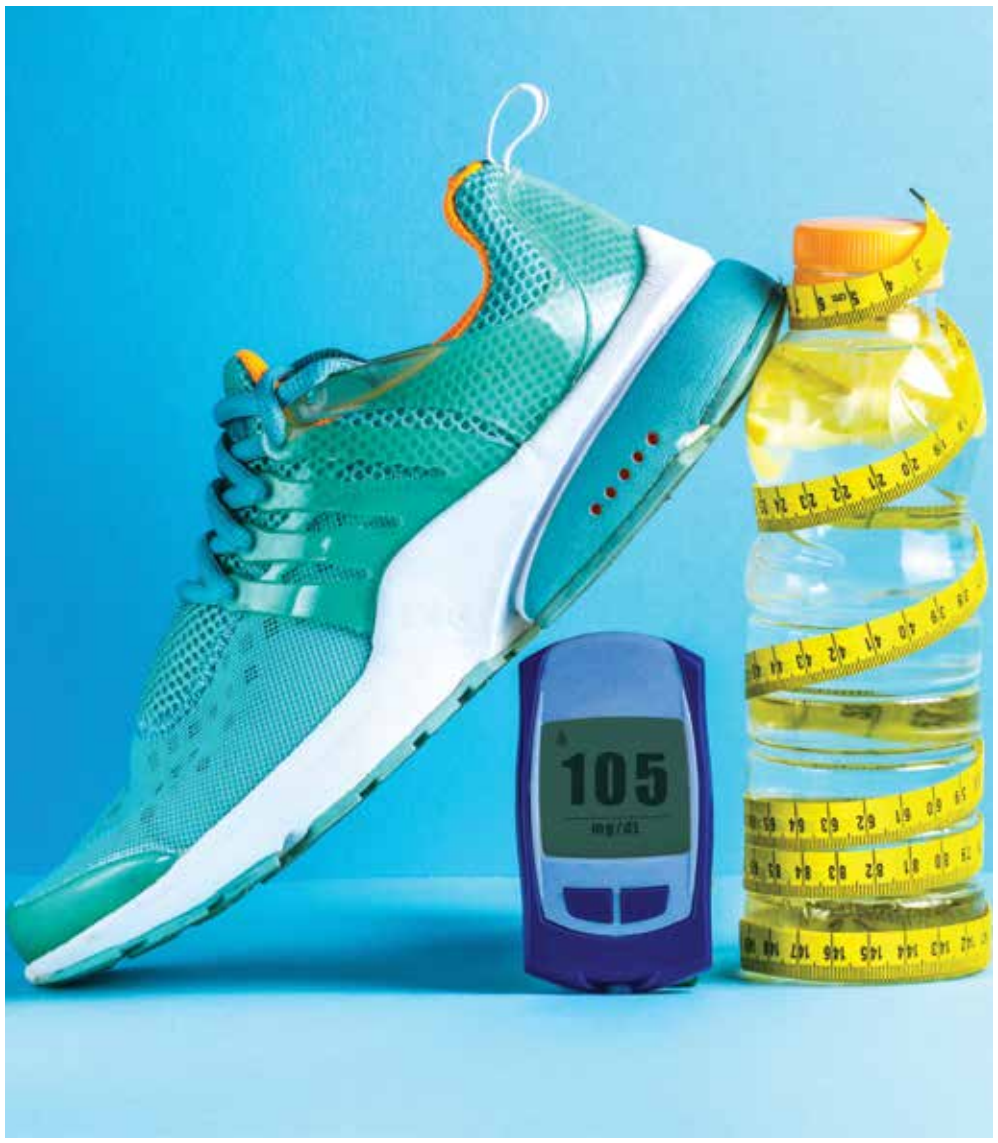
ARAB HEALTH

Diabetes Aetiology in The Middle East: Beyond Our Lifestyles

By Budour Alkaf, Research Fellow, Imperial College London Diabetes Centre, Abu Dhabi, UAE

Type 2 diabetes (T2D) is a global public health crisis and a threat to socioeconomic development of all nations, particularly in developing countries. Long considered as a disease of Western countries of Europe and North America, today, T2D is spread to every corner of the world, with more people with diabetes residing in the "emerging" economies than in the industrialised nations. In 2017, it was estimated that 425 million people worldwide, or 8.8 per cent of adults have diabetes, with T2D making up more than 90 per cent of all cases. It is estimated that by 2045, if these trends continue, 629 million people aged 20-79 years, will have diabetes.

Diabetes rates vary greatly across different regions in the world. The Middle East and North Africa (MENA) region, which include the Gulf Cooperation Council (GCC) States, was estimated to have the second highest rates of diabetes in the world. At the global level, increased diabetes rates are most evident in countries that have experienced rapid economic growth, transitioning from low-income to high-income economies over a short period of time; the case of many countries in the Gulf Region. Indeed, over the last three decades, the discovery and exploitation of oil and gas in several GCC States, has led to a rapid increase in economic growth and urbanisation in the region. This has been hypothesised to have resulted in a modern, fast-paced, and a technology-driven lifestyle, which consequently led to the reduction in physical activity levels, excessive consumption of calorie-dense fast meals, and eventually to the rapid rise in obesity rates and its related comorbidities, such as diabetes. Although this could be true, this is still a debatable topic.



Diabetes Risk: More Than Eating More and Moving Less

Unhealthy eating and lack of exercise are two of the well-known and established risk factors of T2D. Whilst that is true, there are various other environmental exposures that have shown to influence risk of developing T2D. These range from air pollution, stress, and disturbed sleep, to vitamin D deficiency and viral infections. Some of our research at the Imperial College London Diabetes Centre (ICLDC) includes looking into the link between obesity and diabetes with adenovirus-36 infection, which we think will bring along interesting results for the Emirati population, and the Middle East in general.

Despite the accumulating evidence on different lifestyle and environmental factors affecting risk of diabetes, obesity is still thought to be the major contributor to the dramatic increase in T2D over the last 20 years, globally. That is thought to be the case across most populations, including those of the MENA region. The question is, can increased obesity explain the high rates of T2D in the region? The answer to this question is not straightforward. Although obesity is a major risk factor for T2D, yet not all those who are obese develop the disease, and not all of those who are at high risk of diabetes remain disease-free by losing weight. In the case of populations in the Gulf, available estimates of obesity and diabetes indicate that obesity cannot fully explain the dramatic rates of diabetes in the region. It is true that high rates of diabetes in the Gulf are paralleled with high rates of obesity, yet, other countries in different regions in the world, including the U.S. and the UK, have comparable obesity rates to the countries in the Gulf, but much lower rates of diabetes. Similarly, rates of physical inactivity in the Gulf is reflective of the increased diabetes rates. However, countries in other regions in the world, have much lower rates of diabetes despite having comparable rates of physical inactivity to countries in the Gulf.

Data available make us question whether people in the Middle East are more "genetically-prone" to developing diabetes compared to other ethnic populations. It has been shown that certain ethnic populations are at a considerable higher risk of developing diabetes. Whilst in some cases this can be explained by socio-economic factors, and access to healthcare, it has been proven that even with equating all factors, ethnicity still plays a part in increasing or decreasing diabetes risk. If that is the case in the Middle East, then for example, a 30-year old man from Kuwait, Saleh, who is obese and/or inactive, is at a higher risk of developing diabetes, compared to a 30-year old man from the UK, John, who is also obese and has similar activity levels and dietary intake to Saleh. Now, does that mean that Saleh's destiny and ours solely depend on our genes? That is not exactly true.

Increased Susceptibility to Diabetes: Your Genes Are Not Your Destiny

It is true that certain genes can predispose us to T2D, but predisposition is not pre-destiny. In fact, if the genetic architecture of the people in the Gulf make them more prone or "sensitive" to developing T2D, then it could also make them more responsive to lifestyle changes. A person's susceptibility to developing T2D is speculated to be more complex than just obesity, or physical inactivity, or diet, or genetic risk factors alone; it appears to be driven by a complex interplay of gene-environmental interactions, called Epigenetics.

Epigenetics is a mechanism that regulates how genes express themselves independently of the DNA sequence or code, relying instead on the chemical modifications of DNA. Epigenetic tags act as "gatekeepers" blocking or allowing access to a gene's 'on' switch. Scientists have long believed that environmental and genetic factors independently contribute to T2D risk; yet, several lines of evidence suggest that epigenetics bridges these two factors. Epigenetic changes can either be inherited or accumulated throughout our lifetime. But, most importantly, they can be reversible. That means, even if we do carry genetic risk factors that make us more susceptible to developing T2D, it is highly likely that changes in our lifestyle, like increasing our physical activity levels and/or eating healthier, can play a protective role through epigenetic mechanisms.

Diabetes in the Middle East – Our Model

Differences in diabetes risk across populations cannot be explained solely by environmental risk factors. In other words, it is the interaction between our environment and our genes that determines whether we remain healthy or develop disease. In some populations, like the Gulf, their genes might predispose them to diabetes, but it is the environmental factors that tip the scale one way or the other. Despite the lack of scientific research, it is likely that the populations in the Middle East, particularly in the Gulf, are at a higher risk of developing T2D with lower BMI ranges, or smaller changes in their diet, or smaller decreases in their physical activity levels.

On the other hand, that could also mean that lifestyle interventions can be very effective and promising in these populations in preventing and delaying the onset of diabetes. In the end, this could be some good news for T2D patients and doctors in the Gulf. We can do something about it. Exercise more and eat healthier.

Ongoing efforts of healthcare givers and public health initiatives in combating the burgeoning problem of obesity and diabetes in the Middle East cannot be undermined. These include providing early diagnosis of diabetes, high quality treatment, and addressing people's lack of physical activity and poor diet choices. Today, compared to 10 years ago, people in the Middle East are better educated about diabetes, and more aware of what they should and what they should not do; we try to walk more, eat healthier, watch our weight, and try to exercise.

In the UAE, since 2006, ICLDC in Abu Dhabi, a leading diabetes centre, has developed a public health initiative, which is intended to reach all levels of the UAE society using multiple pillars: Walk for life, Play for Life, Eat for Life and Cook for Life. The Walk for Life is an annual 5K walkathon for the community, which takes place in November every year, and attracts more than 20,000 people. This initiative aims to inspire people to walk, build walking communities and encourage healthy lifestyles. These are impressive promising steps in the right direction, and more is yet to come from the UAE and other nations in the region.

Dr. AlKaf will be discussing 'Obesity in numbers' as part of the Diabetes conference, at 08:30am.

J.D. Honigberg: Offering a Wide Range of Innovative Solutions

By Deepa Narwani, Editor

Every year at Arab Health, J.D. Honigberg International introduces new and innovative products that are not yet available in the market, highlights Mark Forcier, Vice President International Sales & Marketing, J.D. Honigberg International, Inc.

He says: "Sometimes it is a new design for a product or a completely new innovation. The UAE is an important market for us, and we have been present in the Middle East and the UAE for over 20 years. The UAE has the goal for Expo 2020, so they have to build an infrastructure with that deadline in mind. We are here to help them meet those needs."

The company was founded in 1985 by Joel Honigberg with several divisions. One of the divisions that came in later was the medical division. The focus of the company is to represent U.S. manufacturers overseas and it works with a network of established distributors. The company's role is to look at regulatory aspects for medical devices, and what is required so that they can enter and comply with the regulations of each specific country.

The company's products can be divided into three different categories. There is radiology, which includes imaging tables, x-ray protection; hospital furnishing equipment, which includes medical carts, exam tables, warming cabinets for fluids, and emergency equipment, which would include ventilators, suction equipment, etc., among other products, such as pill counting machines. The distributors import the products and sell and install it for hospitals and clinics.

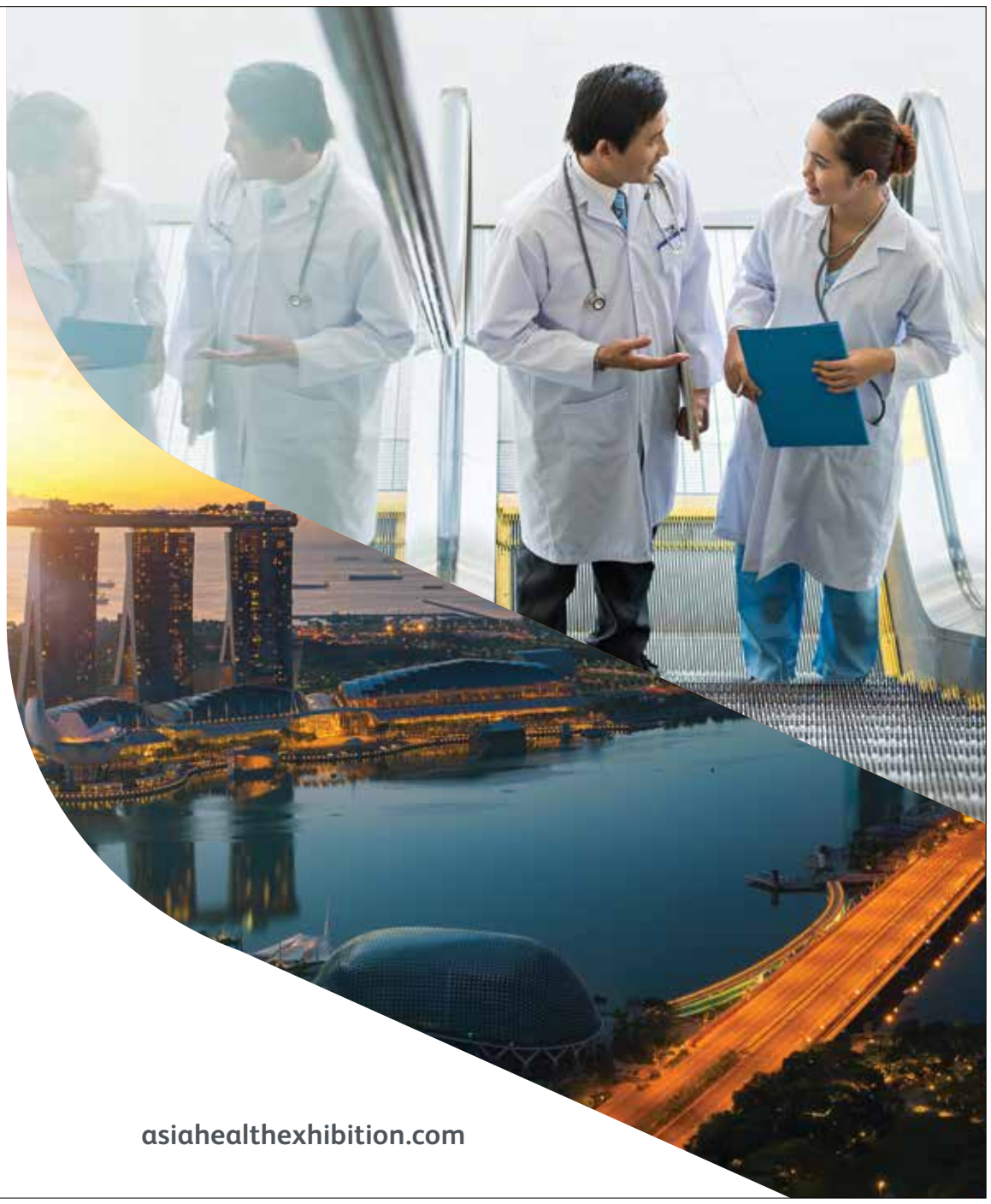
One of the innovative products on display is the Operation Heatjac Warming Belts that keeps physicians and nurses warm in the operating room.

Forcier says: "This vest was designed by an anaesthesiologist. It is cold in the operating room, so, he had the idea of having a belt that can have a battery pack so you can walk around or you can plug it into a socket. But to be even more efficient he thought of having an insulating vest and instead of batteries, you can have heat packs that trap the heat along your body for over 12 hours. The product is something very new on the market. Also, it is something that can go way beyond the healthcare facility, as anybody who is cold can use it and it can have multiple applications."

Another one of the unique products on display is ivNow, which is convenient and easy-to-use, and quickly heats and maintains safe temperatures of intravenous fluids while saving time and space.

"IV fluids are traditionally warmed in cabinets and usually a nurse would have to go outside the operating room (OR) to get the IV bag and when someone goes outside of the OR and back in, there is a risk of contamination. ivNow allows you to have immediate access, while giving prominence to safety," he adds.

Forcier concludes: "We always look for innovative ideas and aim to bring easier as well as high-quality solutions to the market. We have all the required certifications and our goal is to introduce products that are useful and safe for both the hospital staff as well as patients."



New Study Evaluates the Ability of Masimo ORi™ to Help Clinicians Reduce Hyperoxemia in Mechanically Ventilated ICU Patients

Article provided by Masimo

The following abstract was presented at the 2018 Congress of the French Society of Anesthesia and Resuscitation (SFAR) in Paris in which researchers at CHU Angers in France investigated the ability of Masimo ORi™ (Oxygen Reserve Index) to help clinicians reduce the number of days ICU patients experience hyperoxemia while on mechanical ventilation.[1] ORi, available outside the U.S., is a noninvasive and continuous parameter intended as a relative indicator of a patient's oxygen reserve during moderate hyperoxia (partial pressure of oxygen in arterial blood [PaO2] in the range of 100 to 200 mmHg). ORi can be trended and has optional alarms to notify clinicians of changes in oxygenation.

Noting that hyperoxemia can lead to patient morbidity and mortality in ICU patients, and that oxygen saturation (SpO2) cannot detect hyperoxemia, Dr. Brochant and colleagues sought to evaluate whether ORi might be useful in helping clinicians determine when to reduce the fraction of inspired oxygen (FiO2) during oxygen therapy, so as to avoid hyperoxemia. In this initial analysis, the first 131 patients in the study, whose data were collected between May 2017 and March 2018, were randomly assigned into an ORi and a control group. In the ORi group, FiO2 was reduced if ORi was > 0. In the control group, the FiO2 level was adjusted according to SpO2. Clinicians recorded blood gas results, episodes of atelectasis, and the length of time spent on mechanical ventilation, for up to 28 days. The principal point of comparison was the proportion of ventilated days with hyperoxemia.

The researchers found that the percentage of days with hyperoxemia was significantly lower in the ORi group: median 14% [interquartile range 0-31%], vs. 29% [IQR 11-50%] in the control group, p=0.005. Average daily PaO2 and FiO2 values were not significantly different between the two groups, suggesting that FiO2 was not systematically lowered in the ORi group. The average number of days without ventilation and median time spent in the ICU were also not significantly different.

The researchers concluded that the use of ORi may help clinicians reduce the percentage of days with hyperoxemia, that analysis of the full group of patients may allow assessment of its effect on the occurrence of atelectasis, and that additional studies may be useful in evaluating the impact of this monitoring on the morbidity and mortality of patients.

ORi has not received FDA 510(k) clearance and is not available for sale in the United States.

Masimo Root® with Radical-7®, ORi™, and the RD rainbow SET™ Sensor

Reference

1. Brochant A, Dupre P, Gaillard T, Lemarie P, Gergaud S, and Lasocki S. ORi pour moins d'hyperoxie en reanimation. Proceedings from SFAR 2018, Paris, France. #R244.

A Bed for All Hospital Units

The many looks of the Evario hospital bed

Article provided by Stiegelmeyer

Hospital beds are expected to meet a broad range of requirements. The tasks they face in various hospital units are so wide-ranging that you could be forgiven for thinking the answer is to use a variety of special-purpose models. But wouldn't it be more user-friendly and cost-effective to have one model of bed meeting every need? This is precisely the approach taken by Stiegelmeyer in developing the Evario.

Thanks to its modular system, the Evario can be configured to meet the requirements of different hospital units. Customers can choose between control options, safety side systems, castors and head and footboards to create a flexible custom-made bed for each unit, from general wards and ICUs to premium rooms. Soon, there will also be integrated scales available. In all units, the Evario relieves care staff with effortless operation and a large height adjustment range from 32 up to 91 cm. At the same time its clear design and optional suitability for automated reprocessing provide excellent hygiene characteristics to support the fight against multidrug-resistant pathogens.

The ¾ safety sides cover a large part along the mattress base and offer high safety. They are space-saving, visually discreet and provide the patient with an unobstructed view. Care staff can operate these safety sides quickly and intuitively with just one hand. With the optional Protega safety side, Stiegelmeyer offers another great alternative that can be adjusted to meet the individual needs of every patient. The wing-shaped split safety sides, made of high-strength plastic, can be raised only at the head end or along the bed's whole length. The wings can be released with just one move and lower in a damped and quiet way while needing only minimal space. The elements along the head end move along when the backrest is adjusted and thus also protect the patient in an upright sitting position.

Evario can be configured to meet different requirements

Evario offers patients an intuitive choice of basic adjustments

When equipped with the Protega safety sides, the Evario can also be optionally fitted with integrated control panels on both sides of the bed's head end. The inner face offers the patient an intuitive choice of basic adjustments while the outer face with its large display enables staff to choose between separated control levels for nurses and technicians. An especially practical feature for care staff are the 3 preset backrest positions that are often needed in everyday care.

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...To be continued

Leading the Way: Leader Healthcare Celebrates its 10th Anniversary

Interview with Sukhdeep Sachdev, Global CEO, Leader Healthcare

By Deepa Narwani, Editor

Sukhdeep Sachdev, Global CEO, Leader Healthcare

The skillset of healthcare leaders is quickly changing and today they need to be well versed with the concepts of Augmented Reality (AR), Virtual Reality (VR), and Artificial Intelligence (AI). Also, healthcare providers, starting from the nurse to a physician to a skilled surgeon, are increasingly faced with the challenge to enhance their skillset every year. With numerous technological changes transforming the industry, staying conventional would mean lagging behind.

This is where Sukhdeep Sachdev, Global CEO, Leader Healthcare, says that the company is bridging the gap and is providing modern tools and technologies. The company sources the very latest equipment and brings it to the doorsteps of the surgeons and convinces them to try and adopt these in their practice. Furthermore, the company has aligned its forces with the vision of the UAE's healthcare landscape and has structured its policies according to what the nation needs.

With Leader Healthcare celebrating its 10th anniversary this year, Sachdev, in an interview with *Daily Dose*, reflects back on his journey in the UAE. He came here in the 90s and shares that he worked at a conglomerate for almost 17 years, which he credits taught him a lot about how to be a skilled entrepreneur, and how to be a leader. Leader Healthcare started as a one-man company in 2009 and today it employs over 200 people and is present in 11 countries.

He says: "In 2009, I thought that it was about time to embark on my own journey and I started Leader Healthcare. When I started the company and was hiring people, I was not looking at their CV but at what are their dreams were and if Leader Healthcare could help build their dreams. That is one side of the story. The other side was that we were looking to have a strong organisation that could fill the gap in the marketplace. Dubai is renowned as a trading hub and we wanted to bring the best innovation and technology here."

Sachdev highlights that there are strong institutions and healthcare providers in the UAE, but he felt that there was a need for a strong organisation that could provide them with innovative and creative technology and teaches them how it could be integrated to meet the basic needs of the patient.

"One of our greatest achievements I would say is that we have positioned ourselves as a strong company in the field of healthcare when it comes to technology. We have also diversified in the last couple of years into various businesses for patient care such as providing medical equipment and technology in homecare, providing rehab equipment, and how to help children with autistic disabilities with technology, so that the parents can feel better when it comes to the welfare of their kids, among others. We have also moved onto education in healthcare and that will be the strongest area we excel in, in the next couple of years," he emphasises.

Focus on Clinical Education

Clinical education is one of the key areas of attention for Leader Healthcare. Sachdev stresses: "We have realised that when you are talking to a physician or nurses, you need people who can speak their language. Leader Healthcare has expanded its team by hiring those intellectuals and team of clinical educators. These educators meet a team of nurses or physicians and make sure that the technology that we are providing is integrated in the healthcare environment.

"When we talk about integration, we mean that they can actually utilise that technology in an effective way. In the end, everyone has got one aim, which is the patient and that's what Leader Healthcare is focusing on. Our bottom line is that we talk to healthcare providers and see how well the patient can improve with these particular technologies that we are bringing in. The best way is to teach them and educate them through our clinical educators."

Furthermore, the company is engaged in a number of projects in the region such as in Saudi Arabia. It is also recently in the process of executing a contract with Bahrain Defence Forces and is helping them build a complete virtual hospital. The five-storey structure is over 70,000 square feet, and the company is trying to integrate a complete skill set there, not only in healthcare but also in their military environment and by training medics in the field. In the UAE, Leader Healthcare is in active discussions with Khalifa University Abu Dhabi and are helping them bring state-of-the-art technologies.

Sachdev highlights: "In fact, in the last three months we have delivered unique innovative technologies. One of them is a company called Anatomage, which provides digital dissection. Your finger is your scalpel, and with just one single finger you can dissect the body digitally. Universities will use maybe 15 to 20 cadavers a year, which cost around US$10,00. So, what we are telling them that they can reduce this cost by opting for a digital table, I can bring the cadaver here, I can dissect, and I can zoom, and talk about any part of the body and we can teach multiple number of students at the same time rather than just three or six students."

In the next five years, Sachdev says, Leader Healthcare hopes to be in every continent. "We have already started working on that goal. We have expanded our operations to India, have gone into the APAC region, with headquarters in Australia, we are in New Zealand and the next step is Singapore."

He concludes: "We are very excited about our 10th anniversary. The pledge we have taken here is to go on a global path, especially in the field of education in healthcare. We are working on the genes of our people and are helping them to build their dreams and want them to feel that they are a part of an employee-owned organisation. The growth that we have seen in our 10 years has been phenomenal. We are very proud of our people and our team and will continue the building our success story."

What's in store at Arab Health 2019?

Sachdev highlights: "Arab Health is going to be full of surprises and that's been our aim every year. We don't want to be monotonous. We want to mesmerise people and keep them guessing about what's in store. This year our showstopper is going to be a company called von Hagens from Germany. We are going to bring live human specimens that will be used for the students of tomorrow. The company produces actual human specimen through a process called plastination. What happens is that it doesn't give students something artificial to learn but provides them with the actual human specimen. Apart from that, we will have an immersive room. It is part of the technology people have been talking about such as AR and VR. One of the companies that we represent, CAE healthcare has tied up with Microsoft and we will have a showcase of HoloLens, a technology that is widely being used in the industry not just in healthcare. But with that technology again, the education focus can be really enlarged. You will see some really awe-inspiring innovations at our stand H4.D30."

"Learn About Living from the Dead" with von Hagens

By Deepa Narwani, Editor

One of the most intriguing displays at the show is Von Hagens Plastination that offers one-of-a-kind, real human specimens, preserved through the method of plastination, exclusively for medical teaching, anatomy labs, and presentation. These anatomical teaching resources are made possible through the revolutionary specimen preservation process of plastination, invented by anatomist Gunther von Hagens, founder of von Hagens Plastination. The company is attending as part of a co-exhibitorship with Leader Healthcare.

Rurik von Hagens, Managing Director, von Hagens Plastination tells *Daily Dose*: "von Hagens is involved in plastination, a process, which my father invented 40 years ago in Germany. What this process does is that it permanently preserves human bodies. The preservation is first of all permanent and will last longer than the mummies of the Pharaoh! It can show a level of detail, on these permanently preserved specimens, which are not possible anywhere else. It is, therefore, perfect for medical teaching – they are dry, non-infectious, so you don't have to worry about any health hazards, and at the same time it is the best tool of teaching you could have."

Rurik shares that von Hagens started as a small venture but after 15 years, they started the world-renowned exhibition Body Worlds. The primary goal of the exhibition is preventive healthcare and it was conceived to educate the public about the inner workings of the human body and to show the effects of healthy and unhealthy lifestyles. It is aimed to inspire visitors to become aware of the fragility of their bodies and to recognise the anatomical individual beauty inside each of us. Currently, there are 11 Body Worlds exhibitions in the entire world.

Furthermore, Rurik emphasised that for von Hagens the ethical side of the business is of utmost importance because all of the specimens are real people. "It is really essential that we have donated bodies for these specimens. We have our own donation programme and the people who are shown here today decided during their lifetime that they would either be part of an exhibition or that their specimens would be used in medical teachings. This is something that is very important for us."

"Body Worlds is one of the most successful exhibitions in the world that attracts a large number of visitors," says Rurik. "The exhibition has a strong impact on people because everyone has a body and the exhibition is all about you. It allows you the possibility to see under your skin. You learn about living from the dead at this exhibition."

Each exhibition contains real human specimens, including a series of fascinating whole-body plastinates as well as individual organs, organ configurations, blood vessels, and transparent body slices. The plastinates take the visitor on an exciting journey under the skin. It provides wide-ranging insight into the anatomy and physiology of the human body. In addition to organ functions, common diseases are described in an easily understood manner by comparing healthy and affected organs.

It demonstrates the long-term impact of diseases and addictions, such as tobacco or alcohol consumption, and shows the mechanics of artificial knee or hip joints. Individual specimens are used to compare healthy and diseased organs, i.e., a healthy lung with that of a smoker, to emphasise the importance of a healthy lifestyle.

He highlights that the company would love to bring Body Worlds to Dubai, because the exhibition is not just for schools but for everybody. "Everybody has a body, and everybody should be able to see what they are made of. We still have to find the right venue and partners, but it is something we are looking into and we hope that happens in the near future.

"At Arab Health, our aim is for people to learn about our specimens and how special they are. Many people have somehow heard about the process, but it is something very different when they see our specimens in reality. They see the very fine dissections that we do, so even experts say that "I heard about it, I read about it, but now that I see it, it is something so different". Our main target is for people to see it so that people are aware of how special they are, and this is only possible when they see it in person."

Teaching Tool

Rurik highlights that the company provides these specimens for medical schools as it makes for the perfect teaching tool. "So, any medical school with a good teaching programme in our opinion should have one of our plastinates. New York University in the U.S. uses them, so does Warwick University in the UK, among other leading educational institutes all over the world. More and more institutions are starting to use it. We started offering this just five to six years back and are still a little bit at the starting point here even though the technique is very old. But already many well-renowned universities are using it, right from Singapore, to America, to Europe, and to the Middle East," he adds.

Rurik shares that the company is attending the show for the first time and his impression is that a lot of attention is paid into healthcare in the region. He says: "A lot of investments are made into healthcare here, there are many new schools here and overall, they really pride themselves on excellency here. And this philosophy fits very well with us because these are the very same values that we represent." He highlights that Leader Healthcare and von Hagens also recently did an installation for Khalifa University Abu Dhabi.

He stresses that the company's big vision is that any university teaching should have plastinates. "For this, we are really working hard and are having more than 75 people working in Germany on making specimens. It is a very time-consuming and hard process, but our goal is really to expand that. Every school should have that. We are also further developing and are developing the exhibitions, adding new themes and specimens to the exhibition, and that's our way forward," he concluded.

Sukhdeep Sachdev, Global CEO, Leader Healthcare adds: "Donors of the von Hagens programme have declared that once they die their body can be used for research purposes. When the person dies, they can take a specific organ such as the heart, kidney or pancreas, and through a process of plastination they are preserved for the next 20 years. The advantage with this is that researchers then get to know human specimens exactly. They can observe each neuron, cells, and tissue structure, so the teaching becomes better. It is going to be one of the highlights for us at the show."

To see the von Hagens specimens visit the Leader Healthcare booth in Hall4.D10.

Rurik von Hagens, Managing Director, von Hagens Plastination, at the Leader Healthcare booth, at the show

Manan Kalia, Director of Simulation Buisness Units, Sukhdeep Sachdev, Global CEO, Leader Healthcare and Rurik von Hagens, Managing Director, von Hagens

10 Years On:

A Unified Voice and Vision for Ethical Standards in MedTech Innovation Across The Region

Article provided by Mecomed

Mecomed, the trade association for medical devices, imaging and diagnostics for the Middle East and Africa region, was established over 10 years ago with a clear purpose: to unify the region's MedTech industry – their vision and efforts, to create a compliant and regulated marketplace. This purpose was set to accomplish a much larger vision – of making sure patients have timely access to the safest and most innovative healthcare technologies.

With this forming the heart of their endeavors, Mecomed set out to shape the industry by rallying healthcare stakeholders to foster good citizenship by ensuring ethical business behaviour, encourage value-based healthcare and work proactively with governments to improve the quality of people's health.

Headed by Chairman, Rami Rajab and comprising a core team, Mecomed hosted a networking breakfast during Arab Health to showcase some of the key achievements and aspirations of the association.

The ever-growing body of around 40 multinational companies, which covers Middle East and Africa, has been working tirelessly to forge reliable partnerships with governments, healthcare organisations and other key stakeholders to bring the highest international standards and technology to the regional healthcare landscape.

What can perhaps be considered a crowning glory is the implementation of the new Code of Ethical Business Practice for the region at the start of 2018. Developed in line with the principles used by Global Medical Technology Alliance, the code has brought about major changes by increasing transparency and regulating all aspects of the industry's interaction with Healthcare Professionals (HCPs) and Healthcare Organizations (HCOs), including company-organized events, arrangements with consultants, research, and financial support to medical education. It has banned the direct sponsorship of HCPs by any MedTech member company at healthcare events and conferences and has encouraged them to support medical education without advertising themselves or influencing HCPs.

The Conference Vetting System (CVS), implemented by Mecomed in collaboration with Ethical MedTech, assesses all third-party medical events to ensure compliance with set guidelines, that have been created to guarantee uniformity, transparency and increased quality of content. The system has also trained close to 2,000 professionals across multiple countries in the region, to raise awareness, educate them and encourage them to adhere to these principles. The positive reaction of both authorities and PCOs, and the increasing number of conferences being vetted by the system are a testament to the recognition of its effectiveness in ultimately protecting the patient.

Moreover, Mecomed works closely with authorities to drive regulatory harmonization and offer support with reviewing and implementing new regulations and guidelines. The team assesses these guidelines to help draft the right scope, ensure they meet the international standards and reflect the latest global regulatory developments, and introduce new technologies and innovations in the market, swiftly and safely. They also help in providing relevant experts as speakers and trainers for events, conferences or trainings, to ensure quality education of attendees and participants.

"We are one voice with one aim: to ensure the best patient outcomes in a safe and ethical way. It is our duty as the region's trade association to make sure that all MedTech companies and their affiliates work towards earning patients' trust, by adhering to the highest and most ethical standards of healthcare practice. It is our responsibility to work closely with government authorities to help provide the guidelines, processes and support to our members, to deliver the very best in healthcare – be it through education, innovation or sound regulation," said Rami Rajab, Chairman of Mecomed.

Novaerus Presents the Future of Infection Control with Defend 1050

By Sangeetha Swaroop, Contributing Editor

Participating at Arab Health for the fourth time this year, Novaerus, a leading Irish firm that specializes in the most effective technology for air dis-infection, continues on its mission to reduce indoor airborne pollutants by showcasing its latest product, Novaerus Defend 1050 (NV 1050), that combines rapid air dis-infection and purification to kill pathogens and trap particulates to control infection.

Globally, nosocomial infection is a serious and widespread problem with an estimated 1 in 10 patients acquiring an infection during a hospital stay. Airborne pathogens spread infection through inhalation and surface contamination. New research data points out that in Europe alone, healthcare acquired infections lead to 16 million additional days of hospital stay and 7 billion euros in direct costs.

Although all hospitals have air handling and air filtration systems, what makes Novaerus different, explains Kieran J. McBrien, Senior Vice-President, International Business Development, "is that our systems go above and beyond conventional systems to get into confined indoor spaces and add another level of air sterilisation and air cleaning. It works on two levels: one, it reduces the risk of direct transmission from person to person, and second, it also reduces contamination on surfaces by taking pathogens out of the air."

"Every human is a bio bomb," he adds. "We carry bacteria, we shed bacteria, and we pass on bacteria through contamination of surfaces and hands, that can lead to infection, allergies and irritation. Novaerus systems use ultra-low energy plasma technology that has been independently tested and proven to deactivate airborne bacteria and viruses, neutralise VOCs and reduce particulate such as mould spores, dust mites, pollen, etc."

The newly launched Novaerus Defend 1050, he adds, "uses this unique patented plasma technology in combination with a triple-stage Camfil filter system – a leading Swedish manufacturer of premium clean air solutions – to give a powerful, compact and manoeuvrable air sterilisation device that provides an effective solution for both air dis-infection and particle removal."

Designed for rapid remediation in large spaces and situations with high risk of infection, what makes Novaerus Defend 1050 superior is that "it offers much higher air volumes, improved ergonomics and ease of use." The all-in-one Defend 1050 can be operated continuously around patients and staff to kill airborne pathogens, adsorb odours, neutralise volatile organic compounds (VOCs), and trap particulate as small as 0.12µm, he adds.

Although hand hygiene and surface cleaning are the norm in healthcare organisations, these have only limited effects due to low compliance and the ongoing presence of pathogens in the hospital environment, says McBrien. "The Defend 1050 is therefore a safe, continuous and effective air dis-infection solution to augment hygiene protocols and reduce the transmission of infection in operating theatres, ICUs, hospital wards, emergency rooms, labs and other critical areas."

Novaerus is taking advantage of its presence at the 2019 Arab Health Exhibition & Congress to re-enter the UAE market, following its relaunch in the country in October 2018. "Arab Health is an important platform for us to extend our reach not only in the GCC region but also engage with the rapidly growing markets of India and Africa. It also serves as a great opportunity to meet our distributors from both the GCC and other parts of the world."

Arab Health, he adds, is a great venue to showcase new products and learn about innovations in other markets and product segments. "It is an exciting show, very well organized, and we always look forward to coming back."

Keen on making a firm foothold in the region, Novaerus is supporting its partners in the MENA region by working with them in close cooperation in their respective markets. "These include making hospital visits, conducting training and seminars," he concludes.

Ascom Showcases New Integrated Communication Solution at Arab Health 2019

By Sangeetha Swaroop, Contributing Editor

Ascom, a global solutions provider focused on healthcare Information and Communication Technology (ICT) and mobile work flow solutions, is closing digital information gaps across points of care in a healthcare setting with the launch of Telligence 6.0, a new patient-centric solution that delivers advanced integration and enhances clinical decision-making.

Ascom is showcasing this new integrated communication solution at the 2019 edition of the Arab Health Exhibition & Congress.

According to Ahmed Al Jassim, Managing Director, AAA Region - Middle East and Africa, "Ascom's Telligence 6.0 offers a higher scale of clinical solution as it collects information from multiple sources such as the patient, medical devices and monitors, healthcare applications, and other systems, to give the caregiver a more comprehensive view of the patient's status that goes well beyond the traditional nurse call. By capturing and sharing information from multiple sources, it enables a more responsive patient-centric care and also empowers the patient to have control of his/her own environment."

In addition, Telligence is flexible, offering everything from a standalone nurse call system to a fully integrated, end-to-end patient response solution, he adds.

One of the greatest challenges for a nurse, says Kathleen Snyder - Global Senior Product Marketing Manager, "is to get the right and reliable communication which, in turn, has a tremendous impact on a patient's healthcare experience. A nurse needs to hear all the alarms and alerts but also filter out all the 'noise' so that the right information is delivered to the right caregiver at the right time for appropriate response. By enabling a seamless flow of clinical information between care teams, devices and systems, Ascom is focused on providing efficiency for clinicians while at the same time, maintaining the privacy, integrity and quality of care for the patients."

Very often, connected medical devices produce an exhaustive amount of data, all of which may not require immediate clinical response. How do you turn this fragmented data – received from the bedside, to intensive care units, to operating rooms and more - into accessible information to support clinicians across points of care?

Integration of medical devices and vital care information systems is vital to harness the power of digital clinical communication and to bridge digital information gaps, says Aage Rask Andersen, Vice President AAA Region. "This is precisely where Ascom's strength lies. Built around three core pillars – integration, orchestration and enablement – our solutions offer actionable clinical insight across points of care for efficient, effective care, particularly in critical care and time-sensitive environments."

Globally, the segment of senior population is growing at a rapid pace and as machines get more complex, the healthcare system across developed and developing countries is under tremendous pressure to provide the right kind of care especially with the limited resources available. "The key, therefore, is to improve efficiencies to care delivery with strategic healthcare information and communications technology and thus ensure smooth and efficient workflows leading to improved productivity and enhanced patient satisfaction in the challenging clinical environment," he adds. "This is primarily the overall driver for Ascom's solutions and the reason for its continued upward growth."

Following a tremendous success last year in its key markets in Europe as well as across the Middle East and Asia, the company is now geared to repeat its success in 2019 with the launch of a new office in Singapore, says Ahmed Al Jassim. "In 2018, two of the largest hospitals in Singapore were equipped with our ICT solutions. In the UAE, Burjeel Medical City in Abu Dhabi, Dr. Sulaiman Al Habib Hospital in Dubai and Al Ain Hospital also chose Ascom to access clinical information and deliver responsive coordinated care."

Screening for Breast Cancer: Challenging but Beneficial

By Prof Dr Ruud Pijnappel, Secretary General, European Society of Breast Imaging - EUSOBI, University Medical Centre Utrecht & Dutch Expert Centre for Screening, LRCB, Nijmegen, The Netherlands

Breast Cancer screening has been implemented for many years in several countries all over the world in order to lower the mortality rate. The Netherlands started screening for Breast Cancer 30 years ago. During this period, we learned a lot about the benefits and harms of Breast Cancer screening and therefore we constantly adjust the Dutch programme in order to optimise it as much as possible. This optimisation resulted in a mortality reduction of 50 per cent for women who do attend all screening rounds between the age of 50 and 75 in a biannual setting.

Due to our experiences, we developed a philosophy regarding the organisation and maintenance of a screening programme, based upon six pillars.

At first, we think of screening like a medical chain in which equipment, technicians and radiologists are the key players. This chain is as weak as the weakest link. Therefore, before starting a screening programme all three links have to be secured. In practice this means that an adequate educational programme as well as a system for quality control has to be implemented before starting the actual screening process itself. It is a misperception that starting a screening programme is equivalent to buying equipment.

The second important issue is to discriminate between clinical breast radiology and screening for breast cancer. The mindset in a screening environment differs from a clinical setting. In screening you only have to depict lesions with a high probability for breast cancer. All other lesions are not of interest in a screening setting. This requires additional training not only in a theoretical setting but even more it requires specific skills.

Therefore, in our opinion a radiologist is not a screening radiologist unless these specific skills have been trained. In the Netherlands, it is obligatory to pass an additional training before you are allowed to work in the Dutch national screening programme. The additional training is also obligatory for technicians. Apart from the certification of professionals all equipment has be certified as well. This is the third pillar of our system. Certifying new mammography equipment before installation, weekly calibration of every mammography unit and extensive testing every six months is part of our quality control system.

In order to maintain the highest quality possible and adjusting the individual performance of Technicians and Radiologist, auditing is essential and accounts for another important pillar of our philosophy. During these audits, which take place once every three years, we benchmark the results from screening units all over the country. This gives insight in the regional performance in comparison to the national performance. During these audits, we arrange peer to peer discussions between the auditing team and the screening unit, which is audited.

In this way we have created a system in which scientific discussion forms the basis of adjusting the programme instead of signing out of a list of items. The combination of benchmark and peer to peer discussions makes fine tuning a real option in the Dutch screening programme.

Another important element of our quality system is the recall rate. When we started screening 30 years ago, we thought that a recall rate of 1 per cent would be optimal for the Dutch programme. The advantages of this low recall rate were a high positive predictive value (this means that relatively few women were recalled for a benign lesion) while detecting a lot of breast cancers at an early stage. After evaluating this recall rate by means of 'the optimisation study', published in JCNI 2005, we changed our policy and went up to a recall rate of 2.4 per cent. Still very low compared to other countries, especially the U.S., but with the same breast cancer detection as in other countries (6,8 per 1,000). We pay a lot of attention to recall rate in the Netherlands. Recall rate reflects in essence the balance between benefits and harms of a screening programme. The more you recall, the more falls-positives (woman recalled from the screening programme but no malignancy after assessment) you will have.

False-positive recalls should be avoided as much as possible because it constitutes a serious drawback of screening without compensatory benefit for the affected subgroup of participants. In studies performed in the Netherlands, we discovered a drop in re-attendance after a positive recall as high as up to 30 per cent. Anxiety and discomfort for women as well as high costs for the community (additional imaging and image-guided interventions) makes false-positives a serious item to evaluate, educate and control. Defining a recall rate, teaching and training skills of radiologist forms the backbone to minimize harms in a screening programme.

The last pillar is about data. Data are essential in a screening programme. Not only information regarding incidence in relation to age, but also recall rate, detection of breast cancer, interval cancers (symptomatic cancers that appear between screening rou nds), stage of detection and in the long run figures in survival are essential to evaluate and adjust the program. In the Netherlands, we have central storage of all mammography images produced during screening. But we also have a unique custom-made reporting system. Besides that, all pathology reports from all over the country (not only breast) are stored centrally as well as all data regarding cancer (all cancer types). Coupling of these databases makes it possible to evaluate the Dutch screening programme on a national level. This gives us the opportunity to calculate other items like overdiagnosis.

Our philosophy that screening differs from clinical breast radiology also accounts for the women involved. Therefore, screening in the Netherlands is arranged completely outside the hospital setting. We have 58 trucks with mammography equipment driving throughout the country to facilitate women to have their mammography once every two years (paid for by the government) close to their home address avoiding a clinical setting. Apart from the 58 trucks, we have 20 stationary systems outside hospitals. This concept is accepted very well and is reflected in a constant high attendance rate of around 80 per cent. Only in case of recall and further assessment women are confronted with a hospital setting.

In conclusion, screening for Breast Cancer works but it requires a solid infrastructure consisting of education, monitoring auditing and continuous adjustment. The Dutch model reflects a comprehensive system resulting in a serious reduction of breast cancer mortality. The Dutch Expert Centre for Screening (LRCB) is frequently consulted by countries that want to start or set up a screening programme. Adjustment for local and cultural background is essential for making the programme successful. But regardless, the country or cultural background, education is the key to success.

Prof. Dr. Pijnappel will be speaking on 'Digital breast tomosynthesis in population-based screening programmes' as part of the Total Radiology conference at 14:00.

USING A CLINICAL DECISION SUPPORT SYSTEM TO ACHIEVE MEASURABLY BETTER HEALTHCARE OUTCOMES

"The Collaboratory" reflects the transformation through collaboration that Abbott wants to ignite by working in partnership with clients. Abbott supports healthcare organizations to overcome their challenges and materialize their future state vision, by breaking down the silos and barriers that exist today in healthcare. The results of a global study show the contribution expected from labs to facilitate this transformation as shown in the data points below. By leveraging their data and teaming up with other services and stakeholders, labs can shift from being a manufacturing facility to a decision support engine, helping the decision making across the system and achieve measurably better healthcare performance.

With advancements in medical research and technology breakthroughs happening daily, doctors and clinicians must remain on top of latest medical guidelines, patient historical and holistic information to reduce unwarranted variations, improve patient outcomes and reduce costs.

The Limbach Group is a leading private provider of laboratory services in Germany, with more than 6,000 staff and 32 laboratories. MVZ Cottbus, the group's laboratory, serves four hospitals and a rehabilitation center, and provides diagnostic services for a population of more than 1 million people. Burdened by the extensive employee-hours needed to process and analyze laboratory data, MVZ Cottbus, in partnership with Abbott, recently completed phase 1 of a project to establish how the use of Abbott's AlinIQ Clinical Decision Support (CDS) solution could: 1) standardize the application of clinical guidelines and evidence-based medicine, 2) improve clinician test-ordering practices, 3) save laboratory time and resources, and 4) improve the quality of reports provided to clinicians. According to Dr. Peter Thorausch, co-founder and CEO "A huge part of our time is spent processing and analyzing data and writing reports. Being able to automate much of this work – and providing guidance to the requesting clinician – will lead to smarter, leaner and quicker diagnostics and ultimately adding real value to the services we provide."

For phase 1 there were 2 main objectives chosen:

1 By targeting 4 main conditions (COPD, AMI, Pneumonia, AF) see if AlinIQ CDS could improve test ordering based on patient's initial diagnoses. For example, for a patient with a diagnosis of COPD, Cottbus wanted to identify cases where diagnostic tests related to COPD were not ordered.

2 By targeting 5 diagnostic procedures for renal, thyroid, diabetes, anemia, and lipid diseases – demonstrate that AlinIQ CDS could identify secondary diagnosis and comorbidities as well as Interpreting results and providing relevant recommendations.

12,395 randomly selected cases were analyzed by AlinIQ CDS using the 70 rules and the following results could be identified:

1 As per the 1st objective 338 cases were identified corresponding to the 4 main conditions. 100% of the cases received interpretation reports including proper ICD/DRG coding and testing ordering recommendations.

2 As per the 2nd objective 4,616 recommendations were provided linked to the 5 diseases (renal, thyroid, diabetes, anemia, and lipid diseases).

Terminology: Rule = Structure responsible for implementing and automating algorithm steps; ICD= International Statistical Classification of Diseases and Related Health Problems list by the World Health Organization; DRG= Diagnosis Related Group is a system to classify hospital cases into groups; Disease = The term "disease" broadly refers to any condition that impairs the normal functioning of the body

After 3 months, the MVZ Cottbus phase 1 of the project demonstrated that AlinIQ CDS was able to provide recommendations to improve test ordering and identify secondary diagnosis and comorbidities. The implementation of CDS live has the potential to improve patient outcomes, materialize operational efficiencies and achieve cost savings. Additionally, with just the 70 rules created by MVZ Cottbus and Abbott in this phase, AlinIQ CDS not only recommended testing and provided results interpretations for the four ICD/DRG targeted conditions, but also for other conditions that originally were outside the scope of the project. These results show the benefits that AlinIQ CDS can deliver for healthcare organizations. Beyond that, AlinIQ CDS flagged potential co-morbidities for further investigation, which could have a significant impact in terms of optimizing patient treatments and improving reimbursement coding for the organization.

Following the success of phase 1, AlinIQ CDS has now been integrated with the laboratory's database and live data streams at MVZ Cottbus to enable real-time analysis and reporting. Prior to commencing this phase, Abbott trained the staff to ensure a smooth transition and the team worked to review the results of the phase 1 and adjust the CDS rules before the system went live with reports and comments for the physicians. Additional work is ongoing to evaluate the strategic, operational and financial impact of AlinIQ CDS in a live setting, comparing performance metrics against the baseline benchmark. In the future, MVZ Cottbus will be able to expand the reach of AlinIQ CDS to other clinical use cases, disease states and laboratory locations. Additional data streams will be integrated to enrich the clinical information available and enhance the generation of patient-specific recommendations.

For further information please talk to our experts at the Abbott booth during Arab Health 2019 or send an email to wired@abbott.com

Discover more about Abbott and our presence at ArabHealth using the QR code or visit www.corelaboratory.abbott/int/en/arabhealth

CHOOSE TRANSFORMATION

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DIABETES

San Raffaele Diabetes Research Institute (DRI) has been the first center in the world (in 1990) to perform pancreatic islet transplantation to treat patients with type 1 diabetes. Today, with a history of more than 200 patients and 400 cell infusions, the Diabetes Research Institute is a leading center worldwide for the implementation and enhancement of this experimental treatment, which aims at recreating the function of insulin-producing cells in a host organ like the liver. The main objectives of DRI researchers working on islet transplantation are improving the procedure to guarantee cells engraftment, finding new and affordable beta cells sources (using stem cells) and controlling immune response after transplant to avoid degeneration of the newly transplanted cells.

GENE THERAPY - STRIMVELIS

Ospedale San Raffaele is the only hospital in the world which currently can treat with gene therapy adenosine deaminase-deficient severe combined immune deficiency (ADA SCID), better known as 'bubble babies' syndrome. Strimvelis is the first life-saving treatment in the world using ex vivo gene therapy for ADA SCID.

CARDIOVASCULAR

Our cardiology and cardiac surgery department is the most important in Italy and one of the most highly experienced centre in Europe specialized in congenital heart disease. We take care of patients affected by complex heart defects from birth to adulthood, providing them the most innovative techniques of cardiac surgery and interventional cardiology. GSD has the only center in the world for the treatment of Brugada syndrome.

ONCOLOGY

The Group staff works very closely to create a well-integrated multidisciplinary team (Surgery, Oncology, Diagnostic Radiology, Radiotherapy, Nuclear Medicine, Pathology, Oncological Psychology, Plastic/ Reconstructive Surgery). At San Raffaele, which is our biggest facility, there are approximately 9000 hospitalizations for tumors each year (approx. 17.2%), with 6000 tumor surgeries (approx. 30%). Every week, a multi-specialty team meets to set up a diagnostic and therapeutic pathway for every patient.

ORTHOPAEDICS

Our centre has the largest number of orthopaedic admissions in Lombardy.With its 13,209 hip and knee prosthesis operations per year and 3,693 spine operations per year, it is a reference centre for locomotor system diseases.

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(1,022 on pediatric patients – 364 on adult patients)
GSD Cardiology & Cardiac Surgery Department is the Most experienced center in Italy (and one of the most experienced in Europe) that treats congenital heart diseases. The center take care of patients affected by complex heart defects from birth to adulthood, using the most innovative cardiac surgery and interventional cardiology techniques.

Interventional Cardiology and Hemodynamics
15,837 procedures per year*
The center provides specialized care for complex coronary diseases and chronic total occlusions with drug-eluting stents, as well as percutaneous treatment for heart valve diseases.

Arrhythmology & Electrophysiology
22,992 patients*
Internationally-renowned center for the treatment of many diseases that affect heart and vessels. It is the only center in the world where Brugada syndrome can be treated definitively.

TREATING BRUGADA SYNDROME: Brugada syndrome causes approximately 15-20% of sudden death cases in patients with less than 40 years.
Professor Pappone developed the first technique that “switches off” the disease syndrome, using ablation

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*2016

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Facilitating the Move to Value-Based Healthcare
Medtronic's Role in Healthcare Transformation

Article provided by Medtronic

Across the globe, governments, insurers, hospitals, and physicians are struggling to address unmet healthcare needs without further increasing costs. Chronic disease accounts for 60% of deaths worldwide while the annual cost of global healthcare is about USD 9 trillion. That's about 11% of the world GDP and it's not sustainable. Legacy healthcare systems are designed to best handle acute, episodic care where cost and quality can vary greatly not only between different countries but also within the same healthcare systems. While the issues in healthcare have been known for a while, and several attempts have been made to make incremental change none have solved the underlying problem.

Stakeholders should think bigger than episodic care and focus on initiatives that emphasize managing broader patient populations more effectively. At Medtronic, we believe the solution lies in a transition to value-based healthcare (VBHC) and we are committed to working with the health community to better leverage technologies and services that improve patient outcomes, integrate care delivery, and support the global shift toward VBHC to move healthcare in a more sustainable, collaborative direction.

We define VBHC as an effort to develop and deploy products, services, and integrated solutions that improve patient outcomes per dollar spent in the healthcare system, measuring value in terms of long-term patient outcomes rather than short-term transactions. Most importantly, the value derived from the quality of care isn't determined at a specific point in time that focuses on transactional value. Instead, value is measured holistically over a longer time horizon and in ways that are meaningful to the patient.

In the current fee-for-service models hospitals aim for volume of care because this is how they stay profitable. But new rules and regulations are shifting payments toward a patient's overall health. This emphasis on fee for-value instead of fee-for-service can help better manage patient conditions, control costs, and continue to drive and reward innovations.

Worldwide, there is growing momentum to change how healthcare is delivered. But that is not an easy task. Reform requires holistic thinking with partnerships in all markets, across all areas of healthcare: industry, policy, patients, payers, and providers. At Medtronic, our role in this new era will be to leverage the full power of our technologies, services and help propel healthcare past its current fragmented state and make payment for products and services contingent upon the ability to improve patient outcomes relative to the cost.

We are currently partnering with like-minded organizations in countries around the world to develop new arrangements so that we can be active participants in this transformation. To date, we are working within shared accountability arrangements in three distinct areas: chronic care management, episodic care bundles, and therapy-based value offerings.

There is no longer any doubt about how to increase the value of care. The question is, which organizations will lead the way and how quickly can others follow? We're confident that our focus on developing and deploying technologies, services and solutions, as well as sponsoring events that bring together leading policymakers, researches, providers and healthcare system executives, will play a meaningful role in achieving the goals of this transformation.

The Role of Epilepsy Surgery and Neuromodulation in Treating Refractory Epilepsy

By Ahmed T. Abdelmoity, MD, FAAP, Professor of Pediatric Neurology; Director, Division of Neurology; Chief, Section of Epilepsy and Neurophysiology, Children's Mercy Kansas City, Kansas City, Missouri, U.S.

With a worldwide prevalence of epilepsy of about 1 per cent, drug-resistant epilepsy poses a challenge in the neurosciences clinic. In fact, about 35 per cent of patients with epilepsy will continue to have seizures, despite treatment with multiple seizure medications.

The result is that many patients, adults and children, still have debilitating seizures. Among this subset of patients, many also suffer from cognitive dysfunction, depression, accidents, and medication side effects, in addition to Sudden Unexplained Death in Epilepsy (SUDEP).

The International League Against Epilepsy (ILAE) has defined drug-resistant epilepsy as the continuation of seizures or aura during a 12-month period, despite being prescribed two or more properly chosen, properly tolerated, and properly dosed medications. Multiple studies have shown that when patients are prescribed additional medications, they may become pharmacoresistant.

- Response with first drug–50 per cent
- Response with second drug–11 per cent
- Response with third or multiple drugs–4 per cent

Some predictors of pharmacoresistant epilepsy include high initial seizure frequency, neonatal seizure, over 12 years of age at onset, intellectual disability, abnormal exam and imaging, failure of first anti-epilepsy drug, or failure to respond in the first year of treatment.

A significant number of children do not respond to pharmacological treatment, resulting in a low likelihood of seizure freedom. The consequences of drug-resistant epilepsy extend beyond the seizures themselves, impacting quality of life and resulting in:

- Seizure-related injuries
- Increased healthcare utilisation
- Increased morbidity and mortality
- Depression, anxiety and sleep disturbances
- Cognitive and memory impairment
- Adverse effects of long-term anti-epilepsy drug use
- Increased risk for SUDEP
- Impaired social relationships and functions, including the ability to obtain education, work, drive and establish families

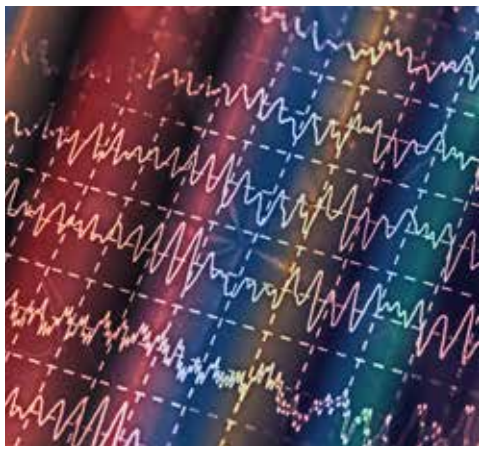
Multiple drugs also can cause adverse reactions for these children, hence the need for non-pharmacological treatments. And, despite the introduction of new anti-epilepsy medications, the incidence of drug-resistant epilepsy has not changed significantly over the past 20 years.

Surgical Options to Treat Drug-Resistant Epilepsy

Clearly, a wide range of treatment strategies may be necessary to help patients who have drug-resistant epilepsy. This is where surgery may be an important consideration. Surgical options include:

Epilepsy resection surgery: Most commonly, this surgery is used to treat temporal lobe epilepsy and involves removing a portion of the temporal lobe of the brain. Overall, in patients who are good candidates for a temporal lobectomy, more than 80 per cent will have a significant improvement in seizure control. However, most patients will need to continue taking anti-seizure medications. Over time, with the guidance of their epilepsy team, some of these patients may be able to lower the dose of the medication needed. Unfortunately, 10 to 15 per cent of these patients do not experience an improvement in seizure control.

Laser Interstitial Thermal Therapy: Minimally invasive techniques using laser heat ablation of epileptic tissue have resulted in similar seizure control outcomes in a number of different seizure types. During the surgery, an MRI is used to precisely map out the exact area of the brain on which to



operate. The laser treatment is then targeted to this area to eliminate the seizure focus. All of this is done without needing to open the skull, making it a minimally invasive procedure.

This minimally invasive surgery can be effective for drug-resistant focal epilepsy due to small lesions and has been used most commonly in people with temporal lobe epilepsy from mesial temporal sclerosis. Early data on laser ablation surgery shows more than half of people treated will achieve freedom from seizures. This type of surgery continues to be carefully studied.

Neurostimulation: Three neurostimulation devices are approved for the treatment of drug-resistant epilepsy. These are vagus nerve stimulation (VNS), responsive neuro stimulation (RNS) and deep brain stimulation (DBS).

VNS is approved for treatment of focal epilepsy when surgery is not possible or does not work. A small electrical generator is implanted under the skin over the chest. A wire, called a "stimulator lead," is then attached onto the vagus nerve located in the neck. The generator stimulates the vagus nerve on a set schedule. Over time, this helps to reduce the number and severity of seizures a patient has. It is effective in over half the people who try it.

RNS is a device that can record seizure activity directly from the brain and delivers stimulation to stop seizures. The device, also called an electrical generator, is implanted in the skull. Electrodes are placed on or in the brain in the area where seizures begin. The device detects seizure onset and then delivers an electrical stimulation to stop the seizure.

DBS surgery involves implanting an electrode into the brain and placing a stimulating device under the skin in the chest. The brain electrode is implanted through a small hole made in the skull. Advance magnetic resonance imaging (MRI) and a computer navigation system are used to guide the electrode to the exact "target" position deep in the brain. The stimulator device placed in the chest is similar to a pacemaker and is connected to the brain electrode. The device sends signals to the brain electrode to stop signals that trigger a seizure. DBS surgery for treatment of seizures was approved by the U.S. Federal Drug Administration (FDA) in 2018.

The importance of early and proper diagnosis of epilepsy is critical to identification of the correct type of treatment, especially for those patients whose epilepsy is drug-resistant. Early intervention with the personalised proper method of treatment for that particular type of epilepsy has been shown to drastically increase success rates in controlling seizures, improve quality of life for patients and significantly reduce the risk of SUDEP.

Dr. Abdelmoity will be speaking on 'Utilising vagus nerve stimulation surgery in refractory epilepsy' as part of the Paediatrics Conference, at 11:45.

His Highness Sheikh Hamdan bin Rashid Al Maktoum Launches Tawreed AI

His Highness Sheikh Hamdan bin Rashid Al Maktoum, Deputy Ruler of Dubai, UAE Minister of Finance and President of the Dubai Health Authority (DHA) launched the Tawreed Artificial Intelligence (AI) system during his tour of the exhibition yesterday.

H.E. Humaid Al Qutami, Director General of the Dubai Health Authority said, "DHA is proud to become the first Government entity to implement AI in the Purchasing and Contracts process. Introduction of AI is in line with the UAE Strategy for Artificial Intelligence (AI) and the DHA AI strategy. We are keen to foster the use of technologies such as AI not only for service provision in the medical sector but also across other areas such as health management and supporting sectors."

Ahmed Abdullah Saleh Al Nuaimi, CEO of Joint Corporate Support Services at the DHA said, "The introduction of this system has greatly enhanced efficiencies. Each process takes lesser time. After the introduction of this system, the approximate time per process is one hour, compared to 60 hours. The AI system is also cost saving and is 100 per cent accurate."

Al Nuaimi added, "Currently this is the first phase and we have implemented the system across the Purchasing and Contracts department. In the second phase, we will implement it across the Finance and HR departments."

Ayesha Al Mehairbi, Director of Purchasing and Contracts Department at the DHA said that the system has led to employee efficiency. "It has reduced the number of staff needed by 40 per cent, and these employees have been deployed across other areas across the Authority. Overall, the system has led to enhanced efficiencies; it saves time, effort and creates a paperless and smart environment in line with the vision of the Government of Dubai."

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