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MEDIWORLD

Middle East



Elevating ambitions Saudi German Hospitals Group

Dr. Reem Osman CEO Saudi German Hospital, Dubai, UAE.

FEATURES

Leading the battle
against counterfeit drugs

NEWS & UPDATES

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MediWorld ME aims to create the ultimate platform to share the latest news, updates & developments from the healthcare & medical technology industry within & beyond the GCC countries

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Editor's Note

Celebrating our first anniversary

Time flies and we understand this better as 2017 comes to a close soon. With great enthusiasm and motivation we have launched the MediWorld ME magazine this year and it is now equally exciting to look back and be proud of these six editions that aimed to create the perfect platform for the professionals in medical technology and healthcare fields.

Despite the challenges in media sector, we have constantly strived to bring the latest developments by the manufacturers and service providers to our readers not only in print form but also via our online channels such as our website and monthly e-newsletters. As we always highlight among our major objectives, we aim to promote the top products and services offered by global as well as local players.

Our last edition of the year is again packed with lots of useful information and updates from the medical technology and healthcare sectors. Offering comprehensive services, hospitals in the GCC are known to be far more advanced than many of their counterparts and we highlight the achievements of Saudi-German Hospital Group, which aims to construct 30 world-class hospitals by 2018 providing 50,000 jobs in healthcare industry.

As up to 15 per cent of the drugs in the supply chain at any given time are thought to be counterfeit, experts underline that it is everybody's responsibility to make sure that a patient is taking the medicine he or she is prescribed and this is both a moral and business issue. We talk more about the issue in our feature on counterfeit drugs and the industry's never-ending battle.

Despite recent advances in HIV treatment and prevention, it is estimated that around 2 million people are newly infected each year with HIV being one of the greatest global public health threats. With one of the world's leading pharma companies announcing encouraging first-in-human clinical data for an investigational HIV-1 vaccine regime in development, we asked the senior director on what has been achieved so far in prevention and treatment.

As we prepare to celebrate the New Year, we welcome your invaluable comments on improving our magazine and bringing in the most recent developments in the industry.

Sincerely,

Editor, *MediWorld ME*

06-Cover Story

Elevating ambitions: Saudi German Hospitals Group



10-Feature
Leading the battle
against counterfeit drugs

14-Feature
A deeper look at HIV's first clinical data



For the latest News & Updates visit: www.mediworldme.com

Medical Destination

18- A therapeutic hub in Europe: Slovenia



22-30 News & Updates

- UAE occupies first position in number of internationally accredited healthcare providers
- UAE to introduce device to combat type II diabetes
- Expats in MEA show highest prevalence of cardiovascular disease - Aetna International
- "MRI may predict neurological outcomes for cardiac arrest survivors"
- Integrated Thyroid Clinic established in Abu Dhabi

31-UAE to continue initiatives to create a world free from disease



34-Boecker® showcases Public Health Solutions



35-Events Calendar

36-Quick References

Cover Story —



Drive has moved SGH into a new era of healthcare industry development, where the scope and goals got elevated from a local ambition to a regional ambition. Now the SGH Group's vision is “To design, finance, construct and operate 30 world-class hospitals by 2018 and create 50,000 jobs in healthcare industry.”

Taking a deeper look at the success story of the Group, MediWorld ME met with

Dr. Reem Osman

CEO Saudi German Hospital, Dubai, UAE.
Here is our conversation in a Q&A format.

Elevating ambitions Saudi German Hospitals Group

The SGH Group is working towards providing all healthcare services in every corner of the Gulf and beyond

Overview

Considered the largest private healthcare provider in the MENA region (Middle East & North Africa), the Saudi German Hospitals Group is a multi-functional healthcare company which is considered a healthcare developer and not just an operator. The Group constructs its own hospitals and finances its developments with the support of the local government and development banks.

In addition, the SGH Group operates its hospitals in cooperation with numerous German medical schools and faculties. The Group establishes a new hospital every year, hence, adding 500 employees annually. Around 3,000 employees are currently working under SGH group with a growth rate of 16 per cent per year.

SGH Group started in 1988 in Jeddah, Kingdom of Saudi Arabia where it was owned solely by the Batterjee family that had a unique spiritual vision which is derived from one verse from the Holy Quran that could be transliterated as "And if any one saved a life, it would be as if he saved all of mankind."

That drive has moved SGH into a new era of healthcare industry development, where the scope and goals got elevated from a local ambition to a regional ambition. Now the SGH Group's vision is "To design, finance, construct and operate 30 world-class hospitals by 2018 and create 50,000 jobs in healthcare industry."

Taking a deeper look at the success story of the Group, MediWorld ME met with Dr Reem Osman, CEO Saudi

German Hospital, Dubai, UAE. Here is our conversation in a Q&A format.

Can you briefly tell about this illustrious journey?

To establish a good healthcare in the region was the vision of Mr Sobhi Batterjee, an Engineer and Founder & President of Saudi German Hospitals Group - the first hospital established back in 1988 in Jeddah. The hospital was co-founded by Dr. Khalid Batterjee, Orthopedic Surgeon who graduated from Germany.

Mr Batterjee felt the need to establish the hospital in order to decrease the number of patients travelling to Germany from KSA to seek treatments. In addition, the group also introduced German Professor Visiting Program which has been in practice since 1988.

After the success of the first hospital, Mr Batterjee decided that good healthcare should be available everywhere, particularly in regions where the availability of healthcare service is scarce in the 80's and 90's. Soon, Saudi German Hospitals Group (SGHG) was formed in 2006.

Later, three more hospital joined the group -- SGH Riyadh, Aseer and Madinah - all these hospitals are well-equipped and house 300 beds. The group began to spread its wings and soon it opened its first hospital SGH in Yemen. It was a huge step for the group as SGH Yemen was the first 300 beds and tertiary hospital outside KSA. With the success of SGH Yemen, the group began to expand regionally. The group is currently planning to open SGH Hail and other SGH projects in





Dammam and Makkah. The group also came up with one more hospital in Dubai, the first hospital to develop completed healthcare city within the premises, in 2012 and in Cairo in 2016. It was soon looking to expand throughout the Emirates, in Sharjah, Ajman and even expand to Alexandria. Further, SGH Group plans to open three more projects in Pakistan's Lahore, Karachi and Islamabad. The group always works hand in hand with Dubai Health Authority (DHA) to be a part of the all new mandates that the authority establishes.

In 2015-2016, the group achieved the highest score Level 5 in EMRAM (Electronic Medical Record Adoption Model) among all private hospital in Dubai. SGHD is also the first private hospital that initiated the Smart Pharmacy Automation System, to ensure that right medication reaches the right patient. The group is looking towards advancement in healthcare – such as organ transplant and latest robotic surgery.

In your opinion, how has the health care sector evolved over the decades across the UAE?

SGH has been in the healthcare sector for the past five and a half years, and we have noticed that there has been a tremendous development and growth in the private and government healthcare sector in the UAE. Not just the quantity but even the quality of services provided in the Emirates or Dubai, especially in terms of handling complex and complicated cases, has improved and evolved. Mandatory healthcare insurance, which has also increased in the Emirates, has helped in improving and stabilizing the healthcare sector here.

Your group is known for community service initiatives. Can you share few of your CSR projects which are close to your heart, especially about the “Zayed Giving Initiative”?

As a CEO, I have always believed in a vision: Business Profitability, Staff Wellness, Education and Training as well as Corporate Social Responsibilities (CSR). My group members are very active in terms of corporate social responsibilities and together we have launched many campaigns, free checkup drives and awareness programmes for patients and the community as a whole. We actively participate in international events like Breast Cancer Day Campaigns, Diabetic Day, National Women's Health and Fitness Day and many more, organised by the World Health Organization.

We also carry out campaigns and seminars on treatment of all kinds of diseases and we have also stationed

mobile clinics serving patients of cardiology, internal medicine and pediatrics and OB Gynae specialty.

We have also extended out humanitarian services in other countries like Egypt, Kuwait, Somalia, Sudan, Abuja, Nigeria and other cities of Africa. We are also planning to send out teams to Rohingya, Myanmar. With the continuous success of our campaigns, we are working towards exploring different concepts and campaign year by year.

What are some of the peculiar ailments in the UAE and how equipped you are to treat them?

Recently, a peculiar ailment that affected many live in UAE and other countries was the MERS virus. During such time, following the guidelines of DHA, we train and educate healthcare personnel about how to spread awareness, prevent and control the virus. We also train them on how to implement Environmental Infection Control and Establish Reporting within Hospitals and Public Health Authorities in case of any suspected, probable or suspected cases.

We are also prepared in disaster recovery management, in case of any massive accident like that our hospital is prepared & can received big number of patients on the same time.

Your group is coming up with a Multi-Specialty hospital in Sharjah very soon, what all facilities will it offer to the residents of this Emirate?

Our new Hospital in Sharjah will open soon, soft opening is expected to be in end of December 2017. The multi-specialty hospital will continue to enhance our vision of bringing the best services of SGH across Emirates.

Saudi German Hospital Sharjah is equipped with 15 different medical department and subspecialty with 4 operating theatres with 24/7 facility, Emergency department with 24/7 facility and critical care area for adult and children, state-of-the-art cath-lab covering vascular, cerebral and cardiac intervention, 24 hrs pharmacy & radiology services available, oncology center and plastic surgery center.

Our goal is to always be active in the healthcare sector in Sharjah and to work together hand in hand with the government hospitals and ministry of health and health authorities to help in the improvement of healthcare services in Sharjah.

Can you please tell us about your expansion plans as the SGH Group vision is “To design, finance, construct and operate 30 world-class hospitals by 2018 and create 50,000 jobs in Healthcare industry?”

The vision of the group is to build and design 50 hospitals and create 50,000 jobs in Arab and Islamic world. So far, along with fully functional hospitals in Emirates, we are also constructing hospitals, which includes the subspecialty hospitals, in Dubai and Sharjah. The Ajman Healthcare City is under construction. Further we are looking for more expansion in GCC countries and other Emirate in UAE. Our goal is to make all healthcare services available at one location.

In terms of education, the Batterjee Medical College in Jeddah is one of the biggest private colleges in the Middle East. Plans to construct medical education In Dubai is underway.



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Leading the battle against counterfeit drugs

PharmaTrack, Unisys's newest innovation, combines leading security, advanced data analytics and compliance technology to help combat theft and counterfeit drugs



Pharmaceuticals have long been used to improve health and extend our lives. However, the practice of drug delivery changed dramatically in the past decades but getting drugs safely and efficiently from the manufacturer to the patient has been a long-standing issue for pharmaceutical companies.

Stolen, counterfeit and FDA regulated products such as prescription or over the counter medicines, medical devices and so on put us consumers at risk in the most drastic way possible. They may be caused by products not being stored or handled properly or may have been tampered with while out of the normal supply chain, making them either unsafe or ineffective. The worst part is that these products can

As up to 15 per cent of the drugs in the supply chain at any given time are thought to be counterfeit, making sure people are taking the drugs they have been prescribed is an important moral issue, as well as a business issue

also re-enter the supply as a result of illegal handling by individuals or by distributors.

The supply chain is an integral component of the entire pharma industry and the industry has long struggled with finding better ways to get drugs from the manufacturer to the patient more quickly, efficiently and with less cost.

However, the most important issue is the scourge of counterfeiting in compromising patient safety. It is estimated that up to 15 per cent of the drugs in the supply chain at any given time are counterfeit. Making sure people are taking the drugs they have been prescribed is an important moral issue, as well as a business issue. Counterfeiting also places significant cost burden on pharma companies themselves which impacts the price that we as consumers have to pay.

Mediworld ME recently discussed in detail with Mark Sabotti, Director of Healthcare & Life Sciences, Unisys Asia Pacific, Unisys's new innovation called PharmaTrack.

Enhanced visibility

PharmaTrack, Unisys's newest innovation combines leading security, advanced data analytics and

compliance technology in a single, unified platform to provide life sciences and healthcare companies enhanced visibility and oversight of the entire global pharmaceutical supply chain and thus help combat theft and counterfeit drugs.

"PharmaTrack is a first-of-its kind solution. Up until now, there hasn't been an all-in-one solution which gives the industry, both Pharma and Logistics, the ability to tag, trace, track and authenticate drugs all the way through from the factory to the end-user. PharmaTrack is Unisys' response to mitigating counterfeiting in the pharmaceutical industry by improving the entire process and logistics of the supply chain such that drugs can be transported more efficiently, more cheaply and with greater safety," Sabotti explained.

Open source technology

This newest addition to the Unisys ActiveInsights™ suite of solutions arose from an overlap of industry needs between two industries in which Unisys has deep domain expertise: life sciences and healthcare, and travel and transportation.

"We are leveraging proprietary Unisys technology as well as existing open source technology such as the Blockchain Hyperledger, to identify where breaks in the chain-of-custody in the supply of drugs may have occurred and to provide data and analytics around the best way to get drugs to market quickly. Unisys works extensively with Law Enforcement, with Border and Customs Agencies and with Transport and Logistics firms to deliver a host of Unisys proprietary solutions. We have leveraged our Intellectual Property in delivering these solutions to help pharma companies.

"We are never going to stop theft completely, but PharmaTrack helps pharma companies identify theft quickly and act to mitigate theft through changed shipping routes and reducing risk in highlighting areas of concern. It enables them to make decisions by providing information they have not previously had," noted the director.

Advance data analytics

The technology has been adapted to the pharmaceutical industry, allowing clients to access data quickly in order to mitigate theft and prevent the entry of counterfeit drugs into the supply chain.

"Furthermore, in terms of safety, many of the new generation of drugs have to be transported carefully; they are sensitive to temperature, light, barometric pressure, excess movement or a host of other factors. PharmaTrack alerts shippers and drug companies if these thresholds are close to being breached and allows for their rectification before spoilage. If there is a breach in any given parameter, PharmaTrack alerts these 'spoiled' drugs so that they can be taken out of the supply chain. This ensures the efficacy of the drug is optimized when reaching the patient".

PharmaTrack combines security and advanced data analytics to get drugs to market more efficiently and

This newest addition to the Unisys ActiveInsights™ suite of solutions arose from an overlap of industry needs between two industries in which Unisys has deep domain expertise: life sciences & healthcare, and travel and transportation

with greater safety. In terms of efficiency, PharmaTrack provides information helping to optimize the routes by which drugs are taken to market.

"Through our analytics platform, users will quickly see which routes provide for a faster journey to market and with less theft or suspected theft."

A two-fold hit

With cost pressures and patient safety concerns, the costs of counterfeiting can't be allowed to continue to rise. There is immense pressure on drug companies from policy makers, the media and general public to reduce the cost of drugs to end users. Drug companies also have to ensure that patients get access to a safe and reliable drug rather than a counterfeit, which could contain just about anything as far as ingredients, are concerned.

Counterfeiting is a by-product of theft where items are stolen and then replaced with something else so that this theft is not discovered. So it's a two-fold hit on the drug company and consumers as it drives up prices through theft, and compromises safety through the introduction of goods which could be made of anything.

"By improving the transparency of their supply chain, drug companies can optimize routes to market and make getting drugs to market more efficient and with less cost. They can also put a serious dent in counterfeiting which has its own cost consequences to their business as well as broader societal and moral implications."

Chain of custody

PharmaTrack provides complete visibility throughout the supply chain and establishes a 'chain of custody' for drugs as they get shipped from manufacture to dispensing. If a 'link' in the supply chain is broken at any stage or during any part of the shipping process, users will be quickly alerted.

PharmaTrack provides all this information in a single view and with reporting functionality and allows users to drill down to how particular drugs are shipped, 'success' rates in terms of different routes in terms of time, product loss, spoilage, and a host of different metrics.

There are several aspects including a tarnished reputation. Theft and counterfeiting go hand in hand. Thieves are replacing real drugs with fake ones to cover their tracks while they make money selling the real ones. But pharma companies still have to replace the

stolen drugs. So there is a 'double cost' to drug companies associated with counterfeiting as well as the further reduction in their market as the drugs that were originally stolen are sold to potential buyers.

"However, and I can't stress this enough, the importance of reputation far outweighs any of these 'costs'. If a drug company loses the faith of its supply chain amongst regulatory authorities, payers, prescribers and consumers, it risks losing its entire market. In some cases, an entire drug may be taken off a formulary by a regulatory body or payer and replaced with a rival drug company drug. Should a particular company lose its reputation, consumers and prescribers are likely to choose another company's drug that has not been compromised in the supply chain".

Track and trace

PharmaTrack receives aggregated information for all aspects of the shipment including, where required, for temperature and other factors, with a sensor bound to a



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pallet, box or shipment. Once the sensor is bound, PharmaTrack receives information on the aggregated shipment. Similarly, when the aggregated shipment gets to the 3PL.

"For example, it may be de-aggregated into separate shipments and we will again have notification and ability to track and trace that shipment and so on all the way through to delivery."

PharmaTrack reports show exactly where the drug has been; every time it was scanned; and if there are environmental sensors involved it will show you how hot or cold it was, what barometric pressure it was under, how much stress it was under in terms of movement or how much it was jostled.

"The important part, is that not only can you watch all this information in near real time ('near real time' in cases where cargo is on a plane out of signal range but in 'real time' at pretty much all other times) but it will

provide alerts if a shipment is late or earlier than normal, if a temperature sensitive drug was exposed to temperature beyond a threshold, a light threshold or any other factor."

"PharmaTrack is a game changer because it is a first-of-its kind solution, which covers the entire gamut of the supply chain. Previous solutions covered one-or-another aspect but this is the first time our clients can have entire visibility over their supply chain including full data and metrics to allow for better decision-making as well as for theft notification and counterfeiting.

"All of this is achieved, and this is a very important point, by fully integrating with existing systems. The effort to transition to PharmaTrack is very minimal and is as close to 'plug-and-play' as you can get. We can use existing technology and investments our clients have already made by providing a very quick solution to problems they have been encountering for a very long time. In addition, this technology is tried and tested by Unisys in other industries."

Conclusion

As a society, it is vital we feel confident that the medicines we are being prescribed do what a physician has prescribed them to do. Ethical drugs are there to cure illness and disease and are prescribed by physicians for this purpose.

"If we as a society have no confidence that the drugs we are being prescribed are beneficial to us, let alone may actually be harmful, this has all kinds of impacts on population health, costs on the healthcare system in treating chronic disease and the flow-on effects for the pharma industry and society as a whole in being able to invest in drug development and research to assist in curing disease and improving the health of the population.

"The analyses garnered from our tools can aide drug companies in pre-empting fraudulent activity and theft as well as point our clients to better and more efficient ways to ship and transport drugs to their markets," concluded Mark.

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A deeper look at HIV's first clinical data

Johnson and Johnson announced first-in-human clinical data for an investigational HIV-1 vaccine regime in development at its Janssen Pharmaceutical Companies

“ The mosaic immunogens are delivered through viral vectors, including Janssen's AdVac® technology based on adenovirus serotype 26 (Ad26). The viral vectors are combined with other components such as soluble proteins to form mosaic-based prime-boost vaccine regimens that first 'prime' and then 'boost' the immune system, with the aim of producing stronger and longer-lasting immunity to HIV.” - **Maria Pau, Senior Director - Compound Development Team Leader, HIV Vaccines Janssen Pharmaceutical Companies of Johnson & Johnson**





First-in-human clinical data to cure HIV

Human Immunodeficiency Virus (HIV) is a life-changing event that can bring many questions and concerns. Despite recent advances in HIV treatment and prevention, nearly 2 million people become newly infected each year and HIV remains one of the greatest global public health threats of our time. The search for an HIV vaccine began as soon as HIV was first identified as the cause of AIDS over 30 years ago. Several different scientific concepts and components have been tested over the years. An effective HIV vaccine has been challenging to find due to the unique properties of the virus – including its genetic diversity around the world and ability to mutate rapidly. Although past attempts were not successful, today researchers are building on the lessons learned from historical research and leveraging new technologies to test a range of new vaccine concepts.

Johnson and Johnson recently announced encouraging first-in-human clinical data for an investigational HIV-1 vaccine regime in development at its Janssen Pharmaceutical Companies. MediWorld ME got in touch with Maria Pau, Senior Director - Compound Development Team Leader, HIV Vaccines Janssen Pharmaceutical Companies of Johnson & Johnson about the future developments of HIV's first clinical data.

'Mosaic'-based vaccine

'Mosaic'-based vaccines are created from genes from many HIV variants and are designed to protect against a wide variety of subtypes of HIV responsible for HIV-1 infections worldwide.

"The mosaic immunogens are delivered through viral vectors, including Janssen's AdVac® technology based on adenovirus serotype 26 (Ad26). The viral vectors are combined with other components such as soluble

An estimated 37 million people are currently living with HIV-1 globally, and nearly 2 million people become newly infected each year. An effective HIV vaccine is elusive due to the unique properties of the virus – including its genetic diversity and ability to mutate rapidly.

proteins to form mosaic-based prime-boost vaccine regimens that first 'prime' and then 'boost' the immune system, with the aim of producing stronger and longer-lasting immunity to HIV," explained Pau.

"In pre-clinical studies, regimens incorporating mosaic vaccines demonstrated protection against infection with an HIV-like virus. The most effective prime-boost regimen in these studies reduced the per-exposure risk of infection by 94 percent and resulted in 66 percent complete protection after six exposures."

APPROACH Study

In an oral presentation of the early stage Phase1/2a APPROACH Study at the 9th IAS Conference on HIV Science (IAS 2017), the 'mosaic' –based vaccine regime from Janssen Vaccines & Prevention B.V. (Janssen) appeared to be well-tolerated and elicited HIV-1 antibody responses in 100 per cent of health volunteers.

APPROACH evaluated the safety, tolerability and immunogenicity (ability to produce an immune response) of various mosaic-based, prime-boost vaccine regimens for HIV-1. These vaccine regimens contain two prime doses of the mosaic viral vector Ad26.Mos.HIV and two boosts of either Ad26.Mos.HIV, MVA-Mosaic and/or different doses of the soluble protein Clade C

AdVac® viral vector technology is based on the development and production of viral vectors (gene carriers) based on a type of adenovirus (a common cold virus). These vectors have been modified so that they cannot replicate.

gp140 adjuvanted with aluminum phosphate.

“APPROACH was a Phase 1/2a study in 393 healthy HIV-1-uninfected adults in the US, Rwanda, Uganda, South Africa and Thailand. In the APPROACH trial, most of the mosaic-based vaccine regimens tested appeared to be well tolerated and induced an antibody response in 100 per cent of study participants. This means that the



vaccine has the ability to induce an immune response. However, the actual ability of this vaccine to prevent HIV infection in humans has not yet been studied or proven. A number of additional, larger studies need to be conducted to test whether this vaccine actually reduces the number of new infections.

“The APPROACH findings are encouraging, but early-stage (Phase 1/2a) results. We are at an early stage of the testing process, and a number of additional, larger studies (Phase 2b and Phase 3) need to be conducted to determine whether this vaccine has actual efficacy in reducing HIV infections,” added the Senior Director.

AdVac technology

AdVac® viral vector technology is based on the development and production of viral vectors (gene carriers) based on a type of adenovirus (a common cold virus). These vectors have been modified so that they cannot replicate. AdVac® viral vector technology is flexible and allows vaccine development against various infectious disease targets, and has been extensively evaluated in humans for diseases including HIV, Ebola, Malaria, TB, Influenza and RSV, showing good safety profiles and induction of robust humoral (antibody) and cellular immune responses.

Janssen Vaccines' ultimate goal is to develop a safe and effective 'global vaccine' to help prevent HIV, one that is effective regardless of the sub-type of HIV that is prevalent in any specific region.



Significant progress

Significant progress has been made in the global battle against HIV/AIDS, including the development of critical antiretroviral treatments and HIV prevention tools, yet the disease remains one of the greatest global health threats of our time. An estimated 37 million people are currently living with HIV-1 globally, and nearly 2 million people become newly infected each year. An effective HIV vaccine is elusive due to the unique properties of the virus – including its genetic diversity and ability to mutate rapidly.

“As part of our deep commitment to tackling the HIV threat, Janssen Vaccines is aiming to develop a vaccine for the prevention of HIV-1 infection, with the goal of helping to stop the spread of HIV.”

APPROACH evaluated the safety, tolerability and immunogenicity (ability to produce an immune response) of various mosaic-based, prime-boost vaccine regimens for HIV-1. These vaccine regimens contain two prime doses of the mosaic viral vector Ad26.Mos.HIV and two boosts of either Ad26.Mos.HIV, MVA-Mosaic and/or different doses of the soluble protein Clade C gp140 adjuvanted with aluminum phosphate.

Next stage

Based on available pre-clinical and clinical data, a lead vaccine regimen of Ad26.Mos4.HIV and Clade C gp140 has been selected for evaluation in a Phase 2b “Proof of Concept” efficacy study involving up to 2,600 healthy adult women aged 18–35 years in southern Africa. Janssen aims to initiate the Proof of Concept study towards the end of 2017 or early 2018.

“Janssen Vaccines is dedicated to advancing human health by developing potentially transformational vaccines to prevent and intercept life-threatening infectious diseases and is making progress in the development of vaccines to address a number of infectious diseases including Ebola, RSV and influenza,” Maria Pau concluded.

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A therapeutic hub in Europe: Slovenia

The young country is an emerging destination for those looking for excellence in treatment abroad at a very affordable price

Slovenia marked its 20 years of independence in 2011 and is a young, growing and optimistic piece of Europe. Covered in green, the country inspires everyone that puts a foot on its soil. Over the millennia, Slovenia has maintained this green image and the perfect environment that seems to be treating itself. Over the centuries the locals have learned how to listen to the wisdom of nature, which left its mark on the modern medical methods.

Abundant natural resources and numerous springs of medicinal waters turned Slovenia in the land of spas. In addition, the high quality services of experienced and world-renowned experts in medicine, modern surgical nursing homes and providers of specialist reviews are the proof that enviable medical tradition of Slovenia reaches the top of the world. The country is marked by a

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The economy of Slovenia is small, open and export-oriented and has been strongly influenced by international conditions as it was severely hurt by the Eurozone crisis, which started in the late 2000s. The main economic field is services, followed by industry and construction.

Healthcare sector

Slovenia's people have actually learned how to listen to the nature over the centuries that even today enriches recognized treatment methods all around the world. Due to its rich natural resources and countless springs of healing water, Slovenia is filled with spas where services are provided by experienced and world renowned medical professionals. Modern surgical clinics and providers of specialist examinations prove that that impressive medical tradition of Slovenia is one of the best in the world.

Healthcare in Slovenia is a public service provided through the public health service network. This network also includes, on an equal basis, other institutions, private physicians and other private service providers on the basis of concessions. With relatively limited public funds available for this purpose, the level of healthcare in Slovenia is entirely comparable with the level of health care in the advanced countries of Europe.

In Slovenia the system of health insurance is divided into compulsory health insurance, voluntary health insurance for additional coverage, and insurance for services that are not a constituent part of compulsory insurance.

Primary healthcare services are organized locally, such

that they are equally accessible to all people without discrimination. Everyone must be assured continuously accessible urgent medical attention and emergency services. Compulsory health insurance is mandatory for all citizens with permanent residence in Slovenia, whereby everyone is bound to pay contributions under the solidarity principle. Compulsory insurance does not, however, ensure the coverage of all costs that arise in treatment. Complete coverage of costs is provided only for children, schoolchildren and for certain illnesses and conditions.

For the provision of voluntary health insurance, in 1999 a new Mutual Health Insurance organization was established. It is owned by its members – insured persons – and operates according to the principles of mutuality and non-profit status. Other insurance companies can offer voluntary health insurance, provided that it is organized as long-term insurance, that they insure everybody, irrespective of their state of health, and that the insurance company makes no distinctions between those insured.

Therapeutic factors

The emphasis on a healthy lifestyle at Slovenia's natural spas is based on a centuries-long tradition of thermal treatments and experience in the fields of balneology, climatology, and thalassotherapy. Their holistic approach to treating guests revives several long forgotten forms of treatment and respects the experience of traditional medicine from distant countries. Excavations from the period of the Roman Empire bear witness to Slovenia's rich and diverse culture of thermal baths, documents from as early as 1147 describe the use of thermal springs, and research has demonstrated the healing qualities of its mineral waters that have been appreciated for centuries.

Modern natural spa tourist centers have become one of the most outstanding elements of Slovenia's tourist offer. Their increasing focus on developing a broader tourist and recreation offer has led to their redefinition as 'thermal spas' and 'wellness centers.' Numerous innovations in their offer reflect their dynamism and their openness to adapting to new trends in spa and leisure time tourism. At the same time, they have welcomed and incorporated ideas about "health resorts for the healthy," about creating entertaining water recreation parks for tourists, and about combining centuries of tradition and experience in balneology with some lesser known Eastern philosophies and methods of treatment that add additional charm and attractiveness to their offer.

Medical tourism

Slovenia is a country with excellent climatic conditions and unique natural and architectural treasures. But, in addition to the beautiful landscape, Slovenia attracts the attention of hundreds of thousands of tourists every year, as here the most famous spa resorts in Europe, where the use of mud and thermal mineral water is common, are located.

The sphere of medical tourism in Slovenia is represented

by state and private multi-field medical centers, specialized private clinics, as well as resorts offering balneological treatment applying unique natural healing factors. Foreign patients having chosen Slovenia for checkup, treatment, and recovery expect to find professional medical personnel, high standards of medical attendance, and liberal pricing policy. Many local medical institutions cooperate with world-leading medical centers and professionals.

Among foreign nationals, the highly demanded medical fields include: Dentistry (surgical and aesthetic dentistry, implantology, prosthetics) - Plastic surgery (rhinoplasty, liposuction, contour face lift, blepharoplasty, mentoplasty, otoplasty) - Metabolism disorders treatment (obesity, diabetes) - Hematology /



blood diseases - Heart diseases - Skin diseases - Cardiology - Neurology - Orthopedics (complex surgeries of hip and knee joint replacement, rehabilitation after traumas of musculoskeletal apparatus).

Special rehabilitation courses after surgeries and traumas are offered at the following balneological resorts of Slovenia: Čatež (Chatezh), Rogaška Slatina, Dobrna, Strunjan, Trenčianske Teplice, Bardejovske kupele. Natural healing factors and mineral waters allow the successful treatment of such diseases as: diseases of neurological nature, of respiratory organs, musculoskeletal apparatus, gastroenterological and cardiovascular diseases, male and female infertility, allergic reactions and skin problems, relieve chronic aches in the spine and joints. Balneological treatment is conducted necessarily under the doctor's supervision and brings about excellent rehabilitation of patients.

Slovenia is an emerging destination for those looking for excellence in treatment abroad at a very affordable price, even if an extensive or complex procedure is required. More than ten thermal spas, at which a huge number of diseases of the internal organs and the musculoskeletal system are treated, are located in Slovenia. The most famous resorts are: Rogaska Slatina, Terme Donelske Toplice, Terme Smarjeske Toplice, Thalasso Strunjan, Terme Catez, Terme Olimia, Terme 3000, Dobrna, Radenci and Portoroz.

World Heritage Committee

At the 41st session of World Heritage Committee in

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Krakow, Poland, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) has inscribed 63 new areas of ancient and primeval beech forest in 10 countries onto the World Heritage List. Among them are two areas in Slovenia: the Krokavirgin forest and the Snežnik-Ždrcle forest reserve.

The Krokavirgin forest is an example of untouched primeval forest in the heart of the well-preserved forests of the Kočevje region, which is also part of the Natura 2000 network in Slovenia. The Snežnik-Ždrcle forest reserve consists of ancient beech forest with sections of primeval forest. Like Krokavirgin, it lies within a larger forest area that is included in the Natura 2000 network.



Addition to the list represents recognition for Slovenia and a commitment to further enhance the protection of both forest reserves and other beech forest ecosystems in the future.

The primeval beech forests of Krokavirgin and Snežnik-Ždrcle joined the Škocjan Caves on the UNESCO World Heritage List. The caves, inscribed 30 years ago, were up to now the only natural monument in Slovenia on the UNESCO list.

Slovenia's beech forests will appear on the list alongside forests of already acknowledged outstanding universal value in Germany, Ukraine and Slovakia, which together form the World Heritage site Primeval Beech Forests of the Carpathians and the Ancient Beech Forests of Germany. The list is completed by areas in Albania, Austria, Belgium, Bulgaria, Italy, Romania, Spain, Ukraine, Slovakia and Croatia.

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UAE occupies first position in number of internationally accredited healthcare providers



The UAE has occupied the first position globally for the fourth consecutive year in terms of the number of accredited healthcare providers in the country, according to the Joint Committee International, JCI, an organisation that provides accreditation for healthcare facilities. The numbers of internationally accredited healthcare providers in the UAE has reached 178 hospitals, medical centres and health facilities.

The Ministry of Health and Community Prevention announced that the UAE's health sector has led in terms of the percentage of internationally accredited hospitals in the country with 76 percent, above some of the best healthcare systems in the world.

The UAE has also occupied the first position on an international level in terms of the number of accredited specialised centres and medical labs within the country's unified health network system, as well as in the number of accredited primary healthcare providers and home health care providers.

The JCI revealed the UAE's success during an exhibition

on the sidelines of the 34th International Scientific Meeting on Quality and Safety in Health Care, ISQua 2017, which was held from 1-4 October 2017 in London, United Kingdom.

Dr. Abdul Rahman bin Mohammad bin Nasser Al Owais, Minister of Health and Prevention, stated that other countries with the best health sectors have not achieved the same level of international success in the field of quality and patient safety as the UAE, which represents an international recognition of the quality of the country's health sector and medical services, in line with the directives of the wise leadership stating that all hospitals and health centres should obtain an international accreditation certificate by 2021, to create a healthy, efficient, sustainable and happy community.

The UAE has occupied the first position in terms of the number of its internationally accredited medical facilities since 2014 while achieving advanced results in the application of JCI standards on leadership and innovative solutions.



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UAE to introduce device to combat type II diabetes

The UAE will be the first country in the world after the US Food and Drug Administration (FDA) to introduce a device to treat high blood sugar type II. H.E. Dr. Amin Hussein Al Amiri, Assistant Undersecretary for Public Policy and Licensing of the Ministry of Health and Prevention (MOHAP) said that the move comes under the Ministry's plan to combat the risks associated with diabetes and provide the patients with latest global treatment systems.

The UAE is one of the world's leading countries in the field of pharmaceuticals, and has developed innovative drugs to fight cancer, viral hepatitis, rheumatism, heart disease, diabetes, high blood pressure and other diseases. The UAE was the second or third in the world to register or include these drugs within its services after the adoption of international standards in medicine.

MOHAP has been coordinating with one of the largest French international companies, for the UAE to be the first country in the world to provide the latest medicines for the treatment of type II diabetes, once approved by the FDA, in January next year as expected.

The new medicine is a small device made of titanium in the size of matchmaker and is placed under the skin and under the chest for both men and women. It contains a micro pump that injects the daily dose necessary for the



patient with type II diabetes regularly and lasts up to six months, and is expected to reach up to a period of 12 months in mid-2018. This drug is from a group GLP-1 RA in the body, which in turn urges the pancreas to pump insulin. The first drug of this group is not given by injection or pills.

Scientific research and global studies have proven the effectiveness of this drug in reducing blood sugar in addition to weight loss. Thus, this medicine will help type II diabetic patients to adhere to the daily therapeutic dose, which will help in controlling blood sugar levels & avoid complications caused by the disease.

NUS researchers develop ultra-thin microfibre sensor for real-time healthcare monitoring

A research team from National University of Singapore (NUS) has developed a soft, flexible and stretchable microfibre sensor for real-time healthcare monitoring and diagnosis. The novel sensor is highly sensitive and ultra-thin with a diameter of a strand of human hair. It is also simple and cost-effective to mass produce.

Wearable and flexible technology has gained significant interest in recent years, leading to tremendous progress in soft and wearable sensors. In tandem with this trend, micro-fluidic devices using conductive liquid metals have been increasingly employed as wearable pressure and strain sensors. However, current devices have various limitations – for instance, they may not fit well on the skin or are uncomfortable to wear.

"Our novel microfibre sensor can hardly be felt on the skin and conforms extremely well to skin curvatures. Despite being soft and tiny, the sensor is highly sensitive and it also has excellent electrical conductivity and mechanical deformability. We have applied the sensor for real-time monitoring of pulse waveform and bandage pressure. The results are very promising," said Professor Lim Chwee Teck from the Department of Biomedical Engineering at NUS Faculty of Engineering, who is the leader of the research team.

Real-time monitoring of pulse waveform

The smart microfibre sensor developed by the NUS Engineering team comprises a liquid metallic alloy, which serves as the sensing element, encapsulated within a soft silicone microtube. The sensor measures an individual's pulse waveform in real-time, and the information can be used to determine one's heart rate, blood pressure and stiffness in blood vessels.

"Currently, doctors will monitor vital signs like heart rate and blood pressure when patients visit clinics. This requires multiple equipment such as heart rate and blood pressure monitors, which are often bulky and may not provide instantaneous feedback. As our sensor functions like a conductive thread, it can be easily woven into a glove which can be worn by doctors to track vital signs of patients in real-time. This approach offers convenience and saves time for healthcare workers, while patients can enjoy greater comfort," added Prof Lim.

The microfibre sensor could also be beneficial for patients suffering from atherosclerosis, which is the thickening and stiffening of the arteries caused by the accumulation of fatty streaks. Over time, these streaks accumulate into plaques which may completely block off blood flow or break apart, resulting in organ failure or may trigger a heart attack or stroke.

Expats in MEA show highest prevalence of cardiovascular disease - Aetna International



The number of people in the world dying from cardiovascular disease (CVD) continues to rise. Aetna International is taking a continuous, proactive approach to help address the issue. Helping people focus on staying healthy and providing support to those at-risk of developing CVD can help improve people's ability to avoid CVD and additional complications.

Between 1930 and 2013, CVD deaths increased by 41 percent, according to the Global Burden of Disease Study 2013. In a white paper called, "The forgotten killer: Cardiovascular disease," experts at Aetna International argue for the need to focus on health at a population level to address the disease.

While genetics plays a role in whether or not people develop CVD, experts at Aetna International argue that it is the result of lifestyle choices that over time have a devastating cumulative effect. In addition, preventing CVD is not quite as simple as just seeing a doctor. It also requires lifestyle changes, an awareness of risk factors, access to adequate health care and often ongoing coaching and support.

"One way to think about CVD is to picture an onion. The outermost layer represents the most visible outcomes of CVD, primarily heart attack and stroke. Peel back that layer, and you find coronary heart disease, cerebrovascular disease and the other diseases and conditions that lead to those outcomes. But those diseases and conditions are not the core of the onion. Remove another layer, and you find conditions like obesity, diabetes, clogged arteries and hypertension (high blood pressure) which contribute to them. Finally, peel back that layer, and you get to the key root causes of CVD: lifestyle choices that contribute to those conditions," says Dr. Stella George, Senior Medical Director, Aetna International.

The prevalence of CVD among Aetna International customers continues to increase globally each year. Between 2014 and 2016, expatriates in the Middle East and Africa regions showed the highest prevalence of cardiovascular disease at 9.9 percent. Expatriates in the Asia Pacific and in Europe regions had a lower prevalence of cardiovascular disease at 4.43 percent and 5.35 percent, respectively. To address such health care trends, Aetna International has launched a number of clinical initiatives in recent years to help customers receive the care they need to help them become & stay healthy.

The organization's In Touch Care model, which launched in 2016 and gives at-risk customers direct one-on-one access to a clinician, has seen customer engagement and treatment adherence increase by 73 percent and 12.5 percent, respectively. In 2016, customers in the Middle East, who showed indications of ischemic heart disease, enrolled in a 90-day text messaging support program – part of the In Touch Care model. Those customers visited specialists more, which resulted in 22 percent lower health care costs. The program resulted in a 5.5 percent decrease in heart attacks compared to non-enrolled customers.



The experts at Aetna International also argue the importance and need for improved access to care. The World Health Organization states two-thirds of countries have evidence-based national care standards but that barely half implement those standards. In some areas of the world, essential technology and basic medications to treat cardiovascular disease are not available in hospitals, health centers and community hospitals. Aetna International is working with government health systems and organizations with large populations to set up or enhance the building blocks needed to create successful primary care models.

Earlier this year, Aetna International launched a virtual health care service – known as vHealth – to better serve its customers. The service makes it easier and more convenient for people to access quality, impartial primary health care advice and helps them to receive treatment wherever they are in the world.

"MRI may predict neurological outcomes for cardiac arrest survivors"



MRI-based measurements of the functional connections in the brain can help predict long-term recovery in patients who suffer neurological disability after cardiac arrest, according to a study appearing online in the journal *Radiology*.

Cardiac arrest, or abrupt loss in heart function, is a common and often deadly occurrence that affects hundreds of thousands of people every year in the United States alone, according to the American Heart Association. Many patients who survive end up with severe neurological disabilities, as the temporary loss of oxygenated blood flow to the brain can result in widespread neuronal cell death.

"Current methods to predict future levels of function for these survivors have limited accuracy," said study lead author Robert D. Stevens, M.D., from Johns Hopkins University School of Medicine in Baltimore. "We need better methods to help clinicians understand the magnitude of these injuries and make more accurate predictions on recovery, thereby enabling more informed decision-making."

For the study, Dr. Stevens and colleagues used advanced MRI techniques like diffusion tensor imaging and resting-state functional MRI (fMRI) to focus on the brain's large-scale functional integration. This "network of networks," or connectome, represents the ensemble of different neuronal populations in the brain that work together to perform tasks.

The researchers assessed the brain's functional connectivity in 46 patients who were in a coma following cardiac arrest. The imaging, performed within two weeks of cardiac arrest, included studies of brain structure and function. Functional imaging focused on four well-characterized networks in the brain, including the default mode network, which is active when a person is not engaged in a specific task, and the salience network, a collection of brain regions that select which stimuli are deserving of our attention.

One year after the patients' cardiac arrests, the researchers assessed the patients with the Cerebral

Performance Category Scale, a commonly used measure of neurological function following cardiac arrest. Eleven patients had favorable outcomes. Functional connectivity was stronger in those who achieved higher levels of independence at one year compared with those who were heavily dependent. The changes in functional connectivity between networks predicted outcomes with greater accuracy than any of the MRI structural measures tested.

"This is game-changing information about what happens in the brains of people who suffer cardiac arrest," Dr. Stevens said. "We realize that network architectures can be selectively disrupted in this setting."

A key predictor of outcomes was the interaction between the brain's default mode and salience networks. These two networks are normally anti-correlated, meaning that as the default mode network becomes more active, activity is reduced in the salience network, and vice versa.



Robert D. Stevens, M.D., from Johns Hopkins University School of Medicine

When researchers compared the brain imaging results of patients who had favorable outcomes with those who did not, they noticed a stark difference.

While researchers don't expect connectome analysis with MRI to be the single "magic bullet" solution to predicting outcomes, it could increase the confidence that clinicians have in communicating with patients' families in the wake of cardiac arrest. Additionally, fMRI could aid in the development of therapeutic interventions for neurologically disabled patients.

"Connectome studies have the potential to change not only outcome prediction, but to guide treatment as well," Dr. Stevens said.

Integrated Thyroid Clinic established in Abu Dhabi



Imperial College London Diabetes Centre (ICLDC), part of Mubadala's network of healthcare providers, and Abu Dhabi's one-stop-shop for the treatment, prevention, education and research of diabetes, has partnered with its sister facility, Healthpoint, a multi-speciality hospital in Abu Dhabi, to establish a new integrated thyroid clinic. This collaboration will enable patients to have their thyroid related problems managed in a combined multidisciplinary setting.

The joint clinic, to be located at ICLDC's Zayed Sports City branch in Abu Dhabi, will use the combined expertise of Mubadala's healthcare entities to offer an integrated approach to thyroid care. Specialist services will include consultation, testing, diagnosis, risk estimation and surgery, addressing a variety of thyroid-related conditions, such as nodules, goitres, Graves' disease, thyroid cancer and parathyroid adenoma.

The clinic will be equipped to perform a wide range of

procedures, such as thyroid examination, non-invasive ultrasonography, ultrasound-guided fine-needle aspiration (FNA), thyroid nodule ablation (with sclerosing agent or thermal ablation), and various types of surgery including partial and total thyroidectomy as well as parathyroidectomy.

The expert team will comprise specialist thyroid surgeon Dr. Luaay Aziz from Healthpoint in addition to a trio of endocrinologists from ICLDC – Dr. Aly Bernard Khalil, Dr. Ali Bakir and Dr. Safdar Naqvi.

Suhail Mahmood Al Ansari, Chairman of Healthpoint and Imperial College London Diabetes Centre, and Executive Director of Mubadala Healthcare, said: "The partnership between ICLDC and Healthpoint is set to greatly enhance Mubadala's healthcare offering. We are committed to best practice, and our latest venture aligns with our mandate of promoting medical excellence, providing the highest quality of care, and facilitating clinical collaboration and knowledge transfer."

He added: "In bringing our best medical specialists together under one roof to offer thyroid patients peace of mind, we are confident the new clinic's expertise in this specific area of medicine will go a long way towards elevating the standards of thyroid care in the region."

The World Health Organization estimates that around 750 million people globally have a thyroid malfunction, with women up to eight times more likely to experience disorders. According to statistics from the 10th Annual Middle East Otolaryngology Conference and Exhibition that took place in Dubai in April 2017, around five per cent of the UAE population suffers from various thyroid conditions.

New 'VitalsLink' to provide link to health records for all UAE

The Ministry of Health and Prevention (MOHAP) has announced the launch of its new service, 'VitalsLink,' which is part of the Wareed healthcare technology system that aims to provide a seamless link to electronic health records for all UAE health facilities. The launch was made during the Ministry's participation at the 37th edition of GITEX Technology Week, an annual consumer computer and electronics trade show, exhibition and conference, in Dubai, UAE.

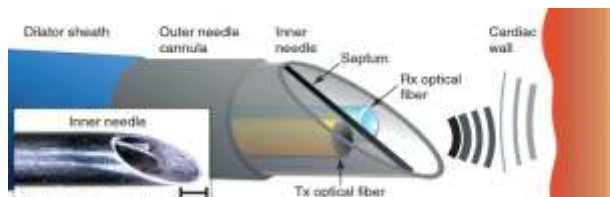
HE Awad Saghir Al Ketbi, Assistant Undersecretary for Support Services (MOHAP), shared that the launch complements the Ministry's continuing efforts to provide the highest standards of health care to the UAE while also playing a key role in the move to achieve smart transformation. The new service is expected to provide a more convenient and smoother experience for reviewers and customers--highly exceeding expectations and beneficial for patients who are dependent on the resources provided by the government to address health challenges.

He stressed that the ministry's new strategy aims to achieve the goals of the UAE Vision 2021 and the

national agenda by enhancing the health of the community through the provision of comprehensive and innovative health services with fairness and in compliance with international standards, developing health information systems and implementing global standards in infrastructure management across health facilities. The Ministry's presence at GITEX represents an important opportunity to showcase its latest smart services and throw the spotlight on access to the latest global technologies in the field of health information systems.

Meanwhile, Mubaraka Ibrahim Director, Health Information Systems Department, MOHAP, explained the new system monitors critical signs of patients, including blood pressure, temperature, respiratory information and records them automatically in the Wareed system, which will enable doctors to make decisions about the quality of treatment according to the data and patterns they have collected. Vital signs readings are recorded in the Wareed system simultaneously without any human intervention, thus reducing the percentage of possible errors.

Ultrasound imaging needle transforms heart surgery



Heart tissue can be imaged in real-time during keyhole procedures using a new optical ultrasound needle developed by researchers at Queen Mary University of London (QMUL) and UCL. The revolutionary technology has been successfully used for minimally invasive heart surgery in pigs, giving an unprecedented, high-resolution view of soft tissues up to 2.5 cm in front of the instrument, inside the body.

Doctors currently rely on external ultrasound probes combined with pre-operative imaging scans to visualise soft tissue and organs during keyhole procedures as the miniature surgical instruments used do not support internal ultrasound imaging.

For the study, published today in *Light: Science & Applications*, the team of surgeons, engineers, physicists and material chemists designed and built the optical ultrasound technology to fit into existing single-use medical devices, such as a needle.

"The optical ultrasound needle is perfect for procedures where there is a small tissue target that is hard to see during keyhole surgery using current methods and missing it could have disastrous consequences," said Dr Malcolm Finlay, study co-lead and consultant cardiologist at QMUL and Barts Heart Centre.

The team developed the all-optical ultrasound imaging technology for use in a clinical setting over four years. They made sure it was sensitive enough to image centimetre-scale depths of tissues when moving; it fitted into the existing clinical workflow and worked inside the body.

"This is the first demonstration of all-optical ultrasound imaging in a clinically realistic environment. Using inexpensive optical fibres, we have been able to achieve high resolution imaging using needle tips under 1 mm. We now hope to replicate this success across a number of other clinical applications where minimally invasive surgical techniques are being used," explained study co-lead, Dr Adrien Desjardins (Wellcome EPSRC Centre for Interventional and Surgical Sciences at UCL).

The technology uses a miniature optical fibre encased within a customised clinical needle to deliver a brief pulse of light which generates ultrasonic pulses. Reflections of these ultrasonic pulses from tissue are detected by a sensor on a second optical fibre, giving real-time ultrasound imaging to guide surgery.

"The whole process happens extremely quickly, giving an unprecedented real-time view of soft tissue. It provides doctors with a live image with a resolution of 64 microns, which is the equivalent of only nine red blood cells, and its fantastic sensitivity allows us to readily differentiate soft tissues," said study co-author, Dr Richard Colchester (UCL Medical Physics & Biomedical Engineering).

Pure Health adopts latest SAP solutions

Pure Health, a healthcare services company dedicated to empowering healthcare and making the business of healthcare run better, has become one of the first in the UAE healthcare to pioneer the latest SAP Technology Solutions to deliver excellence through quality service and health solutions.

Pure Health's strategy is in line with the UAE Vision 2021 to enhance the UAE's position as a global center for futuristic healthcare.

The SAP Go-Live ceremony was held recently at the Pure Health head office in Dubai. Zakaria Haltout, Head of Global Channels and General Business – MENA at SAP, Mohamed Khan, Channel Head SAP Global Partner Organization in MENA and Muhammad Hammad, Account Manager at SAP were a part of the SAP Go-Live ceremony.

During this event, Mr. Adnan Asif, Chief Operating Officer of Pure Health, shared his vision and inspirations for adopting the latest SAP technologies. He said, "Our adoption of the latest SAP solution and software will help achieve Pure Health's ambition vision and aspirations in becoming a key player in the UAE healthcare sector."

Mr. Haltout said, 'We are happy to partner with Pure Health. With a strong vision and right direction Pure Health is pioneering towards greater achievements in healthcare. They do understand the power of transforming the patient experience in the UAE with

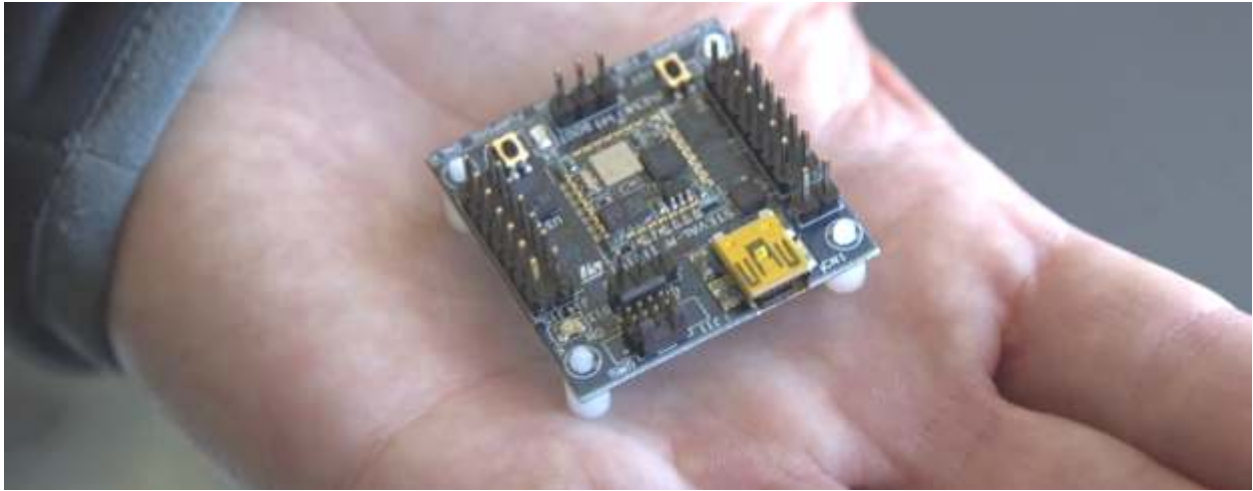
innovative technologies like SAP S/4HANA, SAP SuccessFactors, SAP Hybris, SAP Ariba, and Big Data, Cloud, and Analytics. It is a great success for Pure Health and SAP on timely completion of this project.'



Pure Health plays a vital role in reshaping the UAE healthcare sector through initiatives like the National Unified Medical Records and running the largest network of laboratories in the UAE.

SAP, as a global software company, is one of the largest vendors of ERP and other enterprise applications, driving the process of digital transformation, and serving more than 355,000 customers, across 190 countries. The agreement will be conducive to ensuring the smooth launch of the company and in establishing its operational efficiency. It will also develop its digital business on the latest computing architecture including mobile, cloud, big data and analytics.

A \$10 microchip turns 2-D Ultrasound Machines to 3-D Imaging Devices



Technology that keeps track of how your smartphone is oriented can now give \$50,000 ultrasound machines many of the 3-D imaging abilities of their \$250,000 counterparts -- for the cost of a \$10 microchip. Doctors and engineers from Duke and Stanford universities recently demonstrated their device at the American College of Emergency Physicians (ACEP) Research Forum in Washington, D.C.

The key to the technology is a fingernail-sized microchip that mounts onto a traditional ultrasound probe -- the plastic scanner that slides over gel-slathered skin to relay two-dimensional images of what lies beneath.

Just like a Nintendo Wii video game controller, the chip registers the probe's orientation, then uses software to seamlessly stitch hundreds of individual slices of the anatomy together in three dimensions.

The result is an instant 3-D model similar in quality to a CT scan or MRI, said Joshua Broder, M.D., an emergency physician and associate professor of surgery at Duke Health and one of the creators of the technology. Two-D ultrasound machines with higher resolution have clearer 3-D pictures.

"With 2-D technology you see a visual slice of an organ, but without any context, you can make mistakes," Broder said. "These are problems that can be solved with the added orientation and holistic context of 3-D technology. Gaining that ability at an incredibly low cost by taking existing machines and upgrading them seemed like the best solution to us."

After tinkering on his own for a year, he took sketches to Duke's Pratt School of Engineering, connecting with then-undergraduate Matt Morgan, and biomedical engineering instructors and professors Carl Herickhoff and Jeremy Dahl, who have since taken positions at Stanford where they continue to develop the device.

The team has used Duke's own 3-D printing labs to create their prototypes, which start with a streamlined

plastic holster that slips onto the ultrasound probe. A technician can use the probe as usual, or add 3-D images by simply snapping on a plastic attachment containing the location-sensing microchip. To get the best 3-D images, the team also devised a plastic stand to help steady the probe as the user hones in on one part of the anatomy. The microchip and the ultrasound probe connect via computer cables to a laptop programmed for the device. As the user scans, the computer program whips up a 3-D model in seconds.

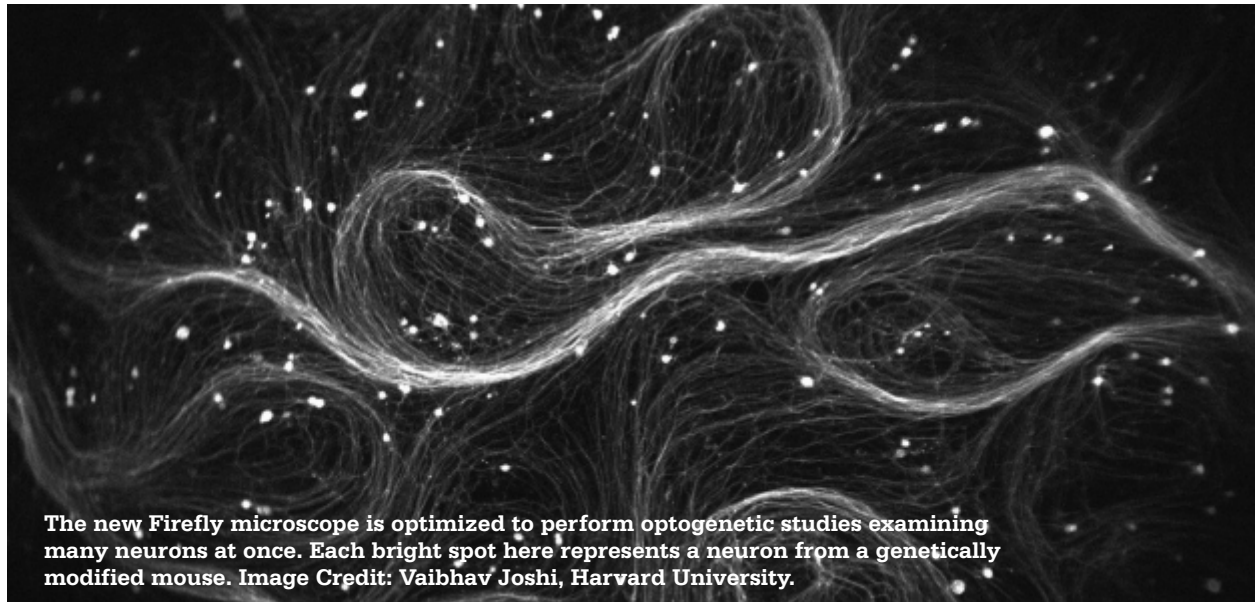
Both Duke and Stanford are testing the technology in clinical trials to determine how it fits in the flow of patient care. The creators believe some of the most promising uses could be when CT scans or MRIs are not available, in rural or developing areas, or when they are too risky.

"With trauma patients in the emergency department, we face a dilemma," Broder said. "Do we take them to the operating room not knowing the extent of their internal injuries or bleeding, or do we risk transporting them to a CT scanner, where their condition could worsen due to a delay in care? With our new 3-D technique, we hope to demonstrate that we can determine the source of bleeding, measure the rate of bleeding right at the bedside and determine whether an operation is really needed."

Newborn babies are also notoriously difficult to get images of, but doctors may need numerous scans when babies are born with fluid on the brain or a congenital condition. MRI machines require patients to be still for minutes at a time, which often means sedating an infant. CT scans provide excellent 3-D images, but expose the infant to radiation.

"Ultrasound is such a beautiful technology because it's inexpensive, it's portable, and it's completely safe in every patient," said Broder. "And it's brought to the bedside and it doesn't interfere with patient care."

Innovative microscope poised to propel optogenetics studies



The new Firefly microscope is optimized to perform optogenetic studies examining many neurons at once. Each bright spot here represents a neuron from a genetically modified mouse. Image Credit: Vaibhav Joshi, Harvard University.

A newly developed microscope is providing scientists with a greatly enhanced tool to study how neurological disorders such as epilepsy and Alzheimer's disease affect neuron communication. The microscope is optimized to perform studies using optogenetic techniques, a relatively new technology that uses light to control and image neurons genetically modified with light-sensitive proteins.

"Our new microscope can be used to explore the effects of different genetic mutations on neuronal function," said Adam Cohen from Harvard University, USA, and the leader of the research team that developed the microscope. "One day it could be used to test the effects of candidate drugs on neurons derived from people with nervous system disorders to try to identify medicines to treat diseases that do not have adequate treatments right now."

The new microscope, called Firefly, can image a 6-millimeter-diameter area, more than one hundred times larger than the field of view of most microscopes used for optogenetics. Rather than studying the electrical activity of one neuron, the large imaging area makes it possible to trigger the electrical pulses neurons use to communicate and then watch those pulses travel from cell to cell throughout a large neural circuit containing hundreds of cells. In the brain, each neuron typically connects to one thousand other neurons, so viewing the larger network is important to understanding how neurological diseases affect neuronal communication.

In The Optical Society (OSA) journal Biomedical Optics Express, Cohen and his colleagues report how they assembled the new microscope for less than \$100,000 using components that are almost all commercially available. The microscope not only images a large area, but also collects light extremely efficiently. This provides the high image quality and fast speed necessary to watch neuronal electrical pulses that each last only one thousandth of a second.

Using light to see neurons fire

The new microscope is ideal for studying human neurons grown in the laboratory. In the past decade, scientists have developed human cell models for many nervous system disorders. These cells can be genetically modified to contain light-sensitive proteins that allow scientists to use light to make neurons fire or to control variables such as neurotransmitter levels or protein aggregation. Other light-sensitive fluorescent proteins turn the invisible electrical pulses coming from neurons into brief flashes of fluorescence that can be imaged and measured.

After stimulating the neurons, the microscope uses a camera imaging at a thousand frames a second to capture the fluorescence induced by the extremely short electrical pulses. "The optical system must be highly efficient to detect good signals within a millisecond," said Cohen. "A great deal of engineering went into developing optics that can not only image a large area but do so with very high light collection efficiency."

Watching 85 neurons at once

The researchers demonstrated their new microscope by using it to optically stimulate and record the fluorescence from cultured human neurons. "The neurons were a big tangled mess of spaghetti," said Cohen. "We showed that it was possible to resolve 85 individual neurons at the same time in a measurement that took about 30 seconds."

After the initial stimulation and imaging, the researchers were able to find 79 of those 85 cells a second time. This capability is important for studies that require each cell to be imaged before and after exposure to a drug, for example.

In a second demonstration, the researchers used the microscope to map the electrical waves propagating through cultured heart cells. This showed that the microscope could be used to study abnormal heart rhythms, which occur when the electrical signals that coordinate heartbeats do not work properly.

Cathay Pacific awarded IATA CEIV Pharma Certification



Cathay Pacific has become the first airline in Hong Kong to be awarded IATA CEIV Pharma Certification, a globally-recognized pharmaceutical product handling accreditation. The certification underlines the carrier's capabilities in the treatment and transportation of high-value, time-sensitive and temperature-controlled pharmaceutical products with speed, consistency and efficiency.

In harness with aviation industry stakeholders and regulators, IATA created the Centre of Excellence for Independent Validators (CEIV) with the aim of helping organisations involved in the air cargo supply chain achieve pharmaceutical handling excellence.

CEIV Pharma Certification addresses the industry's needs for safety, security, compliance and efficiency in the transportation of pharmaceutical products. It seeks to minimize product loss attributed to handling and environmental factors during transport.

The certification encompasses, and in some cases exceeds, existing pharmaceutical standards and guidelines such as the European Union's Good Distribution Practice and the World Health Organization (Annex 5) Good Distribution Practices for Pharmaceutical Products.

Cathay Pacific Director Commercial and Cargo Ronald Lam said: "It is a great honour to have been awarded IATA CEIV Pharma Certification, which recognises our commitment to our pharmaceutical customers. Cathay Pacific Cargo adheres to the highest operating standards and this certification highlights our capabilities in handling these precious, time-sensitive and often life-saving shipments."

Cathay Pacific is one of the world's biggest international air cargo carriers and, in addition to operating a dedicated freighter fleet to 46 destinations, manages cargo capacity on passenger flights operated by both Cathay Pacific and Cathay Dragon. The state-of-the-art Cathay Pacific Cargo Terminal at Hong Kong International Airport offers a broad spectrum of logistical solutions for the airfreight industry.

Combining advanced technology with streamlined work flows to set new service benchmarks for the industry, customers benefit from extended cut-off times, last-minute cargo acceptance and reduced connection times for transshipments. CEIV is supported by Hong Kong International Airport, which sponsors community-wide certification for organisations in the air cargo supply chain.

In addition to other airport stakeholders in Hong Kong, Cathay Pacific Services Limited (CPSL) – a wholly-owned subsidiary of Cathay Pacific which operates the Cathay Pacific Cargo Terminal, and Hong Kong Airport Services Ltd (HAS) – another wholly-owned subsidiary which provides ground handling services to airlines, have also been awarded CEIV Pharma Certification. This collaborative approach boosts Hong Kong's reputation as a key international airfreight gateway for the handling of pharmaceutical products.

Merck appoints new head of MEA, Turkey



Merck, one of the leading science and technology companies, has appointed Paolo Carli as head of Middle East and Africa (MEA) region and Turkey for its healthcare business. In his new role, Paolo will be responsible for leading the commercial operations for Merck across MEA & Turkey, a company statement said.

"Merck prepares to celebrate its 350th year in the pharmaceutical business in 2018. Being a strategic region for Merck, we are committed to excel innovation and create value for patients across this region. I am delighted to lead the MEA team. Our innovative treatment options and sustainable commitment for patients will move us to the next level," Carli said.

Paolo Carli has decades of business and pharmaceutical experience demonstrating a proven track record of continuous success under his leadership. His expertise and industry knowledge will be critical in MEA as Merck builds on strategic innovation to elevate the healthcare standards, improve patient programs and prepares launches of new products.

Paolo Carli joined Merck in 2008, as the member of the Mergers & Acquisitions team in Darmstadt, Germany. In that role, he actively participated in the execution of key transactions for the Merck Group. He successfully led Middle East and Egypt in the last 5 years and now expands his responsibilities to Turkey and Africa.

UAE to continue initiatives to create a world free from disease



Abdulrahman bin Mohamed Al Owais, Minister of Health and Prevention and Minister of State for Federal National Council Affairs, asserted that the UAE will continue its multilateral initiatives to create a world free from disease.

He made this statement during the opening of the Global Health Forum, titled, "Reaching the Last Mile: Mobilising Together to Eliminate Infectious Diseases," which was held in Abu Dhabi, under the patronage of His Highness Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces.

The Forum saw the participation of over 200 prominent figures, including government officials, leaders of relief organisations, international health experts and leaders of the international health sector, who exchanged their points of view and the best international practices to prepare effective plans to locate and eradicate major diseases.

The Forum also showcased the considerable efforts of workers in general health to combat diseases that threaten lives in affected countries while supporting international initiatives to fight infectious diseases, through building new partnerships between the public and private sectors.

Al Owais stated that the UAE's exceptional location as a link between the East and West has strengthened its mission to offer humanitarian assistance to various parts of the world, as well as its ongoing multilateral initiatives to create a world free from disease while affirming the necessity of investing in such international efforts.

He added that the UAE's role, in co-operation with the Bill and Melinda Gates Foundation, the Carter Centre and the World Health Organisation, has the strategic goal of eliminating diseases that threaten humanity and saving

people from their cycle of danger.

Al Owais pointed out that the eradication of smallpox and cholera was not expected in the 1970s. "We today can say that guinea worm disease and polio will face the same fate and will be completely eradicated," he added.

He also explained that the rate of infection from these diseases has considerably decreased during the last 15 years, and the UAE is a major player in achieving this accomplishment.

Dr. Maha Barakat, Advisor to the Executive Office of the Abu Dhabi Government and Member of the Roll Back Malaria Partnership Board, confirmed, in her speech that the late Sheikh Zayed bin Sultan Al Nahyan began the UAE's journey of humanitarian giving over 30 years ago, when the country pledged to support the international efforts to eradicate such diseases, after a partnership was made with the Carter Centre to eliminate guinea worm disease.

The UAE leadership's commitment to disease elimination began in 1990 when the founding father, the late Shaikh Zayed Bin Sultan Al Nahyan, made an early \$5.77 million contribution to global efforts to eradicate Guinea worm, led by The Carter Centre. It has continued since through a series of contributions from President His Highness Shaikh Khalifa Bin Zayed Al Nahyan and Shaikh Mohammad Bin Zayed.

Since 2011, His Highness Sheikh Mohamed has personally pledged US\$250 million to support international efforts to eliminate and control deadly diseases, including \$205 million to support the global campaign to eliminate polio and the "Gavi, the Vaccine Alliance," as well as \$30 million to support the efforts to eradicate malaria and \$15 million to eradicate guinea worm disease, she added.

Dubai hosts 3rd Nutrition Conference



The three-day Dubai Nutrition Conference conference was recently held under the patronage of His Highness Shaikh Hamdan Bin Rashid Al Maktoum, Deputy Ruler of Dubai, UAE Finance Minister and President of the Dubai Health Authority. The conference was inaugurated by His Excellency Humaid Al Outami, Chairman of the Board and Director-General of the Dubai Health Authority (DHA).

Al Outami said, "I would like to also mention the sports and health activity which is taking place at the Dubai Fitness Challenge, reflects the spirit of our city and country. The month-long Dubai Fitness Challenge

launched by His Highness Shaikh Hamdan Bin Mohammad Bin Rashid Al Maktoum, Crown Prince of Dubai and Chairman of the Dubai Executive Council provides an opportunity for the community to adopt a healthier lifestyle and improve their fitness levels.

"It is a known fact that a majority of non-communicable diseases (NCD's) are lifestyle related such as cardiovascular disease, hypertension, Type 2 diabetes, obesity etc. These diseases are a burden on individuals and communities and the prevalence can be greatly reduced through lifestyle modification which includes nutrition and exercise."

Dr. Waffa Ayesh, Chairperson of the Conference and Director of Clinical Nutrition at the DHA, said: "The importance of nutrition awareness and education is particularly important to prevent further escalation of NCD's globally. This conference covers various aspects of nutrition and the conference had grown over the last two years since its inception. Experts from around the global will share the latest information in the field of nutrition during the course of this conference."

The conference focused on global recommendations for facilitating nutrition research to help address major challenges in nutrition, including malnutrition, micronutrient deficiencies and overweight - whether in children, adults or the elderly - in order to meet the global nutrition targets by 2020.

Etihad Airways hosts Annual Aviation Health Conference

Etihad Airways, the national airline of the United Arab Emirates, has hosted the fifth edition of its annual Aviation Health Conference, accredited for the first time by the International Academy of Aviation and Space Medicine. Taking place in the UAE's capital, it was the largest conference of its kind in the region.

The agenda for the one-day event covered industry best-practice, as well as innovative solutions to the physical and psychological effects of working in all areas of aviation. The four pillars of the day included corporate health promotion; airline aviation medicine; occupational medicine and sleep & fatigue management.

Among the keynote speakers were Dr Felix Porras from the Aerospace Medical Association; Dr Susan Power from the Royal College of Physicians in Ireland; and Dr John Caldwell, NASA consultant and expert scientist in sleep deprivation and fatigue countermeasures.

Dr Nadia Al Bastaki, Vice President Medical Services at Etihad Airways, said: "We are delighted that the Aviation Health Conference is now in its fifth year and is viewed by industry professionals as the leading event of its type to promote aviation and occupational medicine in the MENA region.

"We had a stellar line-up of speakers, including Dr Caldwell from NASA in the United States, and the



conference provided much-needed discussion, debate, and development in the fields of health promotion in aviation and occupational medicine."

The 2017 Aviation Health Conference is hosted by Etihad Airways and supported by the UAE General Civil Aviation Authority, National Reference Laboratory, The American Center for Psychiatry and Neurology, and Screen 4. Dr Bastaki was also named the new Vice-Chairperson for the Middle East for the Global Liaison and Outreach Committee of the Aerospace Medical Association.

Forum to focus on fighting epidemic diseases

More than 200 global health leaders will come in Abu Dhabi on November 15 for the “Reaching the Last Mile — Mobilising Together to Eliminate Infectious Disease” forum. The event will be held under the patronage of His Highness Shaikh Mohammad bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, Wam reported.

The conference, which is an international health forum focused on eliminating and eradicating preventable deadly diseases that hinder the health and economic prospects of the world's poorest people, will be held in partnership with the Bill and Melinda Gates Foundation and The Carter Centre.

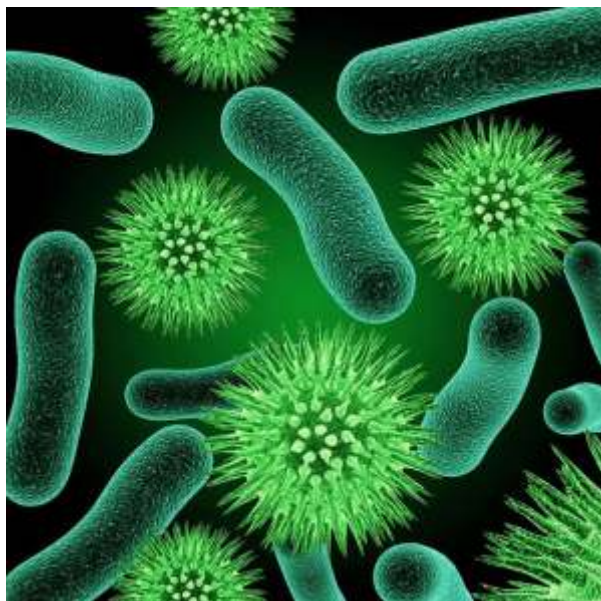
The forum will see the participation of government officials, heads of international development organisations and philanthropic organisations, global health experts, and private sector representatives. It will build on the UAE's long standing commitment to reducing and eliminating preventable disease. This global gathering will drive international action on the eradication of 'last-mile' diseases, such as Guinea worm and polio, and the elimination of preventable infectious diseases such as malaria and river blindness.

It will also recognise the tremendous efforts of those that have committed their lives to fighting disease on the front line of affected countries while additionally, supporting international efforts to fight infectious diseases through public-private partnerships.

Panels will discuss the global significance of disease eradication, what it will take to cross the finish-line, and lessons learned for future health efforts. They will highlight global eradication and elimination efforts, including community-based interventions to educate and change behaviour towards Guinea worm, river blindness and lymphatic filariasis, mass drug administration, the use of cutting-edge technologies to vaccinate marginalised communities against polio, and methods of tackling resistance against insecticides and malaria drugs.

Mohammad Mubarak Al Mazroui, Under-Secretary of the Crown Prince's Court of Abu Dhabi, commented, “The UAE's focus on freeing the world of preventable disease is driven from Shaikh Mohammad Bin Zayed's conviction that no human should suffer from a preventable disease, and that investment in disease eradication is crucial to global development. Reaching the Last Mile builds on the UAE leadership's 30-year efforts to permanently wipe out several deadly global diseases, and prevent the spread of malaria, by paving the way for international global funding and forging strategic partnerships.”

Jimmy Carter, former President of the United States, Carter Centre founder and 2002 Nobel Peace Prize winner, said, “Only one human disease has ever been eradicated, but with the strong support and cooperation of international partners, together we can aim higher. Guinea worm disease and polio are close to being eradicated, and other diseases are achieving regional elimination. Reaching the Last Mile signals a renewed determination among leaders like Shaikh Mohammad and the global health community to maintain the momentum and help



address human suffering everywhere.”

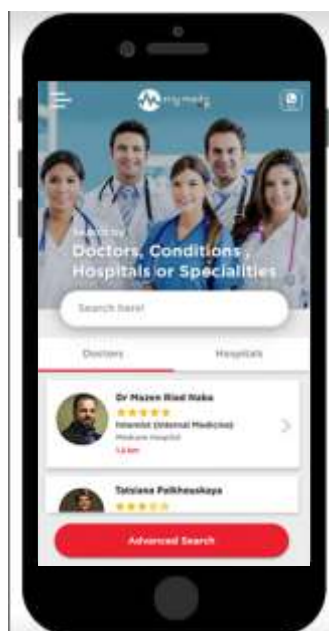
As a result of exceptional coordinated global efforts, Guinea worm and polio are set to become the next human diseases in history to be eradicated, following the eradication of smallpox in 1980. The incidence of Guinea worm, a crippling parasitic disease that incapacitates people for extended periods of time, has fallen from a peak of approximately 3.5 million in 21 countries in Africa and Asia in 1986, to just a handful of cases so far in 2017. Cases of polio, a crippling and potentially deadly infectious disease that predominantly affects children, have fallen from 350,000 in 1988 to 37 cases in 2016.

Bill Gates, Co-Chair of the Bill and Melinda Gates Foundation, commented, “We are close to eradicating some of the world's deadliest and most debilitating preventable diseases that adversely affect the lives of millions of the world's poorest people. While the global community has made tremendous progress in tackling these diseases, we still have more work to do. I hope that Reaching the Last Mile will help accelerate the fight against these preventable diseases, giving more of the world's poorest people the chance to live healthy and productive lives.”

The UAE leadership's commitment to disease elimination began in 1990 when the founding father, the late Shaikh Zayed Bin Sultan Al Nahyan, made an early \$5.77 million contribution to global efforts to eradicate Guinea worm, led by The Carter Centre. It has continued since through a series of contributions from President His Highness Shaikh Khalifa Bin Zayed Al Nahyan and Shaikh Mohammad Bin Zayed.

Since 2011, Shaikh Mohammad has personally committed \$235 million to global efforts to eliminate deadly and debilitating diseases, including \$205 million towards the eradication of polio and contributions to GAVI, the Vaccine Alliance, a public-private partnership committed to saving children's lives and protecting people's health by increasing access to vaccines, and \$30 million to malaria elimination.

New mobile healthcare app to bridge gap between patient and doctor



A new innovative mobile healthcare app, MyMedicNow, has been launched in the UAE to help bridge gap between patients and doctors. It also helps patients search for medical conditions and find related local healthcare providers.

The launch is timely as UAE's mobile health industry is positioned for a robust growth, said the founders and developers of MyMedicNow.

The Global Mobile Health (mHealth) Market is poised to grow at a CAGR of around 33.8 per cent

over the next decade to reach \$181.52 billion by 2025, according to a report by Research-2Guidance Annual mHealth – 2016.

MyMedicNow takes a unique approach of connecting patients with the right doctors by allowing patients to search by symptoms or medical conditions. The new app aims to help patients search for medical conditions and find related local healthcare providers quickly and efficiently. The app is currently available on iOS, Android and via a web portal.

"From life-saving medications to cutting-edge treatments, the healthcare industry thrives on constant innovation. However, the biggest recent breakthrough in healthcare is the smart phone and its apps," Dhaval Desai, CEO of MyMedicNow, said.

"They say there's an app for everything, but the best ones are the apps that will get you out of a bind when emergency strikes. MyMedicNow is abound with convenient solutions that not only help improve people's lives, but also helps make informed choices easier and faster while ensuring doctors and hospitals are better connected to patients," he said.

It has been noted that two-thirds of the world's population has a mobile connection, and thanks to the growing mobile health (mHealth) industry - a blanket term for the apps, services and devices found at the intersection of medicine and mobile technology - people are using their phones to manage their health in ever more innovative ways. The report also said that almost 100,000 health-related apps have been added by 13,000 new publishers to the market since 2015. At that moment, there had already been 259,000 medical apps in major app stores.

"Smartphones are easily accessible, and this has transformed not just the mobile industry, but also the healthcare sector. However, when people hear about health apps, the general assumption is fitness tracker. In reality, there are more healthcare consulting apps to help patients and users with easy information. MyMedicNow is one such app which ensures quick access of information with a user-friendly interface and quick and accurate results," Desai added.

Boecker® showcases Public Health Solutions

Boecker®, the Middle East's largest public health company, brings over two decades of experience in pest management, food safety and biosecurity solutions to the annual Gulfood Manufacturing Exhibition. The three-day event takes place in Dubai from 31st October to 2nd November.

The company is set to introduce its newly designed certification programme named OHS Lite™. The programme was tailor-made to service the F&B industry and address occupational health and safety concerns in the workplace. The Certification is assured by the Chartered Institute of Environmental Health (CIEH) in the UK and approved by the Knowledge and Human Development Authority (KHDA).

Commenting on OHS Lite™, Boecker® UAE Country Manager Mr. AbdulHadi Chalak said, "According to reports from the UAE Ministry of Health and Prevention, nearly 55 percent of the federal government's expenditure on treatment of non-communicable diseases is spent on employee-related illnesses and diseases. This results in an annual 44 percent



productivity loss. Boecker designed its OHS Lite™ certification programme to audit and train employees on the basis of occupational health and safety. This will enhance their working conditions and improve their level of compliance with international standards."

Boecker will also highlight its comprehensive Pest Management services for business and industrial premises, in addition to its Infection Control Plan™ (ICPTM), an on-site professional disinfecting service that safely & effectively eliminates microorganisms & provides a long-term sanitized environment.



2nd Gulf Congress of Clinical Microbiology & Infectious Diseases

1 - 4 November
Bahrain
<http://gccmid.org/>

Geriatrics Summit

2-3 November
Dubai, UAE
geriatricssummit.org/

Annual Radiology Meeting

5-7 November
Dubai, UAE
<http://radiologyuae.com>

8th Global Obesity Conference

14-15 November
Dubai, UAE
obesitymeeting.conferenceseries.com

International Paediatric Medical Congress

16-18 November
Dubai, UAE
internationalpaediatriccongress.com

8th World Congress on Healthcare and Medical Tourism

17-18 November
Dubai, UAE
healthcare.global-summit.com/middleeast/

5th International Conference on Physiotherapy

27-28 November
Dubai, UAE
physiotherapy.conferenceseries.com

International Conference on Cancer Diagnostics

27-28 November
Dubai, UAE
cancerdiagnostics.conferenceseries.com/middleeast

22nd Global Vaccines & Vaccination Summit

30 Nov-1 Dec
Dubai, UAE
vaccines.global-summit.com/middleeast

Global Cancer Meet and Expo

4-6 December
Dubai, UAE
<https://globalcancermeet.com>

29th World Psychiatrist Meet

7-9 December
Dubai, UAE
<http://psychiatrist.conferenceseries.com>

25th Global Diabetes Summit and Medicare Expo

11-12 December
Dubai, UAE
diabetesexpo.com/middleeast

7th International Society of Nephrology

13-16 December
Dubai, UAE
nephrology.emanuae.com

World Immunology Congress 2017

14-15 December
Dubai, UAE
<http://immunologycongress.conferenceseries.com/middleeast>

10th International Conference on Gastroenterology

14-15 December
Dubai, UAE
gastroenterology.conferenceseries.com/asiapacific

Emirates Society of Ophthalmology Conference

14-16 December
Dubai, UAE
icoph.org (For reference)

2018

Arab Health

29 Jan-1 Feb
Dubai, UAE
arabhealthonline.com

MEDLAB

5-8 February
Dubai, UAE
medlabme.com

International Dental Conference and Arab Dental Exhibition

6-8 February
Dubai, UAE
<http://aedc.com>

International Family Medicine Conference

26-28 February
Dubai, UAE
<http://ifm.ae>

Dubai International Pharmaceuticals and Technologies Conference and Exhibition

27 Feb-1 March
Dubai, UAE
<http://duphat.ae>

Emirates Diabetes and Endocrine Congress

1-3 March
Dubai, UAE
edec-uae.com

Evolving Practice of Ophthalmology Middle East Conference

15-17 March
Dubai, UAE
epomec.ae

ArabLab Exhibition

18-21 March
Dubai, UAE
arablab.com



Quick References

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www.alhayathospital.com

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www.badralsamaahospitals.com

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www.kimsoman.com

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www.healthcare.atlasera.com

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www.royalhospital.med.om

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extension 4625 during working hours
www.squ.edu.om

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www.muscatprivatehospital.com

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www.apollomuscat.com

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Al Nahdha Hospital

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Children's Emergency Centre (Al Sadd)

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Al Amal Oncology Hospital (cancer treatment)

Tel: +974 4439 7800

Hamad General Hospital (includes Accident and Emergency)

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www.hmc.org.qa/en/**Al Ahli Hospital**Tel: +974 4489 8888
www.ahlihospital.com**Al-Emadi Hospital**Tel: +974 4466 6009
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Etisalat - 181

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