

# Arab Health

The Official Magazine

Together for a healthier world



**Growth drivers and  
challenges in GCC  
healthcare market**  
pg16

How to create a patient-centric supply chain:  
A simple guide for hospitals  
pg24

# DUBAI, YOUR HEALTH TOURISM DESTINATION.

Dubai offers you invigorating medico-holiday packages that combine vacation with wellness.

With a strong focus on **holistic wellness and preventive care**, we ensure that you have an in-depth wellness experience.

Our **fast and reliable diagnostic services** ensure that your medical experience is as smooth as your touristic journey.

**Patient Protection plan** is in place to ensure your peace of mind.

[WWW.DXH.AE](http://WWW.DXH.AE)

Available on



Download DXH App



**DXH**  
تجربة دبي الصحية  
Dubai Health Experience



**195 countries on earth.  
People from 180 have come  
to us for world class care.**

Same-day appointments available.



Every life deserves world class care.

[clevelandclinic.org/international](https://clevelandclinic.org/international)

Cleveland • Florida • Las Vegas • Toronto • Abu Dhabi



**President, Global Exhibitions EMEA** Peter Hall  
[peter.hall@informa.com](mailto:peter.hall@informa.com)

**Executive Vice President - Healthcare** Wouter Molman  
[wouter.molman@informa.com](mailto:wouter.molman@informa.com)

**Publications Director** Joseph Chackola  
[joseph.chackola@informa.com](mailto:joseph.chackola@informa.com)

**Editor** Deepa Narwani  
[deepa.narwani@informa.com](mailto:deepa.narwani@informa.com)

**Contributing Editor** Sangeetha Swaroop  
[sangeetha.c.swaroop@informa.com](mailto:sangeetha.c.swaroop@informa.com)

**Contributing Writer** Inga Stevens  
[inga.stevens@informa.com](mailto:inga.stevens@informa.com)

**Creative Director** Mark Walls  
[mark.walls@informa.com](mailto:mark.walls@informa.com)

**Project Manager, Marketing** Divya Jashnani  
[divya.jashnani@informa.com](mailto:divya.jashnani@informa.com)

**Advertising Sales Manager** Roshal Solomon  
[roshal.solomon@informa.com](mailto:roshal.solomon@informa.com)

**Digital Media Sales** Ayush Agarwal  
[ayush.agarwal@informa.com](mailto:ayush.agarwal@informa.com)

---

Printed by

Zabeel Printing Press Tel: 04 2626171 Fax: 04 2696067

Published by Informa Middle East Media FZ LLC



All images © shutterstock.com unless otherwise stated.

Articles may not be reproduced or transmitted in any form in whole or in part without written consent.

For subscription information visit  
[www.arabhealthmagazine.com](http://www.arabhealthmagazine.com) and follow the link.

Follow us on

@Arab\_Health ArabHealth

---

Official magazine of Arab Health Exhibition:



Part of:

**informa**  
exhibitions

# Investing in the future

**W**elcome to the first digital-only and revamped edition of the *Arab Health Magazine*. Post the successful edition of Arab Health 2019, in this issue, we explore a survey conducted among exhibitors at the show to gauge their opinion on key drivers and barriers to growth in the region. According to the research, 87.9 per cent of businesses felt positive or very positive that their revenues would grow this year. Find out more on *page 08*.

This month we are also highlighting how the UAE and KSA continue to lead the wave of change in the regional healthcare market, and why 2019 will be the year of value-based care (*page 16*).

We recently took a trip to the newly opened King's College Hospital London that has opened its doors in the Dubai Hills community. The brand-new facility makes patients feel comfortable with its warm hospitality. Plus, the latest technologies are visible throughout the premises giving prominence to clinical mobility. Explore more about this unique hospital experience on *page 18*.

Furthermore, this issue sheds light on topics such as the use of Ketogenic Diet as a treatment for type 2 diabetes and obesity (*page 56*), the role of Chinese medicine in modern health treatments (*page 28*) and measuring one's emotional balance in the mental health spectrum (*page 52*), among other features.

We hope you enjoy reading this issue and look forward to seeing you at our forthcoming events later in the year. You can also get in touch with us on Twitter @Arab\_Health by using #ArabHealthMagazine.

Deepa Narwani

# The Leading Italian Hospital Group

## INNOVATION



We use the most innovative technology and equipment, that enables us to offer increasingly accurate and high-quality care. Thanks to our three research hospitals, we create and provide new procedures that do not exist anywhere else in the world.

## EXCLUSIVITY



Comfort and luxury treatments are always the primary goal, and GSD can assure the best possible service by providing tailor-made proposals.

## SMART SERVICES



We are committed to finding new solutions that provide our patients with quicker access to our facilities, specialists and healthcare services. A Smart service for greater accessibility.

## FOCUS ON THE PATIENT



We consider every patient as a person with his/her own story, culture and feelings. Our specialists design healthcare pathways tailored to each patient.



Gruppo  
San Donato

# Contents

## Healthcare Investment

- 08 Middle East Healthcare Barometer 2019
- 12 Abu Dhabi boosts healthcare innovations with AI Lab at Arab Health
- 16 Growth drivers and challenges in GCC healthcare market
- 30 Inspiring success through investing in culture

## Healthcare Management

- 18 King's College Hospital London opens its Dubai Hills facility
- 24 How to create a patient-centric supply chain: A simple guide for hospitals
- 32 DHA Director General inaugurates Innovation Centre
- 34 DHA successfully saves patient's jaw using 3D printing
- 44 Managing seasonal challenges of patient demand
- 48 Pioneering the present, healing the future

## Research

- 22 Power of cancer immunotherapy expanded by improved antigen presentation

## Features

- 28 Is there a role for Chinese medicine in modern health treatments?
- 52 How is your emotional balance in the mental health spectrum?
- 56 Does Ketogenic diet work as a treatment for Type 2 Diabetes and obesity?

## Asia Health 2019

- 36 Hub for the world's fastest growing healthcare market

## Radiology

- 40 Can diagnostic imaging be helpful in improving colo-rectal cancer screening?

## North Africa Health 2019

- 46 Spotlight on the burgeoning industry

# Middle East Healthcare Barometer 2019

## Arab Health 2019 exhibitors surveyed to gauge their opinion on key drivers and barriers to growth

By Inga Louisa Stevens, Contributing Writer



**We wanted to find the key drivers and barriers to growth, as well as the areas where industry insiders are expecting to see the greatest growth.**

**H**ealthcare is one of the fastest growing sectors in the Middle East and the UAE is no exception, with healthcare expenditure estimated to reach US\$21.3 billion by 2021. The intense potential within health was apparent at Arab Health 2019, where industry professionals across the sector verticals turned out in force for the largest sector expo in the region.

To provide greater insight into the current business landscape in the region, strategic communications consultancy group, Hanover, conducted a survey of businesses at the conference to gauge confidence in the region in 2019.

“We wanted to find the key drivers and the barriers to growth, as well as the areas where industry insiders are expecting to see the greatest

growth,” explains Simone Elviss, Director – Healthcare, Hanover Middle East.

### Business confidence

According to the barometer (Fig 1), when businesses were asked how confident they were that they would grow in the region this year, 87.9 per cent of businesses felt positive or very positive that their revenues would grow this year compared to 90 per cent last year. In contrast, 11.5 per cent felt that their growth prospects were neutral (2018: not asked) and no one described prospects as negative (2018: 2 per cent).

### Barriers to growth

Respondents were asked to name the major barriers

to growth faced by their business in the region. The chart (Fig 2) shows the numbers of times a response was chosen as companies responding to the survey could choose more than one barrier.

“Two barriers stood out clearly, the first being the highly competitive marketplace that exists within the region, with an increasing number of companies competing for customers, resources and suppliers,” Elviss says. “Competitiveness has moved up from second place last year, shifting regional geo-politics from the biggest barrier to the fourth spot.”

The second biggest barrier to growth was government policies, which was also a key issue last year and again noteworthy because government policies to expand access to healthcare are also mentioned later as one of the greatest drivers of growth.

According to Elviss, “It may be that individual companies face challenges with specific policies related to their sectors, despite the overall direction being positive. Respondents described the regulatory environment and product registration key areas of policy that presented challenges.”

The price of oil, as well as payer focus on value and price, were other barriers that were mentioned by respondents with a lower priority.

### Biggest drivers of growth

The overall increase in healthcare spend from private and public sources again tops the list as the biggest driver of growth in the region, followed closely by rapid market and infrastructural growth (Fig 3).

“Alongside positive government policies striving to enhance all aspects of the system, this trifecta is representative of development of healthcare in the region in terms of the offering and access within the region to quality and affordable healthcare options, providing opportunities for businesses in all areas of the system from delivery to technology and medicine,” Elviss explains. “This perfect storm underpins industry confidence in the region but nods also to the highly competitive environment and a need to differentiate and demonstrate value to clients, customers and patients.”

### The future

Respondents were asked to name which areas of healthcare they expected to see the biggest growth. Medical devices topped the list with consumer health and pharmaceuticals following closely. These were seen to have greater opportunity than the development of infrastructure or IT systems and solutions for health systems – perhaps an indication

these areas are seen to be over-competitive, or difficult to differentiate the offer.

“As systems drive efficiencies and cost savings, devices which differentiate hospital offerings, improve outcomes for patients or support with e.g. remote monitoring could be a real boon in this market,” Elviss says.

While globally, the frontier of innovation is shifting towards service and software offerings, the survey respondents expected to see a similar level of innovation in products and physical tech within the region as they do in software and digitisation. This reflects the overall confidence in devices, over-the-counter (OTC) and prescription medicines and is a clear nod toward the desire within the market for hospitals and clinics to be equipped with state-of-the-art tech to serve their patients.

### Year of Tolerance

Tolerance is a key virtue of Islamic culture and 200 different nationalities peacefully coexist in the UAE,

**Competitiveness has moved up from second place last year, shifting regional geo-politics from the biggest barrier to the fourth spot.**



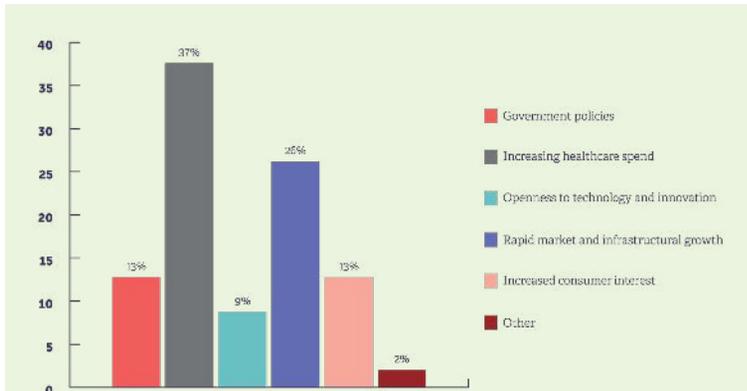


Fig 1

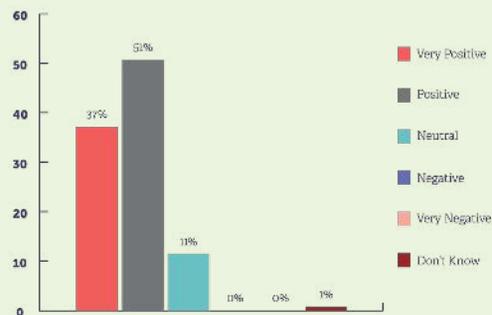


Fig 2

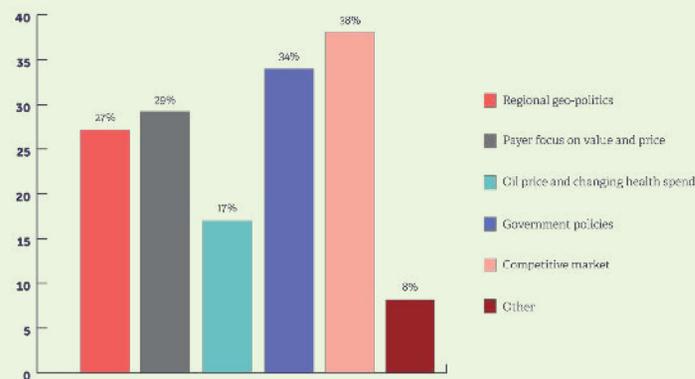


Fig 3

and to this end, the country has declared 2019 the ‘Year of Tolerance’ as it strives to demonstrate its inclusivity and mutual respect across religions and cultures. But tolerance is a somewhat abstract concept when it comes to healthcare and Hanover questioned the industry on what its place in this sector truly is.

“The result was overwhelmingly positive, with respondents believing that tolerance is an essential part of healthcare – throughout the patient journey,” says Elviss. “The idea of inclusivity came through strongly, as respondents talked about ensuring all patients – no matter their nationality



or role in society – have equal access to quality healthcare and that provision is sensitive to different cultures.”

In addition, in a culture where fear and stigma can often influence healthcare decisions, the idea of tolerance ensuring openness and patience were mentioned.

### Artificial Intelligence

Finally, industry specialists were asked how they thought Artificial Intelligence (AI) would alter healthcare in the next 10 years.

In the context of previous answers limiting the importance of technology, the reaction to AI was broadly positive and touched a variety of areas of the patient journey. A major theme was data capture and analytics, information sharing and using big data to make predictions and support clinical decision-making.

Hand in hand with this was the potential improvements in personalising care and treatment options based on large data sets. Another theme was the augmentation of human capability – being able to do things better or more efficiently.

In addition to this was the potential to reduce reliance on unskilled or lower skilled labour – and the concurrent potential to build a highly knowledgeable and skilled workforce to harness these technologies.

“Closely aligned to the UAE’s goals was the potential for AI to support patients in pre-disease stages, triggering awareness of potential health concerns and allowing them to seek preventative care at an early stage,” Elviss concludes. ✚

# The New Medical Tourism Destination



**RAK HOSPITAL**  
Premium Healthcare. Premium Hospitality



## ADVANCED HEALTHCARE

- Interventional Cardiology & Cardiac Surgery
- Neuro & Spine Surgery
- Laparoscopic & Bariatric Surgery
- Total Knee & Hip Replacement
- Plastic & Cosmetic Surgery
- Rehabilitation & Physiotherapy
- Swiss Health Checks

For more information, call **07 207 4444**

**#RakhCares**



**Rak Hospital** • PO Box 11393, Ras Al Khaimah, United Arab Emirates

**T** +971 7 207 4444 | **F** +971 7 207 4455 | **E** [mail@rakhospital.com](mailto:mail@rakhospital.com) | [www.rakhospital.com](http://www.rakhospital.com)

   **#RakHospital**

*Advanced Care. Expertise. Compassion.*

# Abu Dhabi boosts healthcare innovations with AI Lab at Arab Health

By Sangeetha Swaroop, Contributing Editor

According to a May 2018 report by global consulting services firm Accenture, Artificial Intelligence (AI) is set to give the UAE economy a US\$182 billion boost by 2035 with healthcare likely to see a gain of US\$22 billion in its annual gross value during the same period.

The UAE's firm belief in an AI-based economy became evident as early as 2017 when it announced the UAE Artificial Intelligence Strategy that aims to bring AI tools and technology to various sectors including healthcare. Apart from improving patient outcomes, the transformative power of AI in healthcare stems from the fact that it promises a life-changing impact in this field be it in hospital care, drug development, improved accuracy in the early detection of diseases, and data analytics powered decisions, amongst others.

Recognising the central role AI plays and the benefits to be gained from its use in healthcare, the Department of Health—Abu Dhabi (DoH),



the regulator of the healthcare sector in the Emirate, is the first entity in the region to develop and launch an artificial intelligence policy for the healthcare sector.

In an interview with *Arab Health Magazine*, on the sidelines of the Arab Health Exhibition & Congress 2019 that concluded in Dubai in January, Dr. Hamed Ali Al-Hashemi, Director of Strategy at Department of Health (Abu Dhabi), outlines the latest cutting-edge AI initiatives unveiled by the organisation with the aim of spearheading the fusion of healthcare and technology in Abu Dhabi, and to deliver on its promise of exceptional quality of healthcare services for citizens and residents in the emirate.

“The DoH is committed to positioning Abu Dhabi as a hub for AI and innovation in healthcare globally,” affirms Dr Al-Hashemi, who oversees the strategic planning and performance monitoring of healthcare strategies, programmes and operations of the organisation. “We have put in place a robust roadmap to fully reap the rewards of this innovative technology, and are looking to harness the power of AI to transform the way healthcare is delivered in the emirate to increase positive outcomes and thereby, enhance our patients’ healthcare journey.”

### Emerging technologies and healthcare solutions

To foster a new culture of innovation and inspiring cross-industrial collaboration in the healthcare sector, the DoH launched its AI Lab at Arab Health 2019. “This is a first-of-its-kind initiative by a healthcare regulator in the region,” explains Dr. Al-Hashemi. “With the launch of the AI Lab, we aim to develop healthcare solutions through emerging technologies including AI, Blockchain, predictive analytics and the Internet of Medical Things (IoMT), amongst others.”

The AI Lab will serve as a safe platform of co-creation where DoH as the regulator can collaborate with service providers, payers, and technology companies to develop, test, and launch state-of-the-art healthcare solutions powered by emerging technologies, he explains. “Innovation at the AI Lab will be focused on four key strategic pillars: wellness & prevention; chronic disease management; clinical care, and regulatory management.”

The first project to be launched under the AI Lab is the ‘My Health Coach’ app that is designed to help the people of Abu Dhabi live healthy lives. “This is a one-of-a-kind health and wellness mobile application that encourages patients and

the society to optimise their well-being through an engaging and interactive platform,” says Dr. Al-Hashemi. “The app seamlessly syncs to the fitness trackers of the user’s choice and provides personalised, informative and anticipatory coaching and guidance, according to the data collected by users.”

The app is currently available for the 700 plus DoH employees, he adds. “After six-months, it will be available for Abu Dhabi Government employees. The app will open to the public by 2020.”

Available in both English and Arabic, it is compatible across all major operating systems.

The second project launched under the AI Lab is the Cognitive Virtual Assistant (CVA) that seeks to facilitate easy access to information. “Powered by AI, the virtual assistant will be able to answer queries in Arabic and English with regards to facility and professional licensing to deliver a seamless experience for our customers,” he says. “In the near future, this CVA will encompass all DoH services.”

### Integrating technological transformations in healthcare

‘Malaffi’ or ‘my file’ in Arabic, is the name given to the Health Information Exchange system launched earlier this year by DoH to streamline healthcare connectivity for the emirate of Abu Dhabi. “Malaffi is a new centralised platform that will connect more than 2,000 public and private healthcare providers in Abu Dhabi, which cater to the healthcare needs of more than 3 million people in the emirate,” says Dr. Al-Hashemi. “It is a revolution in the delivery of healthcare as it greatly reduces the duplication of healthcare services and also enables physicians to make faster, more efficient medical decisions. The end result is improved quality of care and patient outcomes.”

Malaffi has been developed to comply with emirate-wide and federal health privacy laws to ensure patient confidentiality and data security. It is expected that both public and private healthcare facilities will implement Malaffi by end of 2020.

Yet another distinctive advantage of Malaffi, adds Dr. Al-Hashemi, is that “through the benefit of syndromic surveillance that it provides, the government would be able to help prevent and minimise the potential spread of disease and management of chronic diseases. This will enable efficient emergency medical response plans in real-time to help prevent epidemics.”

### Powered by real-time healthcare data

Abu Dhabi’s unprecedented shift towards technology and AI in the healthcare sector saw the

**“We have put in place a robust roadmap to fully reap the rewards of this innovative technology, and we are looking to harness the power of AI to transform the way healthcare is delivered in the emirate to increase positive outcomes and thereby, enhance our patients’ healthcare journey.”**



er\_AbuDhabi

**“The top AI algorithms are today continuing to advance diagnostic fields leading to better outcome prediction and prognosis evaluation, and more sophisticated patient care.”**

launch of the Open Data Dashboards initiative at Arab Health. “This online portal,” explains Dr. Al-Hashemi, “will relay the emirate’s most up-to-date health statistics in a visual and engaging manner. The launch of the Open Data Dashboards was in response to the demand for real-time healthcare data, which will provide all key stakeholders in the healthcare sector with insights to improve access, quality and financial sustainability for planning and managing healthcare services. Users will also be able to compare selected statistics with international benchmarks on the same parameters.”

Accessible to members of the public, the dashboard will be continuously updated with real-time data drawn from DoH’s database system, which is powered by AI.

### **Paradigm shift in healthcare**

“Today, AI is no longer a mere possibility; it has moved into the realm of tangible, measurable and scalable deployment,” says Dr. Al-Hashemi. “AI applications have the potential to improve the integral core of the healthcare sector by reducing costs, improving treatments, and bolstering accessibility. The benefits AI provides are slowly beginning to reshape the healthcare landscape as precision surgery and predictive diagnostics are leading to preventive care or timely medical intervention.”

For the patients, this translates to a more accurate initial diagnosis and a more effective treatment plan, he adds. “With AI, the physician has an additional tool to diagnose and help direct

therapies for patients. AI is a proven, evidence-based scientific tool that improves accuracy in clinical decision making by unlocking the relevant information stored in staggering amounts of data.”

The increasing availability of healthcare data and rapid progress of analytics techniques are bringing about a paradigm shift in healthcare. “Breaking down, correlating and analysing data are generating new insights and can be turned into meaningful solutions or procedures that can impact millions of lives,” he says. “The top AI algorithms are today continuing to advance diagnostic fields leading to better outcome prediction and prognosis evaluation, and more sophisticated patient care.”

Yet another area where AI is making a major impact is telehealth and remote health monitoring, he adds. “This has the potential to significantly improve quality of life as the patient’s disease management is taken care of outside the traditional physical clinical setting. By leveraging technology to monitor patients in their own homes, it helps them to better manage their own health.”

As AI cements its role in healthcare, the Department of Health—Abu Dhabi (DoH) is also making efforts to ensure that the appropriate policies and regulations are put in place and are designed to encourage the implementation of the latest AI technologies. “The future of healthcare in the UAE, as in the rest of the world, is through Artificial Intelligence,” states Dr. Al-Hashemi. “It has a critical role in vastly improving the efficiency, effectiveness, safety, access and delivery of healthcare services, and all types of population

and patient research. Therefore, as AI begins to dominate fast-paced technological innovations in the industry, DoH has become the region's first entity to develop this kind of technology policy."

The policy, which defines AI as the 'mimicking of human thought and cognitive processes to solve complex problems automatically', also reflects the department's support for the development, use and adoption of customised AI technologies and software to enhance healthcare in Abu Dhabi, he adds.

### Risks of patient safety

However, smarter healthcare systems also bring in a host of issues, particularly those related to data security and safety. "These require regulations in place to ensure that it does not threaten patient safety or privacy," he says. "Inaccuracies in the data will also be reflected in the results as AI relies on patterns in data to predict, prevent or treat diseases."

Yet another challenge, he believes, "is the fundamental question of the adoption of technology – would the end user accept the idea of communicating with a device for diagnostic consultation, away from the traditional physical setting of healthcare? However, we know that AI is the way forward and it is our responsibility to ensure that the community in Abu Dhabi is geared up to adapt to this technology."

Accordingly, the DoH has introduced several plans and strategies to facilitate the process and in doing so, to position Abu Dhabi as the hub of AI innovation in the region and globally. "There are three dimensions within the healthcare sector that we are currently focusing on," he says. "One is the promotion of e-care, which includes telemedicine and telemonitoring or the provision of healthcare services via telecommunication and information technology. We are enabling healthcare facilities in the emirate to adapt to this while at the same time making efforts to address the patient safety and information security concerns."

In line with this, DoH has implemented a Service Standards for Tele-counselling, which requires providers to adhere to its regulations in data management and medical record retention, he adds.

E-analytics or the use of multiple technologies and techniques to gain insight into the vast and complex datasets that are driving medical outcomes, increasing patient safety, improving the management and quality of care, and boosting financial viability through efficiency and cost management, is vital to improve overall competitiveness, says Dr. Al-Hashemi. "The DoH

has vast amounts of data compiled since the past decade. What can we do with this data? One task of the AI Lab would be to collaborate with all technology partners to make sense of and define the opportunities of capitalising on the data that is going to be available."

Finally, to further cement the position of Abu Dhabi as a global centre for innovation, medical and scientific research including AI and 3D printing, the DoH has instituted the Technology Innovation Pioneers (TIP) Healthcare Awards to provide an innovation ecosystem to accelerate research and create innovative solutions towards key healthcare challenges. "We are the first government entity that has established a link between investors and healthcare innovators and this platform will allow innovators to share and develop ideas. They will also receive the necessary support to take these ideas to fruition, further enhancing healthcare outcomes," says Dr. Al-Hashemi.

He adds: "We believe that innovators will lead the development and growth of the sector. Leveraging advancements from artificial intelligence and technology will pave the way for better diagnosis and advanced medical treatments. By finding creative solutions for some of the main healthcare challenges, Abu Dhabi thus seeks to enhance its position as a pioneer in healthcare innovation." ✦

**"By finding creative solutions for some of the main healthcare challenges, Abu Dhabi thus seeks to enhance its position as a pioneer in healthcare innovation."**



Dr. Hamed Ali Al-Hashemi

# Growth drivers and challenges in GCC healthcare market

As UAE and KSA continue to lead the wave of change in the regional healthcare market, Frost & Sullivan predicts that 2019 will be the year of value-based care

By Inga Louisa Stevens, Contributing Writer

According to a recent report by Frost & Sullivan titled *Global Healthcare Market Outlook 2019*, increased Public Private Partnership (PPP) opportunities in the Gulf Cooperation Council (GCC) countries will continue to drive on-going smart hospital projects and digital health initiatives such as Artificial Intelligence (AI), blockchain, and robotics. With healthcare infrastructure moving towards the private sector, particularly in the UAE and Kingdom of Saudi Arabia (KSA), we are seeing an increasing number of hospitals and beds and there is an on-going demand for more healthcare services, says the report.

## Supporting demand in the UAE

In the UAE, while there are more hospitals in the private sector, the public sector still comprises around two-thirds of the total available beds indicating that it has the majority of large-sized hospitals. However, growth in private hospitals and beds has been more robust than in the public sector and there are ample opportunities for investment in this sector.

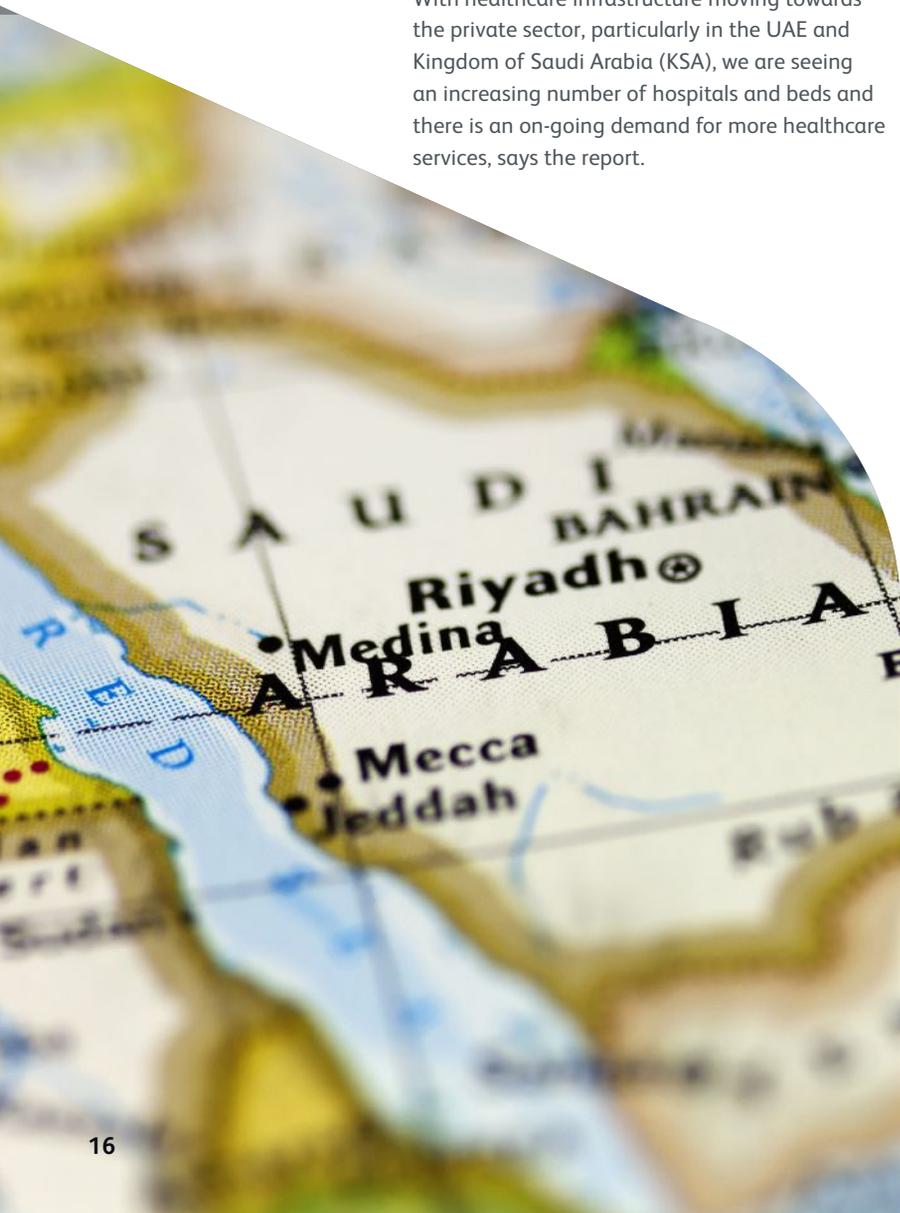
The UAE has witnessed decent growth in terms of the number of beds in private hospitals – almost 13 per cent Compound Annual Growth Rate (CAGR) from 2010-2014, and in the range of 10-12 per cent CAGR growth of private hospital beds up to 2017. These trends have also been validated by the recent announcement that the UAE plans for the addition of 2,500 beds in the private sector by 2020 with the majority of these being in Dubai and Abu Dhabi.

“We are already touching maturity phase in terms of supply of hospitals, with six or seven new players in Dubai and Abu Dhabi alone in the last few years, so we would expect to see the number of new hospitals start to slow down and the demand has now been met in terms of supply,” explains Sandeep Sinha, Associate Partner & Head, Healthcare and Life Sciences, Frost & Sullivan.

A major driver for the UAE, particularly in the Dubai market, is the adoption of the second phase of the mandatory health insurance in 2017. “Whenever insurance comes into the picture, you see major growth in Out Patient and In Patient volume. However, as is typical for any country that has recently adopted a 100 per cent mandatory insurance system, while the volumes have grown, margins have also come down,” says Sinha.

In order to address the issue of cash flow and price control in the UAE, both private and public healthcare facilities are adopting revenue cycle management that utilises medical billing software to track revenue generation.

“In this period of adjustment, which is often temporary, particularly smaller clinics with high



overheads may suffer and we have typically seen a number of mergers and acquisitions in these cases,” Sinha explains. “On the flip side, insurance companies are also having to address their cash-flow issues and they are paying closer attention to claim management.”

### PPP driving growth in KSA

The KSA had a total of 531 hospitals in 2017, with 68 per cent of these in the public sector. Growth in private hospitals has been slightly higher than in public hospitals over the last few years (3 per cent as compared to 1.7 per cent CAGR in public hospitals, between 2010 and 2016). Similarly, the share of hospital beds was higher for public hospitals (75 per cent) in 2016 out of the total 70,844 beds. However, the growth in private hospital beds (5.3 per cent CAGR between 2010 and 2016) has been better than the growth in public hospital beds (2.8 per cent CAGR during the same period).

Despite the growth in both private and public hospital beds in the KSA over the last few years, the bed density has not increased in proportion to the growing population. It also lags behind that of developed countries. In comparison, the World Health Organisation puts the global hospital bed density average at 2.7 beds per 1,000 population and in key developed countries such as the UK and the U.S. as having 2.9 beds as of 2011.

According to Sinha: “In KSA, the government has spent a large amount of time planning PPP programmes over the last three years resulting in growth in this sector. The regulatory changes allowing 100 per cent foreign ownership for hospitals is expected to drive private sector investment significantly. In addition, Saudization, officially known as the Saudi nationalisation scheme, or *Nitaqat*, has addressed manpower issues by bringing nationals into mainstream employment in the healthcare sector, both on the clinical and non-clinical side.”

In KSA, while public sector outpatient volumes and share has been decreasing, the private healthcare sector has been witnessing growth in both Out Patient and In Patient utilisation and OP-IP conversion. This trend is set to be further consolidated in the future with increased insurance coverage.

### The move towards value-based care

According to Frost & Sullivan analysis, globally, 2019 will be a year of value-based care, as the focus on ‘outcome-based care’ globalises, triggering maturation of risk-sharing contracts. By the end of

2019, up to 15 per cent of the global healthcare spending will be tied in some form with value-outcome-based care concepts.

As Sinha explains, “In countries such as the UAE and KSA, value-based care is a new concept that is being explored on a number of levels. This care model takes a holistic view in terms of looking at improving the quality of care, as well as making cost savings for the stakeholders such as manufacturers, insurance providers and healthcare providers. In other markets, pharmaceutical companies are tying up with the insurance companies to fix the cost of medication to provide care for a certain condition. Eventually, we may also see this move into the healthcare side of things, hospitals may need to buy into value-based care models.”

### The digital coming of age

On a global level, Frost & Sullivan predicts that AI for HIT application market is expected to cross 1.7 billion by the end of 2019. Operationalising AI platforms across select healthcare workflows would result in a 10-15 per cent gain in productivity in the next 2-3 years. During 2019, digital health technology catering to out-of-hospital settings will grow by 30 per cent to cross US\$25 billion mark globally. Also, by the end of 2019, Frost & Sullivan predicts that 5-10 per cent of healthcare-focused enterprise blockchain applications will move from pilot stage to partial/limited commercial availability.

He concludes: “In the future, AI will have a big impact on laboratory and imaging diagnostics. Innovation is taking place on every level and healthcare providers and hospitals must keep up. Treatments are now increasingly moving to non-invasive procedures such as laparoscopy and keyhole surgeries and hospitals are now increasingly adopting Smart Hospital Concepts where clinical process, management process, and patient care data will be linked to HIT platforms. This will help hospitals manage their costs, improve clinical outcomes and give patients a better experience.”

**The KSA had a total of 531 hospitals in 2017, with 68 per cent of these in the public sector.**

Sandeep Sinha



# King's College Hospital London opens its Dubai Hills facility

The community hospital will provide certain specialised tertiary care procedures, such as foetal surgeries, where babies are operated on while still in the womb or ways that reverse some forms of type 2 diabetes.

By Deepa Narwani, Editor



Christian Schuhmacher



Dr. Gowri Ramanathan

**K**ing's College Hospital London in Dubai, located in Dubai Hills, recently opened its doors, both for outpatients and inpatients. The 100-bed facility has started welcoming patients and begun surgical operations, including general surgery and paediatric orthopaedic cases. King's College also operates two clinics in Dubai and one in Abu Dhabi.

The hospital has come to town through a joint venture between Al Tayer Group, Dubai Investments and the UK-based Ashmore Group. The newly-opened facility will act as a direct link to King's College Hospital in London, a leading teaching hospital from the UK. The London-based hospital has a 175-year history of caring for patients with complex conditions and is one of the largest teaching hospitals in the UK.

A walk around the state-of-the-art facility highlights that a lot of importance has been put on making patients feel comfortable through warm hospitality. An attendant is assigned to be with them as soon as they walk in through the doors till they meet the doctor. Plus, the latest technologies are visible throughout the premises giving prominence to clinical mobility.

Christian Schuhmacher, Chief Executive Officer, King's College Hospital London, Dubai, told *Arab Health Magazine*: "This flagship hospital is our fourth facility in the UAE and now makes us a comprehensive healthcare provider in the country. We chose Dubai Hills as it is an up-and-coming area and reportedly there will be around 80,000 people living here in the near future. Our target audience are the local Emiratis and expats living around the area. We want to make it convenient and close for our patients to reach us."

Utilising King's College Hospital London's expertise in healthcare will ensure efficient care is delivered at patients' bedsides in the UAE,

ensure further collaborations between UAE-based clinicians and UK-based physicians, and ensure seamless patient journeys between the Dubai and London hospitals.

He highlighted that there is a need in the local market for a product like King's as it follows the exact same pathways as King's College in London. "We offer a guaranteed level of clinical quality combined with world-class Middle Eastern service. Our goal is to provide evidence-based medicine that is centred on scientific findings and proven concepts and exactly deliver the amount of care that is needed, not more, not less, and cater to what the patient truly needs," he added.

## Specialised care

Schuhmacher said that the UAE has a young population, thereby it creates demand for obstetrics and gynaecologists, combined with foetal medicine. One of the hospital's aim, he emphasised, is to offer a comprehensive package for pregnant women and their families.

Furthermore, through its visiting Faculty programme from King's College Hospital in London, several specialised tertiary care procedures, such as foetal surgeries, where babies are operated on while still in their mother's womb or procedures that reverse some forms of type 2 diabetes, will be made available at the hospital in Dubai. The visiting faculty will be in the UAE regularly to see patients during their pre- and post-operative care at all of King's UAE facilities. Currently, over 70 per cent of the employed clinical staff at King's UAE is UK trained.

The CEO highlighted that 80 per cent of the hospital's services will be delivered by physicians locally, while 20 per cent of the more specialised and rare procedures will be delivered by visiting faculty from King's London. Also, if a patient has to



**The London-based hospital has a 175-year history of caring for patients with complex conditions and is one of the largest teaching hospitals in the UK.**



travel to King’s College in London for treatment it can be facilitated through a seamless process.

Dr. Gowri Ramanathan, Chief Medical Officer, Consultant Obstetrician and Gynaecologist, Foetal Medicine Specialist, King’s College Hospital London, Dubai, said: “Foetal medicine is an incredibly important aspect of care that we provide here. The reason is that amongst the Emirati population reportedly almost 60 per cent have consanguineous marriages, which means genetic disorders are a common issue. With genetic disorders come abnormalities in the foetuses. So, there is certainly a gap in the level of foetal care provided. What we are trying to do is to bring it to a different level where we provide foetal surgeries for unborn babies during pregnancy, which we carry out with our links with King’s London. There is also laser for twins, among other procedures. We are hoping to make this is a foetal surgical centre that goes hand-in-hand with our neonatology unit.”

Another big focus area for the hospital is orthopaedics and sub-specialised orthopaedics in terms of rare services such as hand surgery and paediatric orthopaedics. “We know that a lot of children here for different reasons need to be seen and treated by an orthopaedic doctor, and it is a very rare speciality that is not easily available,” Schuhmacher added.

The hospital also offers interventional cardiology services and is aiming to be a centre of excellence in cardiology.

The CEO explained: “We all know that we should move a little bit more, and live a healthier life, unfortunately, if we don’t do that for too long it affects our health. Here there is a big demand for

cardiology services, and we want to offer the community what is needed.

“There are also services that we link closer with King’s. In terms of chronic liver disease, this condition is massively undiagnosed and under-treated in the country. We can treat it to a wide degree and if in case a patient would eventually need a liver transplant then they would be referred and sent to London. You can expect us to do 80 per cent of the work so people don’t need to actually travel outside the UAE. Neurosurgery is another area where we are very closely linked to King’s in London, as well as metabolic and bariatric cases.”

Dr. Ramanathan added: “We are trying to bring in these services so that the patient doesn’t have to travel and can receive the UK level of specialised care right at home. We will have services such as teleradiology and teleconference where patients will have consultation directly with experts in the UK, while sitting right next to the physician here. So, that’s the benefit we have with our very close links with King’s in London. We have experts, professors in the UK who will be visiting and call managing a lot of our cases together here. We have already had a couple of cases here where patients have been



**“We are trying to bring in these services so that the patient doesn’t have to travel and can receive the UK level of specialised care right at home.**





**King's runs a few school clinics in the UAE, which allows it to work closely with the institutions and shape healthy behaviours right from a young age.**



successfully call-managed.”

Receiving a second opinion is an easy example of how this collaboration would work, explained Schuhmacher. If any of the patients want another opinion or if the physicians want to discuss a case with their colleagues, they can easily get in touch. This, he said, would give patients an added confidence and assurance that the level of care provided in the hospital would meet the same standards as that of King's in London.

**Emphasis on prevention**

The CEO stressed that the hospital's business model is all about delivering the right level of care. “However, the ideal care is one that you don't have to deliver,” he said. “We take care of our patients above and beyond just prescribing drugs. One example of this would be our close relationships with schools.”

King's runs a few school clinics in the UAE, which allows it to work closely with the institutions and shape healthy behaviours right from a young age. It works with schools in terms of offering insights into right nutrition, how to educate kids on being active, and how to look after their own health, among other factors.

The other way King's puts emphasis on

prevention is by employing the latest technology.

Schuhmacher stressed that technology is important when it makes a difference to the patient and to clinicians and the whole driver behind the hospital investing in it is to achieve patient safety, enabling integration so all the systems can communicate to each other and avoid human error.

The hospital is using the pharmacy-led Omnicell end-to-end automated medication management process, an automated dispensing technology combined with barcode medication administration and electronic prescribing. This ensures medication management is optimised to a safe, fully traceable, paperless system at the point of care and clear visibility of patient therapy management.

Furthermore, King's is reportedly the only facility in the UAE to have an EOS imaging system. It is an advanced orthopaedic imaging technology that gives doctors a clear 3D view of the patient's musculoskeletal system and helps them make decisions regarding the patient's treatment. This replaces the need to take four to six X-rays, as it automatically stitches the scans together and boasts greater accuracy. It only exposes patients to 10 per cent of the radiation normally required and has a micro radiation dose option making it highly effective for paediatric orthopaedics.

Also unique to the hospital is the King's 'Getwell Network', which is equipped with an edutainment system offering patients entertainment, as well as interactive information



**The EOS imaging system, unique to King's, replaces the need to take four to six X-rays, as it automatically stitches the scans together and boasts greater accuracy.**



about their condition at the touch of their fingertips. For example, a patient undergoing surgery can learn everything relating to their procedure, condition management and what to expect during the recovery period through interactive media that is adapted specifically to the patient. While all this information is explained by the doctor, patients benefit from having a one-stop-shop portal to access from the hospital or remotely from home at any time through the Patient Portal.

Schuhmacher highlighted: “For example, if someone comes in for a gastro procedure then they will get access to material such as nutrition, what you should be cautious of, how you can improve your lifestyle to prevent something else from happening. It’s not about treating you for a condition you have right now, but it’s about really looking after you and what we call the ‘King’s care’ that we are trying to establish.”

Dr. Ramanathan added: “Family medicine is a big part of what our services are, within the clinic as well as in the hospital setting. We want to reach out to the communities and want to be able to provide that primary preventative mechanism.”

She highlighted that one of the services they offer is the Well Baby and Well Mum clinic that offers education and antenatal classes. “We are taking some of those initiatives onto the King’s Big Bus, which will go around the neighbourhood and interact with the different communities of Dubai.”

### Future plans

Schuhmacher shared that the hospital has provisions to add another 100 beds, in order to double the capacity.

“From breaking ground to completing the facility, it took us 19 months. So, the moment we decide to go for the next 100 beds it would take another 18 months. We are always exploring opportunities in the UAE for any additional clinics. We have carved out our niche. There will be growth, but it will be sustainable,” he said.

Dr. Ramanathan concluded: “From the clinical perspective, there are certain identified gaps within the UAE. I think we have opened with quite a broad general spectrum of services. With time we will start providing a deeper amount of quality of care within each of those services, arm-in-arm with King’s in London.

“Teaching and training is something that we feel is important coming from an academic institution in the UK. We are planning to have comprehensive programmes for medical students, residents, undergraduates, postgraduates and nursing within our hospital.” ✚



### Services Offered

The hospital specialises in five core areas – Paediatrics, Cardiology, Orthopaedics, Obstetrics and Gynaecology, and Metabolic Diseases, as well as offer integrated pathways with King’s in London in Chronic Liver disease, Foetal Medicine, Haematology as well as several other areas. It also provides acute and general care services in Anaesthesia and Intensive Care, Emergency Department, Cardiology, Endocrinology, ENT, Family Medicine, Foetal Medicine and Neonatology, Gastroenterology, General Surgery, Vascular Surgery, Paediatric Surgery, Breast, Thyroid and Colorectal surgery, Aesthetic and Reconstructive Surgery, Radiology, Urology and Neurology.

**“It’s not about treating you for a condition you have right now, but it’s about really looking after you and what we call the ‘King’s care’ that we are trying to establish.”**

# Power of cancer immunotherapy expanded by improved antigen presentation

Article provided by UChicago Medicine



Chuan He, PhD, the John T. Wilson Distinguished Service Professor in chemistry, biochemistry and molecular biology, and the Institute for Biophysical Dynamics at the University of Chicago.

**C**ancer immunotherapy—an approach that removes the barriers that protect cancer cells from a patient’s immune system—has revolutionised the treatment of many cancer types. About 40 per cent of melanoma patients, for example, respond to immunotherapy, enabling the immune system’s T cells to attack cancer cells and take control of the disease.

In a study published in the February 6, 2019, issue of *Nature*, a University of Chicago-based team working in collaboration with scientists at Tsinghua University and the Chinese Academy of Sciences, demonstrates, in mice, that they can boost the tumour control rate from around 40 per cent up to nearly 100 per cent by opening up a parallel pathway.

This study relies on manipulating these cells, which are a crucial component of the immune system. The primary function of dendritic cells is to process antigens and present them to T cells. They act as messengers, connecting the innate and the adaptive immune systems.

But a protein known as YTHDF1 influences antigen processing by dendritic cells. This protein was discovered and characterised in 2015 by Chuan He, PhD, the John T. Wilson Distinguished Service Professor in chemistry, biochemistry and molecular biology, and the Institute for Biophysical Dynamics at the University of Chicago. YTHDF1 controls the level of proteases that destroy potential tumour antigens. This limits their presentation to T cells.

These limits were a problem, he said. But when he and his colleagues eliminated YTHDF1, the dendritic cells increased their ability to engulf peptides, degrade them and present them to T cells. This opened up a new and potentially effective approach to treatment of cancer in patients who do not respond well to checkpoint inhibitors.

“Once we combined YTHDF1 knock-out with the checkpoint inhibitor anti PD-L1, we got almost complete tumour control in a mouse model,” he said. Instead of a 40 per cent response, nearly 100 per cent of treated mice with melanoma responded to anti-PD-L1.

The researchers confirmed that dendritic cells from mice that lacked YTHDF1 were more effective at antigen-presentation than dendritic cells from normal, wild-type mice. “Our data show

that loss of YTHDF1 in dendritic cells attenuates antigen degradation and leads to improved cross-presentation and better cross-priming of CD8 + T cells,” according to co- corresponding author Dali Han, PhD, now at the Beijing Institute of Genomics.

Together with gastroenterologist Marc Bissonnette, MD, associate professor of medicine at the University of Chicago, his team performed an additional test using biopsies from human patients with colon cancer, a disease that is much less responsive to immunotherapy than melanoma. They found that tissue from patients with high levels of YTHDF1 had limited T cell infiltration, but patients with low levels of YTHDF1 had more T cell infiltrates. “This suggests that humans correlate nicely with our mouse data,” he added.

“An important question in cancer treatment is ‘how could we get better antigen presentation?’”, according to co-author Ralph Weichselbaum, MD, the Daniel K. Ludwig Distinguished Service Professor and chairman of radiation oncology at the University of Chicago. “This study opens a lot of doors,” he said. “It provides a whole new set of targets to the immune system, ranging from new sets of antigens to potential anti-cancer vaccines. This is the type of cross-divisional, interdisciplinary collaboration that could lead to unexpected discoveries.”

This supports the notion that reduced YTHDF1 often coincides with the T cell inflamed tumour micro-environment, which is crucial for successful immunotherapy, the authors note. YTHDF1 could be a therapeutic target for immunotherapy in combination with emerging checkpoint inhibitors or dendritic cell vaccines.

“It will be really interesting to test how the human system works with potential dendritic cell vaccines or small molecule inhibitors that can suppress the activity of YTHDF1 in human cancer patients,” according to corresponding author Meng Michelle Xu, PhD, a former member of the He and Weichselbaum laboratories.

“We have not yet seen any measurable toxicity, as far as we can tell, related to knocking down YTHDF1 in mice,” he added. “At this point, this appears to be a very benign system. We hope to begin early testing in patients within one year.” ✚

For more information visit [uchicagomedicine.org](http://uchicagomedicine.org).



**Australia's Gold Coast is home to a number of innovative manufacturers, with research and development driving new product innovation.**

Gold Coast businesses are recognised for quality products and services; from supplements and pharmaceuticals to medical devices and specialist treatments.

[wearegc.com.au](http://wearegc.com.au)



AUSTRALIA'S  
**GOLDCOAST.**

# How to create a patient-centric supply chain: A simple guide for hospitals

By Shlomo Matityaho, CEO, LogiTag Medical Solutions



# Six practical steps you can start implementing in your organisation

**E**xpanding patient-centric care in all areas of healthcare is not just an empty slogan. It's a commitment we make as healthcare professionals to better the lives of the people we treat.

Whether patients select a hospital of their choice or are directed to one through their health maintenance organisation (HMO), they rightfully expect “the system” to provide excellent treatment. Patients cannot be expected to distinguish between the services provided by the clinical team and the staff supporting them. If an error occurs, such as implanting expired stock, it does not matter to the patient whether the responsibility is with the supplier who did not update the stock on time, or the nurse who did not notice this, or the surgeon who did not bother to double check. The hospital, as a whole, is guilty and will be held accountable.

According to an article written by the *American Society of Radiologic Technologists*:

“Most patients judge the quality of their healthcare much like they rate an airplane flight. Criteria for judging an airline are personal and include aspects like comfort, efficient service and on-time schedules. Similarly, patients judge the standard of their healthcare on non-technical aspects. Most are unable to evaluate the level of technical skill or quality of therapy, so the conditions they can assess — patient satisfaction and preserving health over time — become of the utmost importance.”

This article lays out six steps that can immediately be adopted in organisations to create a more patient-centric supply chain.

## Step 1: Create full synchronisation between clinical and operational data

Delivery of modern healthcare is set up so that patients “travel” through several separate institutions on their “journey” to wellness. At each step, new files will be opened within a multitude of systems: the patient management system, the clinical data system, the queue management system, ERP systems. In best case scenarios, all these diverse systems will be connected through a common interface. More often, the desired level of interconnectivity is just not there.

Although the operational information surrounding the patient is no less important

than the clinical data needed for optimal patient treatment, today in most medical institutions there is little or no correlation between these two data systems – it is impossible to know essential details about devices implanted in a patient by looking in the patient’s medical record.

Take for example hemodynamics monitoring systems, which are very good at data collection and interface effectively with most clinical systems. So why is this not the case on the operational side? Why is there no consolidation of essential data such as serial number, date of expiration and production series? A major road block to full integration of diverse data sources is the current standard of inventory management based on manufacturers’ bar code identification.

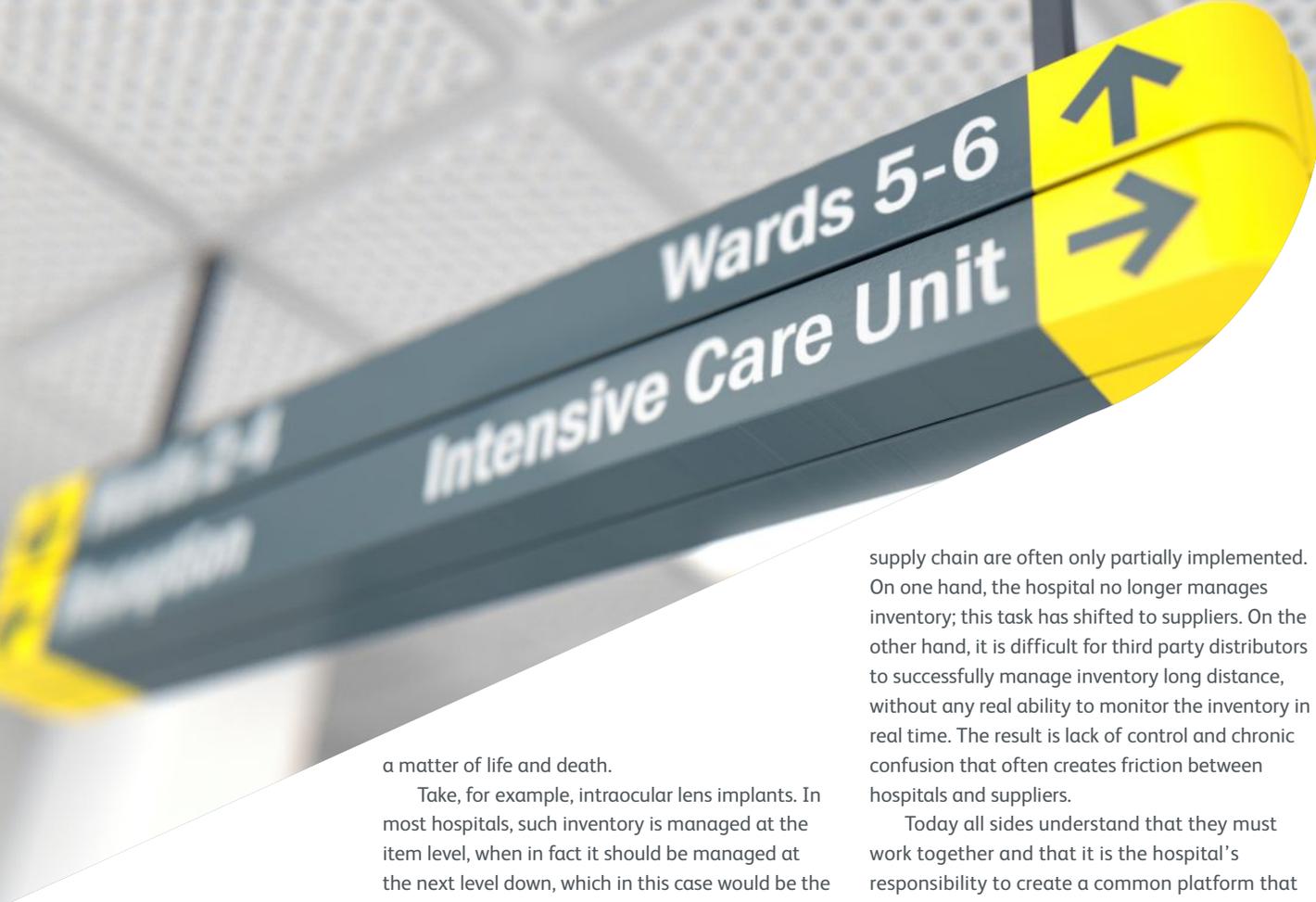
Often the medical team finds it difficult to record device details accurately because of outdated manufacturers’ catalogues, multiple methods of cataloguing the same products, and the introduction of unmarked items into the treatment room, which is particularly common during high stress periods. The result is a lack of integrity of the recorded information and a low level of reliability, which according to some reports is below 60 per cent.

A promising solution is to switch from bar code readers to optical character recognition (OCR) technology to capture data from operational inventory. OCR is already widely used in other areas of clinical medicine. For example, a tumour is optically captured (photographed) and the image is processed and analysed for size, shape, location and malignancy. OCR is now beginning to find its way into operational inventory management as well. On-site medical staff photographs the product as it is taken from the shelf. It is automatically input into the system, which recognises the product and assigns the appropriate SKU. No time-consuming data entry, scanning or searching through manufacturers’ catalogues.

## Step 2: Instead of putting out fires, prevent them in the first place

Ask any organisational consultant how to streamline your facility and they’ll recommend that you switch from passive/reactive mode to an active/preventive approach. It is much easier to avoid mistakes before they happen than to fix them after the fact. In the healthcare industry mistakes can be

 Ask any organisational consultant how to streamline your facility and they’ll recommend that you switch from passive/reactive mode to an active/preventive approach. 



a matter of life and death.

Take, for example, intraocular lens implants. In most hospitals, such inventory is managed at the item level, when in fact it should be managed at the next level down, which in this case would be the various sizes for each item. Protocol dictates that a nurse physically verifies that the correct lens size is available before surgery begins. Yet, sometimes patients are already on the operating table when it is discovered that the right size lens is not in stock and needs to be urgently rushed in.

The solution is to adopt a fully automated system that can track each item down to its most unique characteristic — even items that cannot be tagged. Such a system reduces delays, identifies vulnerabilities and resolves them autonomously. In this way, processes within the hospital departments and with third-party suppliers are improved. More importantly, the patient experience is enhanced.

### Step 3: Improve connectivity throughout the supply chain

The supply chain includes several links: the clinical team, the logistics department, and third-party distributors/manufacturers. The formula for operational success is healthy communication and respectful cooperation between all stakeholders. Today, suppliers understand that they, too, must bear responsibility towards patients, even if they are not in direct contact with them.

In recent years, many medical institutions have switched to a consignment-based supply system, forcing the relationship between buyer and supplier to take on a new dynamic. Unfortunately, the day-to-day procedures of this newly evolved

supply chain are often only partially implemented. On one hand, the hospital no longer manages inventory; this task has shifted to suppliers. On the other hand, it is difficult for third party distributors to successfully manage inventory long distance, without any real ability to monitor the inventory in real time. The result is lack of control and chronic confusion that often creates friction between hospitals and suppliers.

Today all sides understand that they must work together and that it is the hospital's responsibility to create a common platform that provides full transparency so that suppliers can effectively manage inventory from afar. Any such platform must include intelligent, real-time tracking capabilities so that off-site suppliers can be more proactive at inventory stocking. This in turn, enables them to provide quick, effective responses so that patient care is never compromised due to lack of inventory.

### Step 4: Choose the correct technology for the job

Whether using barcodes, RFID or other available technologies, it is crucial to choose a solution that can fully meet the needs of your own medical supply chain for many years to come. We are living in the digital age, the most intelligent period man has known, surrounded by Artificial Intelligence (AI) solutions and other advanced digital systems. Even organisations that do not have the budget to invest in the latest cutting-edge technology can utilise the technologies they do have access to, looking for new ways to integrate them into existing operating rooms and inventory management systems.

Take, for example, the cardiac pacemaker. These implants require periodic attention, such as battery or device replacement. The key here to life saving and cost-effective treatment is automated logistic tracking — the ability to manage the life span of the implants and provide timely response from within an integrated platform that can alert

**Today all sides understand that they must work together and that it is the hospital's responsibility to create a common platform that provides full transparency so that suppliers can effectively manage inventory from afar.**



the appropriate people at the proper time and at the correct location. Humans cannot be expected to keep track of all this; it's just too complicated!

However, the task of identifying supply chain weak points, articulating needs, vetting technologies and choosing the most suitable and comprehensive solutions should not be taken lightly. We are not talking about an off-the-shelf product, but a custom solution for each department and organisation. The main goal is to provide the medical staff with the ability to act quickly and effectively along with peace of mind so that they can focus on their patients.

A successful platform will enable the management team to process data and generate insights that will promote healthy relationships with all hospital partners. When comprehensive supply chain systems are running smoothly, the safety and quality of patient care increases.

### Step 5: Let nurses be nurses

Hospital supply chains have become sophisticated networks that manage massive inventories of a wide range of items and products, sourced from suppliers of all sizes and managed by numerous employees. For example, a typical medical institution will purchase from over 22,300 different brands, 14,000 different drugs with about 30,000 staff members interacting with the system in some capacity.

As a result of the organisational changes already mentioned in this article, much of the responsibility for managing inventory has shifted to the nurses on the floor — the same nurses who administer hands-on patient care. On top of these responsibilities nurses now find themselves troubled by inventory levels, expiration dates and endless filling out of order forms. Procurement personnel, who are responsible for the operational aspects of the supply chain, often find themselves running after the medical staff for inventory related updates.

In a patient-centric supply chain the nursing staff is relieved of many of their current inventory duties so that they can once again centre attention on patient care. A top-level, executive decision that provides the tools to return responsibility for operational management to the logistics team and third-party suppliers is needed.

### Step 6: Utilise the power of AI

Once a patient-centric supply chain management system has been implemented and optimised there is one more step that can be taken to increase a system's efficiency. That is to recruit artificial

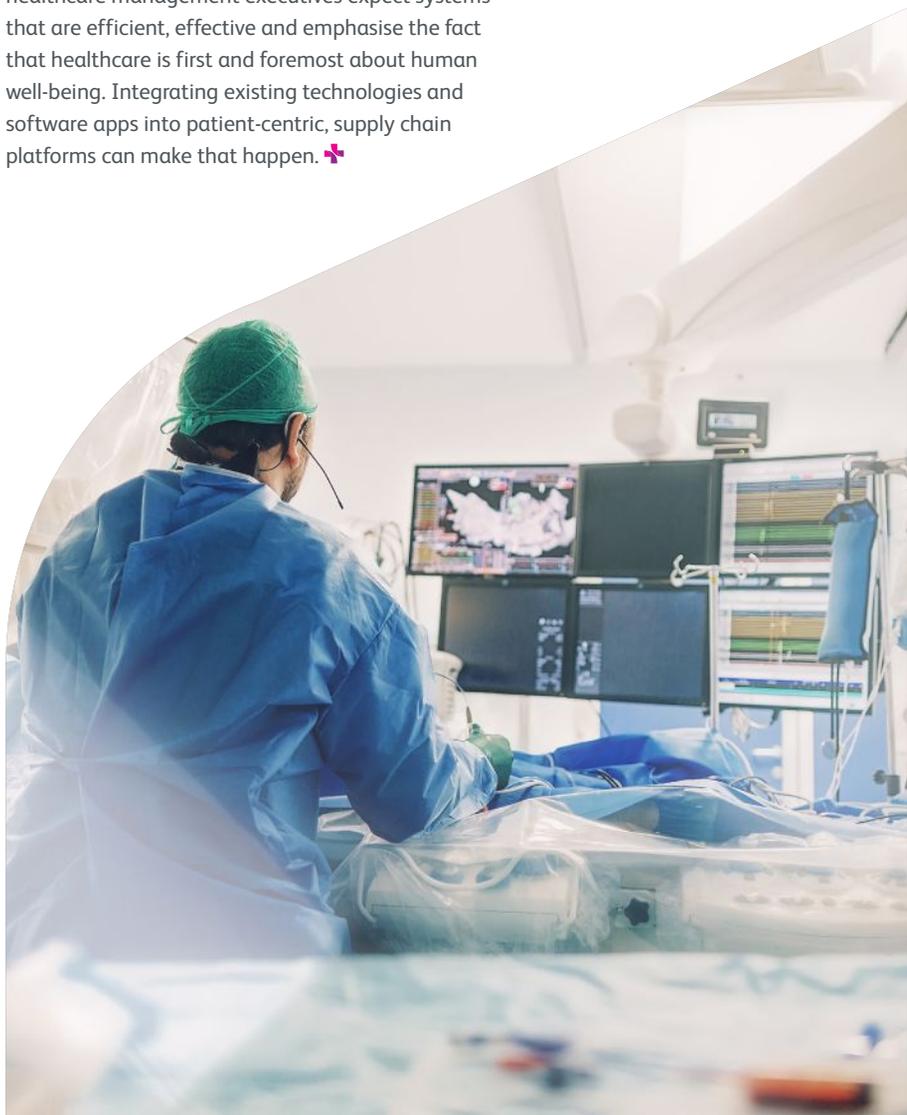
intelligence (AI) for analysis and reporting. After accumulating a reliable body of data, it can be interpreted to derive insights that will enable continued tweaking of the system for even better results. If in the past much of data analysis was overseen by humans (even if computers were crunching the numbers), today AI can do it faster and more effectively.

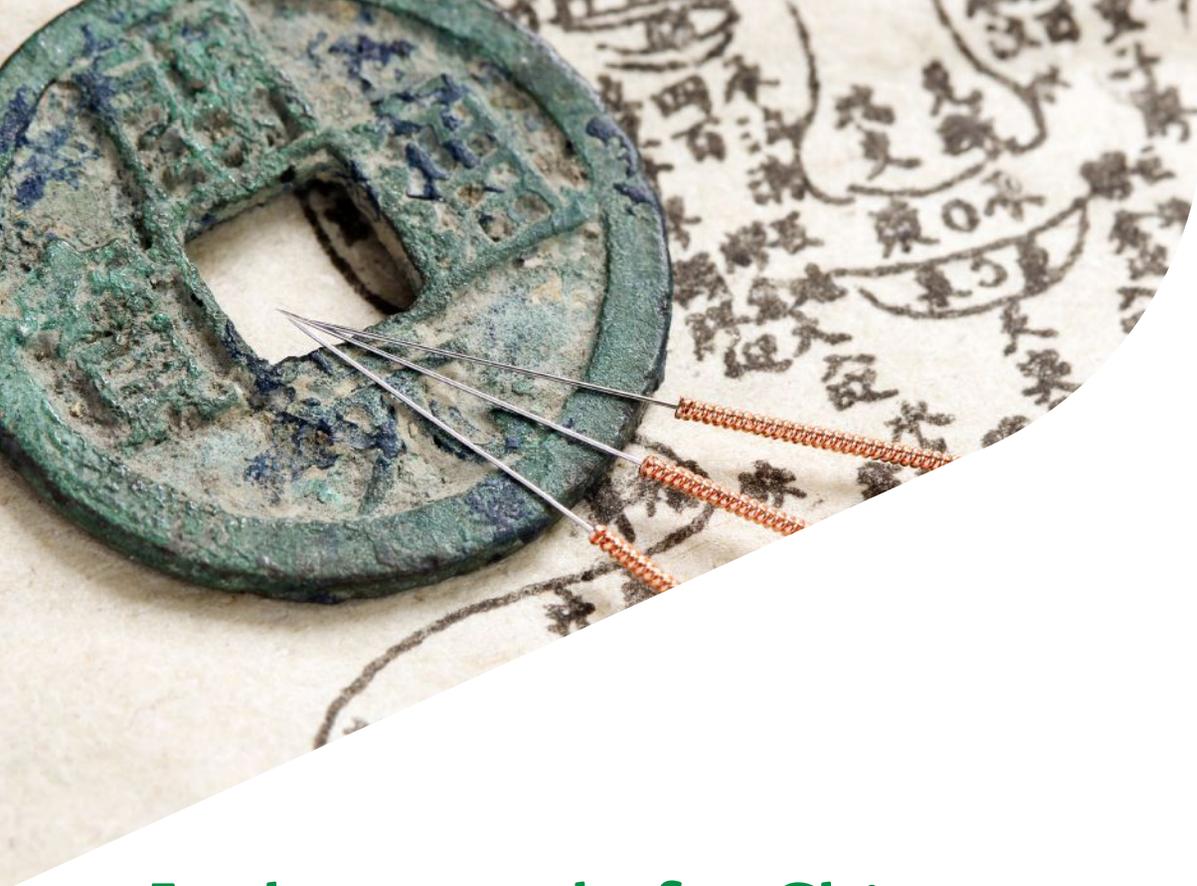
Marvin Minsky described it as “a way of making a machine behave in ways that would be called intelligent if a human were so behaving.” One of the areas that AI has successfully contributed to is in the sphere of logistics and resource management.

For hospitals to continue to align their patient-centric goals with recent developments in technology and the demand to maximise efficiencies, they will increasingly rely on AI, which is actually the next stage of automation. AI-based tools and insights are already enabling medical and logistic teams to enhance their performance in a way that supports their professional capabilities, rather than replacing them. This trend will surely continue to strengthen in the future.

At the end of the day, both patients and healthcare management executives expect systems that are efficient, effective and emphasise the fact that healthcare is first and foremost about human well-being. Integrating existing technologies and software apps into patient-centric, supply chain platforms can make that happen. ✚

**AI is a way of making a machine behave in ways that would be called intelligent if a human were so behaving.**





# Is there a role for Chinese medicine in modern health treatments?

By Tom Buckland

**T**raditional Chinese therapies have been popular in the West for some time, and this popularity is not showing signs of waning anytime soon. Millions of people outside of China use acupuncture, Chinese herbal therapies and other forms of traditional Chinese Medicine every year to treat ailments.

The question is, do these treatments work, if only to some degree? The medical community has long been sceptical about Chinese medicines, because the premises behind them are not based on scientific evidence. Few medical professionals would prescribe traditional Chinese remedies as a treatment for disease or ailment.

However, do they have a role to play in combination with evidence-based medical treatment, as complimentary therapies? Let's take a look at the arguments.

## What is traditional Chinese medicine?

Traditional Chinese medicine, also known as Chinese herbal medicine, is a series of practices and treatments which date back more than 2,500 years. Rooted in the ancient philosophy of Taoism, Chinese medicines encompass not only herbal treatments to be taken orally, but also a range of therapies such as

acupuncture, dietary therapy and *tai chi*.

One of the central tenants of traditional Chinese medicine is the belief in treating the whole self, because the physical body, mind and psyche are all interwoven. This is why a series of treatments may be recommended to treat a seemingly unrelated illness.

Chinese herbal medicine uses primarily plants (leaves, roots, stems, flowers and seeds) but also minerals and animal products to create medicinal products. Generally, these products are combined in formulas and taken in the form of herbal teas, capsules, liquid extracts, granules or powders. Acupuncture, another central practice of traditional Chinese medicine involves using needles or other methods to stimulate certain pressure points on the body. *Tai chi*, which involves gentle movement, mental focus, breathing and relaxation, is also often used in combination with other therapies.

## What does science say about Chinese medicine?

To date, there has been little targeted scientific research on the effectiveness of Chinese herbal medicine and therapies. This is partly due to scepticism among the scientific community, and partly because

**Traditional Chinese medicine, also known as Chinese herbal medicine, is a series of practices and treatments which date back more than 2,500 years.**

the holistic nature of these practices makes them difficult to study. There has been some research on the topic within China, however, where these practices are taught as a distinct subject from biomedicine.

There have been a number of scientific reviews on certain techniques and remedies in traditional Chinese medicine, however according to the U.S. health body National Center for Complementary and Integrative Health (NCCIH), they “were unable to reach conclusions about whether the technique worked for the condition under investigation because there was not enough good-quality evidence”.

The same source, however, reports that a 2012 analysis of 29 studies found that patients receiving acupuncture for back or neck pain, osteoarthritis, or chronic headaches reported better pain relief compared to patients who did not receive acupuncture.

### Is traditional Chinese medicine dangerous?

The active ingredients in Chinese herbal medicines can be quite potent, therefore they should be used with caution. In particular, traditional Chinese treatments may be harmful if taken in too high of a dosage, or when interacting badly with other treatments. This is why, if traditional Chinese therapies are to be used, they should be prescribed and monitored by a physician who is knowledgeable on the subject.

Dangers also arise when Chinese herbal medicines are taken for uses other than those which are traditionally recommended in the practice. For example, ephedra or *ma huang* to the Chinese, has been used in traditional Chinese medicine for over 3,000 years as a remedy for respiratory issues. It became popular in the U.S. in the 2000's as a weight-loss treatment, and, was banned by the FDA in 2004 after being linked to the death of professional baseball player Steve Bechler, who was using the herb to lose weight.

Another issue is that there is no guarantee of what you will receive. In the U.S., for example, Chinese herbal medicines are general listed as dietary supplements by the Food and Drug Administration (FDA). This means that they are not subject to the regulations and controls, which apply to medications, and manufacturers do not need to substantiate that their product has the effects as claimed. This means that although there are some authentic Chinese herbal products on the market, there are many which are poor quality, have little relation to traditional Chinese remedies, and/or are contaminated with pharmaceutical drugs, heavy metals or toxins.

### Using Chinese medicine with medical therapies

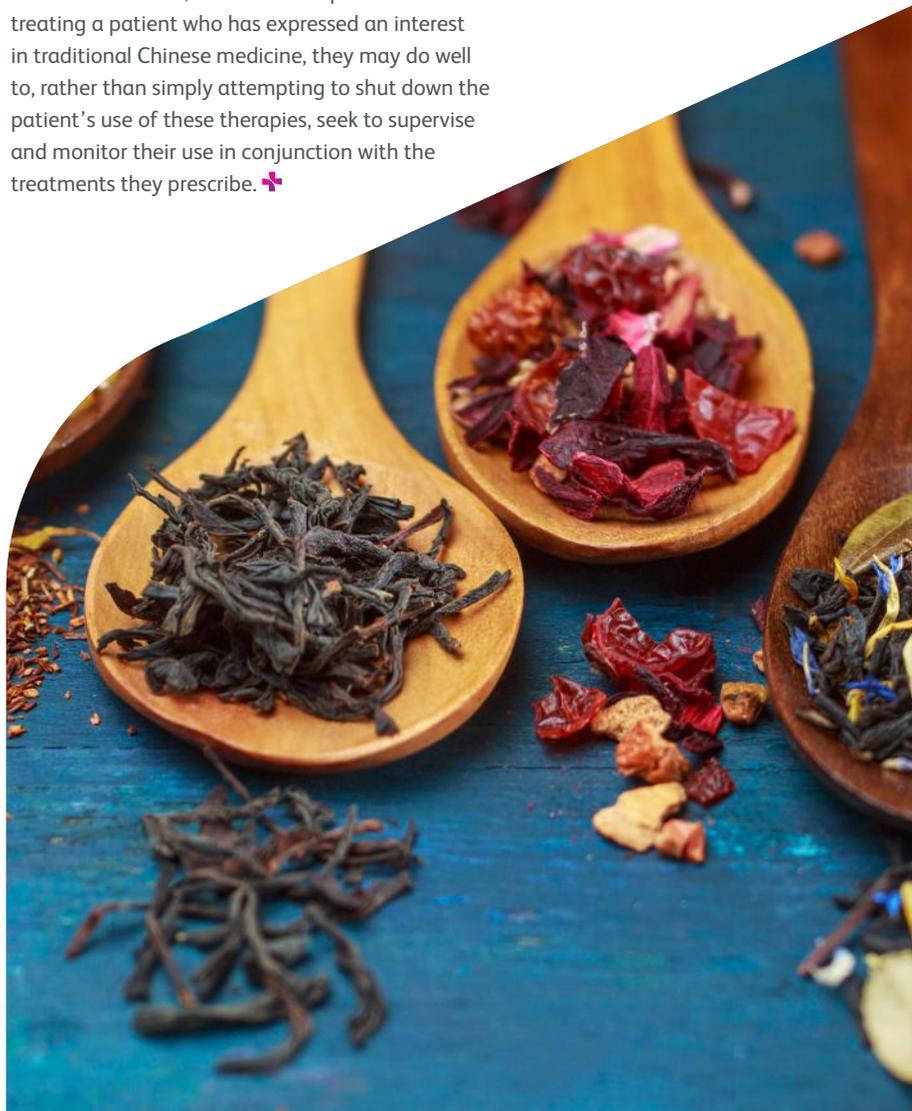
Some health institutions and bodies acknowledge that traditional Chinese therapies may be useful as a complimentary treatment to mainstream medical therapies, for example to assist with easing symptoms of chronic diseases or helping to lessen side-effects of medication. The reputable organisation Cancer Research UK, for example, recognises that traditional Chinese medicine may assist cancer patients in combination with modern forms of treatment. They do take care, however, to stress that these treatments may interfere with cancer medications and so should only be conducted under supervision by a physician.

The major concern is around patients using Chinese herbal medicine or practices as an alternative to research-backed medical treatments and foregoing the latter, particularly in the cases of severe and chronic diseases such as cancer.

A secondary concern is patients self-subscribing Chinese herbal treatments in doses which are too high and therefore dangerous or may have negative reactions with the other medications they are taking.

In this context, when medical practitioners are treating a patient who has expressed an interest in traditional Chinese medicine, they may do well to, rather than simply attempting to shut down the patient's use of these therapies, seek to supervise and monitor their use in conjunction with the treatments they prescribe. ✚

**The major concern is around patients using Chinese herbal medicine or practices as an alternative to research-backed medical treatments and foregoing the latter, particularly in the cases of severe and chronic diseases such as cancer.**



# Inspiring success through investing in culture

By Rami Fayed, Regional Vice President Middle East and Africa, AbbVie

People often ask me ‘what makes an office a great place to work?’. They usually expect a long-winded answer, but I can often summarise it in just one word: culture.

It can be easy for culture to be overlooked by companies and viewed as a “nice-to-have” rather than an essential part of any company. Too often, attention from senior management is focused towards revenue and the overall bottom line, rather than the character and personality of the organisation.

It was Tim Richmond, Senior Vice President for Human Resources at AbbVie, who set out to change this in 2016 by transforming AbbVie’s culture. AbbVie is a global, research and development-based biopharmaceutical company committed to developing innovative advanced therapies for some of the world’s most complex and critical conditions.

He said that culture is essential to every facet of a company and helps to define who a company is. However, culture is not automatic, and it cannot happen overnight; it needs investment, it needs time and most importantly, it needs resources.

But what exactly is culture? It is a difficult concept to define. To me, culture is the sum of an organisation’s leadership, values, traditions, beliefs, interactions, behaviours and attitudes, which helps a workplace achieve its core purpose.

According to Richmond, once a culture has been defined, it must be fostered, rewarded, and monitored over time. For us at AbbVie, this comes to life through creating an always-evolving work environment that fosters innovation, personal development, inclusion and collaboration. Through ensuring employees are motivated, satisfied and happy in the workplace, employees become engaged, which ultimately results in increased operational performance, as well as employee retention.

In the UAE, as an example, we foster our

workplace culture by giving our staff some of the best benefits. This includes encouraging a healthy and active lifestyle in the affiliate through negotiating corporate gym discounts, dietitian visits, office physical activities e.g. jogging, football and aerobics. There’s even a dedicated innovation room with a foosball table to help colleagues unwind after a busy day.

However, executives should not just be concerned with the tangible benefits when wishing to instil an engaging workplace culture. Although still important, recent surveys indicate that employees want more than just a place to work, they want to know their work has a positive and purposeful impact. Opportunities to volunteer at work can help boost morale, workplace atmosphere and brand perception.

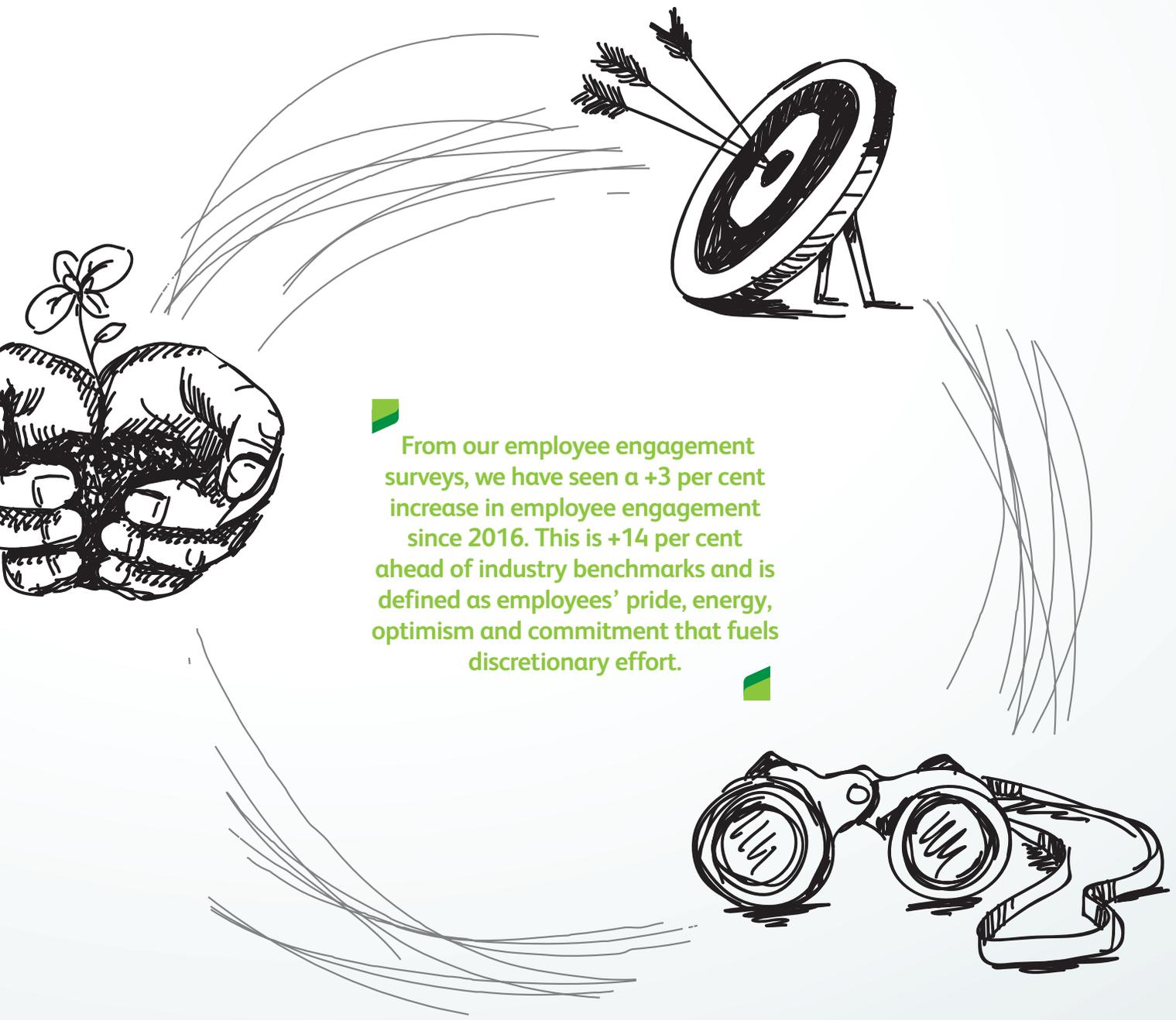
Giving back to the communities in which our employees work and live is also a big part of our culture. Every year, we take part in the global AbbVie CSR initiative, ‘Week of Possibilities’ where all AbbVie employees in over 50 countries are invited to participate in volunteering in the local community and are given the time off to do so. Most recently, we visited the Dubai Center for Special Needs.

Upskilling employees is essential for fostering a positive and engaging workplace culture too. We have tried to move away from traditional top-down trainings and instead adopted a blended learning approach focused on experiential learning. By leveraging this approach, employees are given the opportunity to learn new skills, build diverse capabilities, and accelerate their development to take on new roles within the company. Our focus on development has led to 14 job moves within the affiliate in 2017, and in the same year we imported/exported a total of six talents within AbbVie globally.

This transformational shift in culture has had a real impact on our business, not just in the

  
Recent surveys indicate that employees want more than just a place to work, they want to know their work has a positive and purposeful impact.





From our employee engagement surveys, we have seen a +3 per cent increase in employee engagement since 2016. This is +14 per cent ahead of industry benchmarks and is defined as employees' pride, energy, optimism and commitment that fuels discretionary effort.

South Gulf but also globally. From our employee engagement surveys, we have seen a +3 per cent increase in employee engagement since 2016. This is +14 per cent ahead of industry benchmarks and is defined as employees' pride, energy, optimism and commitment that fuels discretionary effort. This is also reflected in our 1 per cent absenteeism rate, and low voluntary turnover of 6.2 per cent.

Despite all this work, culture is never finished and should be constantly evolving. We encourage our employees to share their feedback and suggestions about AbbVie's culture. At AbbVie in the South Gulf, we have a team

of Culture Empowered Officers (CEOs). These are appointed employees at all levels of the organisation who take a proactive role in shaping the affiliate culture. We also have an email platform, so employees can share their feedback about culture at any time.

Our culture survey results are very favourable as we have seen from the global Great Place to Work award in 2017, as well as AbbVie's UAE Top Employer certification in 2018. But we never take these results for granted. Echoing the words of Tim Richmond, "culture must be nurtured, and there is always room for growth". ✚

*References available on request.*

# DHA Director General inaugurates Innovation Centre

Dubai Health Authority established an Innovation Centre to create an environment for collaboration with the private sector and universities in the field of healthcare innovation.

By Kamakshi Gupta, Dubai Health Authority



“At the DHA we are keen on harnessing new technologies and fostering innovation not just in the medical field but also across allied services such as healthcare management, pharmaceuticals and medical devices so that all aspects of the health sector develop and thrive.”

The aim of the Innovation Centre is to transform Dubai into a leading healthcare destination by fostering innovative and integrated care models. It will also ensure the implementation of the Dubai Innovation Strategy.

In line with the UAE vision and Dubai Health Strategy 2016-2021 that seeks to make the population of the emirate healthier and happier by providing world-class healthcare services and fostering creativity and innovation, the Dubai Health Authority has established an Innovation Centre to support healthcare innovation. The launch coincides with the on-going UAE Innovation Month initiatives.

The new Innovation Centre is located next to the Rashid Medical Library in DHA.

His Excellency Humaid Al Qutami, Director General of the Dubai Health Authority inaugurated the centre. He said, "At the DHA we are keen on harnessing new technologies and fostering innovation not just in the medical field but also across allied services such as healthcare management, pharmaceuticals and medical devices so that all aspects of the health sector develop and thrive.

"In healthcare, innovation directly leads to better patient outcomes and this is the at the core of our strategy: providing high-quality patient-centric care. Through this centre, we aim to work consistently with the private health sector and universities to ideate and bring to life meaningful innovations in healthcare that will transform the health sector and directly benefit patients."

Al Qutami highlighted that since DHA began the journey towards implementing new innovative

technologies in healthcare, there have been significant achievements in the field of 3D printing. DHA has already conducted several successful surgeries using this technology. Moreover, the DHA dental department has implemented 3D printing in its practice.

Dr. Farida Al Khaja, Head of the Innovation Council at the DHA said, "This centre will be a catalyst and help us support innovation in healthcare, which transcends beyond the DHA and includes the medical community in the UAE and abroad. We are keen to work with stakeholders to develop innovations that will benefit patients and enhance the well-being of our community."

Mai Al Dossari, Head of the Innovation Centre at DHA said, "The Innovation Centre will ensure round-the-year activation and participation. Harnessing creativity and innovation by generating and transforming ideas into reality to deliver value based and sustainable healthcare services by engaging all partners and stakeholders is our mission."

She said in line with the DHA innovation strategy 2017-2020, the Authority will enhance the culture of innovation in the DHA, develop innovation management processes and implement innovation across DHA services.

Al Dossari added that the Authority will organise an annual hackathon and invite students to develop innovative ideas in healthcare. ✚

**"This centre will be a catalyst and help us support innovation in healthcare, which transcends beyond the DHA and includes the complete medical community in the UAE and abroad. We are keen to work with stakeholders to develop innovations that will benefit patients and enhance the well-being of our community."**



# DHA successfully saves patient's jaw using 3D printing

Article provided by Dubai Health Authority

**The patient, a 17-year-old girl in high school, was admitted to the hospital after discovering she had a large, fast growing tumor of the right jaw.**

**E**xperts from Dubai Health Authority's (DHA) Primary Healthcare Centre and Rashid Hospital have collaborated with 3D printing healthcare start-up Sinterex, to save the jaw of a patient who had an aggressive tumour.

The patient, a 17-year-old girl in high school, was admitted to the hospital after discovering she had a large, fast growing tumour of the right jaw.

Dr. Khaled Ghandour, Maxillofacial Surgeon at DHA, said that the patient was diagnosed with Ossifying Fibroma, a particularly aggressive form of tumour, which meant that the right side of the jaw had to be removed.

It was at this stage that Sinterex became

involved. Sinterex is a UAE-based start-up specialising in customised 3D printed healthcare products. Managing Director, Julian Callanan, explained that given the aesthetic implications and complexity of the case, it was critical to use digital planning and 3D printing to create a patient specific solution.

The workflow started with the patient's CT scan, which was segmented and converted into a 3D printed physical model. This model allowed Dr. Ghandour, and his team of surgeons, to visually inspect the patient's situation and to develop a treatment plan. After finalising the treatment plan, Sinterex 3D printed a Surgical Guide, which was fitted to the patient in the operating theatre to ensure that the surgeons drilling and cutting are guided with precision. Finally, a patient specific implant was 3D printed in bio-compatible medical grade Titanium.

Dr. Ghandour stressed the importance of utilising 3D printing in medical care. He said, "In maxillofacial surgery, we are working in an area where both aesthetics and function are important. Additionally, operating conditions are quite challenging. 3D printing models help us better visualise the patient's situation, whilst 3D printing Surgical Guides and Patient Specific Implants allow us to translate plans into reality."

Dr. Mohammad Al Redha, Director of Project Management Office and Informatics and Smart Health at DHA said that this is just one further example of how the DHA has successfully used 3D printing. Other recent examples include 3D printing a prosthetic leg, removing a cancerous growth from a patient's kidney referencing a 3D model, and saving the life of a patient suffering with cerebral aneurysm.

Dr. Al Redha said that the DHA is planning to further utilise 3D printing in medical care in line with the Dubai 3D printing strategy – a unique global initiative that aims to utilise technology for the service of humanity and promote the status of the UAE and Dubai as a leading hub of 3D printing technology by 2020. ✨



# Sysmex solutions

For over 50 years, we have actively set new standards and driven innovation in haematology and our other areas of expertise



*XN-Series*  
**Haematology**

Take your haematology to the next level.



*UN-Series*  
**Urinalysis**

Fully automated urinalysis workflow solution.



*RD-210*  
**Oncology**

Advanced platform for analysing lymph nodes.



*CyFlow Cube 6*  
**Flow cytometry**

A compact bench of flow for analysis of single cells and microscopic particles.

# Asia Health: Hub for the world's fastest growing healthcare market

By Arab Health Magazine Staff

**W**ith the rising burden of diseases, favourable government policies in the Asia-Pacific and the presence of strong developing economies in India, China and other countries in the region, companies are flocking to develop their presence and expand across the APAC.

This is where Asia Health, one of the leading medical products, services, and technology exhibition and congress, plays a key role. **The free-to-attend event is set to take place at the Suntec Singapore Convention Centre, Singapore, from March 26 to 28** and brings together healthcare professionals from across the world. The event is well-known for being a must-attend exhibition for those who value the power of learning and networking, while doing business.

Offering over 200 product categories from 24 exhibiting countries and eight international pavilions, Asia Health is a one-stop-shop for all healthcare sourcing and procurement needs. Furthermore, accompanying the exhibition are a number of business, leadership and Continuing Medical Education (CME) conferences and forums providing the very latest updates and insights in Patient Safety, Oncology and Healthcare Procurement.

New for 2019, Asia Health will boast an array

of both educational and innovative features and give special emphasis to topics such as Artificial Intelligence, Oncology, and Patient Safety.

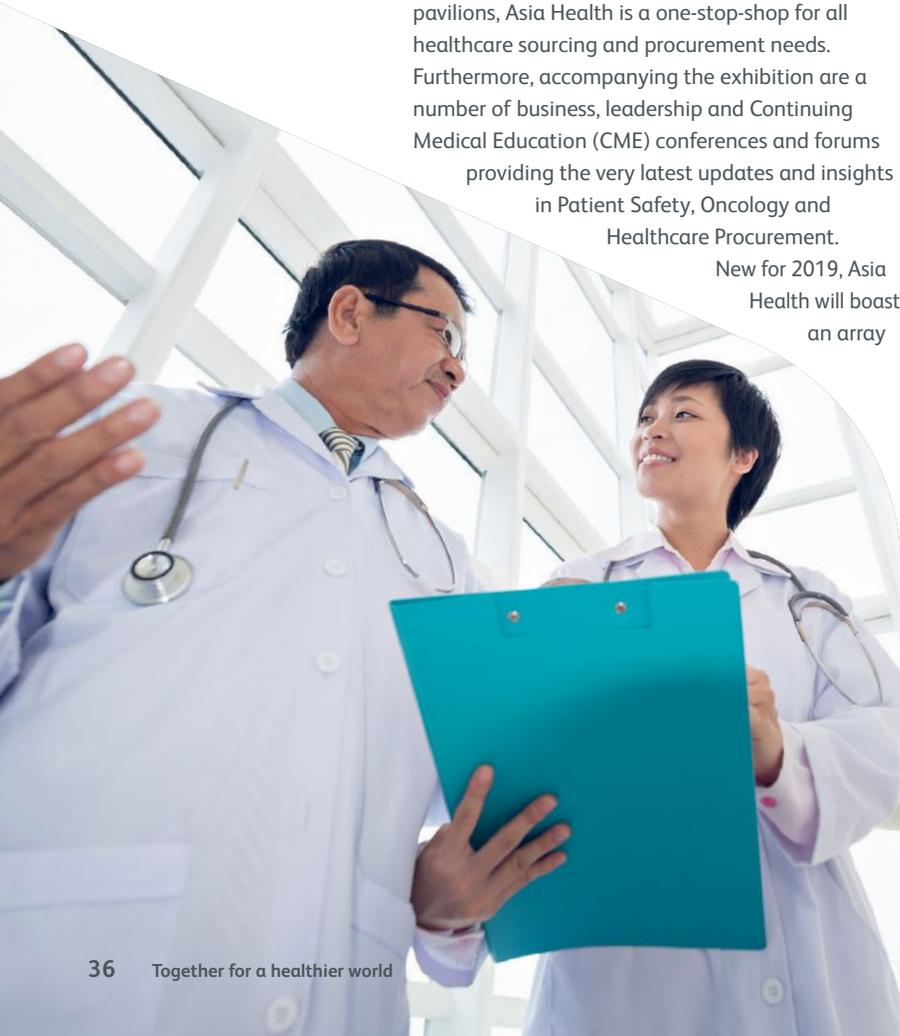
This year, GE is a platinum sponsor of the event and also have a speaker taking part at the Oncology conference where the company will highlight its latest research. GE is well-known for its innovative solutions for oncology and supports cancer centres and hospitals all over the world to help improve cancer care from screening to treatment through advanced medical technologies, providing physicians and technicians with greater clinical insights. Over the years, the company's solutions have helped improve the development of cell therapies, including CAR-T cell therapy. From stem cell recovery through separation and modification to expansion, harvesting, and testing, its functionally-closed systems and single-use solutions enable end-to-end production of cell therapies.

Plus, the Patient Safety & Quality Conference is being introduced at the event this year. Some of the key topics it will cover include reviewing the latest International Patient Safety Goals (IPSGs) and ways to implement them in the local medical practice setting; identifying strategies to achieve high-value healthcare to deliver top-tier quality service at the lowest cost, and identifying comprehensive solutions that ensure patient safety, risk, and quality activities are aligned with the strategic goals of the organisation.

The conference will also assess the current roles in patient safety to clarify responsibilities and reduce duplication of effort and discuss technology use to coordinate and streamline process changes, data collection, data analysis, monitoring, and evaluation.

The event will be co-located with MEDLAB Asia Pacific, which is in its sixth edition this year, and is one of Southeast Asia's premier international laboratory and healthcare exhibitions. The 2019 edition of the event will host 15 CME-accredited conferences, eight international pavilions, over 200 product categories, and more than 250 exhibitors. ✚

For more information visit [www.medlabasia.com/asiahealth/en/home.html](http://www.medlabasia.com/asiahealth/en/home.html)



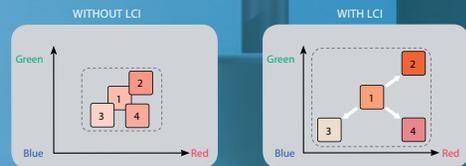
# ELUXEO™

## WITH 4-LED MULTI LIGHT™ TECHNOLOGY

**NEW OBSERVATION MODE  
LINKED COLOUR IMAGING**



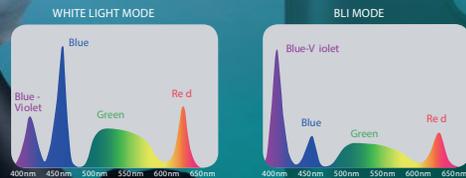
OPTIMAL VISUALISATION FOR **DETECTION**  
OF LESIONS AND INFLAMMATION



**NEW OBSERVATION MODE  
BLUE LIGHT IMAGING**



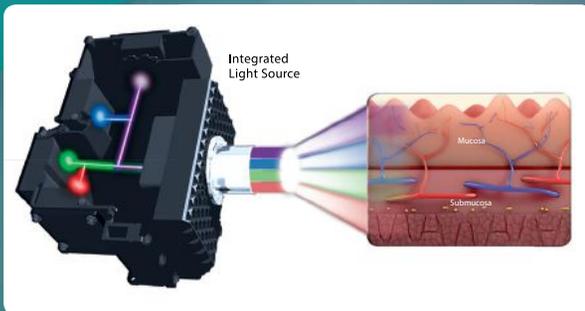
HIGH-INTENSITY CONTRAST IMAGING  
FOR ACCURATE **CHARACTERISATION**



### 4-LED MULTI LIGHT™ TECHNOLOGY



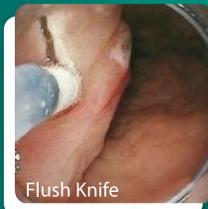
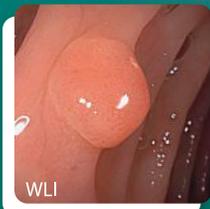
OPTIMAL ILLUMINATION USING  
**VARIABLE LED LIGHT INTENSITY**



A high performance spectrum of light is generated from a powerful light source with four individual LED light bulbs.

Specific light spectrum settings targeting the mucosal layers result in improved contrast and higher definition of imaging.

This drawing is for illustration only and not a complete representation.



FUJIFILM  
3.2  
EC-760ZP-V/L



Gruppo  
San Donato

[www.gsdinternational.com](http://www.gsdinternational.com)

# The future of care

**Ospedale San Raffaele, brings together pioneering scientific research and first-class care for patients**



**Ospedale San Raffaele is a clinical-research-university hospital, part of Gruppo San Donato**, the leading hospital Group in Italy. It has **more than 50 clinical specialties** and over 1 300 beds, and its emergency department counts around 67 000 annual admissions. Research at Ospedale San Raffaele focuses on integrating basic, translational and clinical activities to provide the most advanced treatments to patients. The hospital counts on over 1 800 medical doctors, scientists and technicians, and on the state-of-the-art facilities and technology platforms. Ospedale San Raffaele is recognized as a **global authority in molecular medicine and gene therapy**, and is at the forefront of research in many other fields, standing out for **the deep interaction between the clinical and scientific areas** – this makes the transfer of scientific results from the laboratories to the patient's bed easier. Its mission is to improve knowledge of diseases, identify new therapies and encourage young scientists and doctors to grow professionally.

Ospedale San Raffaele is among the few centers in the world that **performs pancreatic islet transplantation** (i.e. the cells in the pancreas that produce insulin) to treat type 1 diabetes patients who do not respond to conventional therapies. The transplant aims at recreating the function of insulin-producing cells in a host organ (e.g. the liver). This technique has made huge progress along the years, but it still has some limitations, involving immunosuppressive regimens and rejection risks like all transplants. Researchers at the **San Raffaele Diabetes**

**Research Institute (DRI) are currently studying new treatment perspectives using stem cells**, differentiating insulin-producing from pluripotent stem cells. In the future, this may allow to rely on an endless source of cells that produce insulin and to modify such cells so that the immune system does not recognize and attack them.

The research stands out to find **treatments for genetic blood diseases**, too. The Hematology and bone marrow transplantation unit works side by side with the San Raffaele Telethon Institute for Gene Therapy (SR-Tiget) to **find a cure for thalassemia major**, the most serious form of the disease, causing chronic anemia and provoked by a defect in the production of hemoglobin. At the time being, conventional treatment consists of regular transfusions of red blood cells associated to iron chelation therapy. Patients who can rely on a bone marrow donor and are in good condition can undergo transplantation - that is currently the unique curative therapy. The doctors and researchers are trying to **set up a treatment to correct the defective gene causing the disease** – first, stem cells are extracted from the blood of the patient, then they are provided with the corrected gene and infused back into the patient's bone marrow. The healthy gene is carried into the cells by a genetically engineered virus which is modified so it becomes harmless. Once the corrected stem cells are in the bone marrow, they start producing healthy and functional red blood cells. The treatment is currently an experimental protocol involving ten patients, which showed encouraging preliminary results.

# Can diagnostic imaging be helpful in improving colo-rectal cancer screening?

By Andrea Laghi, Professor and Chairman of Radiology, Department of Surgical and Medical Sciences and Translational Medicine, Sapienza-University of Rome, Sant'Andrea University Hospital, Rome, Italy

**C**olo-rectal cancer (CRC) is a major healthcare problem in the industrialised world. It accounts for 13 per cent of all cases of adult cancer in Europe annually with an estimated number of around 215,000 CRC-related deaths per year, about one death every three minutes. CRC has no gender preference, since it is currently the second leading cause of cancer-related deaths both in males and females.

Despite those threatening evidences, CRC is one of the most favourable cancers for being prevented. In fact, in at least 75 per cent of the cases, colon cancer develops from a benign precursor, an adenomatous polyp. This carcinogenetic pathway,

known as adenoma-carcinoma sequence, lasts for five to 10 years. This offers a time window wide enough to allow the detection of either an already developed cancer, but at an early stage, or, in the best scenario, its benign precursor, the adenomatous polyp. It means that CRC screening has two different targets, the early cancer and the adenomatous polyp. This is different, for example, from breast cancer screening, in which the target is the detection of an early cancer only.

A screening programme targeted to the detection of an early cancer can reduce cancer mortality: this is true both for mammography and any colonic test. But a screening programme targeted to the detection and removal of a benign cancer precursor has the greatest advantage of reducing not only mortality, but also cancer incidence. In other words, it can prevent the onset of new cancer cases per year. And this is true only for CRC and not, for example, for breast cancer, in which a benign cancer precursor is not known.

Despite the favourable natural history of CRC, which makes this tumour particularly suitable to be prevented by a test able to investigate the colon when an individual is still asymptomatic, incidence is still high for at least two major reasons: 1) unavailability of organised CRC screening programmes in many countries; 2) poor adherence of population to available CRC screening tests.

Radiologists can now fully support and help in improving CRC screening, thanks to the availability of Computed Tomography Colonography (CTC). CTC is a minimally invasive colonic test, which has reached its mature stage. Apart from being considered the examination of choice in patients who underwent an incomplete colonoscopy, CTC has an important diagnostic role in frail and elderly patients and in the assessment of diverticular



Despite the favourable natural history of CRC, which makes this tumour particularly suitable to be prevented by a test able to investigate the colon when an individual is still asymptomatic, incidence is still high.



disease. As far as CRC screening is concerned, three randomised clinical trials investigated the performances of CTC in asymptomatic average-risk individuals, in comparison with flexible sigmoidoscopy (FS), faecal occult blood test (FOBT) or colonoscopy (CC). Those studies demonstrated:

1) good adhesion rate to CTC, lower than FOBT, but higher than FS and CC. It means that a higher number of asymptomatic individuals would accept to undergo CTC as a screening test rather than FS or CC, because CTC is perceived to be less invasive and because bowel preparation is much less demanding compared with CC.

2) good adenoma detection rate at CTC, slightly lower than CC, but much higher than FS and FOBT. It means that, if CTC is performed, a higher number of cancers and polyps would be detected compared with stool tests, with a hypothetical, but realistic, further reduction of CRC mortality.

CTC is also more patient compliant than CC, it can be performed with a reduced bowel prep and burden of radiation exposure is not an issue thanks to the available CT technology for dose reduction. With the latest CT scanners, dose exposure is less than 1 mSv, which represents less than 1/4 of annual background radiation.

In the setting of CRC screening, CTC has different roles, depending if an organised governmental CRC screening programme is

available or not.

If an organised governmental CRC screening programme is not in place, and an opportunistic screening approach is the strategy, CTC is now included among the optional screening tests. Among those options, two groups can be identified: a first one, including stool tests (FOBT, Faecal Immunochemical Test, FIT, and the most recent stool DNA), whose target is the detection of an early cancer and the goal is the reduction of CRC mortality; a second group, including CTC, FS and CC, whose target is the detection of both cancer and polyps, and the goal is the reduction of CRC mortality and incidence.

Many different scientific societies, including the American Cancer Society, the American College of Radiology, the U.S. Multisociety Task Force on Colorectal Cancer, the European Society of Gastrointestinal and Abdominal Radiology (ESGAR), the European Society of Gastrointestinal Endoscopy (ESGE) or agencies, such as the U.S. Preventive Services Task Force, consider the current scientific evidences sufficient to endorse the use of CTC as a screening method in average-risk individuals. In this

If an organised governmental CRC screening programme is not in place, and an opportunistic screening approach is the strategy, CTC is now included among the optional screening tests.

**In individuals at risk higher-than-average, it means those with a first-degree relative with either cancer or polyp, CTC should be considered a back-up strategy, in the case those individuals refuse CC, which remains the examination of choice.**

case individuals should be informed about benefits and possible drawbacks of CTC in comparison with other tests and a repetition of CTC every five years should be advised. This will help in recruiting for CRC screening particularly those individuals who are reluctant to undergo CC.

In individuals at risk higher-than-average, it means those with a first-degree relative with either cancer or polyp, CTC should be considered a back-up strategy, in the case those individuals refuse CC, which remains the examination of choice.

In many European countries, established screening programmes based on FOBT/FIT are available. In this case, CTC has its own role as a back-up examination for an incomplete CC, performed after a positive FOBT/FIT. Alternatively, CTC might be offered as an alternative test in those patients (between 15 per cent and 20 per cent) tested positive at FOBT/FIT, but who refuse CC.

But the real ultimate frontier in CRC screening might be using CTC as a population screening test, thus replacing FOBT/FIT. Multiple advantages exist for using CTC: accuracy higher than stool tests, direct non-invasive inspection of the colon with detection of both cancers and polyps, safety,

patient comfort, detection of extracolonic findings.

However, before a new test can replace the current screening options, demonstration of a more favourable cost-effectiveness compared with the available screening tests is needed.

Although previous studies failed in this demonstration, a recent publication, using the real cost analysis of the Dutch trial, demonstrates that CTC dominates CC in CRC screening, if the adherence rate is the same observed in the trial (CTC, 33.6 per cent vs CC, 21.5 per cent), a 6-mm polyp cut-off is implemented and more than two CC in lifetime are planned.

In conclusion, Radiologists, thanks to the technological progress and the scientific evidences available for CTC, are already important actors in CRC screening programmes. In countries where governmental organised CRC screening programmes are in place, CTC is fully integrated as a backup test for incomplete CC and to recruit patients with positive FOBT/FIT who refuse CC. In geographical areas where opportunistic screening is the strategy, CTC is one of the tests recommended by the major scientific societies worldwide. The ultimate goal, which will offer Radiologists a real leadership in CRC screening, will be the full endorsement of CTC as primary population screening test by policy makers. ✚

*References available on request.*



# FUJIFILM

Value from Innovation



Open & Compact CT



Advanced Clinical Workstation

*FCT Speedia*

SYNAPSE<sup>®</sup>  
3D

# Managing seasonal challenges of patient demand

By Wayne Miller, Healthcare Director EMEA, Zebra Technologies

**T**he healthcare sector often struggles to keep up with the increase in patients needing care as we enter the winter season. It's not just the flu.

This is reflective of a wider endemic, with the global healthcare industry facing a number of challenges – from aging populations and staff shortages to rising costs. Research shows intense winter festive periods such as New Year bring a huge spike in pressure for healthcare staff. In the UK, the seasonal challenge is well recognised;

more than half of doctors surveyed in a 2017 research said hospital delays due to winter pressures led to avoidable emergency admissions among their patients.

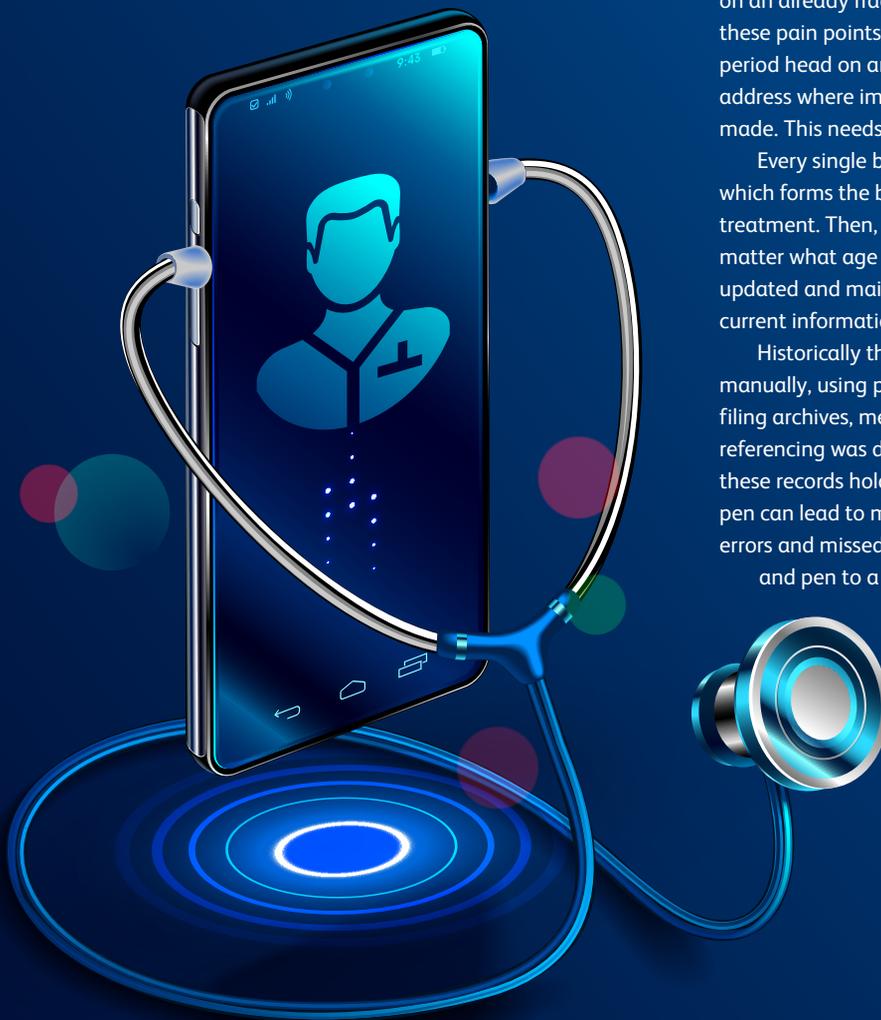
## Healthcare's technological resolution

The global increase of pressure on institutions, doctors, workers, patients and communities has led to higher demand for services and support that is not sustainable with existing resources and methods. Hospitals are increasingly turning to technology and clinical mobility to reduce the strain on an already fragile system. For them to combat these pain points, they need to tackle the winter period head on and the best way to do so is to address where improvements in efficiencies can be made. This needs to start with patients.

Every single birth generates a patient record, which forms the bedrock of future diagnosis and treatment. Then, with every subsequent visit, no matter what age or complaint, these records are updated and maintained to give doctors the most current information.

Historically these records have been compiled manually, using paper and pen and stored in huge filing archives, meaning any updates and cross referencing was dependent on humans. While these records hold crucial information, paper and pen can lead to missed diagnosis or complications, errors and missed opportunities. Moving from paper and pen to a modern positive patient identity management solution can and will help institutions create a more reliable digital chain of custody.

This digital chain of custody does not allow for these types of human error. By using barcodes and affixing them to medical records, doctors and nurses can use mobile scanners and mobile computer devices to interpret records



## A recent study shows that 61 per cent of nurses reported reduced medication errors when using mobile medical devices and 97 per cent say they plan to have a mobile device at the bedside by 2022.

more efficiently and effectively. Taking this a step further, by affixing barcodes to medication removes the need to write on a cylinder, ensuring correct treatments are administered while wrong ones are flagged immediately.

Nurses see the benefits, too. *Zebra's 2022 Hospital Vision Study* shows that 61 per cent of nurses reported reduced medication administration errors when using mobile medical devices. And 97 per cent of nurses say they plan to have a mobile device at the bedside by 2022, an increase of 38 per cent than currently do. Patients are also happy to see technological improvements. Of those surveyed, 77 per cent of patients said they are feeling positive about clinicians using mobile devices for care.

Here in the region, Mediclinic Middle East, one of the UAE's largest private healthcare groups, has also partnered with Zebra to provide a full range of healthcare solutions for its new Parkview Hospital in Dubai. This package includes solutions to improve patient identification and increase visibility of medication and clinical mobility allowing them to focus on patient care.

The solutions don't just need to focus on patients. By opening up solutions to staff, equipment and management, hospitals can build a database and in return, get a single 'pane of glass' view over their entire estate.

Hospital staff would be provided with a clearer vision of availability over staff and equipment, allowing them greater insights into internal operations and helping to better plan resourcing and deliverables without impacting patient care. Hospitals would also be able to keep a much more detailed eye over equipment such as magnetic resonance imaging (MRI) machines or wheelchairs, ensuring there aren't lengthy waiting times for either.

Finally, hospital management can better use the database and analytics to manage the facility as a whole. This includes having insight over the minutiae of utility bills and rotations to understanding longer term resourcing issues and, with the help of Artificial Intelligence (AI),

predicting spikes and dips in activity as well as likely hotspots for issues. This would not only improve patient care and conditions for staff but also improve the bottom line.

### Creating better healthcare

The winter weather, celebrations and yearlong pressure can build up and as November, December and January approach, healthcare institutions can be hit with a variety of pain points. However, just like paper and pen, this can be a thing of the past. Hospitals and healthcare institutions around the world are already adopting solutions that can make the festive period and the winter challenges more manageable, less stressful and cost effective. Combine this with providing better patient care, and medical institutions have found an antidote to the winter doldrums. 🌸



# North Africa Health: Spotlight on the burgeoning industry

By Arab Health Magazine Staff

**A**mongst the North African countries, Egypt formulates the biggest demand in healthcare development. The Egyptian healthcare market continues to grow, due to demand from the continuous increase in general population (expected to reach 151 million by 2050), and, specifically, due to a gradual increase in the elderly population (from the current level of 7.8 per cent to 15.3 per cent by 2050), as well as increase in health insurance coverage.

Keeping in mind this need for growth, Informa Exhibitions, the organisers of Arab Health Exhibition & Congress, have launched North Africa Health, which is set to take place from **April 6 to 8, at the Egyptian International Exhibition Center (EIEC)**, situated in New Cairo. The full-scale exhibition will gather decision makers and professionals in the medical field from various regions under one roof and will be complemented by a diverse range of educational content.

The 12<sup>th</sup> edition of North Africa Health (previously Mediconex) will expand its visitor audience to include key buyers, dealers, distributors and healthcare professionals from the whole North African region. The expo will host over 3,000+ attendees, 150+ leading international and local companies from 20 countries showcasing the latest in medical device technologies and healthcare services, 154 product categories, and three Continuing Medical Education (CME) accredited conferences that will provide insights into the latest clinical and non-clinical healthcare trends in the market. These accredited conferences and hands-on-training workshops will provide the opportunity for growth in multiple fields.

Visiting North Africa Health is sure to be a beneficial experience for all dealer and distributor job functions – from senior management of larger organisations that are looking to connect with key industry players, sales and business development professionals tasked with expanding their product portfolios and entrepreneurs hoping to source the next ‘big product’ to supply in their country. With 20 manufacturing countries to choose from, choice is one thing that will not be lacking at the show.

Furthermore, professionals who are tasked with purchasing and procurement responsibilities, educational providers and medical specialty associations, can use North Africa Health as a

way of starting each new year efficiently. Using the show as an opportunity to get ahead of the upcoming year’s product needs, they can scope the full variety of options available and take part in detailed discussions.

## Exploring latest trends

As a leader in the industry that emphasises the importance of innovation, North Africa Health will ensure that several avenues are available for healthcare professionals to foster connections.

The CME conferences will take place across all three days and cover different disciplines. The Egyptian Society for Radiology and Nuclear Medicine (ESRNM) will be hosting their 55<sup>th</sup> annual conference during the show. With the opportunity to network with a range of professionals in the field of radiology, the delegates will receive a holistic educational experience achieved through live education, debates and discussions. In turn, this meeting will fast-track advances in radiology that will benefit the healthcare community.

Plus, as part of the Laboratory Medicine Conference, the Egyptian Society of Laboratory Medicine (ESLM) will also be hosting their 30<sup>th</sup> annual edition of the ESLM conference. It is one of the biggest yearly events for medical laboratory professionals in Egypt, as well as across Africa. Spanning over three days, with two parallel sessions, the programme will showcase a multitude of topics featuring international and local speakers.

The theme of the conference is ‘Breakthrough to Excellence’ and will feature scientific lectures examining the latest findings in lab medicine, allowing for ample time to discuss new developments with experts. The event will also host poster sessions situated throughout the exhibition hall.

Furthermore, joining North Africa Health for the first time is the American College of Surgeons – Egypt Chapter who will be hosting their annual conference and will feature a mix of surgical sessions.

The first day will focus on ‘Women in Surgery in Africa’, highlighting the work achieved, and run by women exclusively. This session will feature an expert from the American College of Surgeons, as well as members from the Women in Surgery Africa (WiSA) association. The other sessions will cover a variety of topics ranging from gastric to endocrine surgery. ✚

For more info visit [www.northafricahealthexpo.com](http://www.northafricahealthexpo.com).

# 40 years

DISINFECTION  
HYGIENE & CARE

Visit us at: Arab Health –  
Global Healthcare  
Exhibition and Congress

January 28th – 31th, 2019  
Dubai World Trade Centre  
Hall Z3/E10

## Special Recipe: The perfect choice for all occasions

We are celebrating 40 years of Dr. Schumacher. Get excited about our new special hand disinfection formulation: **ASEPTOMAN® FORTE**. Unbeatable against viruses and very skin friendly. And the best part is, it's perfect for use in high risk areas and in cases of outbreaks. Perfect for all your special needs.

There's no better reason to celebrate:  
[www.schumacher-online.com](http://www.schumacher-online.com)



Use disinfectants safely. Always read the label and product information before use.

Dr. Schumacher GmbH · Am Roggenfeld 3 · 34323 Malsfeld · Germany · T +49 5664 9496-0 · F +49 5664 8444 · [www.schumacher-online.com](http://www.schumacher-online.com)

*We protect  
your health.*



**Dr. Schumacher**

# Pioneering the present, healing the future

The story of creating Dubai's first independent multidisciplinary medical research centre.

Article provided by IBI Group



Photo credit: IBI Group

**T**he Al Jalila Foundation Research Centre, opened in 2018 in Dubai Healthcare City, is set to become a beacon for regionally-relevant medical innovation produced by home-grown biomedical researchers. It will focus on the five most pressing regional health challenges: cancer, cardiovascular diseases, diabetes, obesity and mental health.

Al Jalila Foundation is a global donor-funded philanthropic organisation dedicated to transforming lives through medical education and research, founded to position Dubai and the UAE at the forefront of medical innovation.

## Visioning the project

With the construction of the Al Jalila Children's Hospital fully funded and well under construction, the board at Al Jalila Foundation focussed attention on the next challenge; the establishment of a local research centre, and their ambition for the project was clear. It would become the premier scientific research facility in the UAE, designed to nurture a home-grown generation of medical professionals working on ground-breaking research that addresses health challenges prevalent in the region.

Within Al Jalila Foundation, both Professor Galadari and Dr. Abdulkareem Al Solama have been instrumental in championing this project and bringing it to fruition.

Professor Sehamuddin Galadari, Al Jalila Board Member, Chair of the Scientific Advisory Committee, and Professor of Biochemistry & Molecular Cell Biology – College of Medicine & Health Sciences at UAE University, Al Ain, articulated the high-level science and research requirements for the new facility.

Professor Galadari worked closely with Dr. Abdulkareem Al Solama, CEO of Al Jalila Foundation to create a project brief that added commercial space, educational facilities and new HQ facilities for Al Jalila Foundation itself to the science requirements to round out the functions that the new facility would provide.

Situated in the heart of Dubai Healthcare City, the Al Jalila Foundation was endowed a parcel of land specifically to accommodate the new research centre and allowed the establishment of the vision for the project to proceed.

Al Jalila Foundation selected IBI Group and GHD as architects and engineers respectively, to design the project, commencing with a rapid architectural visioning exercise to breathe an air of reality into the aspiration and become a focus for fundraising efforts.

Tony Burley, Project and Design Director for IBI Group developed a strong relationship with the Al Jalila Foundation client team from the outset, quickly becoming a trusted partner to deliver a design, which would meet their high aspirations for this significant project. Dr. Abdulkareem Al Solama and Professor Sehamuddin Galadari, would remain hands-on stewards, and active supporters of the project throughout the development of the design and construction.

## Designing for the science of the future with the knowledge of today

Dubai Healthcare City – home to many world leading healthcare focussed tenants – was an ideal





The building's distinctive appearance was personally endorsed by His Highness Sheikh Mohammed bin Rashid Al Maktoum

location for a new facility focussing on this type of research, but the site itself was unusual and brought specific challenges that required careful study of multiple options and a unique approach to unlock the true value of the site.

The site was occupied by the partially completed concrete frame of the administration building for the former Dubai University Hospital. The client's vision for the new research centre was to incorporate and adapt the existing structure rather than demolish, which meant working with the curved façades and unusual tapering structural grid defined by the crescent shaped building form of the administration building.

### Building the vision, enabling the future

The rapid visioning developed options ranging from designs that would complement and be contextual with neighbouring properties, to have a bold iconic approach, which would set it apart as something different at the heart of the DHC campus. Seeing the potential of this facility as a beacon within the district, the client boldly selected the most iconic visual approach. With this approach having buy in at such a senior level, the challenge to the design team became developing the complex programme of functions that the project contained, without straying outside of the expectations already set.

Although the distressed project site added considerable challenges to the planning of the development, the Foundation was committed to achieving 'sustainable innovation' across the project.

The high-level brief and project vision were matured into the current design through a comprehensive testing and consultation process, which remained faithful to the key elements of the original vision. The different functions of the diverse 'vertical villages' of the buildings were each driving different circulation patterns around the floorplate, with separate access requirements depending on the function, which the original design for a simple office building had not considered. In our test fitting phase, a change on one floorplate type would have negative effects on all other floor-plate types, so we had to work through multiple iterations with the client to find the sweet-spot of maximum utility to the function with minimum compromise.

The building form and appearance is intended as iconic but timeless, with a minimal palette of materials and repeated rectangular curtain wall panelling providing a distinctive mega-grid diamond pattern. The building is topped by back-lit glass panels following the crescent profile, which shroud the plant level and contribute to the varied Dubai roofscape.

The new research centre has three basement levels and 10 floors of above ground accommodation in a crescent-shaped plan defined by the previous building's structural grid. It has been designed to accommodate biohazard containment Level 2 research laboratories to international best practice standards with specialist secondary laboratory functions varying per floor. The facility also provides underground car parking,

**The high-level brief and project vision were matured into the current design through a comprehensive testing and consultation process, which remained faithful to the key elements of the original vision.**

building services plant and laboratory technical areas, and office accommodation as well as serving as the Al Jalila Foundation Headquarters. The latter will include hosting facilities for symposia, training events and forums associated with the Foundation's royal patronage.

The key to unlocking the final planning arrangement came from an 'architour' of four similarly sized research facilities at Oxford University, which IBI had programmed and designed. This tour afforded the client first-hand experience of different spatial arrangements and opportunities to discuss the benefits of planning approaches with the building users. During the tours we were able to highlight the critical findings of our "4 Labs – 4 Cities" research project in developing successful research environments. The tour informed the development of the project brief and introduced a number of innovations including:

- The inclusion of social / lounge areas on each laboratory floor to encourage ad hoc discussion and interaction between researchers away from formal laboratory or write up areas.

- The primary laboratory spaces are counter-intuitively located at the heart of the building, away from the external facade – an arrangement which allows a direct physical link to the supporting specialist laboratories, visual connection to adjacent write up areas, and the transmission of abundant natural light to the primary laboratory via fully glazed division walls. Although we had promoted this approach early in the design process, it was only from the Oxford architour where the client saw a successful example of this type of implementation that they had the confidence to place the lab spaces at the centre of the plan.

- A modular façade design of glazed and insulated panels with a palette of just three panels in three widths, which has moved away from the fully glazed building originally anticipated, providing 50 per cent glazed area to significantly reduce the cooling load and environmental impact.

- The addition of a new vertical core providing connectivity between laboratory levels within the containment zone, at the same time as providing discrete and secure laboratory flows for delivery and waste removal.

The building's distinctive appearance, which bucks the trend from the Mediterranean themed Dubai Healthcare City zoning, was personally endorsed by His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai. It provides the Al Jalila Foundation headquarters with a

distinctive identity and accommodation that enjoys commanding views towards the Dubai Creek.

Burley said: "It was a great honour to work with such committed and appreciative clients as Dr. Adbulkareem Al Solama, and Professor Sehumaddin Galadari. Their unfailing faith that we would achieve a building that not only met all their functional requirements but be of exceptional quality, leaving a lasting legacy within Dubai Healthcare City was a key element of the successful outcome." ✦



# How is your emotional balance in the mental health spectrum?

By Dr. Anna Grazia Lecca, Consultant Clinical Psychologist, LifeWorks Holistic Counselling Centre, Dubai

**M**ental health is an important component of peoples' overall health, which revolves around the individual emotional well-being. Good mental health hygiene involves a dynamic process that consists of being confident to manage any challenging situation effectively. It in fact empowers individuals to make responsible choices, work productively, helps to realise their full potential, and provides meaningful contributions to the society while living their life at their fullest.

Reasonable levels of stress, low mood, emotional tension triggering fears or anger, are healthy responses to particular events that allow individuals to recognise threats, find appropriate solutions, bridge the gap between discrepancies in opinions, and therefore establish and maintain satisfying social connections.

This emotional balance is not always experienced among individuals. Unfortunately, sometimes people can feel totally defenceless against the racing thoughts that play in their minds. They may find themselves unable to deal with their uncontrollable fears or prevent escalation of their anger. These feelings can become so overwhelming that coping with day-to-day life, work, leisure, and relationships can be perceived as an over demanding task.

Mental health problems can affect anyone at any age, regardless of their gender, social status, or financial situation. Additionally, they are also interspersed among population cross-culturally.

Within the mental health spectrum, mental health conditions can vary on a continuum ranging from good mental health, to poor mental health, up to a mental illness, which eventually emerge as a mental illness of mild, moderate or severe intensity. Moreover, a large proportion of the people who have a mental health disorder, demonstrate overlapping conditions rather than a single mental illness. Therefore, the main mental health diagnosis





often includes additional mental health problems gravitating around the main mental health disorder. This may cause mild to severe disturbances and inabilities or may impair people to cope with life's ordinary demands and routines.

Over the course of life, from childhood, adolescence and throughout adulthood, mental health problems and illnesses can impact peoples' life according to the severity of the circumstances. Commonly they may include: Anxiety Disorders, Mood Disorders, Psychotic Disorders, Eating Disorders, Impulse Control and Addiction Disorders, Personality Disorders, Post-traumatic Stress Disorder, Stress Response Syndromes, Dissociative Disorders, and many others.

Research suggests that mental health problems are the result of more than one event: multiple, linking causes such as genetics, biologic, unfavourable experiences during childhood, on-going challenges and major life changes; environment and lifestyle increase the risk of experiencing distress and determine whether someone would develop a mental health condition.

Clinical practice confirms that family history of mental health problems, traumatic life experiences, such as being the victim of a crime, sexual or emotional abuse, harassment, living in a war zone, being bullied, and other kinds of victimisation are highly associated with mental health illnesses.

Mental health problems and emotional imbalances may present under different forms with a combination of different symptoms.

Physical symptoms are usually easy to notice. The predominant recurrent symptoms include having unexplained aches and pain such as: chronic joint pain, limb pain, back pain, gastrointestinal problems, tiredness, sleep disturbances, a rapid heart rate, chest pain, or fast breathing.

These symptoms are so commonly presented in primary care and often are purely related to organic diseases, which eventually are explored with further clinical investigation and pharmacologically treated according to medical protocols. However, unexplained aches and pain usually describe the physical component of a wider constellation of other mental health symptomatology so crucial in mental healthcare. This medicalised practice seems to underestimate the magnitude of cognitive, emotional and behavioural symptoms, which lead to misdiagnose mental health problems. A high percentage of patients with mental health conditions who seek treatment in a primary care setting, in fact, report physical symptoms, which can make mental health problems very difficult to diagnose if not assessing their psychological

conditions in terms of cognitive, emotional and behavioural key factors.

Mental health symptoms aren't only displayed at the physical level but usually represent a combination of different conditions, which address cognitions and thoughts, emotions and feelings, and behavioural set of attitudes that people are more inclined of displaying as dysfunctional. Mental health symptoms, therefore, encompass the way people process thoughts, and the connotation and the intensity at which they experience emotions, which result in determining the pattern of their unhealthy behaviours.

Cognitive symptoms are related to the normal brain function. People may report having trouble concentrating for long, lack of attention and focus, memory difficulties, foggy brain, mental confusion, and other several symptoms, which are associated with the way they think.

People experiencing cognitive symptoms usually adopt negative mind-sets, irrational thoughts, intrusive thoughts, negative beliefs and statements about one self, assumptions against any evidence, memories difficult to control, or flash backs of past experiences.

Among cognitive symptoms that governs individuals' thinking process, negative self-talk is the most common. It resembles a negative poem they recite in their inner dialogue. They are continuously committed to state to themselves a variety of statements reflecting their negative core belief about the way they conceive themselves, other people and life in general. Some say: "I am not worthy of love", "I cannot make it", "I am not good enough", "I am not important", "I will end up alone", "Nobody understands me", "Nothing matters", "The worst will happen", or "Life is a bad place to be".

Alongside these statements, wishing of being dead, thinking of harming own self or others, are also part of people's inner dialogue. These cause them to start questioning their values and the sense of their existence. They even ask themselves about their life purpose and the reason for living.

This thinking process may lead individuals to feel a sense of isolation or disconnection from family members, friends and other people and places they care about. Therefore, sets of recurrent negative emotions start to take over. They may experience a variety of different emotions from sadness, mood swings, feeling confused, forgetful, worried, feeling scared, demotivated, helpless, hopeless, angry, or upset. Other emotional symptoms indicating imbalanced mental health conditions include having worrying dreams or feeling numb or disconnected from reality.

## Behavioural symptoms

Mental health conditions can also be recognised by means of behavioural symptoms. Often, they are the result of a combination of cognitive and emotional symptoms. All of them are strictly interconnected to each other. Symptoms involving behaviours may include: difficulties in starting usual activities or getting through tasks as before. Peoples' inability to perform daily tasks may consist of difficulties in taking care of their kids, getting to work or school or not being able to complete standard tasks such taking shower or cooking a meal.

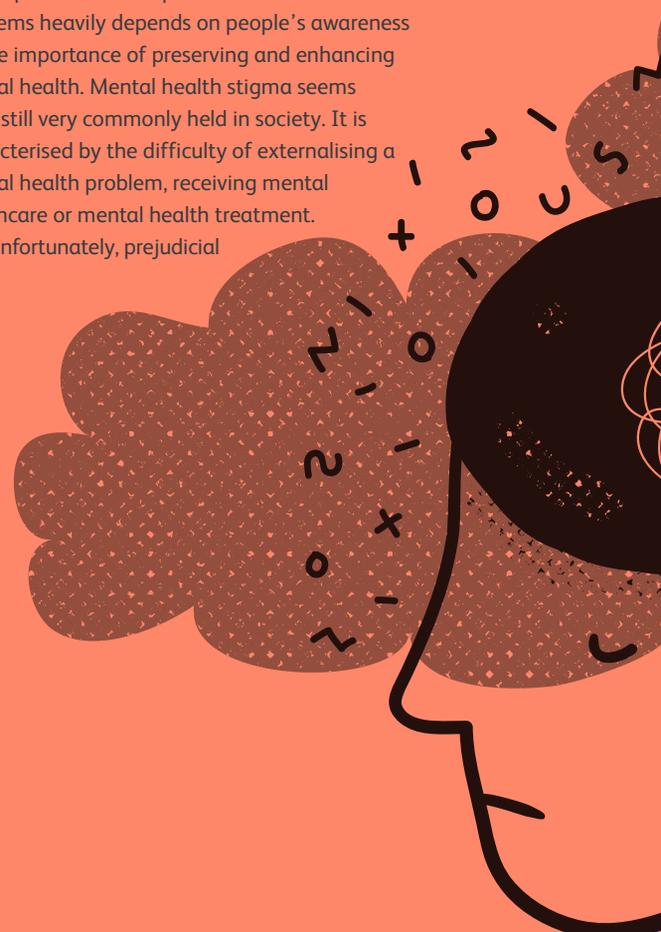
Other typical behavioural symptoms of mental health conditions are changes in eating or sleeping patterns and manifestation of hostile behaviours such as yelling, fighting or frequent temper tantrums causing problems in relationships. In addition, repetitive behaviours, drug misuse, smoking, drinking, social withdrawal, dropping from leisure activities, are also behavioural symptoms of poor mental health condition.

Dealing with mental health symptoms can be physically and emotionally draining, often leaving people feeling vulnerable to the opinions and judgments of others.

Preparedness to cope with mental health problems heavily depends on people's awareness on the importance of preserving and enhancing mental health. Mental health stigma seems to be still very commonly held in society. It is characterised by the difficulty of externalising a mental health problem, receiving mental healthcare or mental health treatment.

Unfortunately, prejudicial

**A high percentage of patients with mental health conditions who seek treatment in a primary care setting, report physical symptoms, which can make mental health problems difficult to diagnose.**



attitudes towards people who have mental health problems dictate a conviction that mental health is a sign of personal weakness. It is a common assumption that mental health conditions can improve with time without any form of specialised support. These perceptions and misconceptions although unintentional or subtle, may most likely lead to reluctance in seeking help or treatment and as consequence may corner people into isolation. Apart from creating self-doubt and shame, this situation exposes individuals to an even weaker situation: it undermines their sense of self-efficacy and their self-esteem by engaging individuals into a tighter spiral of an increased critical self-thoughts and even more severe self-judgment.

The recovery from any mental health illness starts by recognising that mental health diseases are well described and understood among clinicians; that mental health diseases need appropriate clinical attention for a precise evaluation; and that mental health recovery is not an event but a tailored process: a unique journey for each

individual that requires time and includes relapses.

More successful treatment for mental health conditions usually consists of multi-disciplinary approach including medication, psychotherapy, lifestyle education, unconventional form of therapy and other forms of support. According to the condition, treatments can be held in outpatient clinics, residential or semi-residential treatment facilities with daytime programmes or in hospitals according to the typology of the mental health problem, its severity and family circumstances.

While treatment with medications is aimed at reducing symptoms such as improving low mood, stabilising mood swing, controlling psychotic symptoms, reduce the symptoms of anxiety or panic attack, lifestyle changes such as reducing alcohol intake, balancing sleeping patterns, eating healthy and practicing regular exercise help substantially in increasing the quality of life, making the mental health condition more manageable.

Psychotherapy plays a central role in identifying how experiences are processed by thinking process and mediated by emotions leading to unhealthy behaviours. In addition, psychotherapy helps individuals to understand how they have related themselves to significant others and how this may have affected them. It also helps to understand people's concerns that are caused by avoiding or suppressing emotions rather than having their emotional needs met.

Common therapies to treat mental illnesses are Cognitive behavioural therapy, Exposure therapy, Dialectical behaviour therapy, Gestalt therapy and other forms of therapies.

Untreated mental health problems can have serious impacts both in individual's life and across the community. Awareness about the development of early warning signs, differentiating between different sets of symptoms, and taking proper actions towards them with early mental care interventions, may prevent or delay major mental illness and may reduce the intensity of their severity.

Cultural competence in mental health field needs to be expanded so that individuals with mental health problems are provided with effective and respectful quality of mental healthcare. Promoting wellness, implementing health strategies and planning social campaigns on mental health is imperative in targeting a healthy and prosperous community. The sense of belonging to a community is able to support individuals with mental health problems, has priceless value and it is not a fact of private interest. Mental health belongs to community of which members are psychologically empowered to overcome their mental health conditions, achieving their personal goals and live a fulfilling life. ✚

**Mental health diseases need appropriate clinical attention for a precise evaluation; and awareness that mental health recovery is not an event but a tailored process.**





Any state in which the body is not continually spiking insulin and glucose has the potential to heal metabolic syndrome, and reverse T2D.

# Does Ketogenic diet work as a treatment for Type 2 diabetes and obesity?

By Bronwyn MacRitchie, Health Coach, [ingfit.ae](http://ingfit.ae)

## The current state of affairs

The MENA region boasts six of the top 10 countries in terms of diabetes levels according to the International Diabetes Foundation – Saudi Arabia (23.9 per cent), Kuwait (23.1 per cent), Bahrain (21.9 per cent), Lebanon (19.8 per cent), and the UAE (19 per cent).

Throughout the world diabetes is an increasing concern, but nowhere matches the speed and volume of the rise of diabetes in the MENA region, China and India.

Conventional treatment is becoming financially crippling, not producing encouraging results and certainly not reducing these alarming numbers. The time has come to look elsewhere.

## How did we get here?

Type 2 diabetes (T2D) is essentially insulin resistance run riot. Insulin is spiked most by carbohydrates, especially high glycemic index carbohydrates, and even more by processed, white carbohydrates such as white bread and rice where all the fibre, which technically should slow this glycemic response, has been removed.

As Gary Taubes outlines in his book *Good Calories, Bad Calories*, we can draw a clear correlation between the rise of processed carbohydrates (which were scarce in previous times) eaten in conjunction with high levels of unhealthy fats, and the rise of Metabolic Syndrome, which includes obesity and T2D.

As we have continued to eat these hyper-palatable foods, insulin responses have been forced higher and higher, eventually making the insulin receptors in the body unable to respond, and as these responders lose their functionality, more insulin is needed to clear excess glucose from the blood. This signals the brain to eat more of the foods, which spike insulin the most, and so the cycle continues until an individual can no longer effectively remove glucose from the blood themselves.

Our response? Give them more insulin! When excess insulin was the thing that caused this illness in the first place!

Dr. Jason Fung, a renowned endocrinologist, had this exact realisation after treating thousands of patients with T2D; that the treatment he was offering his patients was entirely counter-intuitive.

## So what's the alternative?

Fung then began using fasting as a tool to treat T2D and obesity in his clinic, and as his research continued he realised that any state in which the body is not continually spiking insulin and glucose has the potential to heal metabolic syndrome, and

reverse, yes reverse T2D.

The state of ketosis, attainable by eating a very low carb ketogenic diet (VLCKD), is one such state.

Not to be confused with diabetic ketoacidosis where the liver begins producing ketones in an uncontrolled and dangerous manner, ketosis occurs when the body has become depleted of carbohydrates and the liver begins producing what is increasingly being recognised to be a therapeutic fuel for the body, ketones.

Vanessa Emslie, a licensed nutritionist based in the UAE says: "The real origin of the Keto or Low Carb diet is the Banting diet, after William Banting, a formerly obese English undertaker who published a book in 1863 on his weight-loss success. Under the recommendation of his physician Dr. William Harvey, he limited his intake of carbohydrates, especially those of a starchy or sugary nature. He was so successful in this (Keto) approach, he self-published a book on the diet."

The diet was then found to be an effective intervention for epilepsy in the early 1900s, but only in the 1970s did it rise to fame again with Dr. Robert Atkins' diet book publication. Many people lost weight on the Atkins Diet, which was considered a fad, and whilst not low enough in carbs to be truly ketogenic, it was certainly low enough to induce the fat loss effects of carbohydrate restriction. Since then ketosis has been researched as therapeutic for everything from autism to Alzheimer's, but its most compelling use for which we have the most undeniable data is as a treatment for type 2 diabetes and obesity.

Research into the ketogenic diet as a treatment for T2D began to mount in the early 2000's amidst strong push-back from the medical community about the safety of the diet model, which was in such direct opposition to the long held dietary guidelines.

Six studies on humans with T2D from 2005 through 2016 consistently found that VLCKDs, under supervision of a medical practitioner, improved HBA1C, waist circumference, fasting blood glucose and a variety of other blood markers over simply reducing calories in the control groups. Many subjects in these studies were able to either reduce their medication or stop taking it completely.

## But what about cholesterol?

This has long been the medical community's standard comeback. Centrepiece to this apprehension is the widely accepted association between heart disease and dietary fat, in particular saturated fat, which formed the basis of the diet-heart hypothesis proposed by Ancel Keys in the 1960s.

Fast forward to 2018 and there is mounting

**Ketosis occurs when the body has become depleted of carbohydrates and the liver begins producing what is increasingly being recognised to be a therapeutic fuel for the body, ketone.**



**When are we going to give our patients the information that they deserve, that their pre-diabetes or diabetes cure is completely in their own hands, and as practitioners, pair up with coaches to heal this epidemic?**



evidence that the link between dietary fat and heart disease is at best exaggerated and at worst potentially one of the most damaging pieces of information to become firmly embedded in society.

As research on the connection between cholesterol and heart health mounts, it is being noted that although “required” for the development of atherosclerosis, LDL is not “sufficient” as numerous other factors are required. Of particular interest at the cutting-edge of lipidology is the role of inflammation and the different types of LDL, in particular particle size and particle number as opposed to the molecular weight, which is the measure provided through the standard cholesterol test.

In fact, all six studies did take lipid markers into consideration while assessing the overall effect of the diet on their subjects. All saw an almost uniform decrease in triglycerides in the VLCKD compared to the control group. Most noted very little change in HDL or LDL.

A 2006 study compared a VLCKD to a low fat diet and monitored lipoprotein subclasses and noted a shift in LDL particle size. Small, dense (suggested to be most damaging) particles decreased while large particles increased.

### **The virta study**

Perhaps the most compelling and encouraging VLCKD dietary intervention and study on humans yet is still underway in the U.S.

349 adults with T2D enrolled, 92 per cent obese and 88 per cent on medication. Patients

were supported by a physician, as a VLCKD can dramatically lower blood glucose, and so medications must be closely monitored. Patients wore continuous glucose monitors, which fed data back to an application, which the physician had access to and could be immediately alerted if glucose levels sift dangerously.

Patients were also assigned a health coach who supported them to continuously make the correct diet and lifestyle choices to keep them on track. Patients were able to watch their own glucose spikes in real time in response to eating high carbohydrate food. This dramatically improved compliance. The health coach was able to educate the patients in real time on which foods were surprisingly high in carbohydrates (like onions and bell peppers for example) and show them where hidden carbs were sneaking in, as well as provide emotional support and strategies for staying on track and driving change.

This study published a paper at the end of its first year in October 2018. This is what it said about T2D markers, “After one year, patients in the CCI, on average, lowered HbA1c from 7.6 to 6.3 per cent, lost 12 per cent of their body weight, and reduced diabetes medicine use. 94 per cent of patients who were prescribed insulin reduced or stopped their insulin use, and sulfonylureas were eliminated in all patients.”

In terms of cholesterol, HDL increased, triglycerides decreased, and Apolipoprotein 4 (a proxy for LDL particle size) was unchanged.

The study is ongoing and more personal triumphs are being achieved for these patients daily.

The question we have to ask ourselves in this region, where nothing we do seems to curb the uncontrolled increase in diabetes and obesity, is when are we going to wake up? When are we going to realise that these diseases do not develop unaided by the chronic overeating of highly processed foods, sugars and starches, but in perfect unison with their appearance?

The examples of tribes who had lived on their natural diets until the introduction of western processed foods are many, and the rise in heart disease, diabetes and obesity can virtually be drawn in perfect parallel to the increase in consumption of these foods. The UAE itself being one such example.

When are we going to give our patients the information that they deserve, that their pre-diabetes or diabetes cure is completely in their own hands, and as practitioners, pair up with coaches to heal this epidemic?

The data is here, the solution is in our hands, all we need to do is act. ✚



Bronwyn MacRitchie

## Cleveland Clinic first in U.S. to perform prostate surgery using single port SP robot

Urologic surgeons complete radical prostatectomy using new generation of robot that is designed for single-incision robotic surgery

Article provided by Cleveland Clinic

**C**leveland Clinic is the first hospital in the U.S. to successfully perform surgeries using the Single Port SP Robot, which inserts all surgical instruments through one small abdominal incision, improving surgical outcomes and allowing quicker patient recovery.

This past September, Cleveland Clinic surgeons used the SP Robot to perform three surgeries – two surgeries to remove cancerous prostates and one surgery to remove an enlarged prostate blocking the urinary system through the bladder.

Jihad Kaouk, M.D., professor of surgery and director of the Center for Robotic and Image Guided Surgery in the Glickman Urologic and Kidney Institute at Cleveland Clinic, was the first to perform and publish on robotic single-port surgery in 2008 using standard robotic systems and coining the phrase R-LESS (robotic laparoendoscopic single site surgery). After completing and publishing the first ever clinical use for the SP robot in Europe, Dr. Kaouk and his team also performed the radical prostatectomies and transvesical simple prostatectomy at Cleveland Clinic in September of 2018. The new purpose-built robotic SP system will allow the single port approach to be more feasible.

“We anticipate that this new generation of robots will allow for new and different routes of surgeries that haven’t previously been possible,” said Dr. Kaouk. “For example, we can now go through a patient’s perineum instead of their belly to perform prostate surgery and avoid touching the

bowel, or work through the retroperitoneal space to perform kidney surgery without entering the abdomen, allowing for quicker recovery time.”

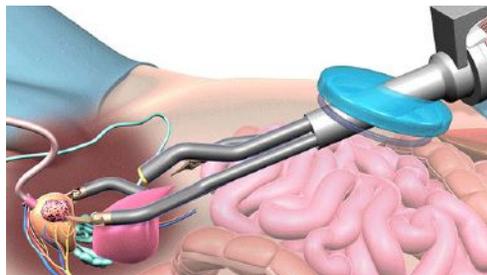
“This new robot allows us to do the surgery through one cut rather than five or six cuts that the standard robot needs,” said Dr. Kaouk. “We will be able to revisit surgeries that we do, invent new approaches that we were not able to do with a multi-arm robot.”

Dr. Kaouk has been involved in tests of the robotic system for about a decade, including in Europe. According to Dr. Kaouk, robots can be more precise than a surgeon’s hands.

Cleveland Clinic is the No. 1 ranked urology program in the U.S. according to *U.S. News and World Report’s* “Best Hospitals 2018-19” survey. Currently, the SP Robot is only FDA-approved for urologic surgeries, with plans to expand to ENT and colorectal surgeries in the near future. Since September, Cleveland Clinic has also used the robot to perform kidney, bladder and reconstructive surgeries.

“We are proud to offer this surgical approach and be on the forefront of surgical innovation,” said Mark A. Taylor, M.D., chairman of Surgical Operations, Cleveland Clinic.

Dr. Kaouk worked with the Intuitive Inc. team of engineers to test and improve the new robotic system. Dr. Kaouk is a paid consultant, speaker or member of the advisory committee for Endocare, Inc. and Intuitive Surgical, Inc.



## Masimo Announces Doctella™, a Secure Cloud-based Patient Engagement and Remote Care Automation Platform

Article provided by Masimo

**M**asimo announced the launch of Doctella™, a home-based patient engagement and remote care automation platform. It provides a complete end-to-end home care solution, allowing clinicians to create and manage treatment plans, patient schedules, and patient data flow using automated, customizable CarePrograms™, home device data aggregation, and a web-based provider dashboard. CarePrograms are delivered to patients' smartphones via an app (available for both iOS® and Android® devices) and dynamically update based on patient input, both self-reported data and physiological data collected by connected monitoring devices.

CarePrograms, configurable via the web-based provider portal, represent a digital, dynamic, and intelligent upgrade to traditional home care plans. Data pushed to patients can include coaching, guidance, and recommendations, such as notifications to remind patients to take medications, connect monitoring devices, or exercise. In turn, the Doctella secure cloud pulls and processes data entered manually by patients – such as patient-reported outcomes and textual responses, with the ability to provide consent through the app – as well as data gathered from connected devices, such as the Masimo MightySat™ Rx fingertip SET® pulse oximeter and the Masimo Rad-97™ rainbow SET™ Pulse CO-Oximeter®, which can act as a Bluetooth®-based hub, capable of pulling in data from a variety of Masimo and third-party devices. It incorporates these data into logic-driven protocols that can be customized to meet the needs of clinicians and institutions.

The Doctella provider portal allows clinicians to keep track of various physiological events (such as oxygen desaturations) and behaviors (such as confirming having taken medication as prescribed) for each patient, helping clinicians identify when intervention may be needed and how to prioritize the needs of multiple patients. Through such automation, institutions can more easily deploy home care monitoring at scale while helping clinicians remain abreast of important developments in patient condition. The

provider portal can also collect population-level health data to help clinicians gauge the efficacy of various treatment protocols and develop new plans using data-driven decisions and strategy.

Peter Pronovost, MD, PhD, Chief Clinical Transformation Officer at University Hospitals, Ohio, and one of the co-developers of Doctella, said, "As healthcare seeks to improve value, it needs to change its narrative from success being patients healing in the hospital to patients being healthy at home. Doctella helps to accelerate that journey by making sure that patients receive safe, evidence-based care in the healing environment of their own home." Dr. Pronovost recently spoke about the need to change the healthcare narrative at the 2019 World Patient Safety, Science, and Technology Summit.

Patient monitoring at home is an important and increasingly recognized part of providing quality patient care. Home care may be beneficial, for example, for patients with conditions like chronic obstructive pulmonary disease (COPD) and post-surgical patients recuperating at home using prescribed opioids. With proper care pre- and post-surgery at home, patients are expected to do better and help reduce the rate of avoidable hospital readmissions.

Joe Kiani, Founder and CEO of Masimo, said, "Masimo has always sought ways to help caring clinicians automate and improve the care of their patients. Doctella extends our role into perioperative care outside the hospital and in the home. With customized, automated care plans which funnel patient data to clinicians while helping them prioritize and intervene as needed, it brings clinicians and patients together comprehensively and securely with a complete, end-to-end solution."

Masimo Doctella was debuted during the HIMSS19 Conference in Orlando, Florida starting February 11, at Masimo's booth.

### About Masimo

Masimo is a global leader in innovative noninvasive monitoring technologies. Our mission is to improve patient outcomes and reduce the cost of care. In 1995, the company debuted Masimo SET® Measure-through Motion and Low Perfusion™ pulse oximetry, which has been shown in multiple studies

to significantly reduce false alarms and accurately monitor for true alarms. Masimo SET® has also been shown to help clinicians reduce severe retinopathy of prematurity in neonates,<sup>1</sup> improve CCHD screening in newborns,<sup>2</sup> and, when used for continuous monitoring with Masimo Patient SafetyNet™ in post-surgical wards, reduce rapid response activations and costs.<sup>3-5</sup> Masimo SET® is estimated to be used on more than 100 million patients in leading hospitals and other healthcare settings around the world,<sup>6</sup> and is the primary pulse oximetry at 9 of the top 10 hospitals listed in the 2018-19 U.S. News and World Report Best Hospitals Honor Roll.<sup>7</sup> In 2005, Masimo introduced rainbow® Pulse CO-Oximetry technology, allowing noninvasive and continuous monitoring of blood constituents that previously could only be measured invasively, including total hemoglobin (SpHb®), oxygen content (SpOC™), carboxyhemoglobin (SpCO®), methemoglobin (SpMet®), Pleth Variability Index (PVi®), and more recently, Oxygen Reserve Index (ORi™), in addition to SpO2, pulse rate, and perfusion index (Pi). In 2014, Masimo introduced Root®, an intuitive patient monitoring platform with the Masimo Open Connect® (MOC-9®) interface, enabling other companies to augment Root with new features. Masimo is also taking an active leadership role in mHealth with products such as the Radius-7® wearable patient monitor, iSpO2® pulse oximeter for smartphones, and the MightySat™ fingertip pulse oximeter. Additional information about Masimo and its products may be found at [www.masimo.com](http://www.masimo.com). Published clinical studies on Masimo products can be found at <http://www.masimo.com/evidence/featured-studies/feature/>.

ORi has not received FDA 510(k) clearance and is not available for sale in U.S. The use of the trademark Patient SafetyNet is under license from University HealthSystem Consortium.

### References

1. Castillo A et al. Prevention of Retinopathy of Prematurity in Preterm Infants through Changes in Clinical Practice and SpO2 Technology. *Acta Paediatr.* 2011 Feb;100(2):188-92.
2. de-Wahl Granelli A et al. Impact of pulse oximetry screening on the detection of duct dependent congenital heart disease: a Swedish prospective screening study in 39,821 newborns. *BMJ.* 2009;Jan 8;338.
3. Taenzer AH et al. Impact of pulse oximetry surveillance on rescue events and intensive care unit transfers: a before-and-after concurrence study. *Anesthesiology.* 2010;112(2):282-287.
4. Taenzer A et al. Postoperative Monitoring – The Dartmouth Experience. *Anesthesia Patient Safety Foundation Newsletter.* Spring-Summer 2012.
5. McGrath SP et al. Surveillance Monitoring Management for General Care Units: Strategy, Design, and Implementation. *The Joint Commission Journal on Quality and Patient Safety.* 2016 Jul;42(7):293-302.
6. Estimate: Masimo data on file.
7. <http://health.usnews.com/health-care/best-hospitals/articles/best-hospitals-honor-roll-and-overview>.

## Video laryngoscopy wherever and whenever you intubate

Article provided by Intersurgical

i-view™ is the new single use, fully disposable video laryngoscope from Intersurgical, providing the option of video laryngoscopy in the ER, ICU, maternity or the pre-hospital environment.

By incorporating a Macintosh blade, i-view can also be used for direct laryngoscopy and the technique for insertion is more familiar and instinctive than for devices with a hyper-angled blade. Its ergonomic design ensures i-view is easy to use, and the integral LCD screen provides an optimal view in a variety of light conditions.

By combining all the advantages of a fully integrated video laryngoscope in a single use, disposable product, i-view provides a cost-effective solution. In addition, it is ready to use seconds after removing from the packaging.

Visit [www.intersurgical.com/info/iview](http://www.intersurgical.com/info/iview) to view the video, download the information sheet or make an enquiry.

### MORE INFO

Location: Intersurgical, Crane House, Molly Millars Lane, Wokingham, Berkshire RG41 2RZ, England

Tel: 0118 9656 300

Email: [info@intersurgical.com](mailto:info@intersurgical.com)

Website: [www.intersurgical.com](http://www.intersurgical.com)



### i-view™ video laryngoscope

Video laryngoscopy wherever and whenever you intubate

i-view is the new, single use, fully disposable video laryngoscope from Intersurgical, providing the option of video laryngoscopy wherever you might need to intubate.

This makes i-view ideal for use in:

- Pre-hospital
- Emergency Medicine
- Resuscitation
- Anaesthesia
- Difficult Airway
- Intensive Care



The complete solution from the respiratory care specialists

For further information please visit:  
[www.intersurgical.com/info/iview](http://www.intersurgical.com/info/iview)



Quality, innovation and choice

Interact with us



[www.intersurgical.com](http://www.intersurgical.com)

# In the know

## RAK Hospital: Providing world-class personalised care

Article provided by RAK Hospital

The healthcare industry in the Arab World has progressed by leaps and bounds, and the annual Arab Health exhibition is a testimony of how far we have come. RAK Hospital, a significant contributor to the UAE's burgeoning healthcare industry, has witnessed a tremendous growth in the exhibition. The platform has brought together the crème de la crème of the Arab medical world under one roof, opening doors to countless opportunities, collaborations and tie-ups across the region. Over the years, we have seen a substantial increase in footfall of serious visitors as well.

For RAK Hospital, this journey has been extremely fruitful and satisfying. Positioned as the new medical tourism destination for the Middle East and African region, the exhibition has given the hospital a platform to showcase its high-end and world-class services to the regional and international patients. At the same time the hospital has been exposed to new and more business channel partners, which has further boosted its status as a healthcare institution at par with the West.

Since its inception more than a decade ago, RAK Hospital has been consistently upgrading its clinical expertise and technological value. Over the years, the hospital has built ties with renowned doctors across the world and brought to the UAE several medical practices and innovations. Today, the hospital stands tall among its UAE counterparts for its innovations in the field of medicine and has built a reputation that has drawn people from near and far. It has also won the trust of its foreign and local patients for prompt diagnosis, several surgical solutions and emergency treatments. Combined with a reputation

for premium and personalised hospitality, it has now become a preferred medical tourism destination.

Among the many innovations that RAK Hospital has introduced in the UAE is stem cell therapy of bone and joints problems, gyroscope-based technology for more accurate alignment in knee replacement surgeries and life-saving and non-surgical balloon dilation procedure. Moreover, it is a centre of excellence in Bone and Joint Centre, Neurosciences, Cardiology and Cardiac Surgery, General, GI, Minimal Access and Laparoscopic Surgery, Bariatric Surgeries and Aesthetic Treatments, besides 20 other specialties available. The hospital further boasts of a multi-lingual staff and a team of skilled doctors, consultants and specialists across a wide spectrum.

"When we started the journey, our main aim was to create a healthcare facility that offers its foreign and local patients excellent medical care that overlaps with recreation and hospitality," said Dr. Raza Siddiqui, CEO of Arabian Healthcare Group and Executive Director of RAK Hospital. "We are proud to say that we have achieved on both counts. Now our aim is to make RAK Hospital the centre of advanced tertiary healthcare as an alternative to other medical tourism destinations such as Thailand and Singapore."

Just 45 minutes away from Dubai International Airport – one of the busiest airports in the world – RAK Hospital is set in the picturesque view of the beautiful Ras Al Khaimah, a true holiday destination. Under the shadows of the rugged, yet magnificent Jebel Jais, RAK Hospital exudes a feeling of warmth and serenity that serves as natural cocoon for patients recovering from various ailments; the clean, crisp air and quiet surroundings act as an expediting agent in recovery.

To further fortify RAK Hospital's position as a medical tourist destination, and to encourage ease of comfort for the patient, the hospital offers amenities found rarely in other hospitals. These include concierge services, coffee shop, and a flower shop to ensure a personal touch. Soothing live-music, attendants welcoming the guests with traditional Arabic dates and hot towels (cold in the summer), and an in-house spa for patients and guests provide a sense of personalised care to the visitors. An environment that promotes rest and healing can lift up the spirit of people who would normally be walking into a hospital with trepidation.



# CPhI middle east & africa<sup>®</sup>

iCSE

P-mec

InnoPack

FDF



**16 - 18 September 2019 | Abu Dhabi, UAE**  
Your partner for innovation & networking in pharma



**4,900+**  
attendees



**294**  
exhibiting  
companies



**5 events**  
in 1 location



**3 days of**  
business, learning &  
networking opportunities

CPHI Middle East & Africa and co-located events ICSE, P-MEC, InnoPack and FDF will bring together regional drug manufacturers with global suppliers of raw materials, machinery, packaging solutions, contract services and finished dosage.

**Book your stand now:** [gotocphi.com/m2019](http://gotocphi.com/m2019)

For more information contact:  
[salesoperations@ubm.com](mailto:salesoperations@ubm.com)



# When You Leave the Room, You'll Still Be There™



- > Displays near real-time information from any connected Masimo device at a central station
- > Allows for alarms and alerts from bedside devices to be sent directly to clinicians
- > Simplifies workflows with ADT integration
- > Automates data transfer from connected devices directly to EMRs

For more information, visit :

[www.masimo.co.uk/products/hospital-automation/hospital-automation/](http://www.masimo.co.uk/products/hospital-automation/hospital-automation/)



\* The use of the trademark Patient SafetyNet is under license from University Health System Consortium

For Professional use. See instructions for use for full prescribing information, including indications, contraindications, warnings, and precautions.

© 2019 Masimo. All rights reserved.

PLEASE VISIT US AT  
ARAB HEALTH 2020

