Vol. 06, Issue 05, No. 35, September-October 2022

# MEDiWORLD
Middle East

## Feature
*Five transformative trends in medical devices and digital health*

## News & Update
*EHS honors pharmacists to mark World Pharmacists Day*

## Healthcare destination
*IRELAND A global MedTech hub*

## Medical Research
*GPX Embolic Device for tumor treatment*

# WEMA Health
**First virtual medicated end to end obesity program**

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*Treatment decisions should be based on the numeric result and healthcare professional's recommendation.
**Research2Guidance Diabetes App Market Data Q1-Q4, 2017.

MEDIWORLD Middle East

**Published Bi-Monthly: Vol 06, Issue 05, No.35**
**Middle East, Africa and Asia & Beyond**

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

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# Medical Innovation for the Future

The concept of 'taking care of your body' has, for most people, usually meant a once-a-year visit to the doctor and the review of some routine laboratory results as part of an annual checkup. However, there is no doubt that the rapid and dramatic advances in medical technology are transforming the healthcare landscape. It is in a way that is far beyond what was once thought possible.

In today's world, settling for a quick five-minute annual appointment with a physician is no longer the only way to maintain your health. With advances in genomics, cancer blood tests, MRIs, sleep analysis, and many other innovations, patients are able to gain the most comprehensive picture of their health ever available to them. Consequently, these advancements in technology have revolutionized the healthcare system to become more proactive, personalized, and convenient than ever before as a result of these innovations.

As a matter of fact, obesity is without a doubt one of the most serious health crises in the world today. It is estimated that more than one third of adults and nearly one in six children and teens are obese in the United States, according to the CDC. This means that they are carrying around too much body fat around with them all the time. There are a number of health problems that are associated with this, such as heart disease, diabetes, and certain types of cancer.

Why is there an obesity epidemic in the first place? Our increasingly sedentary lifestyles and our easy access to high-calorie, unhealthy foods are just a few of the factors that are contributing to the obesity epidemic. Our built environment is one of the most significant contributors to the rise in global warming and one of its most significant causes.

As a virtual-first, medicated, end-to-end obesity program, WEME Health will help its members lose approximately 20% of their weight by deploying in-house top specialists, customized cognitive behavioral coaching, GLP-1 medication for all, and a state-of-the-art app that provides diet/exercise/psychosocial support to all.

Co-developed with the world's leading obesity scientists, it includes lifestyle coaching and state-of-the-art technology, as well as access to endocrine specialists. To empower members to make lasting lifestyle changes, modern and clinically-documented weight loss medicine will be prescribed along with professional coaching.

Mediworldme speaks with WEMA Health's Medical Director, Dr. Rita Nawar, about the WEMA Health Program's weight loss benefits.

Just like always, Mediworldme is always open for any topic suggestions that can be covered in our magazine. At Mediworldme, we are always looking for new and innovative ideas to share with our readers. We are also open to collaboration with medical companies. If you have an idea for a story or would like to collaborate with us, get in touch with me at ayesha@mediworldme.com. We look forward to hearing from you!

Sincerely,

**Ayesha Rashid**
**Chief Editor, *MediWorld ME***

# HI-CARE
# PROTECTION
# Feels Good


- WHO Recommended Formulation [2]
- kills 99.99% of bacteria [4]
- Effective against viruses [5]
- Quick Dry
- Non Sticky
- Soft On Hands [2]
- 80% Ethanol [1]
- Multipurpose [3,5]
- For Surfaces

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**References:** 1. Data on file – Hi-Care Alcohol Antiseptic 80% Topical Solution Composition Formula. 2. World Health Organization - Guide to Local Production: WHO-recommended Handrub Formulations. April 2010. 3. FDA Policy for Temporary Compounding of Certain Alcohol-Based Hand Sanitizer Products During the Public Health Emergency Immediately in Effect Guidance for Industry. March 2020. 4. Data on file – Dubai Central Laboratory Report No: CR-600076509, 01/07/2020. 5. Nina A. Gold ; Taaha M. Mirza ; Usha Avva, Alcohol Sanitizer, NCBI Bookshelf, StatPearls Publishing; January 2020.
HI/MVE/1220 - 6MVBS3BI-150421

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**Soft on hands & Non-Sticky**

**Quick Dry**

**Active ingredient :** Alcohol 80% (v/v)

**Inactive ingredients :** Glycerine, Hydrogen peroxide & Purified water.

**Uses :** Hand sanitizer to help reduce bacteria that potentially can cause disease. For use when soap and water are not available.

**Warning :** For external use only. Flammable. Keep away from heat or flame.

**Do not use :** In children less than 2 months of age. On open skin wounds. When using this product keep out of eyes, ears and mouth.

**In case of** contact with eyes, rinse eyes thoroughly with water. Stop use and ask a doctor if irritation or rash occurs. These may be signs of a serious condition.

Keep out of reach of children. If swallowed, get medical help.

**Directions :** Place enough product on hands to cover all surfaces. Rub hands together until dry. Supervise children under 6 years of age when using this product to avoid swallowing.

**Other information :** Do not store above 30°C

Avoid freezing and excessive heat above 40°C.

**References:**

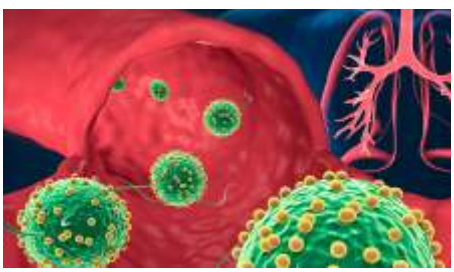
1. Data on file – Hi-Care Alcohol Antiseptic 80% Topical Solution Composition Formula.

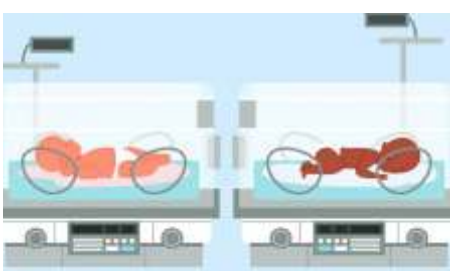
2. World Health Organization - Guide to Local Production: WHO-recommended Handrub Formulations. April 2010.

3. FDA Policy for Temporary Compounding of Certain Alcohol-Based Hand Sanitizer Products During the Public Health Emergency Immediately in Effect Guidance for Industry. March 2020.

4. Data on file – Dubai Central Laboratory Report No: CR-600076509, 01/07/2020

(HI-CARE/L01/0820)





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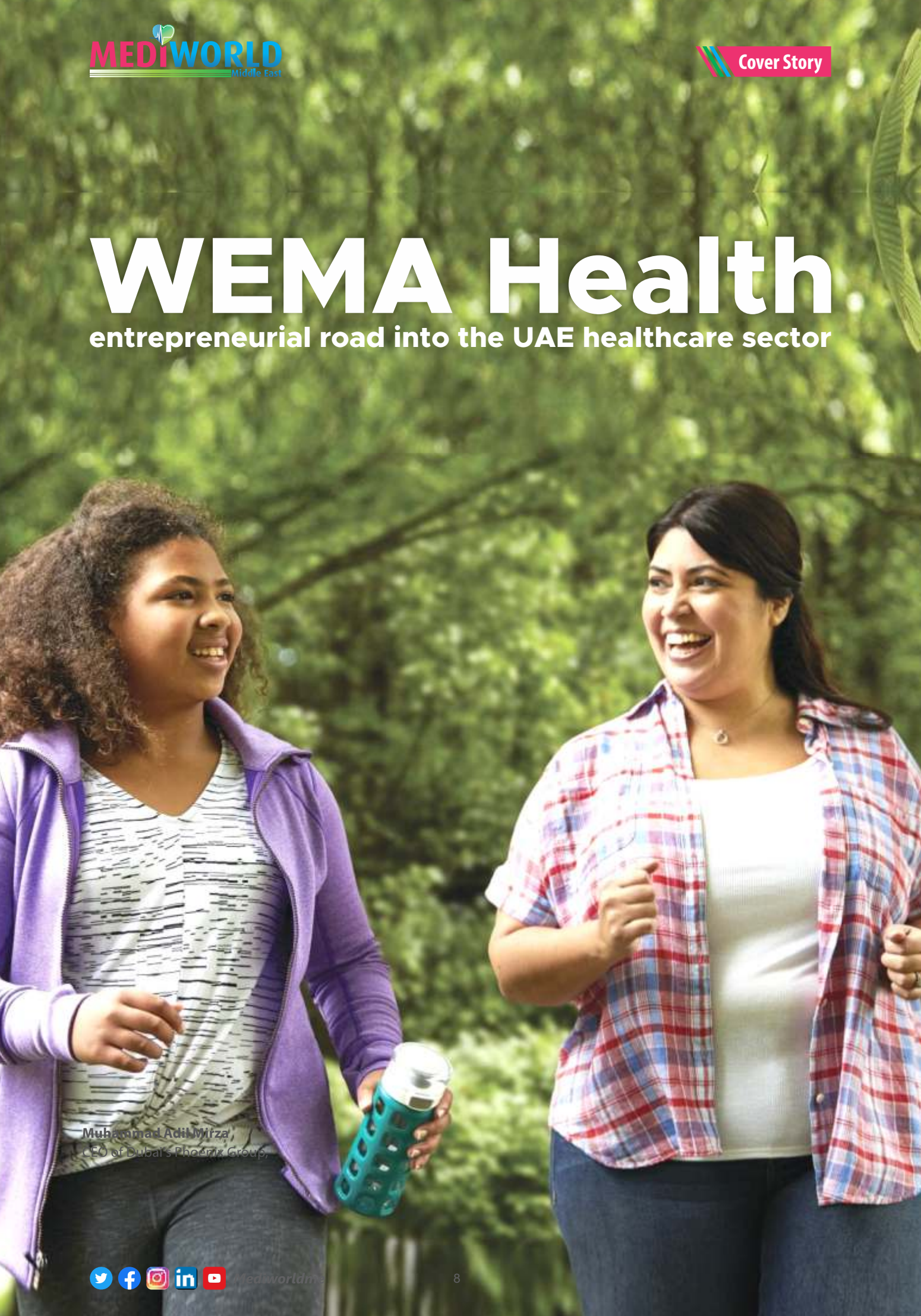
# WEMA Health

## entrepreneurial road into the UAE healthcare sector



**Muhammad Adil Mirza,**
CEO of Dubai's Phoenix Group,

**"WEMA Health is a science-backed medical weight-loss program that includes extensive lifestyle coaching and state-of-the-art technology, co-developed with the world's leading obesity scientists, connecting users with endocrine specialists. In fact, modern and clinically documented weight loss medicine will be prescribed in tandem with professional coaching, to empower members to make lasting lifestyle changes," says Dr. Rita**

The prevalence of obesity is rising globally. New data presented in the World Obesity Atlas 2022 shows that, by 2030, it is predicted that 1 in 5 women and 1 in 7 men will be living with obesity (BMI ≥30kg/m2), equating to over 1 billion people globally. In the UAE, the latest data approximates an increase in the UAE's obesity rate by 35%. In the newly published data, it is estimated that the prevalence of obesity will rise to 50% in women, and 37% in men by 2030, putting the UAE in the top 10 countries in the Eastern Mediterranean with the highest prevalence of obesity.

Obesity is a chronic, relapsing, multifactorial disease. It is also a significant risk factor for a number of other non-communicable diseases (NCDs) such as diabetes, heart disease and cancer, amongst others. Obesity often starts early in life, and childhood obesity is now a growing public health concern and early prevention is critical. In general, obesity, like all chronic diseases, has a wide range of drivers and determinants. Genetics, biology, healthcare access, mental health, sociocultural factors, equity, ultra-processed foods, economics, commercial determinants and environmental determinants are all roots of obesity. These roots interact and compound one another across a number of systems, resulting in the trends we see today. Metabolic health as well is an important element when we discuss obesity, and it involves not only the food we eat but also our energy and stress levels, emotional health and sleeping pattern.

Dr. Rita Nawar, Medical Director, WEMA Health, explains to mediworldme what WEMA Health Program is and how does it help members lose approximately 20% of their weight.

### *Tell us in detail about the WEMA Health program?*

WEMA Health is a virtual-first, medicated, end-to-end obesity program that will help its members lose approximately 20% of their weight by deploying in-house top specialists, personalized cognitive behavioral coaching, GLP-1 medication for all and a state-of-the-art app with diet/exercise/psycho-social support.

It is indeed a science-backed medical weight-loss program that includes extensive lifestyle coaching and state-of-the-art technology, co-developed with the world's

**WEMA Health is a virtual-first, medicated, end-to-end obesity program that will help its members lose approximately 20% of their weight by deploying in-house top specialists, personalized cognitive behavioral coaching, GLP-1 medication for all and a state-of-the-art app with diet/exercise/psycho-social support.**

leading obesity scientists, connecting users with endocrine specialists. In fact, modern and clinically documented weight loss medicine will be prescribed in tandem with professional coaching, to empower members to make lasting lifestyle changes.

### *How does a virtual program like this work for the region?*

Obesity and the relationship between having a healthy weight and the body's proper functionality have long been studied by scholars, scientists, and healthcare practitioners all over the world. Obesity, like other diseases, impacts bodies and minds in several ways, affecting appetite, satiety, metabolism, body fat and hormone balance. Obesity, therefore, requires management and treatment, and people with obesity need access to appropriate care, specialist healthcare professionals and multidisciplinary teams. Supporting people to live healthier lives is key to healthier societies.

In our region, obesity affects approximately 20 million people in the GCC alone, impacting not only their health but also their overall quality of life. It's no secret that this chronic condition affects the quality and quantity of a person's life, impacting everything from respiratory and reproductive function to brain activities such as memory and mood. In the Middle East, it's estimated to cost our healthcare system USD 30 Bn. With the innovation that WEMA Health brings, we will be able to help people with obesity to a healthier and happier life.

### *How does WEMA Health aim to tackle the rising obesity rate in the UAE?*

WEMA is a scientifically backed multidimensional program that combines medicines, coaching and best-in-class digital solutions and this can be very powerful in healthcare. Obesity as a chronic disease requires medical treatment. Not all medicines are suitable for virtual prescribing because of possible contraindications that only a medical physical assessment would detect. However modern weight loss medicines that regulate appetite indeed are. Combining this treatment with fundamental lifestyle changes is what creates wholesome, sustainable, and meaningful solutions for patients. Indeed, at WEMA Health we strive to help our members achieve an unprecedented weight loss of up to 20% – and sustain it with long-lasting lifestyle changes.

### *What is the role of 'science' in the virtual program?*

Science is critical in the development of any type of health program. It helps clinicians understand what works, what doesn't work, and how to apply that knowledge to their practice.

Science also plays an important role in evaluating the effectiveness of new technologies, such as virtual reality (VR), for use in health care and with science being the cornerstone of the WEMA Health program. We have a dedicated team of clinical experts and research scientists who work with us to develop a range of evidence-based content for our members. We also work closely with industry researchers and practitioners to design and conduct research projects that will help us better understand how technology can be used to improve health care outcomes for our members. As previously mentioned WEMA Health is a science-backed medical weight-loss program that includes extensive lifestyle coaching and state-of-the-art technology, co-developed with the world's leading obesity scientists, connecting users with endocrine specialists. While focusing on all aspects of metabolic health and aiming to achieve a 'metabolic reset', enabling users to live healthier lives,

combining the treatment with fundamental lifestyle changes to create wholesome, sustainable, and meaningful solutions for users.

The science behind virtual health is based on technology-focused interventions that are designed to improve health outcomes; these interventions can be delivered via mobile devices or online platforms, with varying degrees of human interaction.

### *What is the main aspect of the WEMA Health program and why should UAE residents go for it?*

Across the countries, lack of treatment was most often attributed to a lack of obesity care pathways beyond primary healthcare; an absence of multidisciplinary services and appropriately trained professionals; high costs to patients; the prevailing obesogenic environment; and stigma experienced by patients within the healthcare services. Fragmentation and under-prioritization of obesity may also be hindering the progress towards meeting the obesity targets and people with obesity being able to access appropriate care.

On the other hand, as detailed in the previous question, digital health technologies can help providers to reduce inefficiencies, improve access, reduce costs, increase quality, and make medicine more personalized for patients.

In our region, obesity affects approximately 20 million people in the GCC alone, impacting their health as well as their overall quality of life. By combining both the innovation in digital health and the scientific medical management of obesity, WEMA Health will be able to offer people with obesity in the UAE, easily accessible sustainable lifestyle and behavioral coaching as well as best approved available prescription anti-obesity medication tackling the disrupted metabolic health in the disease of obesity, leading to up to 20% weight loss and a more sustainable long-lasting health improvement.

### *In your opinion what role does digital health play in the medical industry?*

Digital health is a broad, multidisciplinary concept that includes concepts from an intersection between technology and healthcare. It applies a digital transformation to the healthcare field, incorporating software, hardware and services. The broad scope of digital health includes categories such as mobile health (mHealth), health information technology (IT), wearable devices, telehealth and telemedicine, and personalized medicine. These tools have the potential to improve our ability to accurately diagnose and treat disease and to enhance the delivery of health care for the individual.

Digital tools are giving health care providers a more holistic view of patient health through access to data and giving patients more control over their health. Digital health offers real opportunities to improve medical outcomes and enhance efficiency.

**Digital transformation to the healthcare field, incorporating software, hardware and services. The broad scope of digital health includes categories such as mobile health (mHealth), health information technology (IT), wearable devices, telehealth and telemedicine, and personalized medicine.**

These technologies can empower consumers to make better-informed decisions about their own health and provide new options for facilitating the prevention, and management of chronic conditions such as obesity, outside of traditional health care settings. Providers are using digital health technologies in their efforts to reduce inefficiencies, improve access, reduce costs, increase quality, and make medicine more personalized for patients.

Patients and consumers can use digital health technologies to better manage and track their health and wellness-related activities.

### *Are you planning to expand in the market, particularly in the GCC?*

The pandemic increased the obesity rates in the region and the catastrophic predicted rise in rates of obesity among men and women by 2030, makes it imperative to have multidisciplinary scientifically backed medicated obesity programs such as WEMA Health available, to help people with obesity for a healthier and happier life. So, starting in UAE, we aim to progressively make WEMA Health available in the region as well as to order to deliver the world's available leading obesity treatment combined with lifestyle changes leading to more sustainable and meaningful solutions for the patients.

# Five transformative trends in medical devices and digital health

**AI and simulation models to form predictions for future states and support decision-making. Using digital twins in medical care allows patients to benefit from personalized medicine to individually detect the best possible treatment options as well as more proactively manage chronic diseases and overall health.**


Dr. Visa Suomi, medical devices industry manager at MathWorks, highlights the most important trends shaping the medical devices industry and healthcare.

### *Healthcare digitalization enables new innovations*

Healthcare is becoming more digital, which means that increasing amounts of data are stored in electronic health records and hospital information systems. Furthermore, real-time health data is continuously collected by wearables such as smart watches, fitness trackers, or blood glucose monitors. Having all this data in a digital format does, in theory, enable its utilization in healthcare applications, but the data also needs to be easily accessible, stored in a structured and standardized way, and kept secure to maintain patient confidentiality and privacy. When these conditions are met, new possibilities are unlocked to develop innovative medical devices and digital health applications to improve patient care. These are the five most important trends leveraging the digitalization in healthcare.

### *Telehealth*

Telehealth, or telemedicine, allows healthcare services to be provided to patients remotely. For example, a patient could be using a wearable medical device that monitors their physiological signals, such as heart rate, and stores the data in the cloud for analysis. Another example would be an operation conducted by a doctor using a remotely operated surgical robot on the patient. Virtual doctor visits have also gained popularity due to the recent pandemic and by some estimates, the utilization of telehealth services is now up to 38 times higher than before. Telehealth's popularity is not surprising since it brings several benefits to patients, such as convenience, fewer physical doctor visits, and better accessible healthcare for people with limited mobility. For hospitals and other healthcare providers, telehealth enables better control of infectious diseases, scaled health services, and cost savings. Furthermore, it allows them to offer medical services in remote locations and rural areas where healthcare facilities do not exist.

### *In silico medicine*

In silico medicine uses computational modelling and simulations to design, test, and validate medical devices. Instead of using humans or animals in testing new type of treatments, medical researchers use virtual human populations to evaluate the performance and safety of the device in different clinical situations. For example, a ventilator design could be validated using a realistic lung model to ensure its safety and performance. Similarly, an insulin pump with glucose monitoring (i.e., an artificial pancreas) could be validated using a virtual patient model with varying blood glucose levels. In silico medicine thus allows companies to reduce the time and costs in R&D and, at the same time, improve the quality, performance, and safety of their products. The European Union and FDA have also noted the importance of in silico medicine in their recent strategic policy roadmaps and regulations.

### *Digital twins*

Digital twins in healthcare are virtual representations of patients or medical devices that incorporate their historical diagnostic and/or maintenance data into a single knowledge base. As new data becomes available—for example, when a patient visits a hospital for an examination, or a medical device is inspected—the corresponding digital twin gets updated to keep track of current health status more accurately. This up-to-date data can then be used in AI and simulation models to form predictions for future states and support decision-making. Using digital twins in medical care allows patients to benefit from personalized medicine to individually detect the best possible

treatment options as well as more proactively manage chronic diseases and overall health. For medical device manufacturers, digital twins enable predictive maintenance and better product lifecycle management.

### *AI-based medical devices*

Artificial intelligence (AI) is a major trend affecting multiple industries and disciplines including healthcare and medicine. The advantage of AI comes from its ability to determine subtle patterns and characteristics in healthcare data such as medical images, biomedical signals, or health records that would otherwise go unnoticed. This helps clinicians better diagnose and understand underlying health conditions and support decision-making about the most suitable therapy options. For example, an AI model can be used to classify whether a thyroid nodule in an ultrasound image is benign or malignant, and thus reduces the need for unnecessary biopsies. A machine learning model could also be used to restore the sense of touch for paralyzed people by interpreting EEG signals using a brain-computer interface with a haptic feedback loop. The FDA has already approved several AI-based medical devices to the market, which is just the beginning of many possibilities in AI benefitting healthcare.

### *Cloud and IoT*

The Cloud and Internet-of-Things (IoT), combined with big data in healthcare, bring new possibilities that are sometimes referred to as healthcare 4.0. The Cloud allows medical devices to be connected and collect patients' vital information around the clock. The most typical examples of Cloud-connected health devices are wearables and smart watches, which gather data about heart rate, blood pressure, oxygen saturation, sleep patterns, physical activities, and blood glucose levels. This data can then be interpreted either by an algorithm or a clinician to detect any anomalies and decide the necessary actions. The Cloud also enables software-as-a-service (SaaS) applications in healthcare by providing unrestricted and secure online access to electronic medical records, PACS servers, and hospital information systems. Utilizing the cloud in healthcare is likely to become even more prevalent in the future due to its cost, security, and scalability benefits.

### *Technology is the key to digital health*

The more medical data is available and accessible in a digital format, the more possibilities exist to develop new and innovative applications that make healthcare more efficient and improve patient outcomes. There are still barriers that the industry and healthcare providers need to overcome together, such as gaining straightforward and secure access to medical data and health records without compromising patient privacy and confidentiality. With the help of the right software solutions and technical capabilities, companies can fully leverage these trends in creating new medical devices and digital health applications.

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"Ten of the world's top ten pharmaceutical companies and nine of the top ten medtech companies have a significant presence. We also have a large number of Irish companies that have grown up in the shelter of the global industry. People who started out working for multinationals have gone on to found their own companies, which have become an integral part of the supply chain for global industry. More and more of those companies are developing their own intellectual property and innovative new products," says Kelly


Ireland is an island in the North Atlantic Ocean, in north-western Europe. It is separated from Great Britain to its east by the North Channel, the Irish Sea and St George's Channel. Ireland is the second-largest island of the British Isles, the third-largest in Europe, and the twentieth-largest on Earth.

Geopolitically, Ireland is divided between the Republic of Ireland (officially named Ireland), which covers five-sixths of the island, and Northern Ireland, which is part of the United Kingdom. As of 2022, the population of the entire island is just over 7 million, with 5.1 million living in the Republic of Ireland and 1.9 million in Northern Ireland, ranking it the second-most populous island in Europe after Great Britain.

The geography of Ireland comprises relatively low-lying mountains surrounding a central plain, with several navigable rivers extending inland. Its lush vegetation is a product of its mild but changeable climate which is free of extremes in temperature. Much of Ireland was woodland until the end of the Middle Ages. Today, woodland makes up about 10% of the island, compared with a European average of over 33%, with most of it being non-native conifer plantations. The Irish climate is influenced by the Atlantic Ocean and thus very moderate, and winters are milder than expected for such a northerly area, although summers are cooler than those in continental Europe. Rainfall and cloud cover are abundant.

### *Irish healthcare sector*

**Ireland has a dual healthcare system, consisting of both private and public healthcare options. The public healthcare system is regulated by the Irish government's Health Service Executive (HSE). Ireland's health budget for 2021 was €21 billion. This represents an increase of €4 billion on 2020 levels for health services to continue the ongoing COVID-19 action plan and increase long-term capacity. Budget 2021 provides for the continuation of the extraordinary public health measures and health and social care service supports and capacity introduced in 2020 and aims to build positive permanent change into Irish health service.**

Before the global health pandemic, public hospitals were working near full capacity with extensive waiting lists. With the onset of the pandemic, there were particular concerns around the low number of ICU beds available. In December 2020, the Minister for Health announced a strategic multi-year plan to expand adult critical care capacity from 255 beds to 446 beds.

In 2017, a parliamentary Committee on the Future of Healthcare published the Sláintecare Report which outlines a ten-year roadmap to deliver a complete reform of Ireland's healthcare system to include a universal single-tier health, universal fee GP care and social care system by 2028. The HSE National Service Plan 2021 sets out the

type and volume of health and personal social services to be provided in 2021 with the focus of maximizing the delivery of high-quality health and social care services in a new COVID-19 environment.

### *Irish MedTech sector*

**The Irish medtech sector has grown from a small group of just 50 companies in the early 1990s to become one of the industry's leading global hubs with a cluster of 350 companies employing 38,000 people. This makes Ireland the largest employer of medtech professionals in Europe per capita. Ireland is also the second largest exporter of medtech products in Europe, with annual exports of €12.6 billion to over 100 countries globally.**

According to Enterprise Ireland Divisional Manager Tom Kelly, the emergence of this vibrant and highly successful indigenous sector is due to a number of factors, including a deep commitment to innovation and the existence of a highly connected ecosystem comprising the world's leading multinational medtech companies, a first-class academic research sector, and a network of world- leading State-funded research centers.

"Ireland is very much at the forefront of global medtech and life sciences industries," says Kelly.

"Ten of the world's top ten pharmaceutical companies and nine of the top ten medtech companies have a significant presence. We also have a large number of Irish companies that have grown up in the shelter of the global industry. People who started out working for multinationals have gone on to found their own companies, which have become an integral part of the supply chain for global industry. More and more of those companies are developing their own intellectual property and innovative new products."

Support for connections with clinicians and the healthcare sector also plays a key role. Health Innovation Hub Ireland (HIHI) was established to drive collaboration between the health service and enterprise. It offers companies the opportunity to carry out pilot and clinical validation studies, and it offers the health service access to innovative products, services and devices that it may not otherwise be exposed to.

BioInnovate Ireland is a national medical technology innovation training program in which academia, clinicians and industry can collaborate to develop novel medical technologies. The program is a partnership between several universities and hospitals throughout the country and is supported by Enterprise Ireland, the national export agency, and a large number of industry sponsors.

"These linkages between enterprise and the clinical community are very important," says Kelly. "At Enterprise Ireland we also lead visits of Irish medtech firms to internationally renowned centers such as the Cleveland Clinic and the Mayo Clinic. This aids Irish companies' awareness of the international demand for new technologies. Our team based in our international offices is also in regular contact with health systems worldwide and provides knowledge and information on their needs to the industry here."

### *Ireland's small size works*

Interestingly, Ireland's small size works in its favor when it comes to the development of a global medtech hub. "Because we are small there is huge interaction between the multinational and indigenous sectors of the industry," says Kelly. "This is a significant advantage. The highly connected nature of the industry allows relatively small Irish firms achieve global success quite quickly."

Irish firms are increasingly becoming integral elements of the global medtech supply chains. "Irish medtech companies are not only becoming suppliers of choice to multinational customers here in Ireland but they are doing so globally as well," says Kelly. "That applies to companies supplying services as well as components. Our approach is to encourage companies to become not just sub-suppliers but become co-developers and value adders. Enterprise Ireland can provide R&D support to companies that collaborate with customers in this way."

One of most important initiatives in this area is the €500 million Disruptive Technology Innovation Fund. "This offers an opportunity for SME-type companies to collaborate with multinationals and research centers to develop new products and technologies which in turn will help them create even deeper relationships with partners."

The critical ingredient in the global success of the indigenous Irish medtech sector is innovation, according to Kelly. "Irish medtech companies are very much committed to innovation. This is not just a case of continuous improvement. They have to constantly innovate if they are to meet unmet clinical needs. The market is continually evolving and only companies that can supply the new products, technologies and services to meet the changing needs of medical practice will succeed. They also have to be committed to investing in growth and scale as well as the capability of their people. That's how the Irish medtech industry is succeeding and will continue to succeed."

## *Opportunities*

By 2040, the population of Ireland is expected to reach 5.7 million people with population health forecast to have decreasing mortality rates and longer life expectancies. This rapidly growing and ageing population will create an exponential demand for increased healthcare services with a focus on acute hospitals, primary care and geriatric services. In addition, the global health pandemic has highlighted the importance of developing and adopting digital solutions. This has resulted in an acceleration in digitalization across the Irish healthcare sector and a rise in the adoption of digital health technologies.

The digital response to the pandemic, particularly for clinical management (rapid diagnosis and risk prediction), has been a significantly successful undertaking across the health services sector. Innovative digital health solutions in healthcare will continue to be required and are expected to be an essential part of the future Irish health landscape. Whilst Ireland's investment in Digital Health is lower than most other EU countries, funding has increased 25 percent to €120m in 2021. The eHealth and ICT Capital Plan includes further detail on all eHealth and health information systems developments for 2021 and beyond.

Additional capital investment projects and programs along with significant reform initiatives are planned for the health sector as outlined in the Ireland National Development Plan 2018-2027. These include the construction of new hospitals and additional capacity to existing facilities in areas such as maternity, oncology, mental health, primary and residential care, nursing homes, acute care, rehabilitation and disability. The government will publish a revised National Development Plan in October 2021. US Commercial Service Ireland will monitor this plan for new opportunities for American exporters and service providers across the Irish healthcare sector.

Opportunities exist for medical equipment that save time and resources while also effecting cost savings in this price sensitive market. A new trend is emerging with increased demand for high quality American-made products to counteract cheaper less reliable imports from other nations. Ireland is also an advocate of preventative medicine focusing on breast, cervical, bowel and diabetic retina screening/checks and opportunities exist for a wide range of equipment across these healthcare disciplines.

All public sector contracting authorities advertise procurement opportunities and award notices on the eTenders Procurement website, the Irish Government's electronic tendering platform. Interested US suppliers should register as a Supplier Company especially as electronic tendering will be a European requirement in the next few years.

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## GPX Embolic Device for tumor treatment

Fluidx Medical disclosed study results examining extent of vessel filling using the GPX Embolic Device compared to microspheres, a common treatment for many types of tumors.

Embolization is a procedure in which arterial or venous blood supply to an organ, malformation, aneurysm, bleed, tumor, and/or other abnormal area of issue is blocked. Metal coils, microsphere particles, and/or liquids are common embolics delivered through small 0.5mm – 1.5mm outer diameter 100 – 150cm long catheters.

"GPX is demonstrating deep distal vessel penetration," said Ryan O'Hara, M.D., Interventional Oncologist, University of Utah. "The ability to fill the smallest tumor feeding vessels and reach distal vessel beds is very important in effective treatment of hypervascular tumors and in other therapeutic embolic procedures."

Embolizing blood supply to tumors is a high-growth procedure to block blood supply to certain tumors. Transarterial chemoembolization (TACE) includes delivering chemotherapy with embolization. Tumor embolization may also be performed prior to resection.

"GPX exhibited effective and thorough embolization throughout the renal cortical vasculature," according to a pathology assessment conducted by study pathologist James Stanley, DVM, MS, DACVP. "GPX filled the smallest arteries/arterioles of the distal cortex which was not observed with 40-micron microspheres."

GPX and microspheres were studied in selected small branches of renal arteries. The GPX Embolic Device was found to fill vessels more completely and penetrate deeper into smaller vessel beds than the smallest microspheres commonly used for tumor treatments.

"The extent of distal penetration of GPX, combined with its potential as a drug-loadable oncology solution, make this a unique technology with an exciting future in advancing cancer care," said Danny Smith, Vice President of R&D.

**About the GPX Embolic Device:**

The GPX Embolic Device is an innovative embolic designed for simple preparation and controllable material delivery. The device is packaged ready-to-use in a syringe, can be prepped tableside by the clinician in about 30 seconds, and may be delivered through standard microcatheters (no complex mixing systems or special delivery catheters are necessary). GPX technology is a low viscosity, aqueous-based solution in a syringe that solidifies into a durable embolus upon delivery without polymerization or dimethyl-sulfoxide (DMSO) precipitation. GPX is designed to be highly visible and to occlude blood vessels independent of a patient's coagulation situation.*

## Face mask to alert wearer of respiratory viruses presence

Scientists at Shanghai Tongji University in China have created a face mask that can alert the wearer to the presence of respiratory viruses in the surrounding environment, including the viruses behind COVID-19 and influenza. The mask includes aptamers, which are short sequences of DNA or RNA that can bind to protein targets. When viral particles bind to the aptamers, ion-gated transistors boost the signal so that the mask can sensitively detect small amounts of virus. The mask sends a message to the wearer's smartphone within 10 minutes of detecting the virus. The technology could be very valuable for healthcare staff or vulnerable patients who are at high risk of severe disease.

Face masks have been a cornerstone in our response to the COVID-19 pandemic. The simple and effective barrier function such masks fulfill has doubtless helped to limit the spread of SARS-CoV-2. However, what if our masks could do much more, providing us with an early warning system that viral contamination is in the air?

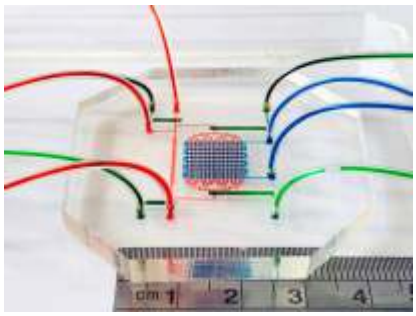
"Previous research has shown face mask wearing can reduce the risk of spreading and contracting the disease," said Yin Fang, a researcher involved in the study. "So, we wanted to create a mask that can detect the presence of virus in the air and alert the wearer."

The team behind this latest study has created just that. Their mask does not just detect SARS-CoV-2, but it can also identify two different strains of influenza (H5N1, and H1N1). With the southern hemisphere experiencing a significant resurgence of flu this year, after two years without much flu activity, such technologies could

be helpful for vulnerable patients who could experience serious complications if they were to contract flu or COVID-19.

The mask relies on aptamers, which are synthetic molecules made using DNA or RNA, but which function somewhat like antibodies, binding specific molecules such as proteins. The aptamers in the mask are specific for SARS-CoV-2, H5N1, and H1N1. If such viral particles are present in the air around the mask wearer, they will bind to the aptamers in the mask. Ion-gated transistors present in the mask sensor then help to boost this signal, allowing the mask to take highly sensitive measurements.

The mask will then send a signal to the wearer's smartphone within 10 minutes to alert them to the presence of viral particles. The researchers are working on reducing this time, to help make the system as quick and useful as possible.



# New method to produce human blood stem cell precursors from human pluripotent stem cells

Scientists at the University of New South Wales in Australia have developed a method to produce human blood stem cell precursors from human pluripotent stem cells. The method may have use in treating cancer patients who require high doses of such blood stem cells to help replenish endogenous populations that have been destroyed by chemotherapy.

The researchers exploited the tendency of cells to respond to mechanical stimuli and cultured the pluripotent stem cells in a microfluidic device that mimicked the pulsatile flow of the embryonic heartbeat. Given that human blood stem cells naturally form during embryonic development, the Australian team hypothesized that mimicking these conditions in vitro would help the cells to develop as blood stem cells.

Chemotherapy can have pretty devastating effects on blood cells and the stem cells that differentiate to produce them. There is a current shortage of donor stem cells to assist such patients, and researchers have struggled to create suitable stem cells in the lab.

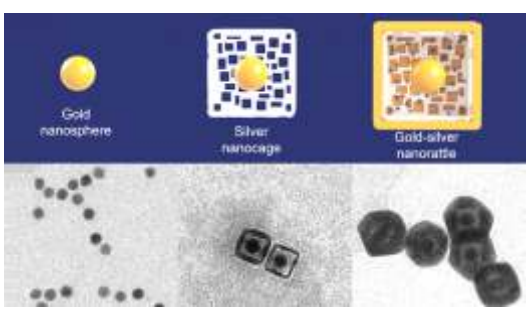
Creating induced pluripotent stem cells from adult human cells has been an important step along the way in that it helps to avoid the need for embryonic cells or cells from animals. However, getting such cells to reliably turn into human blood stem cells that can then differentiate into any type of blood cell has been a challenge.

To address this, these researchers have turned to a microfluidic device to see if they could use mechanical stimuli to persuade induced pluripotent stem cells to turn into blood stem cells, or at least advance them somewhat down that path. The device mimics the pulsatile flow of the embryonic heartbeat, doubtless an important stimulus for cells within the developing embryo.

"Part of the problem is that we still don't fully understand all the processes going on in the microenvironment during embryonic development that leads to the creation of blood stem cells at about day 32 in the embryonic development," said Jingjing Li, one of the leaders of the project. "So we made a device mimicking the heart beating and the blood circulation and an orbital shaking system which causes shear stress — or friction — of the blood cells as they move through the device or around in a dish."

So far, the researchers have shown that the device can stimulate the cells to develop into blood stem cell precursors. These cells can then go on to differentiate into any kind of blood cell. The team hopes to scale the technique up to work in a bioreactor, allowing them to produce large numbers of cells.

"Blood stem cells used in transplantation require donors with the same tissue-type as the patient," said Robert Nordon, another researcher involved in the study. "Manufacture of blood stem cells from pluripotent stem cell lines would solve this problem without the need for tissue-matched donors providing a plentiful supply to treat blood cancers or genetic disease."




# 'Nanorattle' system to detect mRNA cancer biomarkers

Scientists at Duke University have developed a 'nanorattle' system that allows for the detection of mRNA biomarkers of cancer. The tiny structures consist of gold nanospheres with a surrounding silver nanocage, forming the so-called rattle. The nanorattles are also loaded with light scattering dyes called Raman reporters. When illuminated with a laser, the rattles emit significant amounts of light. The researchers developed the technology so that they could detect mRNA biomarkers of cancer, which will bind to the nanorattles if present in a patient sample. The researchers can then use a laser to illuminate the nanorattles to see if the biomarkers are present. The entire system fits into a lab-on-a-stick device, potentially allowing for point-of-care diagnostics in low-resource regions.

Head and neck cancers have a relatively poor survival rate of 40-60% in many regions of the world, in part because of a lack of early detection. This prompted these researchers to attempt to design a point of care diagnostic system for such cancers, potentially letting healthcare workers to perform such diagnostic tests simply and quickly.

"In low-resource settings, these cancers often present in advanced stages and result in poor outcomes due in part to limited examination equipment, lack of trained healthcare workers and essentially non-existent screening programs," said Walter Lee, one of the lead researchers on this project. "Having the ability to detect these cancers early should lead to earlier treatment and improvement in outcomes, both in survival and quality of life. This approach is exciting since it does not depend on a pathologist review and potentially could be used at the point of care."

The system is designed to help detect mRNA biomarkers. Many patients with head and neck cancers will have upregulated levels of certain mRNA markers. The researchers designed their system so that the nanorattles will bind to such mRNA sequences. They also included magnetic beads in their lab-on-a-stick device that can also bind to the same mRNA sequences.

Consequently, the procedure involves adding a patient mRNA sample to the device and allowing the mRNA biomarker sequences to bind to the magnetic beads. Then, a sample of nanorattles is added to the device, and they will bind to the now immobilized mRNA sequences, with the mRNA essentially forming a tether between the magnet and the nanorattle.

After a washing step to remove unbound nanorattles, the clinician can then use a handheld device to illuminate the bound nanorattles and see if any light is emitted by them, highlighting the presence of the mRNA biomarkers.

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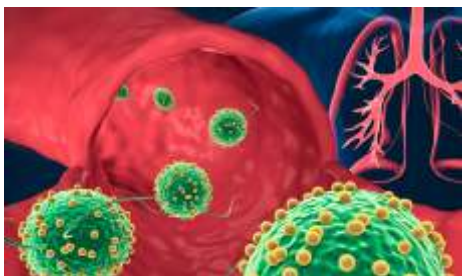
# Microrobot system to treat bacterial pneumonia

Researchers at the University of California San Diego have developed a microrobot system to treat bacterial pneumonia. The microrobots consist of living algal cells that can swim very effectively in biological fluids, allowing them to navigate throughout the lungs and deliver drugs to difficult-to-reach areas. The algal cells are studded with antibiotic-loaded polymer spheres that are coated with cell membranes from neutrophils, which help them to neutralize inflammatory molecules that are released by bacteria in the lungs, providing a localized anti-inflammatory effect. In tests in mice with bacterial pneumonia, the microrobots helped to clear the infection. All the treated mice survived for at least 30 days, whereas untreated mice died within three days.

Bacterial pneumonia can have dire consequences for patients, particularly since it can often develop when someone is mechanically ventilated and already in a serious condition. It can also be difficult to treat. Simply administering large doses of antibiotics into the blood stream may not work so well, as very little of the dose ends up where it is needed in the lungs.

There is a need for more targeted and effective therapies. This prompted these UCSD researchers to create a localized therapy that can actively swim into the lungs and deliver drugs exactly where they are needed. "Our goal is to do targeted drug delivery into more challenging parts of the body, like the lungs," said Liangfang Zhang, one of the creators of the new microrobots. "And we want to do it in a way that is safe, easy, biocompatible and long lasting. That is what we've demonstrated in this work."

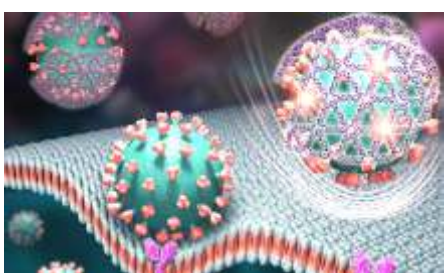


The researchers chose algae as a delivery vehicle for antibiotics. The algal cells are highly adept at swimming through biological fluids, such as the thick mucus that is typically present in the lungs of someone with pneumonia. They attached antibiotic-loaded polymer spheres to the outside of the algal cells, and also coated the spheres in neutrophil membranes for added anti-inflammatory action.

They tested the microrobots in mice with pneumonia caused by Pseudomonas aeruginosa. This type of pneumonia tends to occur in patients who have undergone mechanical ventilation, and it can be life-threatening. The team delivered the microrobots into the lungs using a tube inserted into the trachea. In the treated mice, the infection cleared up after a week, and all survived, whereas the untreated mice died in as little as three days. The approach was also more effective than IV antibiotics, requiring a fraction of the dose to effectively treat the infection.

"With an IV injection, sometimes only a very small fraction of antibiotics will get into the lungs. That's why many current antibiotic treatments for pneumonia don't work as well as needed, leading to very high mortality rates in the sickest patients," said Victor Nizet, another researcher involved in the study. "Based on these mouse data, we see that the microrobots could potentially improve antibiotic penetration to kill bacterial pathogens and save more patients' lives."

# DNA net system for Sars-CoV-2 binding



A team at the University of Illinois at Urbana-Champaign has developed a DNA net system that can ensnare Sars-CoV-2 and bind to the notorious spike protein. The nets contain aptamers that bind the spike protein and emit an intense fluorescent signal once they're bound together to the protein. This signal can be easily measured using a handheld fluorimeter. The technology provides a rapid and accurate way to test for the presence of the virus, and the researchers report that it has similar sensitivity as the current gold-standard test, PCR. However, the technology is not just envisaged as diagnostic. The nets can bind and disable the virus, suggesting that they may also have therapeutic applications.

While the pandemic may be winding down, the risk of new variants is ever present. Moreover, no-one knows when the next pandemic will arise, so the technologies we develop now will doubtless help us when new viruses emerge. This latest technology could do just that, and it has the potential to be both diagnostic and therapeutic.

"This platform combines the sensitivity of PCR and the speed and low cost of antigen tests," said Xing Wang, one of its developers. "We need tests like this for a couple of reasons. One is to prepare for the next pandemic. The other reason is to track ongoing viral epidemics — not only coronaviruses, but also other deadly and economically impactful viruses like HIV or influenza."

The DNA nets created by these researchers can rapidly and inexpensively provide Sars-CoV-2 detection. The system involves a user mixing a patient sample with the DNA nets, and then employing a handheld fluorimeter to detect if the aptamers present have bound to the viral spike protein.

"I had this idea at the very beginning of the pandemic to build a platform for testing, but also for inhibition at the same time," Wang said. "Lots of other groups working on inhibitors are trying to wrap up the entire virus, or the parts of the virus that provide access to antibodies. This is not good, because you want the body to form antibodies. With the hollow DNA net structures, antibodies can still access the virus."

The system may be suitable for point-of-care use, as it does not require any specialized equipment and is relatively inexpensive, costing approximately $1.26 per test. The technology can also be easily adapted to help detect other viruses.

"Another advantage of this measure is that we can detect the entire virus, which is still infectious, and distinguish it from fragments that may not be infectious anymore," said Wang. "This not only gives patients and physicians better understanding of whether they are infectious, but it could greatly improve community-level modeling and tracking of active outbreaks, such as through wastewater."


# EHS honors pharmacists to mark World Pharmacists Day

Emirates Health Services (EHS) recently organized an event to celebrate World Pharmacists Day, to honor pharmacists' achievements and highlight the positive impact they make in the field of healthcare, as well as to enhance knowledge among pharmacists across EHS facilities to improve services provided to patients and other healthcare providers.

The event began with a speech by Dr. Abdulla Alnaqbi, Executive Director of Health Support Services Sector at EHS, where he applauded the great efforts made by pharmacists and drug industry professionals and the vital role they play in strengthening the healthcare services sector, noting the significant impact that pharmacists have in providing the sector with the latest breakthroughs in pharmaceutical technologies and medicines.

"On September 25th of each year, communities around the world celebrate World Pharmacist Day," Dr. Alnaqbi said. This occasion is dedicated to celebrating pharmacists and the critical role they play in healthcare systems and in ensuring the safe and healthy use of pharmaceuticals."

"Our plans and objectives are aligned with the national projects and strategies for the next 50 years," Dr Abdulla Alnaqbi said, "and with that in mind, we are multiplying our efforts to boost the efficiency of pharmaceutical work, enhance performance, and establish an environment that encourages creativity and innovation in the sector, which we consider to be a vital lifeline. Furthermore, we continue to work towards improving performance in the pharmaceutical sector, with numerous initiatives including robotic pharmacies, home delivery of medication, and many other outstanding pharmacy services."

**"On September 25th of each year, communities around the world celebrate World Pharmacist Day," Dr. Alnaqbi said. This occasion is dedicated to celebrating pharmacists and the critical role they play in healthcare systems and in ensuring the safe and healthy use of pharmaceuticals."**


The event included a series of activities presented by pharmacists, doctors, and specialists. The program began with two lectures titled 'Providing value-based healthcare' and 'Health efficiency and health technology assessment', which were presented by Dr. Omar Ali from the UK's National Health Services (NHS), who managed Entry of New Drugs, and the NHS Drugs and Therapeutics Committee Appraisals (NICE).

Activities also included a lecture titled 'Supervision of narcotic drugs' presented by Dr. Arwa Munser Al-Nahdi, Clinical Pharmacist and Pharmacist in charge of the Ibrahim bin Hamad Obaidullah Hospital Pharmacy, as well as a lecture on 'Excellence in operations and automation', featuring Khamis Al Mazrouei.

Moreover, the event included a lecture titled 'A day in the life of a clinical pharmacist', presented by Dr. Saeed Hussein, Senior Clinical Pharmacist at the Global Medical Solutions Department of Pharmacy at Zayed Military Hospital, in addition to a session titled 'A new era in the management of hyperlipidaemia', presented by Dr. Louay Abu Daqa, Specialist Interventional Cardiologist at Al Qassimi Hospital.

The list of activities continued with another lecture by Dr. Omar Ali on 'Gene therapy', followed by a discussion that brought him together with Dr. Arwa Al-Nahdi.

# ACRAS is back for its 2nd edition

ACRAS, the Aesthetic and Cosmetic Regulatory Affairs Summit, the platform for Regulatory affairs Officials and Industry Leaders to discuss Regulations and Legislation to improve the application for products and procedures to enhance the safety for the Medical Professionals and their patience in the Middle East.

This 2nd edition of the Aesthetic and Cosmetic Regulatory affairs Summit is under the patronage of the Jordan food and Drug Administration, and the summit this year will have in-depth sessions and interactive trainings, with highlighted and key topics of this year, which are: Regulatory Updates from Individual countries, Medical Device Regulations, Injectable Fillers, Regulatory Overview of Cosmetic Manufacturing, Non-Medical Cosmetics Regulations, Preventing Counterfeit Products & Discussing Freezone Regulations for Cosmetics.

Dr. Mona Al Moussli, The Co-Founder & Managing Director of PRA Consultancy that is powering ACRAS, mentioned that "ACRAS is essential in analyzing existing and upcoming regulations in the Middle East since it is necessary for all regulatory affairs professionals to remain up to date on the most recent developments in the approvals process. Additionally, I believe that networking is the key to success in the field of regulatory affairs."

The purpose of the ACRAS is to raise awareness about current and impending restrictions in the booming aesthetics market.

The summit serves as a focal point for the four cardinal points for government officials and business executives from the industry to exchange information and work out shared problems in the cosmetic, medical device, and aesthetics industries.

This year, the ACRAS is expected to have over 250 professionals, delegates & speakers from governmental entities and field professionals. All attendees will be gathered to participate in industry leaders' debates, in-depth discussions, analyses, Q&A, round tables' meetings & much more on site in Dubai UAE.

Dr. Najiba Al Shezawy, the Managing Director of PRA Consultancy & one of the founders of ACRAS, states: "This year, the event is going to be on-site in Dubai and it is under the patronage of the JFDA. ACRAS 2022 is tailored to fulfill the best measures of engagement and networking for all the attendees."


She adds: "ACRAS will be the place to learn, talk about, and network. The summit is intended to be as illuminating and educational for everyone as possible. It will provide a lot of fresh and current information cosmetics, medical device, and aesthetic regulations. This is a must-attend event for all field professionals and specialists in the Middle East, therefore it is quite exciting for sponsors, speakers, representatives, and exhibitors to magnify and highlight their presence and to connect and engage at ACRAS, as well as to exchange insightful and useful knowledge, and most importantly, learn from one another."

The 2nd edition of ACRAS is back, and it will be on-site at Marriot Al Jaddaf Hotel, Dubai - UAE. The Summit will consist of:

**1-Regulatory Affairs Summit:** 8th & 9th of November 2022

**2 - Vigilance Training:** 10th of November 2022

# Ambulatory Healthcare Services unveils new mobile preventive and treatment services

**In line with its continuous endeavors to provide the community with easy access to high quality medical services, Ambulatory Healthcare Services, a SEHA Healthcare Facility, has launched new mobile preventive and treatment services in Abu Dhabi.**

**The new mobile solution provides specialty consultations, chronic disease management, "Ifhas" comprehensive screening program, premarital, pre-university, and pre-employment screening, adult and child vaccinations, physiotherapy, body mass analysis, hearing testing, vision testing and a range of diagnostic services, such as ECG, ultrasound, heart stress test & comprehensive lab tests.**

**Commenting on the launch, Dr. Noura Al Ghaithi, Acting Chief Executive Officer of Ambulatory Healthcare Services, said: "As life's demands increase, some of us may neglect their health because they have no time to see the doctor, or in some cases the elderly are resistant to visiting the clinic, while others may want more privacy when seeking their care. That is why we are launching our new mobile offering today.**

**"Through this new clinic we can provide our patients with access to a wide range of preventive and curative specialized services for our patients at their homes and with the same high levels of quality and safety that we follow in our centers. Through tapping into the specialists at our multi-specialty centers spread across Abu Dhabi, we are also able to send the specialized doctors to our patients based on their medical needs."**

**Patients will be able to request specialized doctors from a wide range of specialties, including family medicine, pediatric, internal medicine, diabetes and endocrinology, gastroenterology, dermatology and more.**

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MEDIWORLD Middle East

# Burjeel Medical City successfully carries out its 1st kidney transplant


Providing an option for local and international patients to undergo kidney transplantation in private hospitals in Abu Dhabi, Burjeel Medical City (BMC) has started performing kidney transplantations.

The first such transplantation was successfully performed on a patient from Kazakhstan at BMC, a quaternary healthcare center of excellence under Burjeel Holdings.

The patient had end-stage renal failure and was undergoing dialysis since March 2022. "The patient was physically fit and did not have other contraindications. The surgery was conducted after both the patient and the donor (the patient's nephew) underwent thorough evaluations and were deemed fit for the procedure," said Dr. Rehan Saif, Director - Transplant Surgery, BMC.

Dr. Venkat S Vellanki, Consultant Nephrologist, BMC, who was also part of the medical team, said, "Very few institutions can offer 360-degree, 24x7 care for kidney patients with complex medical requirements under one roof. We have a multidisciplinary team backed by cutting-edge technology to facilitate kidney transplantation service. BMC can efficiently meet kidney patients' diverse and personalized needs."

The donor surgery was performed using the latest 3D laparoscopic technology, a minimally invasive method meant to improve donor safety. After the donor surgery was completed in four hours, the back bench preparation of the graft took 45 minutes. The recipient surgery was completed in four hours. According to the medical team, both the patient and the donor are recovering well.

Naser Al Riyami, Chief Operating Officer, BMC, said, "Our longstanding experience in healthcare has taught us valuable lessons in meeting the needs and requirements of people from around the world. We take our responsibility of providing patients with exceptional service and medical care seriously. We hope that such procedures will attract more medical tourists to the UAE. In the future, we aim to set a benchmark in the area of kidney transplants."

# Abu Dhabi unveils new funding program, for supporting research and innovation to fight life-threatening diseases

Abu Dhabi has launched a new program of funding aimed at supporting research and innovation to fight life-threatening diseases.

The emirate's Department of Health said the grant will be offered to those who carry out clinical research projects in the areas of cardio-metabolic and vascular disorders, cancer, Alzheimer's disease, rare diseases, emerging infectious disease and antimicrobial resistance.

It is also open to people who have innovative technological ideas and solutions focusing on smart hospitals and the prevention & management of chronic diseases, a news release said.

The winners will also receive guidance to ensure project continuity and sustainability.

A committee of experts from the Department of Health - Abu Dhabi (DoH) and Abu Dhabi Health Research & Technology Committee will evaluate and assess submissions. It will be headed by Dr. Asma Al Mannaei, executive director of the research and innovation center at the DoH.

"As part of the DoH's efforts to [support] the capital's position as a leading destination for life sciences and innovation, we are committed to enabling and empowering innovators and researchers within our community to take their passion projects to the next stage," she said.

"With Abu Dhabi providing the right environment for individuals and companies to thrive, we are thrilled to put forward this grant that will expand clinical research capabilities in the emirate as well as conceptualize unique projects in the capital.

"We look forward to receiving and reading through all entries as well as providing guidance to all applicants. This is an exciting milestone for the healthcare sector that will spread a fine share of healthy competition among science and technology fanatics."

To offer the grant, DoH has partnered with the emirate's healthcare sector, government and non-government entities in the UAE.

Abu Dhabi aims to become a destination of choice for clinical trials and collaborative healthcare research.

# Unit 9 launches in West Midlands

Unit 9 is a short-term incubator that is intended to bridge the gap for young companies that need space, equipment and facilities, but do not have the funding for initial capital equipment.

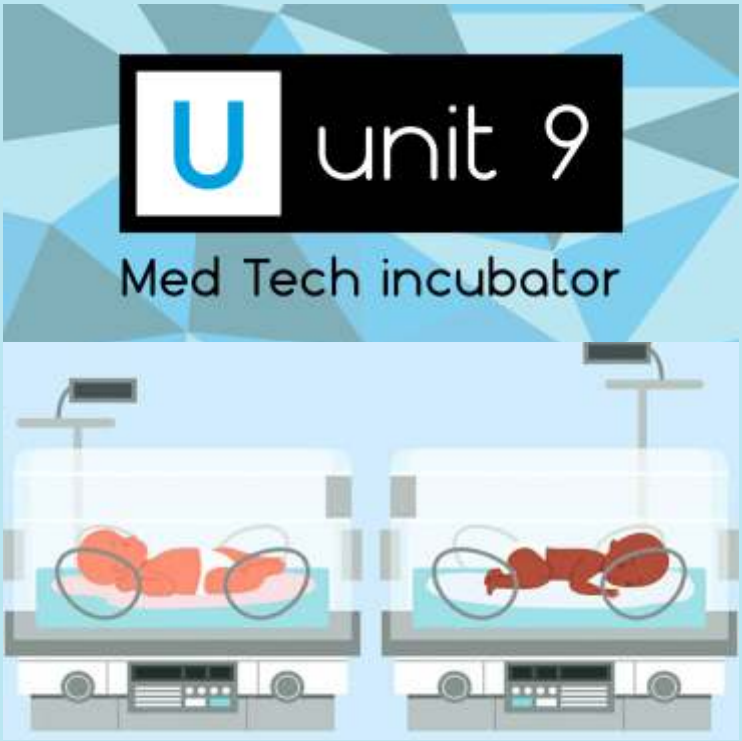
This new space will help companies that are looking to develop innovative devices, medicines, procedures, or systems to solve a health problem or improve quality of life. Through growing industries around these activities, it will contribute to retaining businesses and talent in the West Midlands.

David Coleman, CEO of University of Birmingham Enterprise, said: "The West Midlands has strengths that are the building blocks for future health innovation – expertise in digital healthcare and health data, anchor businesses in diagnostics and testing, and a strong track record in manufacturing medical devices. The Midlands produces medical innovation, but there is no short-term incubation specifically for early-stage medical technology companies, so the region risks losing these innovative young companies, and the jobs and training opportunities they could provide."

David Hardman, interim deputy chair, Greater Birmingham and Solihull Local Enterprise Partnership (GBSLEP) commented: "Scaling up start-up businesses is critical to delivering GBSLEP's mission to drive inclusive, sustainable growth. From our regular engagement with businesses, we understand how important it is for growing medical technology businesses to have access to good space and talent. That's why Unit 9 will play an important role in strengthening this region's reputation in supporting growth businesses in this sector."

Dr. Jamie Elliott, innovation lead for West Midlands Combined Authority, said: "The Unit 9 incubator is a fantastic initiative supported through the West Midlands Innovation Program. Analysis of the sector identified a clear need for short-term laboratory space and the pilot incubator was endorsed by the West Midlands Innovation Board. This initiative strengthens our innovation ecosystem and supports the region's ambitions of growing the health and medical technology cluster. I hope that proposals coming forward for the regional Innovation Accelerator will build on this initiative and generate further capabilities in this area."

Unit 9 is based at the Birmingham Research Park, a location that provides easy access to both the University campus and the Queen Elizabeth Hospital. Tenants will also benefit from business support provided by University of Birmingham Enterprise, an equipment-sharing agreement with the University of Birmingham, and facilities for cell culture or microbiology work at the BioHub Birmingham.




**This new space will help companies that are looking to develop innovative devices, medicines, procedures, or systems to solve a health problem or improve quality of life. Through growing industries around these activities, it will contribute to retaining businesses and talent in the West Midlands.**

Companies applying for a tenancy at Unit 9 need not have a formal business plan but will be expected to articulate their plans and ambitions during the application process.

The license fee is based on an escalator rent model that matches commercial rents by year three. The pricing model provides a realistic timeframe for companies to finesse their businesses and meet development milestones. GBSLEP's Growth Hub business support specialists will work with companies so they can transition their operations to a new base within the West Midlands region at the end of the license period.

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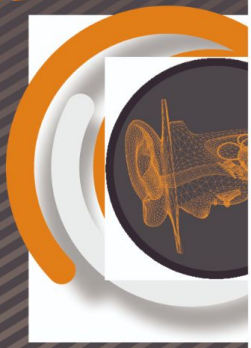

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## Dr. Aseel Abdul Ghani Alyozbakee

**MBCHB, FIBMS, Arab BoardConsultant, Obstetrics & Gynecology (Danat al Emarat Hospital)**

**Education:** Dr. Alyozbakee completed her MBCHB in 1995 at Baghdad University. She is Arab Board certified and a fellow of the Iraqi Board for Medical, specialized in Obstetrics & Gynecology in 2005. Her other qualifications include a FIBMS in Obstetrics & Gynecology, as well as a Master's Degree in Reproductive Medicine from the Homerton Fertility Center in London, a Master's Degree in Fetal Medicine from Bristol University, UK and an MRCOG Part 1 from the UK.

**Experience:** With over 21 years of experience, Dr. Alyozbakee has worked in Iraq at the Ministry of Health before moving to Amman, Jordan to work at Specialty Hospital as a Obstetrics & Gynecology from 2005 to 2008. After this, she worked in the Family Healthcare Center in Al Ain as a Gynecologist before going on to work in Specialized Medical Care Hospital as a specialist of Obstetrics & Gynecology from 2009 until 2016. She also has teaching experience in cervical cancer from the Family Development Foundation in Al Ain, as well as in Abu Dhabi. Furthermore, she has taught antenatal classes, stem cell benefits classes and provided training of the early detection of breast cancer, all at the Specialized Medical Care Hospital in Al Ain.

## Dr. Abdul Razzak Alkaddour

**American Board Certified In Internal Medicine With Sub-Specialty In Cardiology Consultant, Cardiology (Danat Al Emarat Hospital)**

**Education:** Dr. Abdul Razzak Alkaddour earned his Medical Degree from University of Aleppo, Syria 1978. Dr Abdul Razzak completed his postgraduate training at Mercy hospital- University of Illinois, Chicago. USA, 1989. He is Board certified in Internal medicine with sub specialty in cardiovascular disease. He's a member of many high profile scientific organizations including American College of Physicians, American College of Cardiology, European Society of Cardiology, European society of Cardiology and Emirates Cardiac society.

**Experience:** Dr. Abdul Razzak currently holds the position of Cardiology and Internal Medicine Consultant at Danat Al Emarat Hospital. He has over 33 years of experience in many leading medical organizations in USA, Syria and UAE. He has a special interest in preventive cardiology and tobacco addiction counseling and treatment.

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**International Paediatric Neurodisability & Neurorehabilitation Conference**

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**Abu Dhabi, UAE**

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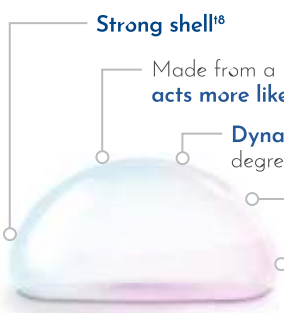

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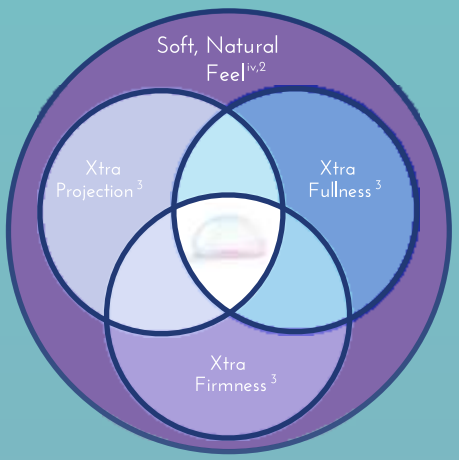
** Based on patient survey at 10 years in the Mentor® MemoryGel™ Breast Implant 10-Year Core Gel Clincial Study Final Report.
† Head-to-head testing according to industry standard ASTM D412 test method for rubber properties in tension (v. 9901) between MemoryGel® (n=10) and Natrelle Inspira (n=10)

# Why MemoryGel™ Xtra Breast Implants?[1]

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iv. Mentor Consumer Preference Market Research Report July 2017.



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