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appointed regional director

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- Using next-gen CRISPR tool, scientists create unprecedented molecular map of human immune response
- Researchers develop novel AI system that can diagnose autism in children under two with 98.5% accuracy
- New retrospective research reveals 'best approach' for detection of maternal sepsis
- Scientists find new, better way to develop vaccines



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Prognosis

Innovations in Atrial Fibrillation treatment

In this issue we look at atrial fibrillation (AF) – specifically a new guideline for preventing and optimally managing AF issued by The American College of Cardiology and the American Heart Association. AF, a common heart rhythm disorder affecting millions worldwide, has witnessed groundbreaking advancements in medical treatments. The latest developments offer hope for improved patient outcomes, emphasizing precision, efficacy, and patient-centric care.

One of the most promising breakthroughs is the advent of personalized medicine in AF management. Researchers have delved into genetic and molecular profiling to identify individual variations that influence the course of AF. Tailoring treatment strategies based on a patient's unique genetic makeup enables more targeted interventions, optimizing therapeutic outcomes while minimizing side effects.

Catheter ablation, a widely used procedure for AF, has also seen significant enhancements. The incorporation of advanced mapping technologies, such as high-resolution three-dimensional mapping systems, allows for more accurate identification of abnormal electrical signals within the heart. This precision improves the success rates of ablation procedures and reduces the risk of complications.

Regarding pharmaceutical treatment, novel antiarrhythmic drugs with improved safety profiles are emerging. These medications target specific pathways implicated in AF, offering a more refined and effective approach to rhythm control. Moreover, ongoing research focuses on the development of anticoagulants with enhanced efficacy and reduced bleeding risks, addressing a critical aspect of AF management and reducing the burden of stroke in affected individuals.

Digital health technologies are also making a significant impact on AF care. Wearable devices equipped with advanced sensors and artificial intelligence algorithms enable continuous monitoring of heart rhythm outside traditional healthcare settings. This real-time data empowers both patients and healthcare providers to proactively manage AF, ensuring timely interventions and reducing the likelihood of complications.

Telemedicine has become an integral part of AF management, providing remote access to specialized care and facilitating timely consultations. This has proven especially beneficial for patients in remote areas or those with limited mobility.

As these innovations continue to reshape the landscape of AF treatment, the future holds promise for more individualized, efficient, and accessible care. These developments not only enhance the quality of life for individuals living with AF but also mark a significant stride towards a more holistic and patient-centred approach in cardiac healthcare.

Arab Health 2024

Middle East Health is an official media partner for Arab Health 2024, taking place at the Dubai World Trade Centre. Many of our clients in this issue will be present at this important event for the medical industry. You will find their booth number along with their news story in this issue. Please give them your support.

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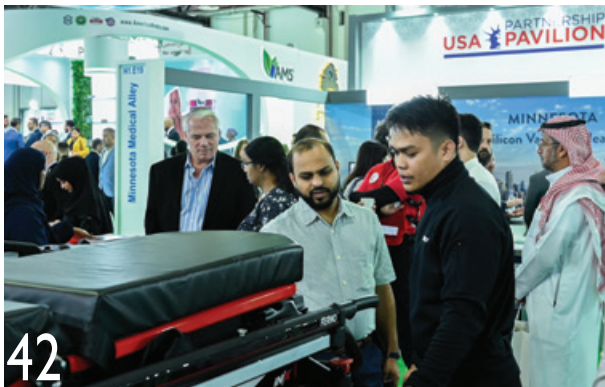


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COP28 / Mark Field

Innovations in Ophthalmology:

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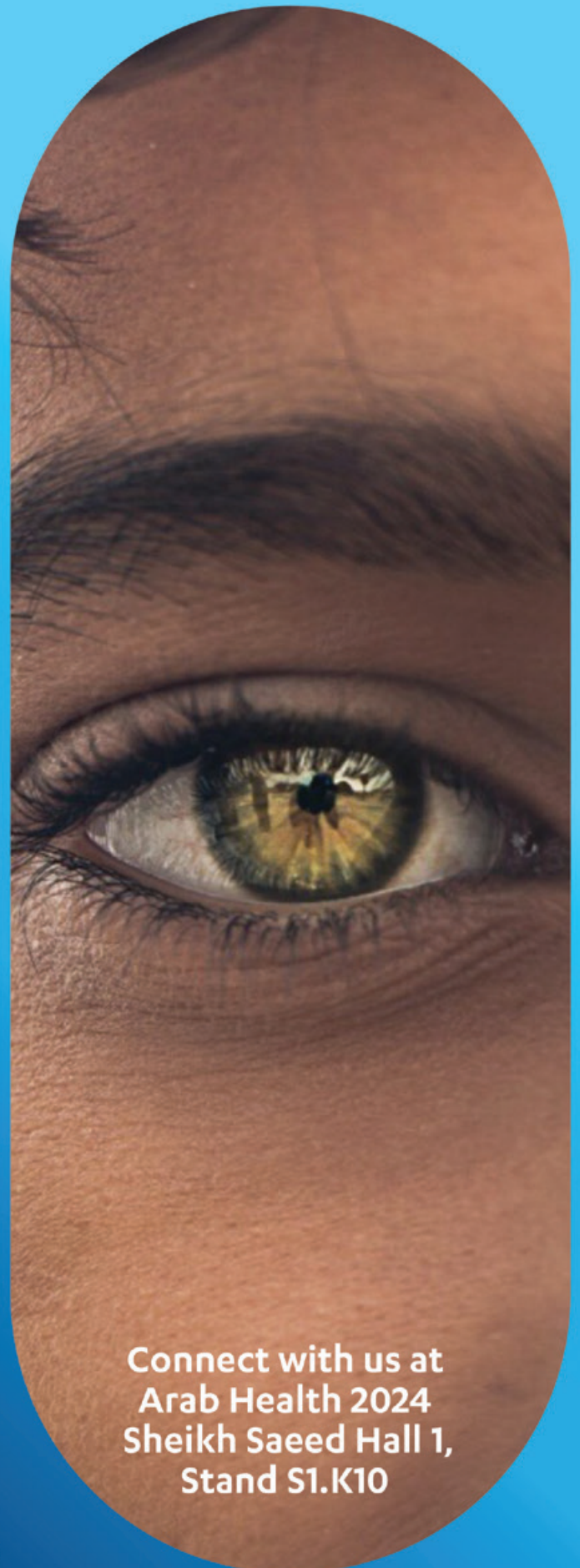
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middle east monitor

Update from around the region

Saudi scientist appointed new regional director of WHO EMRO

The World Health Organization has appointed the leading Saudi public health expert Dr Hanan Balkhi as Regional Director of its Eastern Mediterranean Office after a vote from member states at the organization’s regional committee meeting in Cairo. She is the first woman to be appointed to this position. She will assume the post on 1 February 2024 for a period of five years.

The region comprises some of the world’s richest countries – Qatar, the United Arab Emirates, Saudi Arabia, Bahrain, Kuwait and Oman – and the poorest – Afghanistan, Yemen, Sudan and Somalia. Iran, Iraq and Pakistan are all part of the region WHO EMR region.

Dr Balkhi is a Saudi scientist and an international expert in her field. For more the 25 years, she has worked in public health and communicable diseases, during which time she has acquired comprehensive expertise in managing disease outbreaks.

She holds a bachelor’s degree in medicine and surgery from King Abdulaziz University and a fellowship in the field of paediatric infectious diseases from Case Western Reserve University.

In Saudi Arabia, she has held the position of Head of the Department of Infectious Diseases at the King Abdulaziz Medical Center, and Head of the Infectious Diseases Department at the King Abdullah International Medical Research Center. During



her distinguished career, Dr Balkhi was appointed Assistant Director-General of WHO for Antimicrobial Resistance in Geneva in May 2019.

Dr Balkhi has held many leadership positions that contributed to the formulation and implementation of health policies that have a direct impact on public health. As part of her work, she ran a national research programme promoting the “One Health” concept.

She received significant awards including the International Researcher Award, Senior Leadership and Scientific Research Award, and the SHEA-APIC Partnership Award. MEH

Siemens Healthineers appoints Vivek Kanade as new Head for its Middle East and Africa operations

Siemens Healthineers, has appointed Vivek Kanade as the new Head for the company’s business/operations in the Middle East and Africa (MEA). The appointment, effective 4 December 2023, follows the company’s decision to unite its operations across the Middle East and the African continent with the aim to better serve the diverse needs of healthcare providers and communities.

Kanade is a Siemens veteran bringing more than 30 years of experience in the company from across different geographies and functions. In his previous role, Kanade held the position of Head of Strategy for the company’s expansive Asia Pacific Japan region, prior to which Kanade was the Head at Siemens Healthineers for India, Bangladesh, Nepal, Sri Lanka, Bhutan and the Maldives. During this time, he was also Co-Chair at NatHealth

in India, actively advising the Indian medical technology industry.

Commenting on the appointment, Kanade said: “As we strengthen our role as a trusted healthcare partner in this diverse growth region, this structural consolidation enables us to pool our strengths in following our core objectives, which include enhancing Access to Care and paving the way for better healthcare infrastructures in our markets. I am humbled and excited to start this new position, and look forward to uniting our strengths across the new zone and creating a positive difference in the lives of millions of patients across the Middle East and Africa.”

A strong focus area for Kanade will be Access to Care, a Siemens Healthineers initiative structured around providing



Vivek Kanade is the new Head of Siemens Healthineers business/operations in the Middle East and Africa

healthcare to everybody, everywhere. The initiative entails improvement of healthcare infrastructure, tackling the shortage of qualified staff and availability of healthcare provision for rural and underserved communities to making a lasting impact where it is needed the most. MEH

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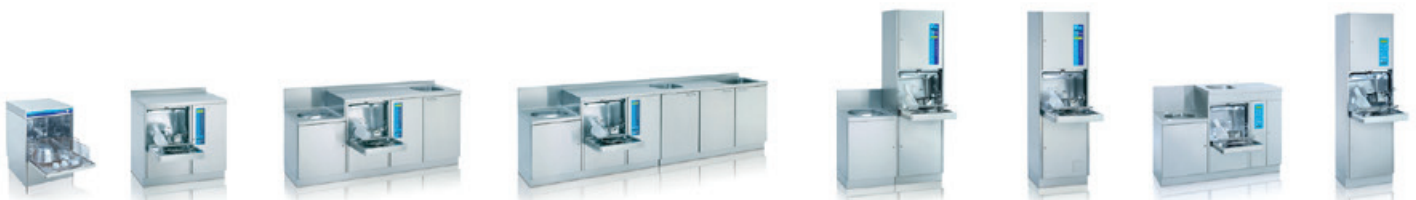
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Survey finds urgent need to increase awareness of thalassemia

To facilitate greater awareness of thalassemia, a hereditary hemoglobinopathy, BGI Genomics recently released its State of *Thalassemia Awareness Report*. The report assesses the level of knowledge and attitudes related to the associated health risks, thalassemia carrier screening, and genetic counselling for carriers. The report draws information from a survey of 1,847 female respondents from six countries with high thalassemia prevalence: Azerbaijan, China, Indonesia, Kuwait, Saudi Arabia, and Thailand.

94.1% of Kuwaiti women considered screening after learning about associated thalassemia health risks and costs which is higher than the global average of 84.5%. If both partners are thalassemia carriers, 38.1% of Kuwaiti women can persuade their partners to seek genetic counselling and consider preimplantation genetic diagnosis (PGD) which is lower than the global average of 50.9%.

Survey findings highlighted the urgent

need to improve awareness, address barriers, and enhance access to screening:

- **Awareness:** 70.5% of women did not know much about thalassemia symptoms and the associated health risks, with another 14.4% indicating they had never heard about thalassemia.

- **Accessibility:** Hospitals or agencies nearby that provide screening services (43.1%), cost of screening services (38.1%), and before getting married or having children (35.3%) are the top reasons that affect the willingness to undergo thalassemia screening.

- **Genetic counselling:** If both partners are thalassemia carriers, 50.8% of women can persuade their partners to seek genetic counselling and consider PGD. If women have obtained information about thalassemia from health awareness programmes, this percentage rises to 59.5%.

Dr Zhiyu Peng, BGI Genomics deputy general manager, noted: “This survey shows that enhancing awareness and ac-

cessibility are an important first step in thalassemia control programmes. Region-specific screening and treatment programmes, customized to align with local healthcare resources and cultural values, are also vital to identify thalassemia patients and carriers.”

Dr Androulla Eleftheriou, Thalassaemia International Federation executive director, commented: “Enhancing awareness is a crucial first step in promoting individual behaviour changes and policy reforms, ultimately leading to improved prevention, control, and management of thalassemia. Screening services – a key component of any effective national control programme – needs to consider cultural and socio-economic backgrounds. We welcome BGI Genomics efforts and reaffirm our commitment to further expanding thalassemia awareness on a global scale.” MEH

- Read the full BGI Genomics State of State of Thalassemia Awareness Report 2023 here: <https://cutt.ly/PwYL7HYI>

Saudi German Health establishes Sigma Chapter for nurses in KSA

Saudi German Health (SGH) a leading healthcare group in the Middle East and North Africa (MENA) region, has received approval to establish a SIGMA Chapter of the Sigma Theta Tau International Honor Society of Nursing. Sigma has more than 100,000 active members and 600 chapters. The establishment of this chapter in Saudi Arabia represents a significant milestone in the SGH's journey to empower the nursing workforce and promote nursing excellence.

In line with Saudi Arabia's national transformation strategy to improve the healthcare sector, SGH is committed to supporting the nursing profession and

elevating the status of nursing practice. The Sigma chapter will provide exceptional opportunities for nurses' professional development, training, and education. It will also develop the capacities of clinical nurses and nursing students by providing a wide variety of professional development activities, including courses, workshops, and conferences.

The Sigma chapter will further support transformational leadership strategies that the Group embraces in its business. The chapter will help nurture and empower nurse leaders by providing access to leadership development programmes, mentorship and networking opportunities with larger nursing communities worldwide.

Sigma has a long-standing reputation for

its commitment to promoting nursing research and evidence-based practice. By encouraging research initiatives among nurses and nursing students, the newly established Sigma chapter will emphasise the importance of knowledge translation that will directly contribute to enhancing patient care, improving clinical outcomes, and driving healthcare innovation in the region.

Dr Ahmed Shebl, Group Chief Executive Officer at SGH, said: “We are confident that a local Sigma chapter in Saudi Arabia will have a lasting impact on the nursing community and healthcare delivery.” MEH

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MSD Gulf awarded Medical Education Partner of the Year by Emirates Oncology Society

Global biopharmaceutical company MSD GCC has won the prestigious 'Medical Education Partner of the Year' Award from the Emirates Oncology Society (EOS). This accolade is a testament to MSD's commitment to advancing healthcare by developing innovative multidisciplinary educational programmes.

Commenting on the achievement, Professor Humaid Al Shamsi, President of the Emirates Oncology Society, said: "We are pleased to honour MSD, acknowledging their steadfast dedication to advancing healthcare through the development of innovative educational and multidisciplinary programmes. This recognition underscores MSD's dedication to improving healthcare standards and outcomes, ultimately benefiting patients and the medical community. We look forward to continuing our collaborative efforts to further advance various aspects of the healthcare industry".

The award recognizes MSD's commitment to advancing the healthcare industry and



improving patient care through the development of unique and innovative programmes such as 'Angels', designed to equip nurses with the knowledge and skills needed to manage immune-related adverse events efficiently.

Other programmes include "Link Mdt" which focuses on strengthening Multidisciplinary Team (MDT) practices by building connections between Lung cancer MDTs in the Gulf region and established lung cancer MDTs in other countries. Through this programme, MSD is facilitating collaborations and knowledge exchange, which contribute

to enhancing the quality of patient care and expertise in lung cancer management.

MSD also developed the 'Networks of Immuno-oncology' programme that establishes connections and networks among oncologists and provides them with the latest updates related to cancer immunotherapy. Through this program, oncologists can share their clinical experience and best practices in the field. With this, MSD aims to advance the effective application of immunotherapy in the treatment of cancer and improve patient outcomes. **MEH**

Biosense Webster launches 'Get Smart About AFib' campaign in KSA

As part of its commitment to support the Saudi Vision 2030, and the Health Sector Transformation Program underway in Saudi Arabia, Biosense Webster ME, part of the Johnson & Johnson MedTech family of companies, has launched the 'Get Smart About AFib' campaign in the Kingdom < <https://getsmartaboutafib.net/ar-SA> >.

The public health campaign will focus on supporting education and detection of Atrial Fibrillation (AFib) in patients in KSA. As part of the efforts to improve care and treatment, the 'Get Smart About AFib' campaign will help raise awareness and reduce the risks of AFib, which accounts for 37 per cent of all deaths in Saudi Arabia, according to the Saudi Ministry of Health. The campaign is endorsed by the Saudi Heart Rhythm Society (SHRS), which works with Johnson & Johnson MedTech to raise awareness of AFib and improve heart health in the Kingdom.

Doaa Ebada, Business Unit Director of Cardiovascular and

Specialty Solutions at J&J MedTech, said: "Johnson & Johnson MedTech is committed to supporting public awareness of critical health conditions, including atrial fibrillation. We are working closely with the government and stakeholders in the private sector to educate patients, care professionals, and the community about atrial fibrillation, its chronic symptoms, and the importance of managing and diagnosing it.

"For over 20 years, Biosense Webster has pioneered the development of medical procedures to treat AFib and through our partnerships, with both the medical and patient communities we aim to deliver on our promise to heal the hearts of thousands of patients. We need to continue our urgent focus on this rising epidemic of Atrial Fibrillation and are proud to be launching this new campaign which aims to tackle this public health challenge head-on," Ebada added. **MEH**



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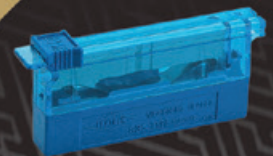
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Medical research news from around the world

Using next-gen CRISPR tool, scientists create unprecedented molecular map of human immune response

In a study of historic scale, scientists at Gladstone Institutes have created an intricate map of how the immune system functions, examining the detailed molecular structures governing human T cells using the next-generation CRISPR tool known as base editing.

Their findings, published in *Nature*^[1], uncover detailed information that could help overcome the limitations of today's immunotherapies and identify new drug targets for a wide range of diseases, including autoimmune diseases and cancer.

Led by Gladstone senior investigator Alex Marson, MD, PhD, the team dove deep into the DNA of T cells, pinpointing specific nucleotides – the basic units of genetic information in DNA – that influence how immune cells respond to stimuli. In all, they scrutinized more than 100,000 sites across nearly 400 genes found in functioning human T cells.

Nucleotides serve as the basic code for constructing proteins in cells, so by identifying these specific units of DNA the scientists now have clarity into exact locations within proteins that tune immune responses critical for health. The results serve as a bullseye, marking sites that can be targeted with future immune-modulating drugs.

"We've created astoundingly precise and informative maps of DNA sequences and protein sites that tune actual human immune responses," said Dr Marson, who is also director of the Gladstone-UCSF Institute of Genomic Immunology and the Parker Institute for Cancer Immunotherapy at Gladstone Institutes. "Our mapped sites provide insights into mutations found in patients with immune disorders. The enormous genetic dataset also works as a sort of cheat sheet, explaining biochemical



Gladstone Institutes, 2023

code that will help us program future immunotherapies for cancer, autoimmunity, infections, and beyond."

T cells play a central role in immune response and regulation, as such they are of strong interest to scientists looking to solve complex diseases such as cancer or immune disorders. For the past decade, the Marson lab and others have established the gene-editing technology CRISPR to study how primary immune cells work. For this study, the team went a step further, leveraging a newer CRISPR-based technology known as base editing to make more targeted changes to hundreds of thousands of DNA sites across individual genes – painting a much more nuanced picture at high-resolution.

Because the study was conducted using primary T cells sourced from human blood donors, results hold great clinical relevance, noted Ralf Schmidt, MD, co-first author of the paper. Dr Schmidt, a medical fellow at the Medical University of Vienna, is a former postdoctoral researcher at Gladstone Institutes.

"This study is zooming into the genetic basis of immune cell functions," Dr Schmidt said. "We can now interrogate T

cells at nucleotide resolution, generating blueprints for drug development, diagnostics, and further scientific endeavours."

With immense pools of data generated from the more-than-100,000 sites on T cells, computational genomics became a critical piece of the study. Carl Ward, PhD, a Gladstone postdoctoral researcher and co-first author, led the team's efforts in this area, keying in on important measures of cell function to create what he hopes can serve as an indispensable resource for immunologists and drug developers alike.

"We can now assign functions to specific mutations that had been a mystery," Ward said. "Our detailed functional maps also can be combined with existing datasets and AI tools to amplify our discoveries and predict new avenues of investigation."

Ward notes that the new *Nature* study is just the beginning of a new chapter of immune cell discoveries: "Our tools for solving disease are going to get better and better," he says. "We're nearing a point where we can use these maps to design therapies that can tune up the T cell function for cancer treatments or tune it down to treat autoimmune disease." MEH

Reference:

1. Schmidt R, Ward C., Dajani R. et. al. Base-editing mutagenesis maps alleles to tune human T cell functions. *Nature*, 13 December 2023; doi: <https://doi.org/10.1038/s41586-023-06835-6>



Researchers develop novel AI system that can diagnose autism in children under two with 98.5% accuracy

A newly developed artificial intelligence (AI) system that analyzes specialized MRIs of the brain accurately diagnosed children between the ages of 24 and 48 months with autism at a 98.5% accuracy rate, according to research presented at the annual meeting of the Radiological Society of North America.

Mohamed Khudri, B.Sc., a visiting research scholar at the University of Louisville in Kentucky, was part of a multi-disciplinary team that developed the three-stage system to analyze and classify diffusion tensor MRI (DT-MRI) of the brain. DT-MRI is a special technique that detects how water travels along white matter tracts in the brain.

“Our algorithm is trained to identify areas of deviation to diagnose whether someone is autistic or neurotypical,” Khudri said.

The AI system involves isolating brain tissue images from the DT-MRI scans and extracting imaging markers that indicate the level of connectivity between brain regions. A machine learning algorithm compares the marker patterns in the brains of children with autism to those of the normally developed brains.

“Autism is primarily a disease of improper connections within the brain,” said co-author Gregory N. Barnes, M.D., Ph.D., professor of neurology and director of the Norton Children’s Autism Center in Louisville. “DT-MRI captures these abnormal connections that lead to the symptoms that children with autism often have, such as impaired social communication and repetitive behaviours.”

The researchers applied their methodology to the DT-MRI brain scans of 226 children between the ages of 24 and 48 months from the Autism Brain Imaging Data Exchange-II. The dataset included scans of 126 children affected by autism and 100 normally developing children. The technology demonstrated 97% sensitivity, 98% specificity, and an overall accuracy of 98.5% in identifying the children with autism.

“Our approach is a novel advancement that enables the early detection of autism in infants under two years of age,” Khudri said. “We believe that therapeutic intervention before the age of three can lead to better outcomes, including the potential for individuals with autism to achieve greater independence and higher IQs.”

According to the CDC’s 2023 Community Report on Autism, fewer than half of children with autism spectrum disorder received a developmental evaluation by three years of age, and

30% of children who met the criteria for autism spectrum disorder did not receive a formal diagnosis by 8 years of age.

“The idea behind early intervention is to take advantage of brain plasticity, or the ability of the brain to normalize function with therapy,” Dr Barnes said.

The researchers said infants and young children with autism receive a delayed diagnosis for several reasons, including a lack of bandwidth at testing centres. Khudri said their AI system could facilitate precise autism management while reducing the time and costs associated with assessment and treatment.

“Imaging offers the promise of quickly detecting autism in an objective fashion,” Dr Barnes said. “We envision an autism assessment that begins with DT-MRI followed by an abbreviated session with a psychologist to confirm the results and guide parents on next steps. This approach could reduce the psychologists’ workload by up to 30%.”

The AI system produces a report detailing which neural pathways are affected, the anticipated impact on brain functionality, and a severity grade that can be used to guide early therapeutic intervention.

The researchers are working toward commercializing and obtaining FDA clearance for their AI software. MEDI

Scientists find new, better way to develop vaccines

A new paper in *Biology Methods & Protocols* ^[1], published by Oxford University Press, indicates that researchers in Germany have developed a new system to display epitopes in mammal cells for immunization studies. They believe that this method can help scientists greatly in immunization efforts.

Promoting blood cells to produce antibodies against a specific viral protein is an important step in developing vaccines for human use. This can be challenging for researchers because whether the subjects develop antibodies depends on how scientists design and administer antigens, which are parts of the virus they’re ad-

ministering to test the effectiveness of the vaccine.

One very important aspect of virus research is how to express and purify the antigen for vaccination. Animals immunized with prepared antigens produce specific antibodies against the antigen. But scientists have to isolate the antigen


to ensure that they develop the vaccine to target the specific disease they wish to combat. Once researchers purify the antigen, they can develop vaccines that lead subjects to produce the desired antibodies. But this isolation is especially time-consuming when attempting to develop lab-produced antigens as a virus often mutates rapidly. It can take several weeks for scientists to develop the right antigens.

Here scientists developed a new method to induce target specific immune responses. By fusing antigen proteins into a tetraspanin-derived anchor membrane-bound protein, the researchers created fusion proteins that are displayed predominantly on the surface of

human cells. The exposition of proteins on the surface by a carrier protein induces the production of antibodies directed against the appropriate, relevant, antigens. Of additional advantage is that these antigens have the same conformation and modifications as the corresponding proteins in the virus because they are made by cells similar to that in the human body, which the virus infects naturally.

This new display technology could be a potentially much more reliable immunization technique. In the study the researchers were able to induce antibodies against different proteins with a focus on the receptor-binding domain of SARS-CoV-2, the virus that causes COVID-19. The de-

veloped anchor protein allows scientists to target a specific disease for immunization purposes without the need to purify the antigen. The researchers are convinced that this technique can speed up the immunization process enormously.

“This work that is based on the receptor binding domain of SARS-CoV-2 and is only the beginning of a very interesting immunization technique,” said Daniel Ivanusic, one of the paper’s authors. “The most challenging, significant, and exciting application for us employing the tANCHOR technology is to induce neutralizing antibodies against HIV-1. I think this will be great!” 

Reference:

1. Hubert Bernauer, Anja Schlör, Josef Maier, et. al. tANCHOR fast and cost-effective cell-based immunization approach with focus on the receptor-binding domain of SARS-CoV-2, *Biology Methods and Protocols*, Volume 8, Issue 1, 2023, bpad030, <https://doi.org/10.1093/biomethods/bpad030>

New retrospective research reveals ‘best approach’ for detection of maternal sepsis

A new study led by researchers at University of Limerick in Ireland has revealed the ‘most effective’ way to diagnose maternal sepsis, a condition with a devastating global impact.

The new study of microbiology specimens used to investigate maternal sepsis has found that placental swabs can provide critical information for guiding antimicrobial treatment.

The findings, described as ‘very significant’ by the research team, have been published in *PLOS ONE*^[1].

Professor Roy Philip, a Consultant Neonatologist and Paediatrician at the Division of Neonatology, Department of Paediatrics, University Maternity Hospital Limerick, and Adjunct Associate Clinical Professor of neonatology at UL, explained: “Placental microbial analysis remains a relatively unexplored diagnostic tool in the management of perinatal sepsis, and we hope our research enhances the clinical awareness.”

The study was performed by researchers from University of Limerick (UL) and University Maternity Hospital Limerick (UMHL) and involved the examination of almost 2,000 specimens collected over five and a half years.

Maternal or perinatal sepsis is a well-

recognised risk and a condition affecting over 20 million women and causing 17,000 deaths annually.

Identifying the causative agents can be challenging, however. Blood cultures, the gold standard for diagnosis, often have low positivity rates. Other samples, such as vaginal swabs, offer limited clinical value.

This unique new study was led by Professor Colum Dunne, Head of School and Foundation Chair and Director of Research at the UL School of Medicine and performed by a team of researchers from UL and UMHL.

The team retrospectively analysed the bacterial culture results of a number of different specimens that were collected as part of a ‘septic screen’, which detects bacteria that may cause maternal infections and can lead to sepsis. These specimens were: blood, urine, throat swabs, vaginal swabs and placental swabs.

“Maternal sepsis may occur during pregnancy or when a C-section incision, tear or other wound from childbirth becomes infected in the days or weeks after giving birth,” explained Prof. Dunne.

“This study provides new information on how sepsis can be detected, and the organisms involved identified early, so that the


best approach to successful treatment can be selected.”

Prof. Dunne explained that national and indeed international guidelines are “not consistent” in their recommendations for diagnosing of maternal infections, and there is very little information available in the scientific literature regarding the use of placental swabs.

“By looking at the results of each of these specimens from 430 women, they could be compared to determine which detected the highest pathogen numbers and, in this study, placental swabs were found to be the most effective,” Prof. Dunne explained.

“These findings are very significant as these swabs are not always tested in hospitals. Due to this, important information that could be used in treatment choice for these infections could be missed.”

Professor Nuala O’Connell, Consultant Microbiologist and Adjunct Associate Clinical Professor of Microbiology at UL, added: “The value of sending placental swabs for microbiological analysis as part of a septic workup is under-recognised.

“This study will augment the medical literature in the areas of both maternal and neonatal sepsis diagnostics and thereby assist with antimicrobial stewardship.” 

Reference:

1. Powell J., Crowley C.M., Minihan B. The microbial pathology of maternal perinatal sepsis: A single-institution retrospective five-year review. *PLOS ONE*. December 27, 2023. doi: <https://doi.org/10.1371/journal.pone.0295210>



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Research-based cancer care attracts patients from around the world



The Ohio State University Comprehensive Cancer Center – Arthur G. James Cancer Hospital and Richard J. Solove Research Institute (OSUCCC – James <<https://cancer.osu.edu>>) is dedicated to creating a cancer-free world by integrating scientific research with excellence in education and patient-centered care – a strategy that leads to better methods of prevention, detection and treatment.

Ohio State has been designated a National Cancer Institute (NCI) Comprehensive Cancer Center for nearly 50 years and is one of only a few centers funded by the NCI to conduct phase I, II and III clinical trials on novel anticancer drugs provided by the NCI. In its last three formal reviews for five-year re-designation, the university's cancer program, embodied in the OSUCCC – James, has received the NCI's highest descriptor of "exceptional".

The OSUCCC – James has more than \$125 million in active cancer-relevant research funding, and \$70.4 million of that total – more than half – comes from the NCI. In 2023 alone, Ohio State cancer researchers received 27 new research grants totaling \$15.8 million from the NCI.

The OSUCCC – James has nearly 340 full or introductory cancer researchers who collectively represent 12 of the 15 colleges at Ohio State. Each researcher is a member of one of five multidisciplinary research programs: Cancer Control, Leukemia Research, Cancer Biology, Molecular Carcinogenesis and Chemoprevention, or Translational Therapeutics. In 2022, these researchers authored or co-authored 825 publications



in peer-reviewed journals, including 174 in journals with impact factors of 10 or higher. Also, 98% of all articles published were collaborative, and over 96% were multi-institutional. In addition, OSUCCC – James researchers lead or assist with nearly 700 clinical trials offering the latest cancer treatments, some of which are available nowhere else. Some 530 of these trials are interventional in focus.

Collaboration and integration


As the cancer program's 356-bed adult patient-care component, The James is the third-largest cancer hospital in the United States and one of the top cancer hospitals in the nation as ranked by *U.S. News & World Report*. With 21 floors and more than 1.1 million square feet, The James is a transformational facility that fosters collaboration and integration of cancer research and clinical care. Because early

diagnosis is the key to successful cancer treatment, The James Cancer Diagnostic Center at the OSUCCC – James provides patients who may have cancer with direct, expedited access to diagnostic testing in a center that is open for same-day or next-day appointments.

The OSUCCC – James since 2014 has enrolled nearly 70,000 patients in a Total Cancer Care® (TCC) protocol for voluntarily sharing de-identified clinical data that advances cancer research and personalizes cancer care. The TCC protocol has been adopted by all 18 member institutions across the United States that constitute the Oncology Research Information Exchange Network (ORIEN), a research collaboration co-founded and co-anchored by the OSUCCC – James and Moffit Cancer Center in Tampa, Florida. Through ORIEN, TCC-consented patients across the nation donate clinical data for research that helps scientists better understand cancer at the molecular level.

Outstanding international reputation

Because of its international reputation for providing outstanding research-based cancer care, the OSUCCC – James is regarded as a global destination of choice, serving patients from all 50 U.S. states, three U.S. territories and 85 other countries.

The institution's Destination Medicine Global Health Care team <<https://cancer.osu.edu/destinationmedicine>> is dedicated to ensuring that distance and language are no obstacles to receiving the internationally recognized cancer care available at Ohio State. 

The James



THE OHIO STATE UNIVERSITY

COMPREHENSIVE CANCER CENTER

The James at Ohio State

National Cancer Institute-designated Comprehensive
Cancer Center for nearly 50 years

Nationally ranked by *US News & World Report*
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The James Cancer Hospital and Solove Research Institute

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Cedars-Sinai Pavilion Building

Defining Excellence in Healthcare on the Global Stage

Cedars-Sinai is a global destination for world-class care amid top U.S. rankings

There has never been a better time to consider Cedars-Sinai for patients with complex medical conditions or simply those who seek the best in expert medicine. Cedars-Sinai was recognized as one of the best hospitals in the U.S. for the eighth year in a row in *U.S. News & World Report's* “Best Hospitals 2023-24” Honor Roll.



Cedars-Sinai also ranked among the top five in six specialties (Cardiology, Heart & Vascular Surgery; Gastroenterology & GI Surgery; Orthopedics; Pulmonology & Lung Surgery; Neurology & Neurosurgery; and Urology). Eleven specialties ranked among the top in the U.S.

This stature is what draws patients from every part of the world to Cedars-Sinai.

“We are currently caring for patients from more than 100 countries in several sought after specialties like heart, cancer, neurology, orthopedics, gastrointestinal diseases, transplantation and women’s health,” said Heitham Hassoun, MD, Vice President and Medical Director of Cedars-Sinai International.

Cedars-Sinai International: Personalized Care on a Global Scale

Geography should never be an obstacle to receiving world-class healthcare services. Cedars-Sinai International is continually making strides to reach more patients in more countries while also making it easier for them to seek care in Los Angeles, where it is based. Patients who come to Cedars-Sinai have access to the latest equipment, leading-edge research, renowned physicians and advanced therapies. But these are only a few aspects of top-quality care. Cedars-Sinai International strongly believes that healthcare is personal and that cultural traditions, approaches and beliefs are vital to a patient’s wellbeing.

A dedicated Patient Services team helps international patients navigate their care journey with appropriate cultural and language support. A range of concierge services is especially designed for patients who are traveling to the Los Angeles campus from abroad. Streamlining international referrals and working with insurers worldwide are just two of the ways Patient Services can provide key healthcare support to patients from abroad. They also manage administrative details, such as scheduling appointments and record review, and they can advise on travel, accommodations and activities to enhance a patient’s stay.

Patients and their families also have access to Cedars-Sinai’s International Lounge, an exclusive space with multiple areas for relaxation, a shared office, a communications room, a pantry, a prayer/meditation room and private rooms where they can meet with their coordinator and enjoy the time in between appointments.


“Los Angeles is one of the most diverse, dynamic cities on Earth, which gives us a head start in delivering culturally appropriate care,” said Dr. Hassoun, adding that some 10 languages are spoken at Cedars-Sinai International, including Arabic, Mandarin, Spanish, French and Cantonese. Other important touches, from specialized diets to access to appropriate clergy, help round out a personalized, dignified experience for the duration of the patient’s stay.

Strategic Partnerships in Action

To bring top-flight care closer to more people, Cedars-Sinai International’s Global Services team continually explores opportunities for collaboration with hospitals outside

of the U.S. Through a variety of collaborative strategies, Cedars-Sinai offers a full spectrum of advisory and consulting services that help prospective partners around the world achieve their goals as the global healthcare environment evolves. From Mexico to Asia to the Middle East, providers come together through webinars, conferences and trade shows to share knowledge, ideas and visions for the future. Additionally, our growing in-country office presence (currently in Mexico City, soon in Singapore and more countries) provides patients and referring physicians the opportunity to learn more about Cedars-Sinai, gain access to our knowledge through second opinions and receive care in Los Angeles as the need arises.

Perhaps most importantly, strategic collaborations have been formed that already have led to new state-of-the-art facilities, such as The View Hospital in Qatar, an affiliation between Cedars-Sinai and Elegancia Healthcare, a subsidiary of Estithmar Holding. Not only is The View Hospital an extraordinary new offering for patients in the Gulf region and beyond, it also ushered in a new era of collaboration between Cedars-Sinai International and healthcare organizations in the Middle East. On the heels of The View Hospital’s grand opening in December, Cedars-Sinai had its largest-ever presence at Arab Health 2023.

“As we continue to grow around the world, reach the top of healthcare rankings and find new ways to reach more patients,” said Dr. Hassoun, “one thing remains steadfast – our commitment to providing the finest care available and exceeding our patients’ expectations no matter where they are.” 

Learn more:

International Patients | Cedars-Sinai cedars-sinai.org/international

Global Collaborations | Cedars-Sinai cedars-sinai.org/globalcollaborations

Best U.S. hospital has unique model of care

Patients from more than 150 countries travel to Mayo Clinic for treatment

Mayo Clinic is the world's largest integrated, not-for-profit medical group practice. *Newsweek* magazine ranks Mayo Clinic as the best hospital in the world. Additionally, *U.S. News & World Report* has ranked it No. 1 in more specialties than any other hospital in the U.S. for seven consecutive years. Mayo Clinic has locations in Rochester, Minnesota, Phoenix, Arizona and Jacksonville, Florida in the United States and a speciality clinic in London, England.

What sets Mayo Clinic apart from other hospitals is Mayo Clinic's Model of Care. Dr. Mohamad Bydon, Professor of Neurosurgery at Mayo Clinic and Executive Medical Director for Europe, the Middle East, India, Africa and International Academic Affairs, describes the Mayo Clinic Model of Care as "a set of principles that have guided our organization since its earliest days. They are the reason patients come to Mayo. Many health-care facilities offer high-quality care, but these principles set Mayo Clinic apart."

The Mayo Clinic Model of Care

The Mayo Clinic Model of Care is defined by high-quality, compassionate medical care delivered in a multispecialty, integrated academic institution. The primary focus, meeting the needs of the patient, is accomplished by embracing the following core elements (attributes) as the practice continues to evolve.

According to Dr. Bydon: "Our team approach means that you'll never have to search for answers alone. The Mayo Clinic team will be hand-picked according to the patient's unique needs. It will likely include specialists within and across departments to evaluate the patient's condition from fresh perspectives."

"Plus, you and your patient's team have access to more than 4,700 Mayo Clinic physicians and scientists on three campuses. If there's a question, alternate ideas, and emerging research are just a phone call – or hallway – away. At Mayo Clinic, our approach leads to more answers and more happy endings for patients than anywhere else."

Under the Mayo Clinic Model of Care,



Dr. Mohamad Bydon, Professor of Neurosurgery at Mayo Clinic and Executive Medical Director for Europe, the Middle East, India, Africa and International Academic Affairs.



patient care begins with an unhurried examination with time to listen to the patient. From there, a physician takes personal responsibility for directing patient care over time in a partnership with the local physician. Collegial, cooperative staff teamwork with multispecialty integration is utilized, and a team of specialists is available and appropriately used.

Mayo Clinic believes in the highest-quality patient care provided with compassion and trust, respect for the patient, family and the patient's local physician. A decisive diagnosis and treatment can be determined through a comprehensive, timely and efficient assessment.

The right answers

Effective treatment depends on getting the right diagnosis as soon as possible.

Dr. Bydon explains: "Our specialists have a long history of recognizing and treating complex medical problems that go undiagnosed elsewhere. Uncommon conditions are simply common at Mayo."

"We also understand that when it comes to your patient's health, you and your patient are an expert, too. As a valuable part of your healthcare team, you're encouraged to share your story and ask questions."

Safe, efficient care – all in one place


You won't wait weeks or even days for answers. If your patient has a test in the morning, your patient's doctor will have the results that afternoon. In fact, most initial visits to Mayo Clinic take less than a week.

That doesn't mean we rush care. Specialist appointments at Mayo Clinic are actually longer than average. The professionals on the care team will take the time they need to sit down and really talk with the patient. Thorough, thoughtful and comprehensive evaluations and consultations are built right into the patient itinerary.

We ensure every patient gets the personalized attention and individual care needed – so they can heal faster and return to the activities and people they love most.

Referring physicians

Mayo Clinic is committed to collaborating with referring physicians, medical institutions, and medical licensure boards. Every year, patients from more than 150 countries travel to Mayo Clinic for care. International patients receive timely diagnoses and specialty care in a place designed to feel a little more like home.

- To refer a patient or learn more, visit: www.MayoClinic.org 



New Surgery Centre

Medicine of the highest international standard – world-class medical care at one of the World’s Best Hospitals

Overview

More than six hundred years ago, the first German university was founded in Heidelberg. Today, Heidelberg University Hospital’s active collaboration with national research facilities attracts patients from all over Germany and over 100 countries worldwide. Innovative and effective diagnosis and therapy for all complex diseases is guaranteed by world-renowned physicians, state-of-the-art equipment, as well as the proximity and interlinking of the specialist departments. With 43 specialized clinical departments Heidelberg University Hospital is one of the leading medical centres in Europe and ranks 13th in the global “World’s Best Hospitals 2023” ranking.

Focus on cancer treatment

The National Center for Tumor Diseases (NCT) Heidelberg is a national pioneer in the diagnosis and therapy of cancer. Patients with cancer are treated jointly by qualified experts from different disciplines. As a joint institution of Heidelberg University Hospital and the German Cancer Research Center, it is ensured that new therapeutic approaches are developed and quickly put into practice. Help for children with cancer is offered by the affiliated KiTZ (Hopp Children’s Tumor Center Heidelberg).

The Heidelberg Ion Beam Therapy Center (HIT) is the first radiation facility in Europe that works with both protons and carbon ions. This form of radiation can for the first time benefit a larger number of patients with previously incurable tumours.

Surgical oncology as well as radio-oncology are integral parts in cancer treatment as well. Heidelberg physicians work with state-of-the-art equipment (includ-



Heidelberg University Hospital

Hybrid Surgery

ing robot-assisted surgery) and are highly experienced. For example, the European Pancreas Center at Heidelberg University Hospital is one of the world’s leading centres for pancreatic cancer.

Outstanding areas of expertise

- Oncology (all disciplines): surgical oncology (including robot-assisted surgery), chemotherapy, stem cell transplantation, innovative radiation therapy including latest technologies, such as proton-/heavy ion, pain centre
- Heart and vascular medicine
- Neurology | Neurosurgery
- Metabolism and hormonal disorders
- Gynaecology and perinatal medicine
- Orthopaedics
- Paediatrics


2022 – At a glance

- 1,100,000 outpatient visits
- 62,000 cases of inpatient treatment
- 43 clinical specialist departments
- 11,600 employees, including 1,900 physicians and 3,200 nurses
- 2,000 beds

Services for international patients and Arab patients

- Multilingual team of the International Office
- Certified interpreters
- Support in obtaining a medical visa
- English-speaking physicians and nursing staff
- medical reports in English
- Special requests regarding meals are taken into consideration
- Prayer room for Muslim patients

Special service for patients who cannot travel to Germany

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World experts in children's complex care

Evelina London Children's Hospital, one of only two specialist children's hospitals in London, is a world-leading centre providing life-changing care and comprehensive medical and surgical services from before birth to later in life. We are honoured to have the Princess of Wales as our Patron.

As part of Guy's and St Thomas' NHS Foundation Trust, one of the world's most prestigious teaching centres, Evelina London draws on the expertise of multidisciplinary teams to offer high quality care and clinical excellence.

Evelina London is located adjacent to St Thomas' Hospital in central London. This means that children and their families can access multiple clinical services, extensive expertise and the latest treatments at one site.

US Newsweek, the American weekly news magazine, has ranked Evelina London as one of the world's best children's hospitals.

Leading innovation

We have a long and proud history of pioneering innovation, developing cutting-edge technology and making advancements to transform patient care.

- World's first MRI-guided children's heart valve procedure
- Europe's longest established and the UK's largest fetal cardiology unit
- First paediatric renal transplantation in England

Our expertise ranges from complex medical specialties, such as our metabolic service and neuroscience department, one of the largest in Europe, to leading the way in complex surgery and advanced diagnostics.

Children's cardiology and cardiac surgery

Evelina London is at the forefront of pioneering treatments for babies and children with complex heart disease. Our innovations include world-firsts in fetal cardiac intervention, and MRI-guided children's heart valve intervention.

We have pioneered new techniques in advanced cardiac imaging, with a world-leading fetal cardiac MRI programme to identify cardiovascular problems before



Baby with complex needs requiring multidisciplinary long-term care.

birth. We continue to lead in clinical 3D echo, virtual reality imaging and artificial intelligence in clinical decision-making.

We offer extensive congenital cardiac surgery, including newer techniques for highly complex corrective cardiac surgery, all with excellent outcomes. Procedures include complex neonatal cardiac surgery, for both single ventricle palliation such as hypoplastic left heart syndrome (HLHS) and complex biventricular corrective surgery (Nikaidoh operation).

We pioneered the hybrid approach for borderline neonatal cases, where cardiologists and cardiac surgeons operate together to bridge small infants through to larger surgery after a period of stabilisation and growth. We are world leaders in personalised external aortic root support surgery to treat patients with a dilated aorta including those with aortic valve disease or Marfan syndrome.

Our latest developments include our new cardiac and critical care unit, which boasts the latest technology, private bays and a modern, welcoming environment. We have one of the largest paediatric critical care units and 46-cot neonatal unit. Our critical care units have some of the best survival rates for critically ill children in the UK.

We also offer specialist intensive care retrieval from UK and international locations.

Renal services and transplantation

We specialise in all aspects of renal disease, including blood group incompatible kidney transplants, complex nephrotic syndrome, reno-vascular patients and transplant urology for adolescents. Our paediatric transplant surgical programme is the largest in Europe and we also specialise in treating post-transplant patients with complications such as disease recurrence, as well as urological complications.

Our multidisciplinary team includes transplant surgeons, urologists, and nephrologists, supported by specialist teams. Together, they can call on multiple resources, including intensive care, diagnostic and interventional radiology and microbiological expertise.

Gastrointestinal surgery

We have extensive experience of minimally invasive techniques including thoracoscopic lung resections and laparoscopic or thoracoscopic repair of diaphragmatic hernias. Our expertise also includes long-term management of oesophageal atresia, including dealing with complications of previous surgery.

Our multidisciplinary teams are well established across many specialties, from gastroenterology to interventional radiology for oesophageal conditions, including manometry and stenting, ENT and respiratory

medicine for airway and lung conditions.

Our lower GI surgery offers comprehensive care from birth to adult transition for children born with congenital conditions such as anorectal malformations and Hirschsprung's disease.

Experts in paediatric neurosurgery, radiology and urology for children born with anorectal malformations support our multidisciplinary teams. We also specialise in paediatric inflammatory bowel disease and have extensive experience in minimal access surgery including laser treatment.

Urology service

Our urology service treats children with routine and complex, kidney, bladder, urethra, testis, penis and foreskin abnormalities. From urinary tract infections to specialist surgery, we offer comprehensive treatments and life-changing operations.

We have several multi-disciplinary services providing care for complex urological problems such as disorder of sex differentiation (DSD), complex bladder patholo-

gies, urological problems in children with anorectal anomalies, posterior urethral valve and urological problems in transplant patients.

One example is the Mitrofanoff procedure and bladder augmentation for patients with conditions that cause high bladder pressure, urinary leakage or frequent urinary infections. Our expert team at Evelina London is one of the few in the UK that can perform this complex procedure, and we can smoothly manage the transition to adult care at our adjoining St Thomas' Hospital providing ongoing care for life.


ENT, complex airway management and hearing implant surgery

Our children's ENT service is one of the largest specialist teams in the UK, offering life-enhancing care in complex airway management, covering upper airway problems of the nose, throat, larynx and trachea.

We treat children from pre-term babies

in our intensive care unit to adolescents with long-standing problems. Our specialist skills also include our head and neck surgery for children with all types of swelling and tumours in the head and neck region, including vascular anomalies.

We also provide access to our internationally renowned hearing implant centre looking after babies and children of all ages, with ear disease and hearing loss requiring hearing implant including cochlear implants.

Our multidisciplinary team approach means that children who present with associated heart, lung or airway problems have full support from experts in radiology, cardiology, genetics and respiratory to provide the best outcomes. 

Contact us to find out more about our specialist services

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- E: privatepatientenquiries@gstt.nhs.uk
- www.guysandstthomasprivatehealthcare.co.uk



Evelina London Children's
Guy's and St Thomas'
Specialist Care

World-class children's care in the heart of London

Our specialists have been driving innovation in children's care for over 150 years, from advanced heart and lung care to complex surgery and kidney transplantation.

To find out more about our specialist services call +44 (0)20 7188 5197 or email privatepatientenquiries@gstt.nhs.uk
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Dedicated to specialist care.



New AFib Guideline: Catheter ablation raised to first-line therapy

Early rhythm control, lifestyle modification and tailored stroke risk assessment are top goals in managing atrial fibrillation

The American College of Cardiology and the American Heart Association have issued a new Guideline for preventing and optimally managing atrial fibrillation. *Middle East Health* reports.

The American College of Cardiology (ACC) and the American Heart Association (AHA), along with several other leading medical associations, have issued a new guideline for preventing and optimally managing atrial fibrillation (AFib). The guideline was jointly published 30 November 2023 in the *Journal of the American College of Cardiology*^[1] and *Circulation*.

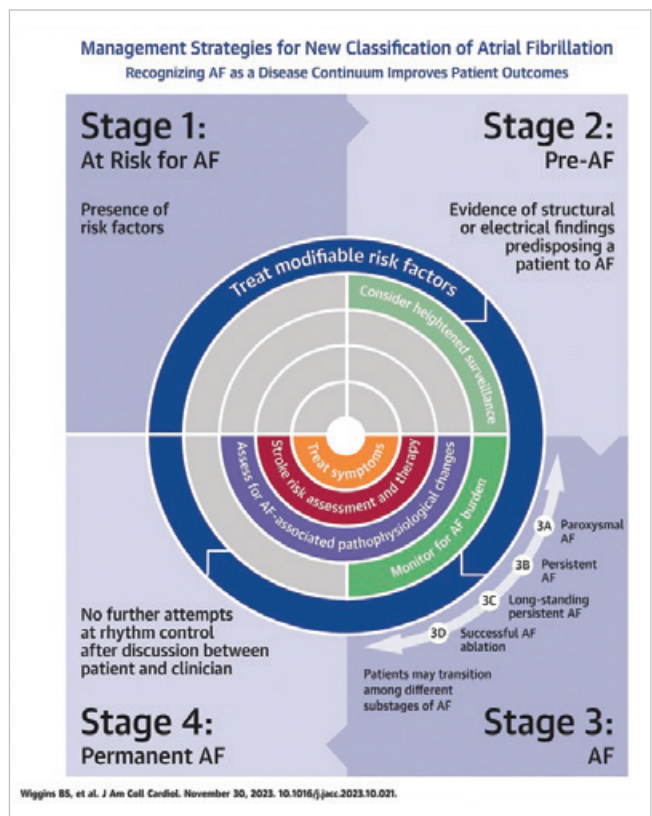
Atrial fibrillation, or AFib, is the most common type of heart rhythm disorder (arrhythmia), in the United States – affecting over 6 million Americans, and the number is expected to double by 2030. AFib causes a variety of symptoms, including fast or chaotic heart-beat, fatigue, shortness of breath, and chest pain, and causes about 450,000 hospitalizations each year, according to the U.S. Centers for Disease Control and Prevention. If untreated, AFib can lead to or exacerbate heart failure, and it significantly increases a person's risk of stroke.

The updated guideline calls for a stronger, more prescriptive focus on healthy lifestyle habits to prevent or lessen the burden of AFib, as well as early and more aggressive rhythm control in general, including upgraded recommendations for catheter ablation as first line therapy to prevent disease progression. Also detailed is updated guidance on the management of heart rate and rhythm medications, use of anticoagulants, and when to temporarily pause or stop these therapies.

New way to classify AFib

Further, the guideline sets forth a new way to classify AFib, using stages, that reinforces the continuum of the disease and underscores the need to use a variety of strategies at the different stages, including prevention, lifestyle and risk factor modification, screening, and therapy. Previously, AFib was primarily classified based only on arrhythmia duration, which, although useful, tended to emphasize specific therapeutic interventions as opposed to a more holistic and multidisciplinary management approach.

“This is a complex disease. It’s not just an isolated disorder of the heart’s rhythm, and we now know that the longer someone is in AFib, the harder it is to get them back to normal sinus rhythm,” said Jose Joglar, MD, professor of cardiac electrophysiology at UT Southwestern Medical Center in Dallas and chair of the writing committee.



Journal of the American College of Cardiology

The American College of Cardiology and the American Heart Association, along with several other leading medical associations, have issued a new guideline for preventing and optimally managing atrial fibrillation. The Guideline provides a new way to classify atrial fibrillation using stages.

tee. “The new guideline reinforces the urgent need to approach AFib as a complex cardiovascular condition that requires disease prevention, risk factor modification, as well as optimizing therapies and patients’ access to care and ongoing, long-term management.”

Prescriptive recommendations for patients

There is clearer focus on risk factor modification – for example, weight loss and obesity prevention, physical activity, smoking cessation, limiting alcohol, and controlling blood pressure and other comorbidities – to help prevent AFib or ameliorate any recurrences or worsening of the disease. Recommendations are intentionally prescriptive in na-

Women with atrial fibrillation significantly benefit from pulsed field ablation procedures

Women with atrial fibrillation (AF) undergoing a procedure called pulsed field ablation (PFA) have just as good outcomes as men with AF undergoing the same procedure, according to a large-scale international study led by the Icahn School of Medicine at Mount Sinai.

This study is the first to compare sex outcomes for AF patients undergoing PFA, which is a new technology and the latest ablation modality that can be used to restore a regular heartbeat. The results also show PFA is safe and just as effective for men as for women. Findings were published 5 October 2023 in *JAMA Cardiology*^[1].

“These results are important, as women are underrepresented in prior ablation studies and the results have been mixed with regards to both safety and effectiveness using conventional ablation strategies such as radiofrequency or cryoablation,” says first author Mohit Turagam, MD, Associate Professor of Medicine (Cardiology) at Icahn Mount Sinai.

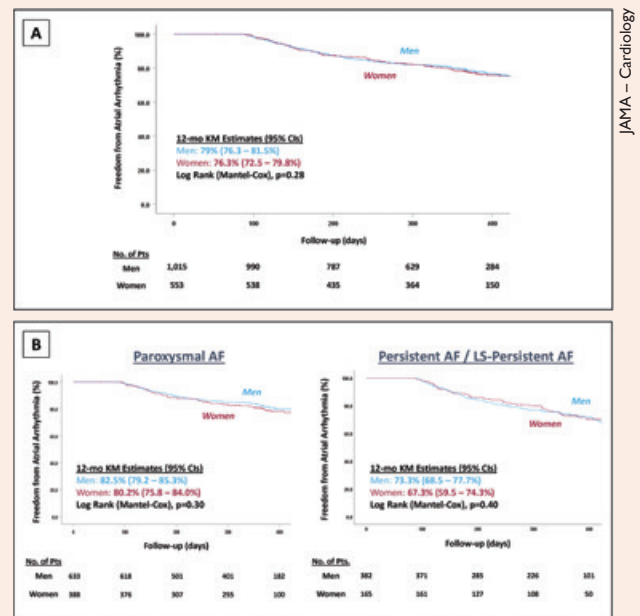
Patients with AF can undergo a catheter ablation procedure to treat this abnormal heart rhythm. Two types of ablation are currently in common use: radiofrequency ablation, which uses heat energy to eliminate the problem area, and cryoablation, which uses cold energy. These ablation modalities are associated with increased risk of potential complications, including damage to the oesophagus, pulmonary vein stenosis, and phrenic nerve injury. PFA is a new type of ablation that does not use temperature, but instead short, high-energy electrical pulses that target mainly cardiac cells. This catheter procedure is more precise than radiofrequency and cryoablation, and does not cause damage to the oesophagus, pulmonary veins, or phrenic nerve (which controls the diaphragm and is essential for breathing).

Retrospective analysis

The researchers did a retrospective analysis of 1,568 patients from the Multi-National Survey on the Methods, Efficacy, and Safety on the Post-Approval Clinical Use of Pulsed Field Ablation (MANIFEST-PF). This is a large multinational registry from 24 European centres and includes patients who underwent their first-ever PFA for AF between March 2021 and May 2022 (after the device received regulatory approval in Europe). The researchers categorized patients by sex and evaluated clinical outcomes of PFA within these groups. They studied the elimination of AF, and adverse events such as oesophageal complications, pulmonary vein stenosis, phrenic nerve injury, pericardial tamponade (fluid accumulation in the heart), and vascular injury.

Results

The results showed no significant difference in recurring atrial arrhythmia in men versus women. Specifically, 79 percent of men versus 76 percent of women did not have recurring atrial arrhythmia after PFA,



The primary effectiveness outcomes are shown for both the full patient cohort (A) and separated by atrial fibrillation (AF) subtype: paroxysmal AF (B) vs persistent AF/long-standing (LS)-persistent AF (C).

a difference that was not statistically significant. The rate of patients needing a second ablation were similar between sexes, with men at 8.3 percent versus women at 10 percent, also not statically significant. Among the patients who underwent a second AF ablation, pulmonary vein isolation durability was significantly higher in women than in men (63 percent versus 37.8 percent), meaning they were less likely to have an additional ablation in their pulmonary veins. Complication rates from the procedure were low overall, and did not differ significantly by sex (women at 2.5 percent versus men at 1.5 percent).

“For the last few years, the emerging data with pulsed field energy has been quite promising for the treatment of atrial fibrillation. This current analysis of the large-scale MANIFEST-PF registry demonstrates that the benefits are not just limited to men; women derive the same level of success at one year, 76.3 percent, with a low complication rate of 2.5 percent. Thus, women should not be denied the beneficial, life-enhancing procedure of catheter ablation for atrial fibrillation,” said senior author Vivek Reddy, MD, The Leona M. and Harry B. Helmsley Charitable Trust Professor of Medicine in Cardiac Electrophysiology at Icahn Mount Sinai.

This study was sponsored by Boston Scientific Corporation, the PFA device manufacturer. It was not involved in data collection, analysis, or manuscript.

Reference:

1. Turagam MK, Neuzil P, Schmidt B, et al. Clinical Outcomes by Sex After Pulsed Field Ablation of Atrial Fibrillation. *JAMA Cardiol.* 2023;8(12):1142–1151. doi: <https://doi.org/10.1001/jamacardio.2023.3752>

ture so that clinicians can give patients specific goals and provide a clearer road map for how they can take steps to live healthier and change the course of their disease.

“Many patients don’t know where to start when they are given advice about lifestyle modification, so we are very specific with our recommendations,” Prof. Joglar said. “For example, instead of saying ‘you need to exercise’, which is largely unhelpful to patients, we recommend talking with patients about what types of physical activity works for them and how many minutes they should be active each day or each week.”

The good news for many people, he added, is that your morning coffee is okay when it comes to AFib, according to the latest data, but if individuals notice that caffeine makes them feel bad, they should skip it.

Catheter ablation recommended as first-line therapy

Catheter ablation was given the highest Class 1 treatment recommendation for appropriately selected patients, including those with heart failure with reduced ejection fraction. Catheter ablation is a minimally invasive procedure that disables portions of heart tissue that cause irregular heart rhythms.

“In the past, catheter ablation was considered a second line option after medications were tried and failed, and now we are advising that, in select AFib patients, you can proceed to catheter ablation as a first option,” Prof. Joglar said, adding that recent data showed catheter ablation to be more effective than medications in preventing disease progression in some populations.


Still, he emphasized the need for a multipronged approach for better success. Because AFib and heart failure frequently overlap, there is a section specific to key considerations for these patients, reinforcing aggressive rhythm control to help heart function to recover.

Risk calculator

Although the guideline continues to endorse use of the CHA₂DS₂-VASc score as the predictor of choice to determine patients’ stroke risk, other risk calculators should be considered when uncertainty exists or when other risk factors need to be included. For example, kidney disease is not included in CHA₂DS₂-VASc. Patients, especially those at intermediate risk, may benefit from evaluation with more than one risk calculator because

some work better than others in different patient populations, or other factors need to be considered. For example, recommendations for blood thinners should be based on a comprehensive yearly thromboembolic event risk rather than on a specific score.

“The new guideline gives clinicians flexibility to use other predictive tools, and we hope this will also enhance communication and shared decision-making with patients,” Joglar said, adding that there is enhanced focus on the use of left atrial appendage closure devices for stroke prevention. This device sits in the heart’s left atrial appendage, where blood clots often form, to prevent them from getting into the bloodstream.

Similar to other chronic conditions, such as high blood pressure or Type 2 diabetes, Prof. Joglar said we “now have a better understanding and more tools to prevent, treat and also mitigate the risk of AFib so that we can improve patient outcomes” .

References:

1. <https://doi.org/10.1016/j.jacc.2023.08.017>



Atrial Fibrillation Guideline Hub
<https://www.jacc.org/guidelines/atrial-fibrillation>

Millions die prematurely from cardiovascular disease each year

Global Burden of Disease report updates health estimates for the global, regional and national burden of CVD

Millions of lives are lost prematurely to cardiovascular disease (CVD) each year, according to the new Global Burden of Disease (GBD) special report published 11 December 2023 in the *Journal of the American College of Cardiology* (JACC) ^[1]. The report provides an update of health estimates for the global, regional and national burden and trends of CVD from 1990-2022 by analyzing the impact of cardiovascular conditions and risk factors across 21 global regions.

Research from this study reflects an urgent need for countries to establish public-health strategies aimed at preventing cardiovascular diseases by underscoring the global action needed to disseminate information and implement health programmes, especially in hard-to-reach countries. While cardiovascular disease rates are high globally, regions of Asia, Europe, Africa and the Middle East were estimated to have the highest burden of

CVD mortality. High blood pressure, high cholesterol, dietary risks and air pollution remain its leading causes.

“Cardiovascular diseases are a persistent challenge that lead to an enormous number of premature and preventable deaths,” said Gregory A. Roth, MD, MPH, senior author of the paper and associate professor in the Division of Cardiology and director of the Program in Cardiovascular Health Metrics at the Institute for Health Metrics

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and Evaluation at the University of Washington. “There are many inexpensive, effective treatments. We know what risk factors we need to identify and treat. There are simple healthy choices that people can make to improve their health. This atlas provides detailed information on where countries stand in their efforts to prevent and treat cardiovascular diseases.”

The mortality rates are broken down by location, along with age, sex and time categories. The report identifies disability-adjusted life years (DALYs), the years of life lost due to premature mortality (YLLs), and years lived with disability (YLDs). The results presented include several updates to previously published estimates, reflecting new data and new disease modelling methods.

18 cardiovascular conditions

The paper specifically addresses 18 cardiovascular conditions and provides estimates for 15 leading risk factors for cardiovascular disease: environmental (air pollution, household air pollution, lead exposure, low temperature, high temperature), metabolic (systolic blood pressure, LDL-C, body mass index, fasting plasma glucose, kidney dysfunction) and behavioural (dietary, smoking, secondhand smoke, alcohol use, physical activity).

“We formed the Global Burden of Cardiovascular Diseases Collaboration three years ago to help bring state-of-the-art research to the forefront of the global cardiovascular community,” said Valentin Fuster, MD, PhD, an author of the paper, President of Mount Sinai Fuster Heart Hospital, physician-in-chief of The Mount Sinai Hospital, and editor-in-chief of JACC. “We are excited to publish this 2023 Almanac as a dedicated issue of the journal to inform the realities of CVD risk and inspire strategies for a heart-healthy world.”

Key takeaways from the report:

- Ischemic heart disease remains the leading cause of global CVD mortality with an age-standardized rate per 100,000 of 108.8 deaths, followed by intracerebral

haemorrhage and ischemic stroke.

- High systolic blood pressure accounted for the largest contribution to attributable age-standardized CVD disability-adjusted life years (DALYs) at 2,564.9 per 100,000 globally.

- Dietary risks were the leading contributor to age-standardized CVD DALYs among the behavioural risks, while ambient particulate matter pollution led the environmental risks.

- Between 2015-2022, age-standardized CVD mortality increased in 27 out of 204 locations.

- Global death counts due to CVD increased from 12.4 million in 1990 to 19.8 million in 2022 reflecting global population growth and ageing and the contributions from preventable metabolic, environmental, and behavioural risks.

- Eastern Europe had the highest age-standardized total CVD mortality at 553 deaths per 100,000. In contrast, countries in Australasia had the lowest age-standardized total CVD mortality at 122.5 deaths per 100,000 people.


- Central Asia, Eastern Europe, North Africa and the Middle East had the highest age-standardized mortality rate per 100,000 people attributable to high systolic blood pressure. The regions with the highest rates of CVD burden attributable to dietary risk were Central Asia, Oceania, and parts of North Africa and the Middle East.

“Identifying sustainable ways to work with communities to take action to prevent and control modifiable risk factors for heart disease is essential for reducing the global burden of heart disease,” said George A. Mensah, M.D., F.A.C.C., F.A.H.A., director of the Center for Translation Research and Implementation Science at the National Heart, Lung, and Blood Institute (NHLBI). “The 2023 Almanac represents an important resource for using locally relevant data to inform local-level actions for heart-healthy and thriving communities.”

Global Burden of Cardiovascular Diseases Collaboration

Launched in 2020, the Global Burden of

There are many inexpensive, effective treatments. We know what risk factors we need to identify and treat. There are simple healthy choices that people can make to improve their health. This atlas provides detailed information on where countries stand in their efforts to prevent and treat cardiovascular diseases.

Cardiovascular Diseases Collaboration is an alliance between the *Journals of the American College of Cardiology*, the Institute for Health Metrics and Evaluation at the University of Washington, and the U.S. National Heart, Lung, and Blood Institute. Serving as an update to 2022’s GBD Study, the 2023 publication includes data from 204 countries and territories, highlighting the leading global modifiable cardiovascular risk factors, their contribution to disease burden and recent prevention advancements. 

Reference:

1. Mensah G., Fuster V., Murray C. et al. Global Burden of Cardiovascular Diseases and Risks, 1990-2022. *J Am Coll Cardiol.* 2023 Dec, 82 (25) 2350–2473. <https://doi.org/10.1016/j.jacc.2023.11.007>

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Enabling comprehensive cancer care

Siemens Healthineers pioneers breakthroughs in healthcare. For everyone. Everywhere. Sustainably.

As a leading medical technology company with activities in more than 180 countries, Siemens Healthineers is committed to improving access to healthcare for underserved communities worldwide and is striving to overcome the most threatening diseases.

One of the most threatening diseases of our time with increasing numbers across the globe is cancer. With the acquisition of Varian Medical Systems Inc. in 2021, Siemens Healthineers intensified its endeavours to improve and accelerate the patient journey from cancer diagnosis to therapy to survivorship.

Vivek Kanade, Managing Director of Siemens Healthineers Middle East & Africa, discusses the path to enabling comprehensive and intelligent cancer care.

Why and how does your company specifically focus on cancer as a rising health threat?

■ **Vivek Kanade:** With cancer, we are talking about one of the most threatening diseases worldwide with significantly increasing numbers of incidences and deaths. Having a closer look at our region, these numbers are forecasted to rise even faster in Africa than in any other region in the world. While in 2020, around 0.7 million people in Africa died from cancer, it is estimated that, if the current growth of cancers is not checked, this number will rise by 2030 to around 1.1 million people, while the infrastructure for cancer treatment is by far not as developed as in Europe and the US. (source: World Health Organization)

As Siemens Healthineers and together with our colleagues from Varian, we are following our vision of a world without fear of cancer. We have unrivalled capabilities in this area that we can offer to governments and specialized healthcare centres, as our portfolio of equipment and services puts us in a unique position to look at the entire cancer healthcare and patient continuum.

Can you please elaborate further on these solutions?

■ **VK:** As a medical technology provider specialized not only in cancer care, we are looking

beyond the treatment room and we are exploring how different clinical areas and disciplines in imaging, diagnostics, healthcare IT, interventional radiology and other specialties can come together to transform the entire cancer pathway.

As recent and upcoming innovations in radiation therapy are creating new possibilities to enable ever-more accurate, precise and effective treatments for cancer, we make sure to remain at the forefront of innovation and its integration into our intelligent cancer care portfolio to further enhance the patient's journey.

What does this journey look like from your perspective?

■ **VK:** Being one of the most complex diseases we know, the cancer patient journey is fragmented, involves many different specialists and might therefore never be linear. But with required technology, resources, and intelligence, the healthcare industry and we, as a company, should strive to streamline and connect processes and create a clearer and smoother pathway.

The journey starts with screening as a 1st step, as it can help find cancer before any symptoms appear. With early detection determining the difficulty of treatment and success rate of cure, Siemens Healthineers' range of systems from mammography and ultrasound to low-dose CT scanners, MRI systems and robust AI image analysis provides these solutions.

In a 2nd step, a correct and timely diagnosis needs to be made and verified through additional diagnostic images and laboratory tests with oncology assays, providing the patient with clarity about his/her disease. Here again, Siemens Healthineers is able to provide the entire range of solutions while being able to focus on connecting technologies and further reducing valuable time it takes from detection to the onset of treatment.

After diagnosis, the treatment journey starts in the 3rd step, where choosing or combining the right image modality for treatment planning is essential, whether it be CT or MRI. Defining, the treatment target is essential at this stage along with the normal tissue and critical structures, a process which is supported by artificial intelligence. Treatment plans of a



Vivek Kanade, Managing Director of Siemens Healthineers Middle East & Africa

high quality and consistency may then be developed with the assistance of machine learning based tools. Once the plan is approved, it may be delivered using a range of techniques (image guided, intensity modulated, gated or adaptive), all supported by a comprehensive portfolio of linear accelerators.

The last milestone and 4th step is survivorship, which largely consists of regular follow-ups and detection of any recurrences to enable minimally invasive treatment if and only when required. The overarching vision is to change the perception of cancer and shift it towards a manageable chronic disease.

What, in your opinion, does the future of cancer care look like?

■ **VK:** The way forward for the healthcare industry is to create a comprehensive, intelligent cancer pathway and enable access to it where it is needed most. Siemens Healthineers together with Varian focuses exactly on this, providing all relevant imaging technologies for screening and early detection, supporting physicians with a timely diagnosis and clarity through latest laboratory tests and by providing personalized solutions to the treatment process, based on individual requirements, stage of disease and pre-existing conditions. And ultimately, connecting all these technologies to further reduce timings between the pathway steps and increase success rates of treatment. MEM

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Revolutionising early lung cancer diagnosis

Experts at London's Royal Brompton Hospital, part of Guy's and St Thomas' NHS Foundation Trust, are one of the first centres in the UK to use a new cutting-edge robotic technology to biopsy small and hard-to-reach lung nodules. The new device could lead to a significantly earlier diagnosis for patients who are suspected of having lung cancer.

Robotically assisted precision biopsies

The Ion Endoluminal System (Ion), a new robotic device from technology company Intuitive, allows clinicians to insert a thin and manoeuvrable catheter into a patient's lung via their mouth to reach lung nodules suspected of being cancerous. Quick and safe accurate biopsies are made possible by this approach.

The Ion system enables consultants to sample nodules in hard-to-reach areas with greater accuracy and precision than existing techniques. The technology allows for an earlier and conclusive biopsy diagnosis for nodules which may otherwise have been moni-

tored for long periods. In patients who have no other options for treatment, a robotically guided microwave ablation probe can be used to burn away early tumours found by the Ion Robotic system.

With 68% of Arab countries having lung cancer as one of the most frequent five types of cancer, lung screening can increase the number of suspicious nodules detected on CT scans at an earlier stage which will need to be biopsied to determine a diagnosis.

Early detection and better outcomes

Professor Pallav Shah, a leading respiratory physician at Royal Brompton Hospital, explains: "The UK's national lung cancer screening programme, targeting smokers from 55 to 74 years old, is set to increase the number of suspicious nodules detected on CT scans at an earlier stage which will then need to be biopsied to determine a diagnosis."

"Our patients' outcomes are significantly



better when lung cancer is diagnosed early. Patients with cancerous lung nodules of more than 30mm, have a five-year survival rate of 68%, but if we can detect these nodules when they are less than 10mm in size we are looking at a 92% survival rate," Professor Shah said.

The revolutionary new robotic technology is transformative, allowing clinicians to access and biopsy nodules in hard-to-reach parts of the lungs that are smaller than 10 mm. This significantly increases the patients' chances of recovery.

- For more information visit:

www.rbhh-specialistcare.co.uk/news/ion-robot-lung-tumour



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To meet our team, visit the UK Pavilion, HSMA stand.

Part of  Guy's and St Thomas' Specialist Care





NewTom 7G – the world's first multi-scan body CBCT

For the very first time, Cone Beam technology is applied to all areas of the body, including the spine, shoulder, and hip thanks to the one of NewTom's latest high-tech devices.

NewTom 7G brings cutting-edge CBCT into all-new application fields. Equipped with an extremely high-performance X-ray generator (up to 120 kV and 120 mA) and independent selection of the focal spot (0.3 or 0.6 millimetres), this device lets users perform accurate bone tissue examinations at a resolution of up to 90 µm, ensuring ultra-precise analysis of even very small complex structures such as those of the inner ear.

The ability to perform exams quickly in "Low Dose" mode – with the acquisition of the desired anatomical area in just seven seconds – is particularly convenient.

Ultra-high-definition images

NewTom 7G can be used to investigate innumerable anatomical areas in a wide range of clinical applications, both 3D with numerous FOVs and 2D (also sequentially). Users can acquire ultra-high-definition images to diagnose the microstructures of the ear or hairline fractures in complex joints.

NewTom 7G features automatism that streamline work and limit the distortion inherent in manual procedures, thus en-

suring the best results in the shortest time. One of the most recent additions concerns hip examinations.

Developed to acquire bilateral hip images, the NewTom 7G can capture a 40 x 17cm FOV. The horizontally extended FOV allows comparative assessment of hip bones via reconstruction into a single volume.

Pioneering Cone Beam technologies in the dental sector

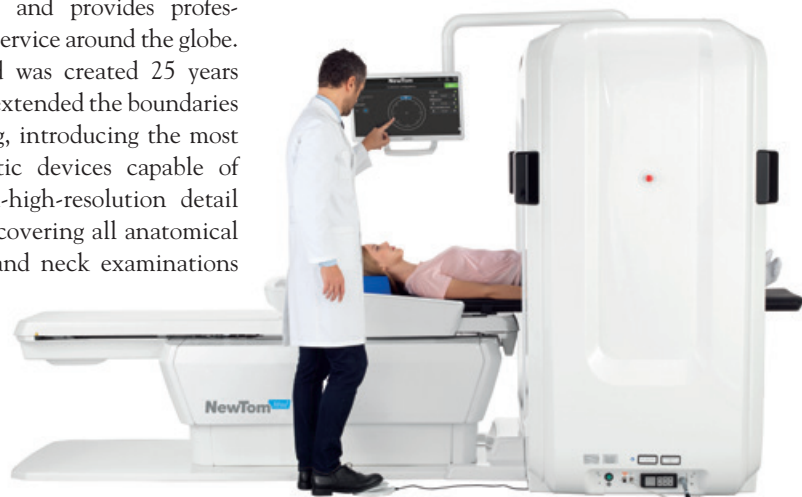
A global benchmark in the field of diagnostic imaging technologies, NewTom was the first company to introduce Cone Beam technology into the dental sector and now offers a vast array of clinical solutions for medical, dental, and veterinary diagnostics. Today, this trusted brand delivers state-of-the-art equipment and provides professional support and service around the globe.

Since the brand was created 25 years ago, NewTom has extended the boundaries of medical imaging, introducing the most advanced diagnostic devices capable of micrometric, ultra-high-resolution detail of bone structure, covering all anatomical areas, from head and neck examinations to ENT, MSK for orthopaedics, as well as dental maxillofacial radiology.

In each area, NewTom has led the field, innovating through technology and driving scientific trends. Patented algorithms, advanced functions for both 2D and 3D imaging, as well as a host of features devoted to reducing the effective dose, thereby safeguarding the health of operators and patients alike, are just a part of the innovations achieved through NewTom's constant commitment to technological excellence.

All NewTom devices are supported by powerful DICOM 3.0 compatible NNT software, which can interface with third-party systems and software to store and exchange medical data. **MEH**

- To learn more for yourself, visit: www.newtom.it/en



Unlock the power of visual storytelling with Body Scientific

Body Scientific <www.bodyscientific.com> remains the trusted leader in medical illustration and design, committed to simplifying intricate medical concepts. Being the leading visual storytellers of scientific information, the team consists of devoted medical illustrators, animators, and experts who specialize in transforming intricate scientific concepts into high-quality medical visuals. These visuals serve as indispensable tools for medical professionals and companies, facilitating the effective communication of their products, surgical techniques, and research findings.

Telling your story

Marcelo Oliver, CEO at Body Scientific, emphasizes the importance of storytelling: “Once our customers have developed a new product or technique, they face the challenge of explaining how it works, what it looks like, and its mechanism of action. Body Scientific plays a crucial role as the creative team that translates their science into visually stunning and comprehensible imagery to tell the story.”

Making the connection

Establishing a meaningful connection with the audience through images lies at the core of Body Scientific’s philosophy. Recognizing the importance of engaging the audience with visuals that enhance comprehension and information retention, the company is driven to create images that are both visually striking and inclusive.

Experience matters

With a remarkable track record, Body Scientific has visualized anatomy and surgical techniques featured in over 100 medical textbooks and produced more than 30,000 medical illustrations. Over the course of 18 years, the company has consistently delivered customized visual solutions and developed hundreds of patient education products, aiding healthcare professionals in effectively explaining health concerns to their patients.

Visualizing new techniques

Body Scientific closely collaborates with

medical experts to visualize life-saving techniques and communicate procedures effectively to both peers and patients. The creative team possesses a deep comprehension of scientific principles, working closely with medical and subject matter experts to fully comprehend their products or techniques. Applying expert visual skills, Body Scientific creates storytelling solutions that effectively communicate the intricacies of their science.

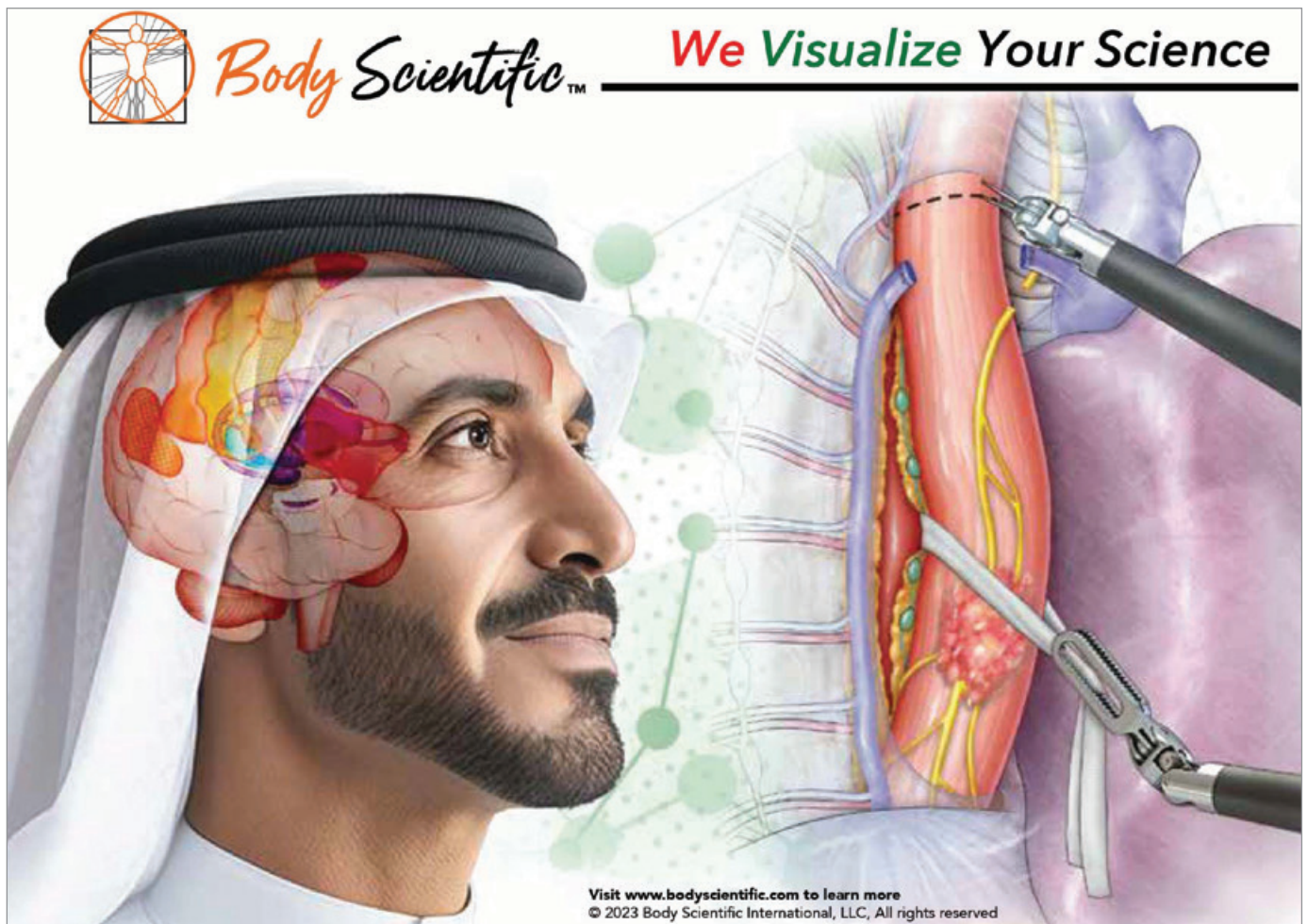
Body Scientific is dedicated to bringing science to life through visualization. The team is ready to play a crucial role in narrating scientific stories, establishing connections with audiences, and depicting innovative concepts. MEM


• For more information visit:

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USA Partnership Pavilion

Arab Health sells out as international exhibitors hit record levels



Arab Health 2024, the Middle East's largest healthcare event, sold out in November, over three months ahead of the exhibition start date, with a record number of international exhibitors taking to the show floor.

The event which takes place at the Dubai World Trade Centre from 29 January to 1 February 2024, will welcome over 40 international pavilions, which will see Serbia and Hong Kong make their debut. It will also see Australia, Estonia, Italy and Indonesia increase the size of their pavilion exhibition space, ensuring an even greater number of exhibitors from those countries will be able to showcase their latest products.

Other returning pavilions for Arab Health include India, Germany, New Zealand, South Korea, France, and the US, while Saudi Arabia and Egypt will be among the pavilions representing the MENA region.

Several marquee exhibitors will also be on the show floor, with Siemens Healthcare, United Imaging, Philips, Olympus, Masimo, Jetro, and Emirates Healthcare Solutions showcasing their latest technologies and services.

Connecting Minds, Transforming Healthcare

In line with the theme 'Connecting Minds, Transforming Healthcare', this year's show will focus on the future of healthcare and the latest technologies. The show floor is divided into nine distinct sectors, including medical equipment and devices, disposable and consumer goods, orthopaedics and physiotherapy, IT systems and solutions, healthcare infrastructure and assets, wellness and prevention, imaging and diagnostics, healthcare and general services and healthcare transformation.

Additional new features at this year's event include: the Smart Hospital and Interoperability Zone and the UAE student-focused competition, Cre8, a one-day event that tasks participating UAE students to imagine, innovate and create a solution for a real-world healthcare problem using an imaginary budget of AED100,000.

Dubai Health Authority curates Public Health Congress

Arab Health Congress is partnering with the Dubai Health Authority (DHA) as part of the Public Health Conference, which will explore new technologies and the latest advances in the field of public and population health.

As part of the Public Health Conference, several global healthcare leaders will provide insights into the latest research findings in the fields of public and population health under the theme: 'Uniting for enhanced local and global public health'.

Dr Ramadan Alblooshi, Director of DHA's Public Health & Protection Department and conference chair will deliver the opening keynote speech about a new era of public health.

Speaking ahead of the conference, he said: "For the Arab Health Congress 2024, the Dubai Health Authority has curated the Public Health Conference, a testament to the strategic partnership forged between the DHA and Informa [the organisers of the Arab Health congress]."

Other leaders in the public health sphere speaking at the conference include Dr Nada Al Marzooqi, Director of Public Health and Prevention, UAE Ministry of Health and Prevention, who will discuss global health security and resilience strategies for new public health threats. Dr Farida Al Hosani, Ex-



Dr Ramadan Alblooshi, Director of Dubai Health Authority's Public Health & Protection Department

ecutive Director of Communicable Diseases, Abu Dhabi Public Health Centre (ADPHC), will discuss integrated surveillance for respiratory infections.

Ronald Lavater, CEO of the Swiss-based International Hospital Federation, will lead a session on innovations and sustainability in the hospital sector. Additionally, Prof Duncan Selbie, the President of the International Association of Public Health Institutes (IANPHI), will talk about the changing landscape for public health institutes and the role of a multi-sectoral approach.

The Public Health Conference is one of ten Continuing Medical Education (CME) conferences at Arab Health 2024. **MEH**

Future Health Summit

The invite-only Future Health Summit will bring together global experts who will look at ageing and longevity. The Summit offers an opportunity for senior government officials and healthcare CEOs to network and gain insights into advancements in the industry.

Medical professionals attending the exhibition will have access to 10 Continuing Medical Education (CME) conferences in the fields of radiology, surgery, emergency medicine and critical care, diabetes, obstetrics and gynaecology, orthopaedics, quality manage-

ment, public health, infection control and Central Sterile Supply Department (CSSD).

Fee for visitors

This year will also see the introduction of a fee for visitors to attend, ensuring the continuation of meaningful business and learning opportunities. For those who have not registered before January 4, the cost will be AED100 for online registrations and AED200 for those registering onsite. **MEH**

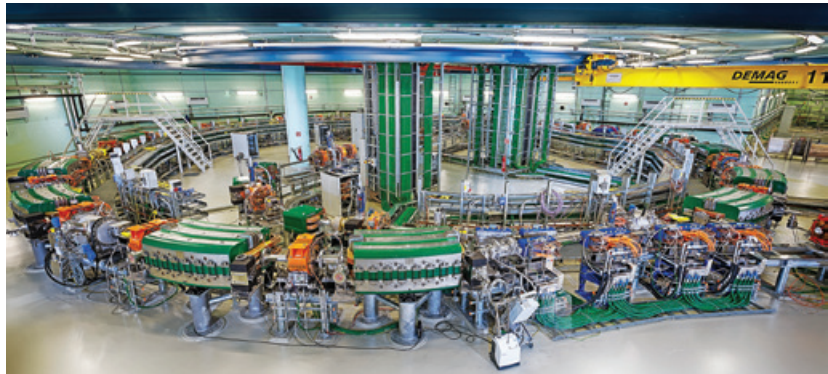
• For more information, visit www.arabhealthonline.com.

Tiny particles with a big impact

Radiation therapy for cancer treatment with protons and carbon ions

Particle therapy is a highly precise form of radiation therapy that uses beams of high-energy protons or carbon ions to treat cancer. Unlike X-rays or electrons used in conventional radiotherapy, these particles deposit the maximum dose of radiation in the last millimetres of their path and thus directly in the tumour. The underlying physical phenomenon is called the “Bragg peak”.

Because of this effect, it is possible to minimize radiation exposure to the healthy tissue around the tumour, making particle therapy an ideal method for treating tumours near radiation-sensitive organs. Side effects and long-term consequences of radiation therapy can be reduced. More than 300,000 patients worldwide have already been treated with particle therapy, and for many indications it is already an established form of therapy. It is used primarily for localized tumours, where local destruction of the tumour cells can lead to a cure or at least long-term survival.



© Kaesenhauer/ECT

A synchrotron-based particle accelerator provides the particle beams for patient irradiation.

Protons are the most widely used worldwide because of the more readily available equipment, while carbon ions require more complex technical equipment. Both particles have the advantage that radiation exposure to healthy tissue can be kept low. Carbon ions, however, have additionally higher biological effectiveness and unleash even greater destructive power in tumour cells. They can be used, for example, to combat tumours that are particularly dif-

ficult to treat and do not respond to other types of radiation. MedAustron is the sixth centre worldwide that can use both types of particles for therapy. Its technology branch TecAustron also serves as a provider of multi-ion facilities. [MED](#)

ARAB HEALTH 2024

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ADVANCED CANCER THERAPY

Solutions for state-of-the-art radiation therapy and research with particles

TecAustron is the company responsible for technology and services within the MedAustron Group, which is a manufacturer and operator of multi-ion particle accelerator facilities for the treatment of cancer and for scientific use. The MedAustron facili-

ty in Austria is currently one of only six facilities worldwide for both proton and carbon ion therapy.

Particle therapy is an evolutionary form of radiation therapy in which beams of high-energy protons or carbon ions are used to treat cancer. It allows to minimize radiation exposure to the healthy tissue around the tumor, thus reducing side effects and long-term effects of radiation therapy.

TecAustron offers healthcare facilities and authorities as well as hospital operators and investors expertise in technical systems for this evolutionary and individualized cancer therapy. Whether a multi-ion accelerator

system for therapy and research or a small compact system, TecAustron covers all the services of a total contractor. As a technology and service provider, TecAustron not only advises customers on the design, construction and operation of medical and scientific applications, but also provides expertise in the certification of facilities and the training of personnel.



Robert Newton at Technogym Village



Cancer care: the positive impact of physical exercise

The Exercise-Medicine specialist Robert Newton analyses how cancer patients benefit from structured exercise – alongside pharmaceutical treatments – and specifically from Technogym's Biostrength.

Technogym's HQ in Cesena – the Technogym Village – recently hosted yet another prominent personality of the **health & well-being scenario**, world-renowned **professor of Exercise Medicine in Oncology, Robert Newton**. The day-long workshop held by Newton focused on how exercise medicine applies to **cancer management** and included theoretical notions, practical demonstration, and the analysis of meaningful case studies.

Professor Newton is an exercise-medicine specialist at Edith Cowan University's Exercise Medicine Research Institute, which he established himself in 2004 in Perth, Australia. Dr Newton is also a fellow of the American College of Sports Medicine (ACSM) – the world's leading sport-medicine association – of which Technogym serves as official partner, fostering the 'Exercise Is Medicine' campaign.

As a specialist and promoter of structured physical activity in medical prescriptions, Newton's seminar at the Technogym Village essentially addressed the positive influence targeted exercise protocols have on tumour patients. It's been proven such treatment programmes – combined with traditional pharmaceutical therapies – slow down or even inverse the worsening of their quality of life, bodily strength, composition, and functionality.

As a matter of fact, until not long-ago physical activity was believed to have negative effects on the tumour, possibly making it grow faster. Research conducted



in the last decades not only proved this to be a groundless theory but confirmed the opposite: targeted and structured exercise protocols fight chemotherapy and radiotherapy side effects and improve their efficacy whilst lengthening life expectancy.

While visiting the Technogym Village, Professor Newton granted a special mention to **Technogym's Biostrength equipment** in the management and treatment of cancer patients. Focusing on men suffering from prostate cancer, Newton highlighted how one of the main side effects of their pharmaceutical therapy is the suppression of testosterone, whose main consequence is a **significant loss of muscle mass**. It was highlighted how Biostrength – and its ad-



justable **eccentric overload function** in particular – greatly helps fighting and inverting this trend thanks to its **hypertrophy programme**. What's more, Biostrength equipment comes in a wide and growing variety of products, making it possible to target several different muscle groups.

Professor Newton also praised Technogym's and Biostrength's **digital services**, which make it possible to **keep the patients' motivation and commitment high** (not easy with cancer patients in particular); they also allow to accurately **monitor the single patient's progress and efficacy** of the treatment protocol thanks to the **data-driven approach**. Technogym's digital ecosystem allows a superior guidance both for sector specialists and patients, getting the most out of the exercise therapy. **IMEH**

Technogym showcases its unique connected Ecosystem and Biostrength REV at Arab Health 2024

The company leader in health, fitness and wellness presents its new solutions for rehabilitation and training in Dubai.

In a scenario where health is increasingly a priority for people, operators and stakeholders are increasingly focused on offering people a way to feel good and live better. For this reason, Wellness has a large space at Arab Health 2023, the most important medical and health exhibition in the Middle East, and TECHNOGYM (Booth location XXXX), the world leading producer of design and technology-driven fitness equipment and solutions showcases Biostrength REV, the fastest, most efficient path to recover and improve performance.

Biostrength REV is a professional, complete, and extremely easy-to-use powerhouse that enables you to collect a wealth of valuable data to maximize training effectiveness, starting from exercise output to precise data relating to each limb.

Launched for the first time in 1992, the Technogym REV was the first isokinetic machine in the world to feature advanced technology and testing that enabled operators to carry out more in-depth analyses and diagnostics, thus advancing performance and speeding up recovery. Since the birth of the REV, Technogym has accompanied athletes in their training, gaining an increasingly extensive and specific experience in how to support them at best. Introducing the new revolutionary BIODRIVE system, based on aerospace technology, and other unique features, the new Biostrength REV embodies our 30-year legacy.

Based on revolutionary aerospace technology, BIODRIVE is a motor controller that delivers a tailored workout to help users to achieve the best results in a short amount of time, thanks to these key ingredients:



- **ENGAGEMENT AND MOTIVATION** – Biofeedback provides precise, real-time guidance and feedback, ensuring maximum muscle activation at each rep and helping you boost user motivation.
- **NEUROMUSCULAR ACTIVATION** – Being able to visualize the amount of effort and the quality of the performance means helping users increase their neuromuscular activation and progress faster while risking less.
- **CORRECT POSTURE** – After the initial set up, Bioposture automatically re-

calls the seat position and the range of motion for each one of your users, for a safe and effective training experience.

- **ADAPTIVE WORKLOAD** – Select which of the seven different types of innovative resistance available is best suited to meet each user's specific goal and ensure maximum muscle contraction.

- **PERSONALIZED SETTINGS** – The extensive test options allows you to determine the correct and most effective ROM, load, and speed of execution for each user. MEH

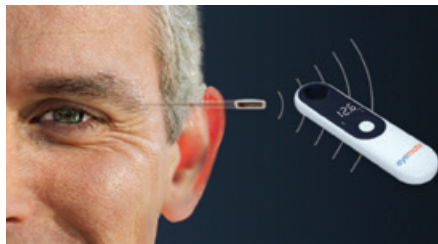
Reimagining Healthcare Inclusion: Abdul Latif Jameel Health's impact through innovative partnerships



Addressing the pressing need for improved and wider access to advanced and affordable modern medical care is a critical global challenge that demands our collective attention.

Recent statistics from the World Health Organization (WHO) reveal that approximately 34%^[1] of the global population lacks access to essential healthcare services. As if it were needed, this stark reality underscores the urgency of making healthcare accessibility a top global priority.

Abdul Latif Jameel Health is at the forefront of healthcare innovation, committed to improving global access to cutting-edge medical solutions. With a strong focus on addressing healthcare disparities between developed and developing nations, they are poised to introduce groundbreaking



products to the global healthcare landscape.

One remarkable partnership has brought forth the *eyemate*® System by Implants Ophthalmic Products GmbH, an advanced

digital health tool for glaucoma management. Developed in Hannover, Germany, this revolutionary system offers personalized and proactive therapy guidance to patients.

Equipped with an implantable micro sensor for intraocular pressure measurement, this CE-marked solution empowers physicians to make timely treatment adjustments. A companion smartphone app provides patients with essential disease information, treatment progress monitoring, and medication reminders.

Abdul Latif Jameel Health is dedicated to ensuring widespread access to this innovation, particularly in underserved communities across the Global South.



In addition, Abdul Latif Jameel Health is introducing the *Eyering* myopia management device, designed especially for children.

This groundbreaking device utilizes patented Repeated Low-Level Red-Light therapy to stimulate blood flow in the ocular fundus, effectively addressing myopia's axial lengthening.

It not only offers early treatment options but also holds the potential for RLRL as a new adjunct therapy.

The commitment is clear: Abdul Latif Jameel Health aims to bring this life-changing technology to children in need across the Global

South, promising a brighter future with clearer vision.

Another significant new partnership with PlasmaJet introduces an all-in-one surgical tool that ensures precision in various surgical procedures, including open and laparoscopic surgeries.

Leveraging the power of Pure-Plasma, this cutting-edge system facilitates precise cutting, dissection, vaporization, and soft tissue surface sealing.

Supported by over 65 Peer-Reviewed Scientific Publications, PlasmaJet represents a significant advancement in surgical technology, enhancing patient care across diverse surgical scenarios.

Lastly, their partnership extends to Eye Tech Care, a pioneer in eye health innovation.

Introducing a transformation in glaucoma care with UCP Ultra-sound Cyclo Plasty. This computer-assisted technology offers a quick three-minute procedure with high reproducibility and a short learning curve. It's a non-invasive approach that minimizes infection risks, making it suitable for a wide range of patients with uncontrolled glaucoma, regardless of their treatment history. Plus, it allows for the possibility of a second UCP treatment or alternative options if necessary.

Together with Abdul Latif Jameel Health, they are dedicated to making modern healthcare more inclusive, accessible, and affordable, ushering in a future with enhanced eye care.

Through these innovative partnerships, Abdul Latif Jameel Health is not only addressing healthcare disparities but also shaping a brighter and healthier future for communities across the Global South – a visionary approach to make cutting-edge healthcare accessible to more people, in more places, and in doing so to meet the unmet medical needs of underserved populations worldwide.

Akram Bouchenaki, CEO of Abdul Latif Jameel Health, stated: "In 2024's Arab Health, we're expanding our commitment to collaboration with world-class partners, leading the charge in pioneering new technologies. Our unwavering focus on inclusivity drives us to accelerate access to affordable modern healthcare, reaching more people in diverse locations and addressing unmet needs across the Global South."

Connect with the Abdul Latif Jameel Health team and their partners at Arab Health, Dubai World Trade Centre, Sheikh Saeed Hall 1, Stand S1.K10.

• For more information, visit: www.aljhealth.com



PlasmaJet

References:

1. World Health Organization (2023). Data on Access to Essential Health Services.

ARAB HEALTH 2024

ABDUL LATIF JAMEEL HEALTH
S1.K10

Ingenious Medical breakthroughs: Paving the path to a healthier tomorrow

In the ever-evolving landscape of healthcare, the realm of ingenious medical breakthroughs stands as a beacon of hope and progress. These groundbreaking innovations not only redefine the boundaries of medical science but also usher in a new era of possibilities for improved patient care and well-being.

At the forefront of this medical revolution is Ingenious Medical, a trailblazing entity that has consistently demonstrated a commitment to pushing the boundaries of innovation. Their relentless pursuit of excellence has yielded transformative advancements that have the potential to reshape the future of healthcare.

One remarkable achievement by Ingenious Medical is their development of cutting-edge diagnostic technologies. These innovations not only enhance the accuracy of disease detection but also enable early intervention, significantly improving patient outcomes. The integration of artificial intelligence into diagnostic processes has elevated the precision and

efficiency of medical assessments, providing healthcare professionals with invaluable tools for timely and informed decision-making.

In addition to diagnostic prowess, Ingenious Medical has spearheaded groundbreaking therapeutic approaches. Their commitment to personalized medicine has led to the development of targeted therapies, tailored to individual genetic profiles. This level of precision not only maximizes treatment efficacy but also minimizes adverse effects, marking a paradigm shift in how we approach disease management.

Furthermore, Ingenious Medical's emphasis on accessibility and affordability has ensured that these groundbreaking technologies are not confined to privileged sectors. Their commitment to global health equity is evident in their efforts to make these innovations available to diverse populations, transcending geographical and socioeconomic barriers.

As we stand on the cusp of a transformative era in healthcare, it is evident that

Ingenious Medical is playing a pivotal role in shaping the narrative. Their innovative solutions, characterized by a fusion of advanced technology and a human-centric approach, are poised to create a ripple effect that extends far beyond the confines of the medical realm.

In conclusion, Ingenious Medical's relentless pursuit of excellence in diagnostic precision, personalized therapeutics, and global accessibility positions them as a beacon of hope in the landscape of medical innovation. Through their ingenious contributions, we glimpse a future where healthcare is not only more effective but also more compassionate and inclusive.


• For more information, visit:
www.ingenious-medical.com

ARAB HEALTH 2024
INGENIOUS MEDICAL
Z3.D38

INGENUITY
FOR
HEALTH

GERMAN PRECISION BY INGENIOUS

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NIR
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**NIR SPECTRA 4K
ENDOSCOPIC
SURGICAL
TOWER**

CUTTING-EDGE ENDOSCOPY SOLUTIONS:
TAILORED PRECISION FOR EVERY NEED, SOLVING HEALTHCARE CHALLENGES. GUARANTEED QUALITY ELEVATING YOUR HEALTHCARE STANDARDS.


QUALITY

PRECISION

INNOVATION

COMPANY'S VALUES:

- PRECISION AND RELIABILITY
- INNOVATION
- QUALITY
- EDUCATION AND TRAINING SUPPORT



SCAN TO VISIT WEBSITE

Introducing MiGuard – The all-Natural Headache Nutritional Supplement

Nature’s shield against primary headache disorders



Primary headache disorders are due to a neurological dysfunction and are a major cause of disability worldwide. It is estimated that about 35% of the general population suffer from at least one type of a primary headache disorder.

In predisposed individuals to primary headaches certain areas within the brain react in an exaggerated manner to a variety of triggers. This initiates a cascade of events resulting in the excruciating throbbing pain associated with some of the headache disorders with associated symptoms of nausea, light and sound sensitivity and dizziness.

Unfortunately, most prescription or over the counter medications used to treat migraine and other headache disorders exert their therapeutic effects only in limited areas of the brain and therefore may not be fully effective and at times may also cause unpleasant side effects.

As such there is a desperate need for a compound that not only may help manage migraine and some of the other primary headache disorders but also is naturally occurring and is free of these side effects.

Fortunately, after a decade of research, the renowned board certified headache sub specialist physician Dr. Benjamin Taimoorazy has introduced **MiGuard**, a ground-breaking all natural nutritional supplement that contains the highest quality of essential and naturally occurring vitamins, minerals and herbal compounds. **MiGuard** is produced in a state of the art FDA registered facility in the United States of America. **MiGuard** is formulated based on the most up to date scientific evidence in regards to the underlying pathophysiology of primary headache disorders. **MiGuard** may not only decrease the sensi-



Feverfew	Alpha-Lipoic Acid
Vitamin B2	Magnesium
Ginger	Coenzyme Q10

tivity of the brain to headache triggers but also may disrupt all or most of the changes that result in the full-blown headache of migraine.

MiGuard is vegan, gluten free and is non habit forming. The formulation of **MiGuard** is non-GMO and is third party tested to be free of heavy metals. **MiGuard** is packaged inside veggie capsules meant for rapid and easy absorption from the gastrointestinal tract.

MiGuard is trademark registered by the USPTO and it contains a proprietary formulation of synergistic activity between

Magnesium, Vitamin B2 (Riboflavin), Coenzyme Q10, Alpha-Lipoic Acid, Ginger (*Zingiber officinale*), and Feverfew (*Tanacetum parthenium*).

MiGuard was designated as the “Natural Migraine Supplement of the Year” by the California Naturopathic Association in 2023. **MiGuard** is available on getmi-guard.com, Walmart.com, Amazon.com and many other ecommerce platforms and is also shipped worldwide.

MiGuard may be the end of an uphill battle against migraine headaches and many other primary headache disorders. **IMEH**

Discover MiGuard

Migraine and Headache Relief*



A headache nutritional supplement powered by breakthrough science



Vegan



Drug-free



Non-habit
forming



Third party
tested



Non-GMO



Gluten free



MiGuard is formulated by a renowned board-certified headache subspecialist physician and is manufactured at an FDA-registered facility in the USA. MiGuard may be the end of an uphill battle against many headache disorders.

www.getmiguard.com

For more information, email us at info@getmiguard.com

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

Sourcehere.com accelerates trade and innovation at Arab Health 2024

When it comes to generating business leads at Arab Health 2024 in Dubai, U.S. and Canadian exhibitors will have an extra advantage over their competitors. In partnership with www.Sourcehere.com, the global supply chain networking platform, USA and Canada Partnership Pavilion organizer Kallman Worldwide will produce an interactive digital buyers guide to connect participating suppliers with more prospects on-site and online before, during, and after the show.

Sourcehere supports thousands of B2B companies around the world with tools and utilities – including direct messaging – to meet, conduct business, and build trade relationships anywhere, anytime. The company launched in 2022 with a focus on trade shows, capitalizing on spikes in market interest around events such as Arab Health to demonstrate its robust, 24/7/365 platform as an alternative to traditional printed show directories.

It's a good fit for Kallman, whose trademark pavilions are recognized around the world as the hub of North American business at many of industry's most important international trade events. The company's portfolio of exhibitor services, custom stand building, supply chain support services, and workforce advocacy programmes further solidifies its reputation as an enterprising partner above and beyond simply managing floor space in exhibition halls.

For pavilion exhibitors, Sourcehere extends their reach in target sectors and adds measurable year-round marketing visibility. And for companies that aren't exhibiting yet, the platform offers an inexpensive, cost-effective way to dip their toes in the trade show pool online before diving into live shows overseas.

"Trade shows have always been our core strength, but we've never thought of ourselves as just a trade show business," said Kallman Worldwide President and CEO, Tom Kallman. "Since my father started the company in 1963, we've been advancing global trade, connecting suppliers and buy-



ers wherever, whenever, however we can. Their business is a year-round conversation punctuated by trade events, and so is ours."

As the pandemic recedes and trade shows rebound, Kallman's schedule of events is an emphatic testament to resilience. The company is currently contracted with 47 events in 27 countries, including seven international health and medical events, supporting more than 3,600 exhibitors with pavilions on-site and an extended show presence online.

"The pandemic was an epic wake-up call to exporters everywhere, and the lessons we learned from the experience made us an even more valuable partner to suppliers and buyers alike," said Kallman. "When shows were suspended, technology gave us the tools to stay connected in the short term and add capabilities to come back from COVID even stronger. Best of all, when the dust settled, none of it was at the expense of the live, often spontaneous face-to-face meetings that have been the

foundation of global trade since the beginning of time."

As Sourcehere establishes its value on the trade show floor, it's also building equity with a wider circle of stakeholders and influencers in event communities, such as the American Chamber of Commerce in Dubai.

"For American companies with business interests in the UAE and throughout the Middle East and North Africa (MENA) region, it's important to have a local presence," said AmCham Dubai Executive Director, Cara Nazari. "As a supply chain networking platform, Sourcehere gives U.S. trade show exhibitors here, many of whom are also our members, an extended competitive advantage in the local business conversation." MEDIA

ARAB HEALTH 2024

USA PARTNERSHIP
PAVILION MEETING POINT
H1.D37



Megat Iskandar, Trade Commissioner of Malaysia to the UAE

MATRADE elevates Malaysian presence at Arab Health 2024

Propelling Malaysian medical devices and healthcare services in the Middle East and North Africa region

Malaysia External Trade Development Corporation (MATRADE) continues its commitment to foster export opportunities for Malaysian medical devices and healthcare services in the Middle East and North Africa (MENA) region. The commitment is demonstrated by MATRADE in coordinating the participation of Malaysian companies in Arab Health 2024, marking MATRADE's 20th consecutive year of active participation in this iconic event.

Over the years, Malaysian medical devices have gained global acceptance, supported by Malaysia's position as the world's top exporter of medical gloves and catheters – integral products within the medical devices category. Malaysian products and services have consistently earned recognition for their high quality and competitive pricing, making them highly sought after by visitors seeking products within this specific segment.

This year MATRADE will be featuring 14 companies showcasing a diverse range of innovative healthcare products and services including medical devices, digital healthcare solutions, pharmaceuticals and biotechnology, to name a few.

"MATRADE continues to provide a strategic avenue for Malaysian companies, enabling them to connect with numerous local and international suppliers and buyers across various product categories and stay abreast of the latest technological trends and innovations in the industry," said Mr. Megat Iskandar, Trade Commissioner of Malaysia to the UAE. He added that Malaysia holds the third-highest global ranking in terms of trust in its healthcare system according to a study done by Ipsos in 2023, while Switzerland and Singapore are in second and first place, respectively, for their dependable services.

"Observing current trends, we anticipate steady global demand for Malaysian high-quality healthcare products in 2024, while the MENA region offers high potential export opportunities for Malaysia. Various local government policy programmes, such as the UAE Vision 2040 and the Saudi Vision 2030, outline long-term strategies to expand the role of the private healthcare sector and create additional capacity for their growing markets generating robust demand for pharmaceutical products, medical equipment and supplies, hospital services and healthcare professionals."

ARAB HEALTH 2024

MATRADE
Z4.E10

Arab Health
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Quality Medical Devices &
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of Companies



Meets the highest hospital demands: CARDIOVIT FT-2

CARDIOVIT FT-2, a mobile electrocardiograph with an optional thermal printer, is designed for the hospital environment. The device has a highly hygienic 15" multi-touch display, advanced cybersecurity and extensive connectivity features.

The seamless surface of the large touchscreen is easy to clean. No keyboard is necessary to operate the device. All cables are neatly stowed away in the trolley.

Advanced cybersecurity features

The CARDIOVIT FT-2 includes a security-hardened Linux kernel to minimize the risk in case of cyberattacks. Wi-Fi protocols including certificate-based authentication ensure secure access to the hospital IT infrastructure. To prevent unauthorized access, the device enables configurable access control with username, password, and privileges.

Extensive connectivity

Bidirectional communication for easy data access via worklist or PDQ, and fast transmission of all reports to EMR/HIS systems.

High-end diagnostic tools

The CARDIOVIT FT-2 diagnostic tools at a glance:

- Resting ECG with the SCHILLER ECG interpretation algorithm ETM including ETM Sport, the automatic interpretation for athletes
- Resting rhythm recording up to 20 minutes
- Spirometry, based on the ultrasound technology of the SpiroScout SP plus (optional)

Customizable

The CARDIOVIT FT-2 provides an optional thermal printer, allowing to choose the best configuration for paper-based or paperless hospital workflow.

Add spirometry to your CARDIOVIT FT-2

With the SpiroScout SP plus (optional), the CARDIOVIT FT-2 also becomes a spirometer. Thanks to GANSHORN's ultrasound technology, spirometry recordings are highly accurate, and the sensor is maintenance- and calibration-free.

The spirometry option offers FVC, SVC and MVV with a large selection of reference standards, pre- and post-tests, as well as interpretation of the FVC results. The device provides feedback on the procedure's quality during the test and after each trial. An incentive screen is included for trials with children.

50 years of experience

SCHILLER was founded in 1974 by Alfred E. Schiller. Starting in a four-room flat as a one-man business, the company has become a successful group with 1300 employees, 30 subsidiaries and a global



CARDIOVIT FT-2 with optional thermal printer and SpiroScout SP plus.



CARDIOVIT FT-2 fulfils the highest hospital demands thanks to its highly hygienic 15" multi-touch display, advanced cybersecurity and extensive connectivity features.

sales network. Today, SCHILLER is a world-leading manufacturer and supplier of devices for cardio-pulmonary diagnostics, rescue, and patient monitoring as well as software solutions for the medical industry. MEM

- Visit www.schiller.ch to discover details on the SCHILLER ECG devices.
- Send your request to sales@schiller.ch.
- Visit us at the Arab Health 2024 at stand S2.A30.

ARAB HEALTH 2024

**SCHILLER
S2.A30**

Cleaning and disinfection without compromise: Professional infection control solutions for dirty utility rooms



With over 95 years of experience in ware washing, cleaning and disinfection technology, MEIKO is familiar with requirements in hospitals and care homes. From individual appliances and combined care units to completely fitted utility rooms – MEIKO provides clean solutions. MEIKO cleaning and disinfection devices have earned customers' trust all over the world thanks to their ability to hygienically clean and disinfect care utensils such as bedpans and urine bottles.

The TopLine and TOPIC bedpan washer-disinfectors achieve consistently hygienic results using these following features in particular:

ThermoControl:

Each programme run is controlled according to the set A0 value and documented. Two sensors cross check one another, ensuring that the required temperatures are reached and maintained for the set length of time.

Benefits:

- The highest level of hygiene safety
- Validates disinfection performance and the cleaning process
- Standard feature on TopLine and TOPIC

T.A.D. (Total Auto Disinfection):

The hot steam is fed through all water pipes into the wash chamber.

Benefits:

- Thermal disinfection of all elements in the water system (pipes, nozzles, water tank) over the programme run
- No recontamination of the system
- Standard feature on TopLine and TOPIC

SteamStop:

Excess steam is not released into the room. Instead, it is channeled straight into the drain using a separate pipe.

Benefits:

- No additional heat in the utility room

- No risk of pathogens escaping into the room
- Standard feature on TopLine and TOPIC

ChemCode:

Blue to blue, grey to grey: the unique colour coding on our suction lances and supply canisters keeps it clear which is detergent and which is rinse aid. There is no way to mix them up.

Benefits:

- Process reliability
- User safety
- Standard feature on TopLine and TOPIC

CaStop:

No need to worry about dosing water softener with rinse aid or detergent (optional). It is all monitored and controlled by sensors.

Benefits:

- Optimum dosing of chemical agents
- Automation provides hygiene safety
- Standard feature on TopLine and TOPIC

Dry&Cool:

The clue is in the name! Care utensils are dried and cooled before they are unloaded. The air used for this process is filtered beforehand using a patented process.

Benefits:

- Sterile air thanks to the HEPA filter
- No risk of recontamination
- Items can be used again for patients immediately
- Standard feature on TopLine, optional on TOPIC

PowerClean:


The wash chamber features an extendable telescopic rotary jet and wash nozzles around 360° for efficient care utensil cleaning – down to every last nook and cranny.

Benefits:

- Targets cleaning on the interior of different shapes of bedpan



- Highly efficient at washing away microbes
- The interplay between mechanical washing, temperature and detergents (optional) is even effective against *C. difficile* spores (confirmed by expert opinion)
- Standard feature on TopLine

See for yourself at our booth Z3.B14 at ARAB HEALTH and experience MEIKO technology first hand. 

More about MEIKO

As a manufacturer of professional dishwashing technology, washer-disinfectors and food waste treatment systems, MEIKO is there wherever hygiene is a consideration: in the dishwashing areas, utility rooms and respiratory protective equipment workshops of the world. This is where we meet the basic human need for cleanliness and hygiene. And we have been doing it since 1927. We entered the healthcare sector early and built up our knowledge base across over 95 years' experience so that today we have a unique capacity for expertise and knowledge sharing.

ARAB HEALTH 2024

MEIKO
Z3.B14

France at Arab Health 2024: Showcasing Revolutionary Healthcare Solutions

French healthcare specialists are set to participate at Arab Health, the major trade show for the medical sector in the region, taking place from January 29th to February 1st, 2024. Bringing together 87 French companies under the French Healthcare banner, this collective presence aims to showcase their dedication to medical expertise.

Anticipating thousands of global attendees, the highly anticipated health exhibition in the Near and Middle East promises an unparalleled gathering. This year, Business France is supporting a French delegation comprising 87 companies across 3 French Healthcare pavilions, following the distribution pattern from the previous year:

- Hall Za'abeel 2 hosts companies specializing in the **medical equipment and device** sector.
- Sheikh Rashid Hall accommodates companies focused on **orthopedics, physiotherapy, and rehabilitation**.
- Sheikh Saeed Hall 1 caters to companies specializing in the **Imaging and Diagnostics** sector.

French Influence on the Global Stage

In 2021, the French medtech market saw continued growth, mirroring the substantial need for cutting-edge medical solutions. Within the same period, France's medical market claimed 14.7% of the European market share, securing its spot as the second-largest market, trailing only behind Germany. Renowned for their prowess in various domains including medical devices, diagnostic equipment, medical imaging technologies, and healthcare IT solutions, French companies remain distinguished. France's stature as a European frontrunner, buoyed by a robust health infrastructure, was further reinforced.

Fostering Healthcare Advancements: A Collaborative Journey Between France and the UAE

The relationship between France and the United Arab Emirates in the healthcare sector is characterized by a growing collaboration, illustrating a strategic partnership in the medical field. The United Arab Emirates, as an economic and technological hub in the Gulf region, offer significant opportunities for French healthcare companies.

The UAE has developed state-of-the-art healthcare infrastructure and actively seeks to develop its medical services. French com-

panies are committed to provide innovative technologies, high-quality medical equipment, and healthcare management solutions.

Axel Baroux, French Trade and Investment Commissioner, stated: "Witnessing the dynamic collaboration between France and the UAE in shaping the future of healthcare, the UAE is a strategic partner for France, encouraging mutual innovation and collaboration. Together, we contribute to the progress of healthcare, ensuring a healthier and brighter future for both nations."

French MedTech: Pioneering Innovation in the Healthcare Landscape

Post covid-related crisis, the French President Emmanuel Macron articulated France's medical vision succinctly: "France must lead in envisioning and manufacturing the medical devices of the future. It's imperative for us to rank among the foremost in the healthcare sector." The ambitious France 2030 and Health Innovation 2030 initiatives set the goal of positioning France as the premier in-

- Link to the catalog: <https://businessfrance.jpm-associés.com/arab-health-2024>



novator in European healthcare. With the European medical technology market valued at approximately €140 billion in 2020, France aims to spearhead the health sector.

The France 2030 strategy is crystal clear: to elevate the French healthcare industry's global prominence. This initiative allocates €7.5 billion over 3 to 5 years, with a specific €400 million fund earmarked solely for MedTech. In 2021, this market boasted a turnover of €30.7 billion, with exports accounting for €10 billion. International companies make up a quarter of the firms in France, contributing two-thirds of the sector's turnover, while over 85% of the sector's companies hail from French or European origins.

Incorporating digital technology into established medical devices stands as a significant innovation. As per a recent survey, nearly 42% of the surveyed companies have either already integrated connected medical devices or are presently engaged in developing digital solutions. This integration of digital technology into medical devices holds immense potential for enhancing healthcare efficiency. **MEH**

French Healthcare

French Healthcare is an innovative public-private initiative aimed at bringing together players in the French healthcare ecosystem (businesses, researchers, healthcare professionals, public players, etc.) so that they can jointly promote their activities, know-how and technologies internationally. It contributes to promoting the French vision for global health, based on a humanist approach to care and fair and equitable access to health products and services. Business France, the national agency that supports the international development of the French economy, in partnership with the French Healthcare association and the Ministry for Europe and Foreign Affairs, is responsible for promoting the brand, which aims to co-ordinate a collective approach to stimulate international co-operation and promote France's strengths.

Follow French Healthcare:

#FrenchHealthcare

Website: www.frenchhealthcare.fr

Twitter: [@FrHealthCare_EN](https://twitter.com/FrHealthCare_EN)

LinkedIn: <https://www.linkedin.com/company/french-healthcare-en/>

YouTube: <https://www.youtube.com/channel/UCdrw3oNFv14OfOeP3SmFujg>

Bonjour!

Guess who is investing €7.5 billion in healthcare innovation

Meet us at Arab Health 2024

Zabeel 2, Sheikh Rashid, Sheikh Saeed Hall 1



Medacs new office location in Al Salam Tower, Media City.

Growing health workforces in the Middle East

With 18 offices worldwide, Medacs Healthcare is one of the world's largest clinical staffing groups, currently relocating over 8,000 new international health workers a year into the Middle East, the UK, Ireland, Australia and New Zealand. **Rebecca Watson**, CEO of Medacs Global Group, explains why health workforces need further growth now, and how their group is investing in the region and expanding their local operation to support their Middle Eastern clients.

Why does the Middle East need more health workers?

Medacs has been supplying international healthcare talent into Arab nations for over 20 years now and the phenomenal growth we've witnessed in the sector in that time is showing no sign of slowing.

There are currently over 160 new healthcare projects in the pipeline across the GCC with a combined value of over \$50 billion. Thousands of additional physicians, nurses and support staff will be required to staff those, on top of the numbers already needed to continue providing top-class patient care in the region's existing hospitals and clinics.

Investment is partly being driven by the huge new opportunities in medical tourism, with more patients than ever choosing to come to the Middle East for world-leading treatment. Many of the hospital

groups we work with already require larger workforces to service this rising global demand, as well as the healthcare needs of a growing, and ageing local population.

Fast-changing healthcare priorities in the region are also driving new staffing needs, with a recent shift to more preventative and wellness-focused care models. Preventative care models need health workers with different skillsets and experience in chronic disease management, mental health and delivering healthier living programmes. Those professionals are in high demand worldwide right now, so to secure sufficient numbers, recruitment needs to ramp up accordingly.

What recruitment challenges do healthcare providers in the Middle East face?

Global staffing shortages are by far the

biggest challenge. According to UN research, by 2030 the world will be short of 18 million health workers, and that's a problem in every single one of the global territories we operate in.

The UAE does have a strong advantage, in that it is one of the most attractive places to live and work in the world, but the competition for highly skilled health workers is getting fiercer every day.

The Middle East is also heavily dependent on a foreign workforce, which is transient, so new vacancies continually arise as visas expire and expat workers return home. The process of registering and credentialing overseas-trained professionals also takes time, which means it is difficult to recruit rapidly and healthcare providers need to strategically plan their staffing levels well in advance.



Rebecca Watson, CEO of Medacs Global Group, honoured on Staffing Industry Analysts Global Power 150 Women in Staffing list 2023

How can Medacs support?

In the context of a fiercely competitive, candidate-short market, hospitals need all the support they can get to secure the very best talent. Partnering with specialists who really understand healthcare recruitment is critical to safeguard compliance and ensure new hires have exactly the right skills and qualifications.

Medacs currently relocates over 8,000 international healthcare professionals annually, and we have a wide global pool to draw from, with extensive networks in the best source regions. We also have a strong track record sourcing the hard-to-find mental health and long-term care specialists that the region needs to meet its current healthcare priorities.

With demand rising so fast, our local clients now need more support with their workforces, and so we've invested heavily in our operations in Dubai and we're building a stronger local presence.

What is the benefit of having a local team in Dubai?

With a local team we're already providing more direct support for our clients, visiting clinics and hospitals in-person and meeting clinical and departmental leads to really understand their specific skill gaps. This enables us to market roles better and develop compelling propositions for potential candidates, so they have a much richer picture of what to expect on arrival.

To meet rising demand for world-class patient care, the region needs to recruit more international health workers.

- Rebecca Watson, CEO of Medacs Global Group.

Our specialist, Arabic-speaking licensing officers will also meet directly with regulatory bodies to speed up the complex medical registration process, avoiding delays for candidates and employers.

Finally, a local team will be able to provide much better aftercare for new recruits, to make sure they settle and stay for as long as possible. Retention is critical to maintaining high staffing levels, and we're keen to improve our aftercare service in the Middle East, replicating the same gold standard of post-placement candidate care that the NHS currently offers to international recruits in the UK.

Where will new international health workers come from?

We recruit most candidates for the Middle East from countries with advanced healthcare systems, such as the USA, Canada, the UK, Ireland, South Africa, Australia and New Zealand. Increasingly nurses are coming from Asia and India too, where we have a large operational footprint.

In recent months, we've successfully brought in larger cohorts by hosting in-person events for our Middle Eastern clients in our global offices. With hiring events, we typically gather a shortlist of up to 100 potential candidates, and a panel of client representatives fly in to interview them, often across several major cities including Manchester, Glasgow and Dublin, or Sydney, Perth and Auckland.

Our new headquarters in Soho Square London is a particularly popular location, just a stone's throw from the renowned Oxford Street shopping district and close to Knightsbridge. Our clients love the opportunity to experience cities like London and say there really is no substitute for meeting new candidates face-to-face.

- CEO Rebecca Watson, Chief Commercial Officer Mick Whitley and the Medacs team



Key members of the Medacs Dubai office.

will be at the Arab Health global medical expo at the Dubai World Trade Centre from 29 Jan-1 Feb 2024. Find them in the ABHI UK Healthcare Pavilion Hall 2. E30.

Further information

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ARAB HEALTH 2024
ABHI UK HEALTHCARE PAVILION
 Hall 2. E30

Empowering your pharmacists: Optimizing patient care across the healthcare landscape

Support for pharmacists in the patient care journey

Nearly 80% of patients see pharmacists as a key component of their healthcare team^[1]. Yet, pharmacy leaders are coping with many challenges, including:

- Flat or shrinking budgets
- Staffing shortages
- Drug supply issues that impact formulary management and patient care
- Limited ability to buy and use effective technology solutions in the workflow

These challenges often form barriers that clash with what pharmacists encounter every day in their practice.

Common barriers pharmacists face daily

- Information overload, characterized by the onslaught of new research and guidelines that can be confusing, inconsistent, or inapplicable.
- Workflow inefficiencies, such as too many irrelevant drug alerts or the lags and disconnects between systems (like delays in adapting to new formulary requirements, for example).
- Incomplete or ineffective integrations of decision and data systems, such as lack of interoperability or standardization or missing patient-specific parameters.

“In many cases they [pharmacists] are the final or nearly the final step before a human, a patient, is going to take a drug, so they’re instrumental in making sure that patients receive drugs alone or in combination that are both safe and effective,” says Peter Bonis, MD, Chief Medical Officer, Wolters Kluwer, Health.

Pharmacy leaders must seek solutions

that empower pharmacists to operate at the top of their license and to align decisions with the entire care team. These solutions should also help healthcare organizations realize measurable workflow efficiencies.

In order to improve health outcomes while meeting these challenges head-on, leaders must focus on:

1. Providing clarity in the evidence

As pharmacists become more heavily involved in patient care, the need for access to evidence-based clinical information also increases – especially at the point of care. Unfortunately, the industry is saturated with existing resources to help with dosing and drug interactions, and they can often be outdated, cumbersome, and time-consuming to search through.

You need to understand the information-seeking behaviors of your pharmacists and assess the solutions based on depth and breadth of content and tools as they relate to patient care. Evidence-based drug content and tools should answer most of the information challenges that pharmacists face.

2. Aligning clinicians across the continuum of care

Harmful care variations and clinician miscommunication can occur when your organization isn’t united on one platform and speaking with one cohesive voice. One way to help align care teams is to provide them with the same evidence-based,

clinically actionable information so they can choose appropriate and safe drugs, dosing, and administration routes for each patient based on the best available evidence and their specific information. Here, it is essential to compare the evidence-based solutions that are used across your care teams and to analyze topic areas that are important to your organization.

3. Increasing efficiency through integration and accessibility

There are many levels of integration and interoperability, and organizations should strive to get the most out of their electronic medical records (EMRs) and other information systems. A smart integration can provide clinicians with the recommended dosages for a specific population, like newborns, children, the elderly, pregnant women, and people with obesity. It can also help conduct effective medication screening with timely actionable alerts to clinical team members about medication errors or interactions.

Therapy is at the center of medicine, and now is the time to empower your pharmacists to fully engage and align with the entire care team. Read this eBook how to enable efficiency and increase productivity while helping your clinicians better adhere to compliance standards and regulatory guidelines. [MEH](#)

References:

1. Columbia University Mailman School of Public Health. 2022



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New tissue cassette printer by DTM Medical

DTM TCP450 Tissue Cassette Printer prints directly onto tissue cassettes for increased efficiency in labs.

DTM Medical, an international OEM and medical solution provider, recently introduced its DTM TCP450 Tissue Cassette Printer. The TCP450 is designed for use in cytology, pathology and histology labs to print text, symbols, matrix codes and other characters directly onto tissue and biopsy cassettes. That eliminates handwriting or expensive and difficult-to-apply labels and makes the lab workflow more efficient while increasing patient safety. As the cassette printer is a UV laser printer it does not require special laser cassettes. That leads to significant cost reduction as just standard ones (without lit) need to be stored. Furthermore, the print is resistant to xylene, alcohol and decalcifying solutions.

The print resolution of the cassette printer is 2500 dpi, resulting in high-quality and sharp print output. It takes about four seconds for a cassette to be produced.

The TCP450 can store multiple cassettes as it comes with six cassette hoppers, each holding up to 75 cassettes. Alternatively, it can hold up to 50 cassettes each with refillable hoppers. There are two output hoppers available, either with a capacity of 20 or 100 cassettes. A direct output of the printed cassettes is also possible.

An integrated PC with touch screen and a built-in scanner are two features of this new cassette printer that can be operated as stand-alone solution or with a lab information system (LIS).

Signature EVO Slide Printer

Also new to the DTM Medical product portfolio is the Signature EVO Slide Printer, which is the next generation of slide printers by US manufacturer Primera Technology.

The EVO Slide Printer features a patented new air-puff system, called EVO SlideSeparator, for perfectly fed slides, every time. As it comes with an ethernet and USB interface, it can be integrated with LIS systems. The increased print speed allows a faster production of ten slides per minute. The integrated LCD screen allows for easy handling and shows machine status and other user feedback information.

The Signature EVO Slide Printer is designed for efficient, hands-free operation. Slides are stored in easy-to-load cartridges – away from dust and other potential contaminants. It takes just a few seconds to change out the cartridge if you need standard slides for one study and positively charged slides for others. The level of slides remaining in a cartridge is easily viewed through the cartridge's transparent blue LED backlit case.

DTM Medical provides advanced and complete medical labelling solution – all from a single source. The Signature EVO Slide Printer and DTM TCP450 Tissue Cassette Printer offer a great way for laboratories as well as medical research organisations to process and manage slides and cassettes. The labs' efficiency is significantly increased while the risk of specimen misidentification is reduced or even eliminated.



DTM Medical will showcase all its medical printing solutions at Medlab 2024 at stand Z6.C38 ^{MEH}

- For more information, visit: <https://dtm-medical.eu>

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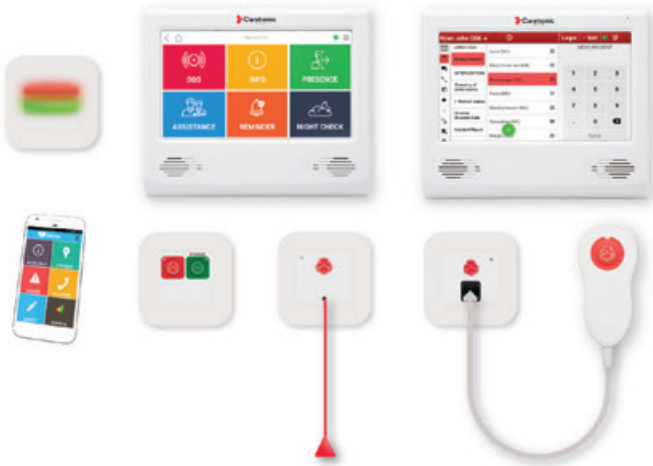
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Countdown to Excellence: The 15th edition of MEDICAL FAIR ASIA gears up to co-locate with MEDICAL MANUFACTURING ASIA from 11 to 13 September 2024

New – Medical Aesthetics Pavilion!

The highly anticipated 2024 edition of MEDICAL FAIR ASIA in Singapore will return from 11-13 September; alongside MEDICAL MANUFACTURING ASIA. This showcase of innovation and industry excellence by the two exhibitions serving the end-to-end needs of the medical and healthcare sectors will present products and solutions such as diagnostics, wearable technology, connected healthcare solutions, rehabilitation and orthopaedic equipment, to MedTech components, and more.

As the largest exhibitions of their kind in the region, the comprehensive range of participating companies position MEDICAL FAIR ASIA and MEDICAL MANUFACTURING ASIA as the ideal destination for the medical and healthcare community to meet their sourcing and networking objectives while staying at the forefront of healthcare digitisation and innovations to improve patient care.

Coupled with Southeast Asia's growing importance with its rapid population growth, increased health awareness, and strong economic infrastructure, Gernot Ringling, Managing Director, Messe Düsseldorf Asia, said: "MEDICAL FAIR ASIA and MEDICAL MANUFACTURING ASIA are well-timed platforms for fostering business discussions, expanding networking opportunities and to facilitate fruitful business outcomes here in Southeast Asia."

"The healthcare sector is experiencing rapid growth and transformation, and the diverse and burgeoning markets of the region present unique opportunities and challenges," Ringling added.

Into its 15th edition, MEDICAL FAIR ASIA has a rich history of fostering collaboration, sparking innovation, and presenting the latest medical and healthcare equipment and solutions.

In 2024, the exhibition introduces the Medical Aesthetics Pavilion focused on showcasing the latest advancements in medical aesthetic treatments and patient recovery. From medical equipment and devices to products and services for non-invasive and minimally invasive procedures to advanced post-surgery and medical intervention support - the inaugural Medical Aesthetics Pavilion highlights the growing demand for aesthetic procedures. Industry reports project that Asia's medical aesthetics market is expected to see double-digit growth rates through to 2027.

This innovative space will present an international showcase ranging from scar reduction and reconstructive enhancements to skin rejuvenation, skin tightening, and body contouring technologies.

"We are excited to introduce this new pavilion which aligns with the evolving shift toward patient-centric approaches in healthcare recognising that it extends beyond traditional treatments to encompass aesthetic considerations." Ringling said.



Other highlights at MEDICAL FAIR ASIA 2024 include:

- **Start-up Park:** Start-Up Park is where innovative start-ups with ready-to-market solutions meet buyers, partners, industry influencers and potential investors. Innovations on show include Artificial Intelligence (AI) and Big Data solutions, wearable technologies and software solutions.
- **Community Care Pavilion:** As hospital facilities increasingly transitioning towards value-based care, the spotlight on preventive health, convenience, and customer service grows brighter. Community Care Pavilion features a diverse range of innovations tailored for ageing populations, preventive care and the proactive management of chronic diseases.
- **Medicine + Sports Conference:** As a CME accredited programme, the 4th MEDICAL FAIR ASIA Medicine + Sports Conference brings together prominent international experts in sports medicine and sports science, physiotherapists, healthcare professionals, and technical specialists. This gathering will foster the exchange of insights and interdisciplinary dialogue, focusing on innovative approaches in prevention, training, regeneration, and rehabilitation.
- **WT | Wearable Technologies Conference:** This conference is dedicated to exploring emerging technologies and the latest advancements in the wearable tech. Featuring case studies and presentations from a distinguished line-up of international industry experts, deep dive into the forefront of wearable technology trends and innovations including remote patient monitoring, chronic disease management, to early health issue detection technology.
- **Paradigm Shifts in Healthcare Conference:** The symposium, places a spotlight on the critical realms of community healthcare. It serves as a platform to discover the transformative changes redefining healthcare practices and patient care.

MEDICAL MANUFACTURING ASIA which is jointly organised by Messe Düsseldorf Asia and SPETA (Singapore Precision Engineering and Technology Association) will also see the return of the IVAM Forum: High-Tech for Medical Devices organised by German-based IVAM Microtechnology Network.

- For more information, visit www.medicalfair-asia.com and www.medmanufacturing-asia.com.



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COP28 UAE

More than 120 countries sign Declaration on Climate and Health

In an historic first, the organizers of COP28, which took place in Dubai, the UAE from 30 November to 12 December 2023, hosted a dedicated health day in response to the climate-related health crisis affecting at least 3.5 billion people – nearly half of the global population. Extreme heat, weather events and air pollution caused millions of deaths in 2023, putting enormous pressure on health systems.

In an effort to cement health as a vital element of climate change, a COP28 UAE Declaration on Climate and Health was signed by 123 countries at the event. The Declaration advocates for a rapid increase in political and financial commitments, and concrete action to protect people from the devastating health impacts of the climate crisis.

On December 2, the COP28 Presidency joined with the World Health Organization to announce a new ‘COP28 UAE Declaration on Climate and Health’ to accelerate actions to protect people’s health from growing climate impacts. The Declaration was announced at the World Climate Action Summit, where world leaders gathered for the start of COP28.

Signed by 123 countries, the Declaration was announced one day ahead of the first ever Health Day at a COP and marks a world first in acknowledging the need for governments to protect communities and prepare health-care systems to cope with climate-related health impacts such as extreme heat, air pollution and infectious diseases.

The Declaration was developed with the support of a number of ‘country champions’ including Brazil, Malawi, the UK, the US, the Netherlands, Kenya, Fiji, India, Egypt, Sierra Leone, and Germany. This joint action comes as annual deaths from polluted air hit almost 9 million and as 189 million people are exposed to extreme weather-related events each year.

“The impacts of climate change are already at our door. They have become one of the greatest threats to human health in the 21st century. Governments have now rightly recognized health as a crucial element of climate action,” said COP28 President Dr Sultan Al Jaber. “The Declaration sends a strong signal that we must reduce global emissions and work together



Photo: COP28 / Christophe Viseux

Dr Sultan Al Jaber, COP28 President, speaks during the Health Session at Al Waha Theatre during the UN Climate Change Conference, COP28.

to strengthen our health systems.”

Commenting on the Declaration, Dr Tedros Adhanom Ghebreyesus, Director-General, World Health Organization, said: “The climate crisis is a health crisis, but for too long, health has been a footnote in climate discussions. WHO thanks the UAE for making health a key priority in its COP28 Presidency, and welcomes this declaration, which emphasizes the need to build climate-resilient and low-carbon health systems, to protect the health of both planet and people.”

The Declaration covers a range of action areas at the nexus of climate and health, including building more climate-resilient health systems, strengthening cross-sectoral collaboration to reduce emissions and maximize the health benefits of climate action, and increas-

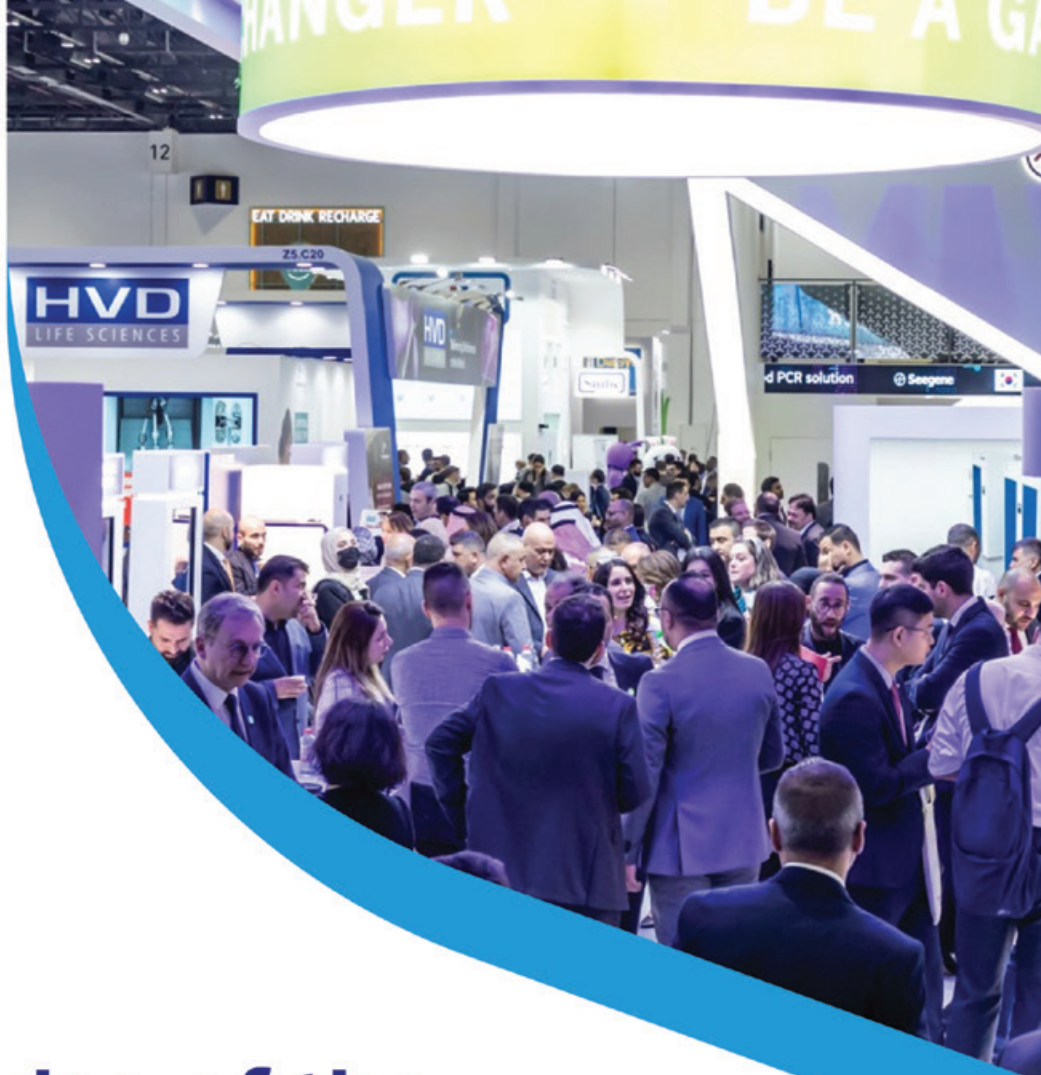


Photo: COP28 / Mahmoud Khaleel

Tedros Adhanom Ghebreyesus, Director-General of the World Health Organization speaks onstage at the Health Day Opening Session at Al Waha Theatre during the UN Climate Change Conference COP28

ing finance for climate and health solutions. Signatories have also committed to incorporate health targets in their national climate plans and improve international collaboration to address the health risks of climate change, including at future COPs.

Commenting on Declaration, Dr Jeni Miller, Executive Director of the Global Climate and Health Alliance, said: “For COP28 to go down in history as the first ‘Health COP’, it will be necessary for governments to sustain this focus on health throughout the negotiations, and to take real action to protect people’s health – including the phase-out of fossil fuels, additional finance to address the impacts of climate change, and making health a fundamental measure of our progress and success on climate action.”



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US\$1 billion committed to climate and health

The COP28 Presidency recognized that finance will be a significant driver of the Declaration's success. As such, the COP28 Presidency joined with the Global Fund to Fight AIDS, Tuberculosis and Malaria, the Green Climate Fund, The Rockefeller Foundation, and the World Health Organization to unveil a set of ten guiding principles to bolster financing for climate and health, mobilize new and additional finance, and foster innovation with transformative projects and new multisector approaches. Endorsed by over 40 financing partners and civil society organizations, the COP28 Guiding Principles for Financing Climate and Health Solutions <<https://www.cop28.com/en/guiding-principles>> signal the growing collaboration across funders and the momentum to support climate and health solutions in a sustainable manner.



Photo: COP28 / Mark Field

Speakers panel at the Health session at Al Waha Theatre during the COP28 UN Climate Change Conference.

It also welcomed the finance announcements made by a wide range of stakeholders including governments, development banks, multilateral institutions, philanthropies, and NGOs to expand their investments in climate and health solutions. Collectively, these partners have committed to dedicate US\$1 billion to address the growing needs of the climate-health crisis.

The Guiding Principles acknowledge critical elements of accessible and effective financing and the need to mobilize additional funds for climate and health solutions. Key pillars of the Guiding Principles include:

- accelerating transformative climate and health solutions to save and improve lives now and in the future;
- creating equitable, inclusive, accessible, and holistic approaches to climate and health financing and solutions; and
- building the core policymaking and implementation capacities of countries, communities, and financing institutions to deliver climate and health solutions.

The Guiding Principles build on existing development finance principles and mechanisms, including the Addis Ababa Action Agenda, Paris Climate Agreement, and The Bridgetown Initiative, to support a global policy agenda that will advance the aims of countries most affected by climate change.

“Adaptation is an imperative for today, not tomorrow, as climate change is challenging our ability to deliver sustainable impact. The Global Fund is joining other global funders in prioritizing country-driven efforts to address environmental health threats,” said Peter Sands, Executive Director, The Global Fund to Fight AIDS, Tuberculosis and Malaria.

Mafalda Duarte, Executive Director of the Green Climate Fund Executive Director, commented: “International cooperation is essential to ensuring healthy, resilient communities in vulnerable regions grappling with the effects of climate change. The Green Climate Fund is a proud partner and signatory to the Guiding

Principles, which are an important framework for coalescing partners around strategies to mobilize more finance for climate-informed health investments in countries that need them the most.”

Dr Rajiv J Shah, President, The Rockefeller Foundation, said: “The world’s health systems need to be transformed to ensure people can not only survive the climate crisis, but live, work, and prosper how and where they want. The Guiding Principles will accelerate the coordinated action needed to deliver not just more funding, but the better-quality funding necessary for health systems transformation. We are proud to endorse these Principles and are committed to leveraging our resources to protect the health of people and the planet.”

Jess Beagley, Policy Lead at the Global Climate and Health Alliance, said: “Finance for climate and health unlocks action which benefits both people and the planet. This \$1 billion sum is a tremendous addition to current levels of climate and health finance. To some extent climate finance can better integrate benefits for health, and health finance can better integrate benefits for climate. But the intersection of climate and health has been underfunded for years and new funding is crucial. It is also key that funding for climate and health be truly new and additional, and not pulled from other key areas of climate action that are vital to protecting health, such as water and sanitation, food security, and humanitarian action”

- Read / download the COP28 UAE Declaration on Climate and Health: <https://bit.ly/3NMXXKef>



COP28 / Mahmoud Khaled

Speakers onstage at the Health Day Opening Session at Al Waha Theatre during the COP28 UN Climate Change Conference.

COP28 Health Day

The COP28 UAE Presidency, in collaboration with WHO, the Wellcome Trust and partners, hosted the first-ever Health Day at the COP28 UN Climate Conference.

The Health Day focused on five key topics:

- Showcasing evidence based and clear impact pathways between climate change and human health
- Promoting “health arguments for climate action” and health co-benefits of mitigation
- Highlighting needs, barriers and best practices for strengthening climate resilience of health systems
- Identifying and scaling adaptation measures to address the impacts of climate change on human health (including through One Health)
- Taking action at the nexus of health and relief, recovery and peace.

Watch: COP28 Health Day

<https://youtu.be/U1wGwHD9GNA>

The Quadripartite launches a guide to support implementation of One Health

Recognizing the multitude of risks that a changing climate is having and will continue to have on the health of all life on earth, the Quadripartite Collaboration on One Health released The guide to Implementing the One Health Joint Plan of Action at National Level <<https://bit.ly/48E1dDI>> to support countries to strengthen their One Health actions.

The launch took place at COP28 in Dubai and coincided with the first-ever health day at COP28 as well as a climate and health high-level ministerial meeting.

The Guide is an operational addendum to the 2022 One Health Joint Plan of Action <<https://www.who.int/publications/item/9789240059139>>, signalling a strategic objective to country-focused implementation. The guide outlines three pathways – governance, sectoral integration, and evidence and knowledge – and five steps to achieve One Health implementation.

One Health provides the opportunity to recognise shared interests, set common goals and drive towards teamwork to benefit the health of all nations. “One of our main principles when developing the Guide is to make it applicable to all countries, regardless of their status of One Health implementation, and acknowledges transdisciplinary and diversity of stakeholders,” Dr Amina Benyahia, Head a.i. One Health Initiative, World Health Organization.

Doreen Robinson, the Head of Biodiversity and Land at UNEP, noted: “The climate emergency has far-reaching consequences that threaten all life on earth. Direct factors like heat waves and floods as well as indirect factors like changes to disease spread due to changing weather patterns are just some of the risks to the health of animals, humans, and entire ecosystems.” She added: “An early investment in inclusive and systemic One Health approaches ensures we’re tackling such interconnected, complex issues for a healthier, more resilient future for both people and planet.”

“Despite the growing awareness of the One Health approach in recent years, the




world remains vulnerable to many global threats unless this approach is translated into policies and actions, and adequately and sustainably financed,” said Thanawat Tiensin, Director, FAO Animal Production and Health Division.

“The international community needs strengthened coordination to implement a One Health approach, both within countries and among countries. The WHO plays a pivotal role in this regard,” said Alexandre Ghisleni, Brazil Global Health Ambassador, in his opening remarks at the event.

“Comprehensive implementation of the One Health approach will only be made possible when coordinated actions correspond to political commitments for One Health. International frameworks can help design One Health programmes, policies, legislation and research, but nations and lo-

cal communities are essential and vital in putting One Health approaches into practice,” said Chadia Wannous, One Health Global Coordinator, WOH

However, challenges and barriers in One Health implementation also remain, with a need to upscale and expand on One Health. This includes raising political and financial support, strengthening capacity building, improving information and data exchange and inviting in technology innovation.

The benefits of implementing a One Health approach are clear, not only in regard to improving the health of humans, animals and the environment but also in terms of the huge economic benefits – the return on investment of the One Health approach is up to 90%, according to the World Bank. 

Cleveland Clinic Abu Dhabi's journey beyond COP28: Challenging the status quo and envisioning the future of healthcare

After months of elaborate preparation and discussion, the curtains have come down on another successful Conference of the Parties (COP). As anticipated, the United Nations' annual climate summit produced a series of key insights and actions that can support a global temperature rise not exceeding 1.5-degree Celsius above pre-industrial levels, and highlighted, once again, the need for multiple sectors and players to commit to a net-zero future by 2050.

The global health sector was a driver of climate conversations for the first time at this edition of COP, a fitting role given that it ranks as the fifth highest carbon emitter when listed as a country. Its status remains unique: attaining net-zero emissions – a situation in which all emissions are balanced by absorbing an equivalent amount from the atmosphere – is a tough task for the healthcare sector. Yet, this does not preclude a significant role for healthcare providers in supporting climate action.

Long way to go

In fact, because limited actions have been taken thus far, there is much that can still be done, and this can be perceived as good news. It also means that the efforts of world-class organizations such as Cleveland Clinic Abu Dhabi, which has taken a forward-thinking approach to sustainability, have the potential to set standards for the industry.

"Cleveland Clinic Abu Dhabi has been leading the transformation of the healthcare sector in the UAE since its inception, from its patient-first approach to care, to its adoption of innovative treatments toward enhancing health outcomes. We understand that prioritizing the health of our patients

and caregivers must also include the health of our planet," Marc Petre, Chief Operating Officer, Cleveland Clinic Abu Dhabi, told *Middle East Health*.

"Climate change poses one of the biggest threats to human health today. Many people around the world are affected by extreme weather, food insecurity and vector-borne diseases, exacerbated by the globe's changing climate. It is important to be aware of the significant contribution that the global healthcare sector is making to greenhouse gas emissions, and platforms such as a designated Health Day at COP28 help in bringing the need for change to the forefront. As healthcare providers, we cannot neglect our responsibility toward the environment," he added.

Ambitious targets

The multispecialty hospital, which follows the US-based Cleveland Clinic's model of care, is one of Abu Dhabi's premier healthcare facilities, and a vital part of the M42 network which was also Principal Health Partner at COP28. Prior to the climate summit, Cleveland Clinic Abu Dhabi published its sustainability and decarbonization efforts and announced ambitious targets for the next few years.

"By 2030, we aim to cut back on our carbon footprint by achieving a 21% reduction in greenhouse gas emissions compared to the baseline. We also plan to increase waste recycling to 30%, and reach at least an 18% reduction in energy consumption," Petre said.

Making inroads

Cleveland Clinic Abu Dhabi is already making inroads toward its goals, which are



Marc Petre, Chief Operating Officer, Cleveland Clinic Abu Dhabi

aligned with the UAE's Net Zero by 2050 vision and distinguish it in an energy-intensive sector that has hitherto mainly prioritized patient outcomes. The hospital has already reduced its greenhouse gas emissions by 11.3% from the baseline year and realized a 10% reduction in energy consumption by cost.

Petre lent context to these wins: "The healthcare sector hasn't been known for its contributions to climate action, so these are meaningful successes given the energy-intensive nature of diagnostic and treatment processes. At Cleveland Clinic Abu Dhabi, we're committed to patient wellness. This focus, coupled with a concern for our planet, strengthens our efforts to safeguard the overall healthcare ecosystem."

Most distinctively, the hospital is weaving environmental stewardship into its clinical practices: in 2022, it replaced an environment-warming anaesthetic agent with an effective alternative that has lower global warming impact.

“Anaesthetic agents like desflurane absorb and trap infrared radiation, contributing to global warming with an impact 2,540 times worse than an equivalent amount of carbon dioxide. This is why our Anesthesiology Institute took the initiative to review the medical literature and switch to something that is more planet-friendly,” Petre said.

In tandem, Cleveland Clinic Abu Dhabi is also doubling down on other initiatives to reduce the impact of its operations. For instance, its 10% reduction in energy consumption by cost has been brought about by the recapitalization and retrofitting of lighting systems, air conditioning and ventilation fan motors, as well as the installation of occupancy controls in operating theatres. With energy efficiency in mind, the hospital also utilizes solar water accumulators to reduce the energy required for water heating by 18%.

Emissions from the supply chain

Cleveland Clinic Abu Dhabi is also fostering environmental consciousness among its partners and suppliers.

“At present, industry reports suggest that 71% of emissions from the healthcare sector are derived from the supply chain, including the production, transport, use, and disposal of goods and services procured. At Cleveland Clinic Abu Dhabi, we are working to address supply chain emissions primarily falling under Scope 3, which encompasses emissions originating from the distribution, transportation, and disposal of goods and services. To tackle these, the hospital is actively collaborating with suppliers and distributors to collect data on emissions throughout the entire lifecycle of products, from production to disposal. Our approach includes calculating emissions, selecting suppliers aligned with our sustainability targets, value chain mapping, and employing a screening process to evaluate which categories have the most significant emissions, offer the greatest reduction opportunities, and are most relevant to our overall business objectives. Through these measures, we actively work to reduce the environmental impact of our supply chain while still ensuring that we have the latest technology available for care,” Petre said.


Meanwhile, the hospital continues to divert at least a fourth of its non-clinical waste across 14 categories, and advocate

for the use of green cleaning products and organic fertilizers. It is also supporting water conservation by using non-potable water recaptured from air conditioning condensate and dialysis water systems for 85% of its landscape irrigation needs.

Design and construction

As the global burden on healthcare systems increases, green building practices will also play a role in enhancing the sustainability of the sector. Here too, Cleveland Clinic Abu


Dhabi has set a model to emulate: its main campus and the recently built Fatima bint Mubarak Center have achieved Leadership in Energy and Environmental Design (LEED) Gold Certification from the United States Green Building Council.

“From the outset, we wanted to ensure that our facilities are built and operated in alignment with the UAE’s sustainability goals. LEED recognition is an outward sign of our commitment to the environment, and to our pledge for a greener future,” Petre said. 

Cleveland Clinic Abu Dhabi at COP28

Cleveland Clinic Abu Dhabi highlighted its continual pursuit for sustainability at COP28, participating in key sessions on how to transform healthcare delivery while minimizing environmental impact. Petre discussed the role of innovation in driving sustainability within the healthcare sector, while Dr Jeffrey Chapman, Institute Chair of the Respiratory Institute and Chief of the Quality and Patient Safety Institute, explained how respiratory and overall health is impacted by increasing air pollution. Dr Wesam Ahmed, Department Chair for Hematology, Medical Oncology & Bone Marrow Transplant in the Oncology Institute, shed light on how advances like precision medicine are key to reducing the burden of healthcare and minimizing resource use by finding the right therapy for each patient faster.

“Our hope – from engaging with global healthcare leaders, industry executives and civil society at a platform of this scale – was to learn and that our experiences might inspire others to realize the potential for environmental-friendly operations in a sector with massive resource utilization and carbon footprint. Many of the wins that we can score in the immediate future will stem from increases in energy efficiency. It has also become clear that advances in artificial intelligence and data analytics, and increased capabilities for precision medicine, will help health providers and health facilities to minimize their environmental impact without sacrificing clinical outcomes,” Petre said.

“As leaders in healthcare, our commitment to health goes beyond treating the patient. Participating in COP28 has inspired us and reinforced our duty to champion a net-zero future. Environmental sustainability is not a strategic differentiator, so it is an easy place for us to come together, learn together, and work together for a sustainable, net-zero future for the well-being of generations to come,” Petre concluded. 

The Global Fund to spend 70% of its funding in most climate-vulnerable countries

The Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund) announced during the World Climate Summit at COP28 in Dubai that more than 70% of its funding – over US\$9 billion over the next three years – will be spent in the 50 most climate-vulnerable countries to support health programmes that must also cope with the climate crisis.

“Fighting deadly infectious diseases must go hand-in-hand with responding to climate change,” said Peter Sands, Executive Director of the Global Fund. “The climate crisis disproportionately affects low- and middle-income countries with high disease burdens, weak health systems, and fragile political or conflict contexts, putting communities – who have contributed the least to global carbon emissions – at the most risk.”

Of the three diseases at the core of the Global Fund’s mission, malaria is the most affected by climate change. Eighty-seven percent of the global malaria burden and Global Fund resources are focused in the same 50 most vulnerable countries. Climate change, in addition to drug- and insecticide-resistance and conflict, poses

an urgent threat to malaria control and elimination efforts.

Climate change also jeopardizes the fight against HIV and TB. Its impact on food security, as well as extreme weather events, are driving population displacement, which increases communities’ vulnerability to disease. Floods, cyclones and other climate disasters interrupt access to healthcare.

The Global Fund will also invest over US\$2.9 billion over the next three years in the 50 most climate vulnerable countries to strengthen health systems to be more climate-resilient and better prepared for pandemic threats.

Given the intersection of vulnerability to disease with the worst impacts of climate change, the Global Fund will support countries across its programming, from responding to the specific impacts on diseases, like malaria appearing at higher altitudes, to building climate-resilient health systems, including, for example, digitalizing health records so they cannot be washed away by cyclones or floods. Over the next three years this

will include funding designed to reduce the risks from climate change, such as;

- At least \$200 million to support seasonal malaria chemoprevention (SMC), which is highly cost-effective in preventing malaria when given before the rainy season. Seasonal strategies like SMC will be important to protect vulnerable populations from malaria in areas where there is variability in seasonal transmission due to changing rainfall and weather patterns driven by climate change.

- Over \$295 million to enhance disease surveillance and early warning systems, allowing better integration of climate data and better detection and management of climate-sensitive disease outbreaks and health emergencies.

- \$12 million for an Emergency Fund that will provide rapid and flexible funding to respond to climate-related emergencies affecting healthcare delivery to key populations and vulnerable communities. [WHO](#)

Over 40 million health professionals demand bold health and climate action at COP28

On the first-ever Health Day at a COP, more than 40 million health professionals from around the world joined the call to action by the World Health Organization (WHO) and civil society organizations, to prioritize health in climate negotiations. They called on governments to meet the commitments they have already made, deliver on the Paris Agreement, accelerate the phasing out of fossil fuels and to raise their ambition for a healthier, fairer and greener future for humanity.

The International Council of Nurses (representing 30 million members) and the World Medical Association (with a

membership of 10 million physicians) pledged their support, along with thousands of health professionals worldwide who have actively signed WHO’s call to action on health and climate change.

They noted that 2023 has witnessed an alarming surge in climate-related disasters, including wildfires, heatwaves and droughts, leading to the displacement of populations, agricultural losses and heightened air pollution. The ongoing climate crisis has significantly increased the risk of life-threatening diseases such as cholera, malaria and dengue.

They emphasised that strong and re-

silient health systems are indispensable to protecting the population from the negative impacts of climate change on their health and pointed out that building climate-resilient, low-carbon health systems as protection for current and future lives must be seen as one of the priorities in local, national and global climate action and financing.

They demanded that there must be immediate and bold action to phase out fossil fuels, while transitioning to clean energy and building resilience to support people and communities most vulnerable to the impacts of the changing climate. [WHO](#)

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SCAN FOR UPDATES



The answer for the need for pharmacy automation: CONSIS H solution for hospital outpatient pharmacies



Automatic dispensing with a CONSIS H robot with automated product loading from Willach Pharmacy Solutions

With a population of more than 490 million people, the MENA region is one of the world's largest healthcare markets.

The MENA Pharmacy Automation Market is projected to grow at a CAGR of 6.7 % during the forecast period to reach a total market size of US\$226.21 million by 2028 from US\$143.38 million in 2021.

Increasing healthcare expenditure is driving the demand for pharmacy automation in the region in order to provide improved service to a large patient base. Pharmacy staff require modern technology tools to perform their jobs efficiently without losing on patient safety or care quality.

Hospital outpatient pharmacies, busy with dispensing prescriptions, find it challenging to focus on additional revenue streams and so pharmacy automation is attractive in order to improve the speed, space and accuracy of dispensing.

Medication dispensing and patient consultation take time and where efficiency is critical to maximize the potential of this revenue-generating department, rush mode can mean finding yourself with costly, even dangerous, errors on your hands.

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CONSIS H robot

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Automatic dispensing with CONSIS robots at Jaber Al Ahmad Hospital in Kuwait



Automatic dispensing with CONSIS robots at John Hopkins ARAMCO Hospital in Saudi Arabia

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