

# WORLD

MEDICAL CHRONICLES



*The Inspiring Journeys of 100 Global Medical Innovators*  
**VOLUME - 1**

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## FOREWORD: THE AUDACITY TO HEAL

The history of human civilization is, at its core, a story of people who refused to give up. It is the story of our collective decision to fight back against the limitations of the human body and the challenges of disease. While many people think of medicine as just a collection of numbers, charts, and sterile labs, it is actually a world of high-stakes creativity. It is driven by thinkers who look at a "hopeless" problem and see a question that is waiting for a brilliant answer.

In this first volume, we explore 100 global innovators—from elite universities to bold startups—who prove that medical breakthroughs aren't just luck. Their stories show that true progress happens when scientific precision meets the courage to take risks. For these visionaries, "good enough" is never an option when lives are on the line.

These visionaries show us that the biggest changes often happen when different worlds collide—like when medicine meets new computer technology, or when economic strategy helps make healthcare more fair for everyone. They prove that a true innovator does more than just invent a new tool; they change the way we think about what is possible for our health and our future.

This book is an educational project created under the Fair Use policy to inspire the next generation of doctors and thinkers. These articles serve strictly for informational purposes; we have not replicated any specific creative writing formats. Instead, the content is a curated collection of facts gathered from reputable newspapers, websites, and research guides.

While our writers have crafted these stories with care, we utilized AI for grammatical refinement, translations, and sentence structure to ensure clarity. We deeply respect copyright laws and original creators. If you have any objections regarding the materials used, please contact us at **founder@indiannewsrecords.com**. Beyond the awards, we hope these stories show that while science provides the "how," the human heart provides the "why."

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**DR. ADWOA KUMIWA ASARE AFARE, GHANA**

Dr. Adwoa Kumiwa Asare Afare is a prominent Ghanaian pediatrician, medical researcher, and senior lecturer at the University of Ghana Medical School. A specialist in pediatric infectious diseases, she has dedicated over a decade to managing pediatric HIV and tuberculosis (TB). She is a Fellow of the Ghana College of Physicians and Surgeons and holds a Master of Public Health, serving as a consultant to Ghana's National HIV and TB programs.

Working at the Korle Bu Teaching Hospital (KBTH) in Accra, Dr. Afare was a key member of the medical team that achieved a major public health milestone in 2025: the first successful diagnosis of childhood TB in Ghana using GeneXpert stool testing. This innovation solves a long-standing challenge in pediatric medicine. Traditional TB tests require a sputum (phlegm) sample, which infants and young children often cannot produce. By utilizing stool samples, the GeneXpert machine provides a non-invasive, high-precision diagnostic tool that allows for immediate, life-saving treatment.

The impact of this technology was highlighted by the recovery of a premature infant whose infection was confirmed via stool testing after traditional methods proved difficult. This initiative is a collaborative effort between the Ghana National Tuberculosis Control Programme, UNICEF, and Siemens Healthineers, with the goal of making early TB detection available nationwide.

In Ghana, TB testing and treatment are free of charge. Dr. Afare's current research, funded by GlaxoSmithKline, evaluates lung function and quality of life in children with TB. Her career is dedicated to using evidence-based insights to drive transformative health policies across Africa. By addressing critical pediatric health challenges, she aims to become a leading research scientist. Ultimately, her work strives to reduce child mortality and foster healthier communities through innovative diagnostics and improved medical outcomes for the continent's most vulnerable populations.

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## DR. AHMED MADKOUR, EGYPT

Dr. Ahmed Madkour is a prominent Egyptian medical professor and researcher who has gained international recognition for his pioneering contributions to gastrointestinal surgery. As the head of the Gastrointestinal and Biliary Tract Endoscopy Department at the Port Said branch of Egypt's General Healthcare Authority, Madkour developed a groundbreaking surgical method now officially known as the "Madkour Technique."

This innovation represents a significant advancement in "third-space" endoscopy, a field of medicine where procedures are performed within the layers of the gastrointestinal wall rather than through traditional open surgery. The Madkour Technique provides a less invasive alternative for treating serious esophageal disorders. By using an endoscope—a thin, flexible tube with a camera—to operate inside the wall of the esophagus, doctors can treat conditions that previously required highly complex and risky surgeries, such as the total removal of the esophagus.

This method was validated through successful applications at the Al-Shifa Medical Complex in Port Said and Helwan University. Following these clinical successes, the technique was peer-reviewed and published in *Endoscopy*, which is widely considered the world's leading medical journal for endoscopic research.

In addition to his clinical work, Madkour's achievement is celebrated as a major milestone for Egyptian science, marking the first time a surgical innovation from the country has received such high-level international approval in this specific medical field. His work is part of a broader trend of scientific advancement in the Arab region, which includes new international research partnerships between Saudi and Egyptian universities and the formation of professional societies like the Asia and Middle East Society for Radiotherapy.

Madkour remains a central figure in modernizing surgery, championing safer, technology-driven solutions. By advancing minimally invasive practices, he helps transition medical treatment toward innovation that enhances patient safety and accelerates recovery, ensuring modern healthcare is more efficient and effective for patients worldwide.

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### **DR. ALEX LUCAS, UNITED STATES**

Dr. Alex Lucas is an American physician-innovator and chemical engineer known for integrating engineering principles with clinical medicine to improve healthcare efficiency. Born in Peru and adopted into a small community in southern Illinois, Lucas developed an early interest in the sciences, specifically mathematics and chemistry. He attended the University of Illinois Urbana-Champaign, where he earned a degree in chemical engineering. Before entering the medical field, Lucas built a successful career in the industrial sector, holding leadership roles in Texas and Chicago where he managed diverse teams and refined his skills in business operations and process management.

While working in Chicago, Lucas began volunteering in local clinics and shadowing physicians in the emergency department at Norwegian American Hospital. These experiences, particularly in underserved Hispanic neighborhoods, inspired him to combine his engineering background with a medical career. He furthered his connection to his heritage by mastering the Spanish language, with the long-term goal of practicing medicine in South America. In 2018, Lucas became a student at the Carle Illinois College of Medicine, the world's first engineering-infused medical school.

During his training, he served as Student Government president and contributed to the development of a curriculum that applies quantitative problem-solving to human biology. Lucas's work focuses on the intersection of emergency medicine and industrial engineering. He advocates for "reengineering" hospital workflows to manage the increasing volume of patients in emergency rooms more effectively.

By applying concepts from chemical engineering, such as process optimization and fluid dynamics, he aims to create more efficient systems for patient care and resource allocation. Lucas intends to provide medical innovations to under-resourced hospitals internationally, ensuring that advanced technological solutions are accessible to marginalized populations, particularly in Spanish-speaking countries like Peru.

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### **DR. ALEX STINARD, UNITED STATES**

Dr. Alex Stinard, MD, is an American emergency medicine physician and healthcare innovator who serves as the Emergency Department Medical Director at UCF Lake Nona Hospital in Orlando, Florida. Raised in a family with deep roots in both medicine and computer science, Dr. Stinard became a "change champion" early in his career by helping hospitals transition from paper-based records to digital systems. He is currently a leading figure in HCA Healthcare's Department of Care Transformation and Innovation (CT&I), where he works to integrate advanced technologies into the clinical environment to improve the efficiency of patient care.

Dr. Stinard is specifically recognized for his role in piloting generative artificial intelligence (AI) and natural language processing (NLP) to address the burden of clinical documentation. Research indicates that many physicians spend more than half of their time on paperwork, which reduces the amount of face-to-face time they have with patients. To solve this, Dr. Stinard utilizes a mobile application that securely captures conversations between doctors and patients. The AI system then converts these spoken words into structured medical notes in real-time. This "hands-free" documentation allows the physician to focus entirely on the patient rather than a computer screen.

In addition to his clinical duties, Dr. Stinard returned to school during the COVID-19 pandemic to deepen his formal education in AI and large language models. He advocates for the use of AI as a supportive tool—similar to "cruise control" in a car—rather than a replacement for human judgment. By narrating his physical exams out loud, Dr. Stinard found that the AI produces better notes while simultaneously keeping the patient more informed about their diagnosis. His work at UCF Lake Nona Hospital, HCA's primary "Innovation Hub," serves as a blueprint for scaling AI technologies across large hospital systems to make healthcare more patient-centered and less administratively heavy.

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### **DR. ANDREW IGNASZEWSKI, CANADA**

Dr. Andrew Ignaszewski is a Polish-Canadian cardiologist and medical administrator who has served as a prominent leader at Providence Health Care (PHC) for over 30 years. Often referred to by his patients as "Dr. Andy," he is recognized for his significant contributions to cardiac care and medical innovation in Vancouver, British Columbia. Having immigrated from Poland, Ignaszewski's early career was marked by the challenges of navigating a foreign medical system, an experience that later drove his deep commitment to mentoring junior physicians and international medical graduates.

His leadership roles at PHC included serving as the Physician-in-Chief and the interim Head of the Department of Medicine, where he focused on empowering frontline healthcare providers to improve patient outcomes through creative problem-solving. Ignaszewski is best known for establishing the Department of Medicine Innovation Platform, a program designed to fund and support physician-led projects that transform hospital care. This initiative eventually evolved into a larger organizational ecosystem known as Innovarium, which includes various ventures aimed at modernizing healthcare delivery.

Beyond administration, Ignaszewski played a pivotal role in the "Healthy Heart" program and was a key figure in fundraising efforts for the St. Paul's Foundation. His ability to build relationships with donors and administrators helped secure over \$5 million for hospital programs, including \$1.5 million specifically for medical innovation.

Throughout his tenure, Ignaszewski emphasized that healthcare innovation should be a collaborative effort rather than a top-down mandate. As he stepped down from his executive roles in 2025, his legacy remained tied to the upcoming transition to the new St. Paul's Hospital, where his "Innovation Platform" continues to prototype new ways of providing medical services. His career is characterized by a humanist approach to medicine, balancing high-level scientific advancement with a personal dedication to the well-being of his patients and the professional growth of his colleagues.

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## DR. ANTHONY ATALA, PERU

Dr. Anthony Atala is a Peruvian-American pediatric urologist and scientist who is widely regarded as a pioneer in the field of regenerative medicine. Born in Lima, Peru, he moved to the United States as a child and later earned his medical degree from the University of Louisville. Currently, he serves as the Director of the Wake Forest Institute for Regenerative Medicine (WFIRM) and the Chair of Urology at Wake Forest University. Dr. Atala is most famous for his groundbreaking work in bioengineering human tissues and organs.

In 1999, he led the surgical team that successfully implanted the world's first laboratory-grown bladder into a human patient, a milestone that proved organs could be created outside the body using a patient's own cells. The core of Dr. Atala's research is the belief that almost any cell in the human body has the potential to regenerate. By using specialized 3D printers, his team "prints" human cells into specific shapes to create tissues like muscle, skin, and cartilage.

A major benefit of this technology is that because the organs are made from the patient's own biological material, the body is unlikely to reject the transplant. This could eventually eliminate the need for long organ transplant waiting lists. To date, his institute has developed 15 different applications that are used in clinical settings and is currently working on engineering over 40 different types of tissues and organs.

Dr. Atala has received numerous prestigious honors, including the Jacobson Innovation Award from the American College of Surgeons. His work has been featured as a top medical breakthrough by Time magazine and the Smithsonian. Beyond his inventions, he has authored over 800 scientific articles and holds more than 250 patents. Through his leadership at WFIRM, he continues to oversee a team of hundreds of researchers dedicated to translating complex laboratory discoveries into life-saving medical therapies for patients worldwide.

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**DR. A.R.K. SASIKALA, INDIA**

Dr. Arathyram Ramachandra Kurup Sasikala is an Indian-born biomedical engineer and researcher known for her pioneering work in the field of piezoelectroceutics. Born in a small village in Kerala, India, she rose to international prominence in 2025 when she was awarded a three-million-dollar Future Leaders Fellowship by UK Research and Innovation (UKRI). Based at the University of Bradford in the United Kingdom, her research focuses on developing battery-free medical implants that generate power through the natural movements of the human body.

Dr. Ramachandra's work utilizes piezoelectric materials, which are substances that produce an electric charge when they are squeezed, stretched, or moved. By integrating these materials into medical devices like bone implants or pacemakers, the body effectively becomes a self-sustaining power source. Traditionally, devices such as heart pacemakers rely on internal batteries that last between five and ten years. When these batteries fail, patients must undergo invasive surgery to replace them.

Ramachandra's innovation aims to eliminate the need for such surgeries by allowing devices to harvest energy from simple chest movements or heartbeats. Beyond heart health, this technology has significant implications for regenerative medicine.

The small electrical pulses generated by body movement can be used to stimulate bone healing and promote tissue growth in patients recovering from serious injuries. This approach is considered a more sustainable and "green" alternative to traditional medical electronics, as it reduces the chemical waste associated with discarded batteries.

In addition to her research, Dr. Ramachandra leads a research cluster at the University of Bradford, collaborating with prestigious institutions such as the University of Cambridge and UC San Diego. Her journey from a modest background in rural India to a leader in British science serves as a notable example of the global contributions of Indian-origin scientists to modern healthcare technology.

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### DR. ARAVINDAN SELVARAJ, INDIA

Dr. Aravindan Selvaraj is a prominent Indian orthopedic surgeon and the co-founder and Executive Director of Kauvery Hospitals, a major multi-specialty healthcare chain in Southern India. Since the hospital's inception in 1999 in Trichy, Tamil Nadu, Selvaraj has played a central role in expanding the group to several cities, including Chennai and Bengaluru. He is recognized for his efforts to bridge the gap between traditional medical care and modern technology.

Under his leadership, Kauvery Hospitals has become a key player in the Tamil Nadu healthcare ecosystem, which is often cited as one of the most advanced and affordable in India. Selvaraj is particularly known for establishing an Innovation Centre in 2019, making Kauvery one of the first hospitals in the region to create a dedicated hub for healthtech advancements. This initiative was designed to address a common problem in the industry: technology developers often work in isolation without direct access to doctors or patients.

Through this center, Selvaraj has supported approximately 250 startups, providing them with clinical validation and mentorship. He also oversees Healthcare Capital, a financial branch that invests in promising medical technologies, ensuring that new inventions can survive the long and expensive process of clinical testing.

A significant aspect of Selvaraj's philosophy is the delivery of high-end medical procedures, such as robotic and cardiac surgeries, at costs that remain accessible to the general public. He credits the hospital's early years in smaller "Tier II" cities for teaching the organization how to optimize costs without sacrificing quality.

As of 2024, Selvaraj has announced aggressive expansion plans to increase the hospital's capacity from 2,500 to 3,500 beds. His work continues to influence the sector through a focus on digital transformation, research, and the cultivation of a "high-innovation mindset" among all hospital staff, from nurses to surgeons.

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**DR. ASHOK KUMAR BADAMALI, INDIA**

Dr. Ashok Kumar Badamali is an Indian cardiac anesthesiologist and medical innovator based at the Kalinga Institute of Medical Sciences (KIMS) in Bhubaneswar. He is widely recognized for developing the "Sanjivani-QCPR," a portable assist device designed to improve the success rates of Cardiopulmonary Resuscitation (CPR) performed by non-professionals. Dr. Badamali's innovation gained national prominence after it was praised by the Principal Scientific Advisor to the Government of India, Professor Ajay Sood, during a research and development conclave at KIIT University.

The device was noted for its ability to translate a complex medical problem into a simple, cost-effective solution for the general public. The Sanjivani-QCPR is a handheld tool specifically engineered to help individuals provide high-quality life-saving care to victims of cardiac arrest. One of its most distinctive features is its ability to provide prompt instructions in local languages, making it accessible to users in diverse regions who may not have medical training. When a person suffers a cardiac arrest at home or in a public space, the quality of chest compressions is critical for survival. Dr. Badamali's device monitors the performance of the person giving CPR and provides feedback to ensure the compressions are effective enough to keep blood flowing to the brain and heart until professional help arrives.

In addition to his clinical practice as an anesthesiologist, Dr. Badamali works closely with the biotechnology and engineering departments at KIIT Deemed-to-be-University. His work is part of a growing movement in India to create "spin-off" innovations, where medical professionals identify gaps in patient care and collaborate with researchers to build new technologies. The Sanjivani-QCPR represents a significant step in democratizing emergency healthcare, moving life-saving technology out of the hospital and into the hands of ordinary citizens. Dr. Badamali continues to advocate for the widespread training of the public in basic life support, using technology to bridge the gap in emergency response times.

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## DR. ASKWAR HILONGA, TANZANIA

Dr. Askwar Hilonga is a Tanzanian chemical engineer and public health innovator known for developing low-cost nanotechnology solutions to combat waterborne diseases. Born into a rural family in Tanzania, Hilonga experienced the dangers of contaminated water throughout his childhood. After earning a doctorate in chemical engineering and studying public health, he focused his research on creating practical tools for his community rather than just publishing academic papers.

In 2015, his work gained international attention when he won the Africa Prize for Engineering Innovation, followed by the United Arab Emirates Health Foundation Prize in 2019. The primary innovation developed by Hilonga is a specialized water purification system known as the "Nanofilter." This device uses nanotechnology to remove contaminants that standard filters often miss. It works by passing water through a sand-based filter integrated with nanomaterials that can be customized to target specific local problems, such as high levels of fluoride, heavy metals, or harmful bacteria like those that cause cholera.

This customizability is essential because water quality issues vary from one region to another. By combining his engineering expertise with a deep understanding of local health needs, Hilonga created a system that is both scientifically advanced and easy for rural families to maintain. Beyond the technical invention, Hilonga is recognized for his "community-based" business model.

He established water stations managed primarily by local women, which has helped ensure the long-term use and acceptance of the technology in areas where residents were initially skeptical. His goal is to provide safe drinking water to millions of people across Africa, reducing the risk of preventable diseases and improving the livelihoods of rural populations. Through his work, Hilonga has demonstrated how nanotechnology can be a sustainable and life-saving tool for developing nations aiming to meet global health targets.

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## DR. BRADLEY PIERCE, UNITED STATES

Dr. Bradley Pierce is a captain in the United States Army and a general surgery resident at Tripler Army Medical Center in Hawaii. He gained international recognition in 2025 when he was named to the Forbes 30 Under 30 list for Healthcare. Pierce is primarily known for developing a specialized life support system designed to increase survival rates for patients suffering from traumatic abdominal hemorrhages, or severe internal bleeding. This system acts as an artificial support for the heart, lungs, and kidneys, allowing doctors more time to stabilize patients in emergency rooms or remote locations where advanced surgical care may not be immediately available.

Pierce's approach to medical innovation was shaped by his upbringing as the son of an Army physician and a research scientist. He combined the mission-driven focus of military service with a rigorous scientific method to address gaps in trauma care. One of his major influences is Dr. Thomas Fogarty, the inventor of the balloon catheter, whose work demonstrated how simple mechanical solutions could solve complex surgical problems. Pierce's own invention has successfully completed initial preclinical testing and has been submitted for patent protection.

The device is designed to be portable and deployable, making it a potential tool for both civilian emergency services and military medics operating in combat zones. As a researcher within the U.S. Army's medical framework, Pierce operates under strict regulations that prioritize readiness and preventive medicine. He has advocated for the integration of digital intelligence with practical medical devices to help healthcare systems handle a growing number of complex cases with limited resources.

In addition to his research, Pierce continues his clinical training as a surgical resident, emphasizing that the true measure of medical innovation is the number of lives saved once a device reaches the patient. He remains focused on bridging the gap between high-tech laboratory concepts and the practical, scalable tools needed in real-world clinical settings.

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## DR. BRENDAN KELLY, IRELAND

Dr. Brendan Kelly is an Irish medical doctor and researcher who has gained international recognition for his work in combining artificial intelligence (AI) with medical imaging. A graduate of University College Dublin (UCD), Dr. Kelly currently serves as a fellow in pediatric radiology at Great Ormond Street Hospital for Sick Children in London.

In January 2025, he was named a winner of the Health Innovation Hub Ireland (HIHI) Clinical Innovation Award for his development of a specialized AI model called NeuFormer. This technology is specifically designed to assist doctors in diagnosing and monitoring Multiple Sclerosis (MS), a chronic disease that affects the central nervous system.

The NeuFormer model uses advanced "vision transformers," a type of AI that can analyze complex patterns in images, to identify small changes in a patient's brain or spine. Multiple Sclerosis often causes small spots called lesions to appear on MRI scans, and tracking whether these spots are growing or if new ones are appearing is essential for choosing the right treatment.

Dr. Kelly's AI approach is notable because it can detect these tiny changes faster and more accurately than many previous models. This helps patients receive a quicker diagnosis and a personalized care plan, which is vital for managing long-term conditions. Throughout his career, Dr. Kelly has focused on the clinical application of data science. He completed a PhD in 2024 at the Insight Centre for Data Analytics, where he studied how AI can detect changes in medical images over long periods. His work has taken him to world-renowned institutions, including Stanford University in California as a Fulbright Scholar.

The HIHI Clinical Innovation Award provides Dr. Kelly with support to explore how his AI tools can be used in hospitals across Ireland and internationally. His achievements highlight the growing role of computer science in modern medicine, ensuring that technology serves as a powerful partner for doctors in improving patient health.

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## DR. BRUCE PATTERSON, UNITED STATES

Dr. Bruce Patterson is an American virologist and medical researcher who has gained prominence for his innovative approach to treating long COVID, a chronic condition following a SARS-CoV-2 infection. A former director of clinical virology at Stanford University, Patterson utilized his extensive background in HIV research to identify similarities between viral persistence in AIDS and the lingering symptoms experienced by COVID-19 survivors. In late 2025, his Traverse City-based company, HealthBio, partnered with Celly Health to establish the first national healthcare center specifically dedicated to long COVID treatment.

This partnership integrates Patterson's specialized medical protocols with a broad primary care network, making specialized recovery plans available to patients across the United States through both physical clinics and telehealth services. Patterson's treatment strategy involves a specific six-to-twelve-week regimen using medications that have already been approved by the FDA for other purposes. The protocol primarily utilizes maraviroc, a drug originally developed to treat HIV, and atorvastatin, a common medication used to manage high cholesterol.

By combining these drugs, Patterson aims to address the underlying inflammation and immune system dysfunction that researchers believe cause the fatigue, brain fog, and respiratory issues associated with the condition. The Centers for Disease Control (CDC) identifies long COVID as a condition where symptoms persist for three months or more after the initial infection, and estimates suggest it affects approximately 20 million Americans.

The establishment of the national center in Michigan marks a significant shift in how chronic post-viral syndromes are managed in the United States. Rather than treating individual symptoms, Patterson's model focuses on the viral mechanisms that remain in the body long after the initial illness has passed. By centralizing these efforts in Traverse City while expanding through digital health platforms, the initiative seeks to provide a standardized, science-based recovery path for a large population that previously had limited options for specialized care.

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**DR. C. MALLIKARJUNA, INDIA**

Dr. C. Mallikarjuna is a prominent Indian urologist and the Managing Director of the Asian Institute of Nephrology and Urology (AINU) in Hyderabad, who led a pioneering medical procedure to save a patient's kidney. The surgery involved a 38-year-old man from Nepal who had been living with only one functioning kidney since childhood. The patient's remaining ureter—the thin tube that transports urine from the kidney to the bladder—had been severely damaged and narrowed following a previous surgery to remove kidney stones. This condition was life-threatening, as it blocked the flow of urine and threatened the function of the patient's only working kidney.

To repair the damage, Dr. Mallikarjuna and his surgical team used a specialized technique known as a buccal mucosa graft. This involves taking a thin layer of tissue from the inside of the patient's cheek and using it to "patch" or reconstruct the damaged section of the ureter. While doctors have used mouth tissue for years to repair the urethra (the tube that carries urine out of the body), using it for the ureter is much more difficult because the ureter is significantly narrower and more delicate. The procedure was performed using advanced laparoscopic and robotic surgery, which allows doctors to operate through tiny incisions rather than large openings.

Modern surgical techniques accelerate recovery and minimize complications. Dr. Mallikarjuna notes that while laser technology is effective for treating kidney stones, it demands extreme precision to prevent injury. By successfully restoring urinary function using an innovative graft, the medical team proved that specialized tissue engineering can resolve complex urological damage. This breakthrough highlights the power of regenerative medicine to preserve vital organ health, offering a sophisticated alternative to traditional methods and setting a new standard for safety and success in reconstructive urology.

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## DR. CORMAC FARRELLY, IRELAND

Dr. Cormac Farrelly is a prominent Irish consultant radiologist at the Mater Misericordiae University Hospital in Dublin who achieved national recognition for his contributions to medical engineering. In 2019, he was awarded the prestigious Irish Clinical Innovation Award for his development of a specialized medical tool known as the Endovascular Re-entry Occlusion Device, or E-ROD. This device was designed to assist in minimally invasive surgeries involving the blood vessels, providing a safer and more efficient way for surgeons to navigate complex vascular pathways.

The award, presented by Enterprise Ireland in partnership with the Cleveland Clinic, included a €15,000 grant to study how the E-ROD could be manufactured and sold on a global scale. The Clinical Innovation Award is part of a broader effort in Ireland to turn medical ideas into real-world products. Farrelly's work stood out among several high-level entries, including innovations from University Hospital Galway.

Following his win, Farrelly was invited to the Cleveland Clinic in Ohio, one of the top heart and vascular centers in the United States, to collaborate with American experts and refine his invention. His success underscores Ireland's status as a global hub for "medtech," a field where technology and medicine overlap to improve patient outcomes. In the years following Farrelly's achievement, the Irish medical technology sector has continued to expand. By 2026, the industry saw significant growth, with major acquisitions such as the €185 million deal for Vivasure Medical and a €125 million investment by Qualcomm in Cork.

Ireland's medtech sector has become a vital economic and scientific pillar, employing over 40,000 people, with one-quarter dedicated to research and development. These figures underscore the significance of individual innovators like Farrelly, whose creative problem-solving fuels both medical advancements and national industrial growth. By bridging the gap between clinical needs and technological solutions, such pioneers improve patient outcomes while cementing Ireland's position as a global leader in healthcare innovation and high-value manufacturing.

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## DR. DAMIEN PEARSE, UNITED STATES

Dr. Damien Pearse, Ph.D., is a prominent neuroscientist and professor of neurological surgery at the University of Miami Miller School of Medicine. He is a leading figure at The Miami Project to Cure Paralysis, where his research focuses on developing innovative therapies for spinal cord injuries (SCI). Dr. Pearse is particularly known for his expertise in Schwann cells, which are specialized cells from the peripheral nervous system that help repair nerve fibers, known as axons.

While the central nervous system (the brain and spinal cord) often fails to heal itself after an injury, Dr. Pearse's work aims to use the regenerative power of Schwann cells to bridge that gap. A major challenge in treating chronic spinal cord injuries is the formation of scar tissue, which acts as a physical barrier that prevents nerves from regrowing. Dr. Pearse's laboratory investigates "combination therapies" to overcome this. Following successful Phase 1 clinical trials that proved transplanting a patient's own Schwann cells is safe, his team is now working toward Phase 2 trials.

These upcoming studies look at combining cell transplants with biomaterials—such as protective gels—or specific drugs to help the cells survive and migrate across the injury site. In addition to cell transplants, Dr. Pearse is exploring cutting-edge treatments using exosomes. These are tiny, nano-sized bubbles released by cells that carry healing signals and proteins. By using exosomes derived from Schwann cells, researchers hope to promote nerve regeneration without the complexities of a full cell transplant.

Supported by Department of Defense grants, Dr. Pearse aims to bridge the gap between laboratory breakthroughs and standardized medical treatments. His research provides vital hope for the more than 300,000 Americans living with chronic paralysis. By focusing on nerve regeneration and innovative therapies, he strives to restore mobility and enhance the daily quality of life for those with spinal injuries. This work represents a critical step toward turning experimental science into accessible, life-changing healthcare for patients nationwide.

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## DR. DANIEL HOMMES, NETHERLANDS

Dr. Daniel Hommes is an influential physician-scientist and healthcare executive known for his expertise in gut immunology, inflammatory bowel disease (IBD), and applied artificial intelligence. Born in the Netherlands, Dr. Hommes earned his medical degree and doctorate from the University of Amsterdam.

In August 2025, he was appointed Vice President and Chief Innovation Officer at UT Southwestern Medical Center in Dallas, Texas. In this leadership role, he oversees the institution's Innovation Hub, a major initiative designed to transform academic scientific discoveries into real-world medical products and therapies. Throughout his career, Dr. Hommes has focused on the intersection of data science and clinical care.

Before joining UT Southwestern, he established a world-class center for IBD at UCLA Health and founded DEARhealth, a company that uses AI-driven tools to help doctors make better decisions when treating complex diseases. He also served as the Chief Medical Officer at InterVenn Biosciences, where he worked on advanced diagnostic platforms that use artificial intelligence to analyze proteins. His academic background is extensive, having served as a Professor of Gastroenterology and Hepatology at Leiden University Medical Center in the Netherlands before moving his work to the United States.

Dr. Hommes advocates for a "value-based" healthcare model, which prioritizes patient outcomes and data-driven efficiency. He believes that academic institutions possess massive commercial potential that can be unlocked through strategic partnerships with the biomedical industry.

By bridging the gap between the laboratory and the marketplace, he aims to ensure that life-changing innovations in disease prevention and treatment reach the public more quickly. His leadership at the Innovation Hub is intended to embed a culture of creative problem-solving across all areas of medicine, from classroom education to the development of new pharmaceutical drugs.

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## DR. DAVID STRASORIER, ARGENTINA

Dr. David Strasorier is an Argentine professor, public health expert, and social worker recognized for transforming healthcare delivery through the creation of Comprehensive Women's Counseling Units in the province of Córdoba. After beginning his medical studies, Strasorier observed a significant disconnect between traditional clinical training and the social realities of patients. He concluded that the "white coat" often acted as a barrier rather than a bridge, leading him to expand his education into social work, public health, and social psychology.

This multidisciplinary background allowed him to redefine health not merely as the absence of illness, but as a holistic state of physical, mental, and social well-being. His most significant contribution began in 2022 through a collaboration between the National University of Córdoba and Roche Argentina. Strasorier developed a counseling model based on "active listening" rather than prescriptive medicine.

By spending time in hospital waiting rooms to understand patient frustrations, he identified that many women felt excluded from their own healthcare decisions. His counseling units provide a space where professionals and patients collaborate to make health choices together. This model empowers women with information, ensuring they are better prepared when meeting with medical specialists.

By late 2023, this initiative established 14 units and trained dozens of counselors, providing essential care to thousands of women across multiple municipalities. Strasorier further institutionalized this model by integrating it into the Faculty of Medical Sciences curriculum, teaching future physicians to treat patients as holistic members of a community. He argues that genuine medical innovation depends on an educational shift toward prioritizing social context and effective communication. Today, his work provides a successful framework for public-private partnerships, demonstrating how community engagement and sustainable local policies can effectively bridge gaps in healthcare access and transform public health systems.

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## DR. DHANUSHI HETTIARACHCHI, SRILANKA

Dr. Dhanushi Hettiarachchi is a Sri Lankan physician and medical technology entrepreneur known for founding Ophtha Innovations, a startup dedicated to improving eye care through artificial intelligence. After earning her medical degree from the University of Peradeniya and practicing as a general practitioner, she turned her focus toward the growing crisis of diabetic retinopathy. This condition is a complication of diabetes that damages the blood vessels in the retina and can lead to permanent blindness if not caught early.

In Sri Lanka, where there are only about 100 eye specialists for 20 million people, rural populations often lack the screening necessary to prevent vision loss. Hettiarachchi co-founded Ophtha Innovations to develop an AI-powered screening system specifically designed for the South Asian healthcare environment. While many existing technologies require expensive, high-end equipment, her startup partnered with Japanese manufacturers to ensure their software worked with the fundoscopes already available in local clinics.

The system uses machine learning to analyze images of the back of the eye, identifying early signs of disease that might be missed by non-specialists. This allows opticians to screen patients in remote areas and refer only those at high risk to ophthalmologists, maximizing limited medical resources. A significant part of Hettiarachchi's work involves the strategic use of Intellectual Property (IP).

Through the World Intellectual Property Organization (WIPO) "Scale Up Your IP" program, she learned to protect her company's unique datasets and AI algorithms as trade secrets and patents. This legal protection is vital for deep-tech startups to attract investment and scale their technology. Currently, Ophtha Innovations is expanding its research to include screening for other conditions, such as glaucoma and age-related eye diseases. Hettiarachchi's efforts represent a shift toward "AI for Health" initiatives, aiming to provide high-quality diagnostic tools to underserved communities across South Asia.

# WORLD

# MEDICAL CHRONICLES

## DR. DIARRA BOUBACAR, MALI

Dr. Diarra Boubacar is a Malian physician and humanitarian who achieved international recognition as the first foreign national to earn a doctoral degree in Traditional Chinese Medicine (TCM). Born into a family of medical professionals in Mali, Boubacar moved to China in the 1980s to study medicine. Despite early struggles with the Chinese language and the complexity of ancient medical texts, he demonstrated immense perseverance. He mastered the language by studying dictionaries and watching local television, eventually completing his advanced medical training in Guangzhou and Chengdu.

Dr. Boubacar's professional career has been defined by his efforts to bridge the gap between African and Chinese cultures through healthcare. When he first began practicing in several hospitals in Sichuan Province, he faced skepticism from patients who were surprised to see an African doctor practicing TCM. He overcame these barriers through clinical excellence, often offering free treatments to prove the effectiveness of his acupuncture and herbal remedies. His specialty in TCM includes a deep understanding of pulse diagnosis and the use of natural herbs to balance the body's energy.

Beyond his clinical practice, Boubacar is noted for his extensive humanitarian work in rural China. He joined the international organization Doctors Without Borders and spent over a decade working in remote mountainous regions of Yunnan and Sichuan. During this time, he voluntarily trained more than 3,000 rural doctors to improve local healthcare access. In recognition of his dedication to serving impoverished communities, he was presented with the China Charity Award in 2012.

Dr. Boubacar remains a leading advocate for Traditional Chinese Medicine (TCM) as a vital tool for global health. A prominent figure in China-Africa relations, he works to bridge cultural divides and strengthen international medical cooperation. His journey serves as a powerful inspiration for young students navigating linguistic or cultural obstacles in their academic pursuits. By championing cross-cultural exchange, Dr. Boubacar demonstrates how integrating diverse medical traditions can address global health challenges and foster a more inclusive future for medicine.

# WORLD

## MEDICAL CHRONICLES

### DR. DURU SHAH, INDIA

Dr. Duru Shah is an Indian gynecologist and academic leader who serves as the Chairperson of the Metropolis Foundation, the philanthropic arm of Metropolis Healthcare. She is a prominent advocate for medical education and has overseen the expansion of the MedEngage Scholarship Programme, which launched its seventh edition in 2025. This initiative was established to support medical students in India who face financial barriers while pursuing their degrees. Under Shah's leadership, the program has evolved from a simple financial aid project into a comprehensive career development platform that includes research grants, internships, and access to advanced diagnostic laboratories.

The MedEngage program specifically targets students from "aspirational districts"—regions identified by the Indian government as needing significant developmental support. By focusing on these underserved areas, Shah aims to ensure that the future healthcare workforce is representative of India's diverse geography and socio-economic backgrounds. The program provides students with "observerships," allowing them to shadow experienced professionals and gain hands-on experience with modern medical technology. As of 2024, the foundation has supported over 750 students, with a notable emphasis on gender diversity, as approximately 60% of the scholarship recipients are women.

Shah emphasizes that the goal of the initiative is to bridge the gap between classroom theory and clinical practice. Through partnerships with global consulting firms and a network of over 300 medical experts, the foundation ensures a merit-based selection process for its research grants. These grants encourage young doctors to innovate in fields like oncology and diagnostics, addressing the chronic shortage of specialists in India. By fostering a community of "physician-scientists," Shah and the Metropolis Foundation seek to build a sustainable pipeline of skilled professionals who are equipped to handle the complex healthcare challenges of the 21st century.

# WORLD

# MEDICAL CHRONICLES

## DR. EJUP GUNSOY, TURKEY

Dr. Ejup Gunsoy is a specialized surgeon from Turkey who has gained recognition for introducing advanced medical techniques to Albania through his leadership at the Biqiku Medical Center in Elbasan. A graduate with extensive experience in international clinical standards, Gunsoy moved to Albania to help modernize the local approach to wound care and surgical intervention. His work primarily focuses on the treatment of chronic and complex injuries, specifically those that are typically difficult to heal, such as diabetic ulcers, severe burns, and trauma-related wounds resulting from accidents.

The medical approach utilized by Gunsoy involves innovative wound-closure techniques designed to prevent extreme outcomes, such as the amputation of limbs in diabetic patients. This method emphasizes the use of modern technology and high-standard clinical practices often found in elite European medical facilities. Since starting his collaboration with the Biqiku Medical Center in early 2024, Gunsoy has reported significant success rates, with complex wounds often showing complete closure within a three-month treatment period.

Beyond surgical procedures, Gunsoy is noted for implementing a holistic model of patient care. He advocates for a "family-friendly" medical environment that addresses the emotional and psychological burdens of patients suffering from chronic illnesses. Under his guidance, the center has expanded its reach by recruiting a diverse team of international specialists from prestigious global hospitals. This expansion has transformed the facility into a premier regional hub for specialized medicine within Albania.

Gunsoy's contributions have been instrumental in elevating the standard of local care, effectively reducing the necessity for Albanian citizens to seek high-quality consultations and complex surgeries abroad. By establishing advanced medical infrastructure and specialized services domestically, this progress fosters a more self-reliant healthcare system. Ultimately, Gunsoy's work ensures that patients can access world-class medical expertise and life-saving procedures within their own borders, significantly improving national health outcomes and making specialized treatment more accessible to the entire community.

# WORLD

# MEDICAL CHRONICLES

## DR. ERIC SODERBERG, UNITED STATES

Dr. Eric Soderberg is an American chiropractor and the founder of Freedom Chiropractic in Grand Rapids, Michigan. He is recognized as a pioneer in his region for specializing in upper cervical chiropractic care, a specific branch of spinal health that focuses on the top two vertebrae of the neck. This area, located where the skull meets the spine, is considered critical because of its proximity to the brainstem and its influence on the central nervous system.

Soderberg's interest in this field was motivated by a personal health crisis during his youth. While playing high school football, he suffered a severe collision that resulted in his arm going completely numb. When the condition persisted and medical doctors informed him that he could no longer participate in sports, he sought alternative treatments that eventually led him to the chiropractic profession.

The practice led by Soderberg differs from traditional chiropractic methods because it avoids the "cracking" or "popping" of the entire back. Instead, it utilizes precise measurements and imaging to identify misalignments in the upper neck. According to the principles of this specialty, even a minor shift in the top vertebrae can create a "domino effect" that causes pain, neurological issues, or postural imbalances throughout the rest of the body.

By correcting these specific points, practitioners aim to restore the body's natural ability to communicate through the nervous system. Today, Soderberg operates the only clinic in Grand Rapids dedicated exclusively to this method. His work focuses on treating a variety of conditions, ranging from chronic migraines and vertigo to recovery from sports injuries similar to his own. By integrating his personal experience as an athlete with specialized clinical training, he has established a reputation for helping patients who have not found relief through conventional medical or general chiropractic approaches.

# WORLD

# MEDICAL CHRONICLES

## DR. ESTHER CHIN, CANADA

Dr. Esther Chin is an accomplished Canadian gynecological surgeon and global health researcher who has gained international acclaim for creating the STITCH surgical simulator. Working as a lead in global health at McMaster University and a surgeon at Hamilton Health Sciences, Dr. Chin developed this innovative tool to help medical professionals practice lifesaving procedures for childbirth emergencies. The name STITCH stands for "Surgical Trainer for Interventions to Control Postpartum Hemorrhage."

Postpartum hemorrhage is a condition involving severe, life-threatening bleeding after a person gives birth, and it remains the leading cause of maternal death worldwide, claiming approximately 70,000 lives every year. The STITCH simulator acts much like a flight simulator does for pilots, allowing doctors to practice high-stakes surgeries in a safe and controlled environment. The device is modeled after MRI scans of a female pelvis to ensure a realistic experience.

It allows practitioners to master three specific "last resort" surgeries: applying compression stitches to the uterus, tying off major arteries to reduce blood flow, and performing emergency hysterectomies. Because these emergencies are often rare but extremely dangerous, Dr. Chin emphasizes that regular practice on a simulator ensures that doctors can perform these procedures instinctively when a real life is on the line. In 2025, Dr. Chin received the DRIVE Spark grant to help mass-produce the units and distribute them globally.

Unlike older simulators that are often too expensive or heavy to move, the STITCH unit is designed to be affordable and portable. This makes it particularly useful for remote communities in Canada and for hospitals in countries such as Rwanda, South Africa, and South Sudan. Dr. Chin's work focuses on reducing health inequalities, ensuring that healthcare providers everywhere have the tools necessary to prevent maternal deaths during childbirth.

# WORLD

# MEDICAL CHRONICLES

## DR. FIDEL RUBAGUMYA, RWANDA

Dr. Fidel Rubagumya is a Rwandan oncologist and physician recognized for his work in improving cancer care and early detection in East Africa. He is the founder of Rwanda Children's Cancer Relief, a non-profit organization dedicated to supporting pediatric cancer patients. In 2018, Rubagumya gained international attention when he was awarded a \$20,000 International Innovation Grant from the American Society of Clinical Oncology. He was one of only three recipients selected globally for the honor, which is designed to fund research projects that have the potential to be used in developing countries with limited medical resources.

The primary focus of Rubagumya's grant-funded project is the development of a mobile health application specifically for people with albinism. Individuals with this genetic condition lack melanin in their skin, making them highly susceptible to ultraviolet damage and skin cancer. In many parts of East Africa, including Tanzania and Rwanda, patients with albinism often develop chronic wounds that turn into life-threatening cancers because they lack access to specialists.

Through the app, users can take photos of skin lesions and upload them for review by oncology specialists. This technology allows for "teledermatology," where doctors can identify suspicious growths remotely and advise high-risk patients to seek immediate hospital treatment before the cancer reaches an untreatable stage.

Rubagumya's work addresses a significant gap in healthcare infrastructure in low- and middle-income countries. By utilizing mobile technology, he aims to reduce the barriers of distance and cost that prevent rural populations from receiving early diagnoses. While his initial clinical training and project implementation took place in Tanzania, he has worked to expand these digital health solutions to Rwanda. His efforts reflect a broader movement in global health to use "e-health" tools to provide specialized medical care to vulnerable populations. Rubagumya continues to be a leading voice in the international medical community, advocating for innovative, scalable solutions to improve cancer survival rates across the African continent.

# WORLD

# MEDICAL CHRONICLES

## DR. FRANK PAPAY, UNITED STATES

Dr. Frank Papay is an American surgeon, inventor, and entrepreneur who has gained international recognition for his pioneering work in craniofacial plastic surgery. A graduate of Ohio University, Papay has dedicated nearly forty years to medical practice and innovation, becoming one of the nation's foremost experts in facial reconstruction. He is perhaps best known for his leadership in the field of face transplantation.

In 2008, he served as the chief craniofacial surgeon during the first successful face transplant performed in the United States. A decade later, he led a team of eleven doctors at the Cleveland Clinic to perform a full-face transplant on Katie Stubblefield, who at age 21 became the youngest person in the country to undergo the procedure. This landmark surgery was documented by National Geographic and brought global attention to the possibilities of restorative medicine.

Beyond his clinical work, Papay is a prolific inventor who holds more than 24 patents for medical devices. His inventions are designed to improve surgical outcomes and treat various conditions, including sleep apnea, chronic headaches, and complex wound healing. He believes that practicing medicine should naturally involve a blend of innovation and business, a philosophy he puts into practice as a managing partner at Nirvana Healthcare Ventures. This fund focuses on developing and bringing new medical technologies to the public. In 2025, Ohio University honored Papay with the Konneker Medal for Commercialization and Entrepreneurship.

This award recognizes alumni who have demonstrated excellence in turning scientific research into practical products that benefit society. Throughout his career, Papay has remained an active supporter of his alma mater, mentoring students and establishing awards to encourage young researchers in the healthcare field. His life's work represents a bridge between high-level surgical expertise and the entrepreneurial spirit needed to modernize modern healthcare.

# WORLD

## MEDICAL CHRONICLES

### DR. GAZI YASARGIL, TURKEY

Dr. Gazi Yasargil was a world-renowned Turkish-born neurosurgeon and scientist who is widely regarded as the "Neurosurgeon of the Century." Born in 1925 in Lice, Türkiye, he dedicated his nearly 100-year life to the advancement of brain surgery.

Yasargil is most famous for pioneering the field of microneurosurgery, which involves using high-powered microscopes and specialized small tools to perform delicate operations on the human brain. His innovations fundamentally changed how doctors treat life-threatening conditions such as brain tumors, epilepsy, and cerebral aneurysms.

Throughout his career, Yasargil invented several essential medical instruments that are now used in operating rooms worldwide. His most famous invention is the "Yasargil clip," a small device used to stop bleeding in brain aneurysms safely.

By developing these tools and techniques, he made it possible for surgeons to reach parts of the brain that were previously considered too dangerous to operate on. After studying in Germany and Switzerland, he spent much of his professional life at the University of Zurich, where he led the Department of Neurosurgery until his retirement in 1999.

Beyond his technical achievements, Yasargil was known for his deep compassion and humility toward his patients. He was famous for using simple language and physical brain models to explain complex surgeries to nervous patients, helping them feel calm and safe. He was also a dedicated teacher who trained generations of surgeons from across the globe, ensuring that his methods would continue to save lives.

Yasargil passed away in June 2025 at the age of 99. His legacy remains a cornerstone of modern medicine, and he is remembered not only for his brilliant intellect but also for his commitment to the idea that a surgeon's hands should always be guided by both precision and heart.

# WORLD

# MEDICAL CHRONICLES

## DR. GERMAN NEWALL, UNITED STATES

Dr. Germán Newall is a prominent Houston-based, board-certified plastic surgeon and a founding partner of the Aesthetic Center for Plastic Surgery (ACPS). With a career spanning over three decades, he has become internationally recognized for his contributions to aesthetic medicine, particularly in the fields of body contouring and fat transfer. Newall is credited with developing the roller-pump technique for the Brazilian Butt Lift (BBL), a surgical advancement designed to improve the efficiency of fat grafting and enhance patient comfort during the recovery process.

His work often focuses on achieving natural results through a combination of surgical precision and what he describes as "surgical artistry." Born in El Salvador and fluent in both English and Spanish, Newall serves a global clientele, attracting patients from the United States, Latin America, and Europe. His practice is noted for specializing in comprehensive procedures tailored to specific life stages, such as the "Mommy Makeover," which addresses physical changes after childbirth, and the "Menopause Makeover," a holistic approach to rejuvenation during hormonal shifts.

These procedures typically combine breast enhancement, abdominal repair, and body sculpting to restore physical proportion and patient confidence. Throughout his career, Newall has received several industry honors, including the MyFaceMyBody Surgical Body Makeover of the Year award. As a Fellow of the American College of Surgeons (FACS), he has been a frequent contributor to medical discussions on major media networks like Univision and ABC. His clinical philosophy emphasizes patient safety and the integration of advanced technology with compassionate care.

Beyond his surgical practice, Newall has been instrumental in growing ACPS into one of the largest private plastic surgery groups in the United States, where he continues to influence modern standards for outpatient aesthetic surgery and postoperative recovery protocols.

# WORLD

# MEDICAL CHRONICLES

## DR. GHYSLAIN MOMBO-NGOMA, GABON

Dr. Ghyslain Mombo-Ngoma, MD, is a leading Gabonese researcher at the Lambarene Medical Research Center (CERMEL) who spearheaded a major scientific breakthrough in the treatment of malaria. Between May 2024 and October 2025, Dr. Mombo-Ngoma directed clinical trials for a new "single-dose" antimalarial protocol.

This innovation combines artemisinin—the current gold standard for malaria treatment—with three other existing medications to create a highly potent therapy. The study involved over 1,000 participants, many of whom were children under the age of ten, and demonstrated a 93% success rate in clearing malaria parasites within 28 days.

The primary goal of this research is to solve the problem of "patient compliance." In many parts of Africa, nearly one-third of patients fail to finish the standard three-day treatment course once they start feeling better. When patients stop taking their medicine early, the malaria parasites may not be fully eliminated, which can lead to the development of drug-resistant strains.

By condensing the entire treatment into one single dose, Dr. Mombo-Ngoma and his team aim to ensure that every patient receives a complete cure, regardless of their ability to track a multi-day schedule. This is particularly vital in rural areas where access to healthcare providers is limited.

CERMEL, which was founded in 1981 in partnership with the University of Tübingen in Germany, continues to work with pharmaceutical companies to turn this discovery into an affordable, easy-to-swallow capsule. As malaria remains the leading cause of medical visits in Gabon, with over 154,000 cases recorded in 2024 alone, this single-dose innovation represents a critical tool for public health. It complements existing prevention methods, such as insecticide-treated bed nets, by providing a fast and reliable way to treat those who have already fallen ill.

# WORLD

# MEDICAL CHRONICLES

## DR. GRAHAM MATHESON, COOK ISLANDS

Dr. Graham Matheson is a Cook Islands medical doctor and researcher who is credited with bridging ancient Polynesian healing traditions with modern biomedical science. Known for his work in ethnobotany, Dr. Matheson developed a unique medicinal formula based on a traditional practice called Te Vairakau Ati. This ancestral knowledge was traditionally used by the people of the Cook Islands to treat bone and joint conditions.

By applying rigorous scientific study to these practices, Matheson created a topical treatment that supports musculoskeletal recovery in both humans and animals. This innovation led to the founding of Tvati Pet, a company that specializes in natural mobility and joint support for companion animals like dogs, cats, and horses. The Tvati formula is notable for its simplicity, containing only two primary ingredients: hibiscus bark extract and organic coconut oil.

The hibiscus is sustainably harvested in the Cook Islands using regenerative techniques where only a portion of the bark is removed, allowing the trees to continue growing. Scientific research into the formula has shown that the active compounds in the hibiscus extract can stimulate the growth of bone and cartilage cells even when applied to the skin. Unlike many oral supplements that must be digested, this oil is absorbed systemically through the skin, typically when applied to the back of a pet's neck.

Sean Cahill, the co-founder of Tvati Pet, emphasizes that the product is meant to honor the cultural heritage of the Cook Islands while providing a clean alternative to synthetic medications. The transition of the product from human use to pet care highlights a broader wellness philosophy that treats health as a shared journey for the entire family. By 2026, the success of Tvati has demonstrated a growing global interest in "ethnomedicine," where researchers look to traditional cultures for natural solutions to modern health challenges.

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## MEDICAL CHRONICLES

### DR. GRANT LIPMAN, UNITED STATES

Dr. Grant Lipman is a clinical professor of emergency medicine and a pioneer in the field of wilderness medicine who co-founded GOES.health, a mobile outdoor health platform. Developed in collaboration with technology entrepreneur Camilo Barcenas, the application was designed to provide hikers and travelers with expert medical guidance in remote locations. Dr. Lipman, a faculty member at the Stanford University School of Medicine, used his extensive research and authorship of over ten medical books to create the app's database.

In 2023, the platform received an Outdoor Retailer Innovation Award for its ability to provide life-saving information to users even when they are offline or in areas with limited cellular service. The GOES application functions as a digital wilderness doctor, offering interactive assessment tools for common outdoor injuries such as burns, wounds, and insect bites. For a monthly subscription, users can also access 24/7 live support from physicians specializing in wilderness emergencies.

The app includes a simplified chatbot designed for easy understanding during high-stress situations and uses GPS technology to help doctors identify a patient's exact location. This service is particularly aimed at helping travelers avoid unnecessary and expensive emergency room visits by providing clear instructions on how to treat minor issues or determining when a situation requires immediate evacuation.

Since its launch, GOES has been tested in rigorous environments, including the Grand Canyon, where national park rangers helped refine its features. The company has partnered with several national parks and through-hiking organizations to make the service available to a wider audience.

Dr. Lipman's goal is to empower people to explore nature with greater "peace of mind," ensuring that professional medical knowledge is accessible to anyone with a smartphone. By early 2026, the app had reached thousands of global users, establishing a new standard for safety and education in the outdoor recreation industry.

# WORLD

## MEDICAL CHRONICLES

### DR. GUIFANG ZHAO, UNITED STATES

Dr. Guifang Zhao is a prominent biomedical researcher at the Mayo Clinic known for her pioneering work in regenerative medicine, specifically in the development of cell-free therapies. Originally from China, where she taught pathology and mentored students at Jilin Medical University for five years, she transitioned to the United States to advance her research in stem cell and exosome-based treatments. Her work focuses on using exosomes—tiny, naturally occurring sacs released by cells—to deliver messenger RNA (mRNA) to damaged parts of the body.

Unlike traditional stem cell treatments that transplant living cells into a patient, Zhao's approach uses these microscopic "delivery vehicles" to carry genetic instructions that tell the body's own cells how to repair themselves. This method reduces the risks often associated with live cell transplants, such as immune rejection or instability, making the treatments safer and easier to produce on a large scale.

Throughout her career, Zhao has applied this technology to address difficult-to-treat conditions including chronic wounds, osteoarthritis, and the degeneration of spinal discs. Her studies have shown that engineered exosomes can effectively communicate with damaged tissues to encourage the growth of new blood vessels and the remodeling of collagen, which is essential for skin and joint health. In 2024, she reported the development of a specialized hydrogel platform designed to provide a steady release of mRNA to chronic wounds, offering a potential breakthrough for patients with long-term injuries.

Beyond her laboratory discoveries, Zhao's work supports efforts to lower healthcare costs by creating more efficient solutions for musculoskeletal diseases, which affect millions of people worldwide. She has published over 30 peer-reviewed scientific papers and serves as an expert reviewer for international medical journals. Zhao continues to lead research aimed at creating a future where the human body can be prompted to restore its own function through precise molecular signaling.

# WORLD

# MEDICAL CHRONICLES

## HAMIDOU OUOLOGUEM, MALI

Hamidou Ouologuem is a Malian entrepreneur and digital innovator who has gained international recognition for his contributions to the field of e-health. He is the co-founder and CEO of Kénèya Koura, a digital health platform established in 2021 to improve healthcare accessibility in Mali and beyond. Ouologuem holds a master's degree in strategic marketing and communication from the École supérieure de commerce du Mali and a second master's degree in digital innovation from the Université de télécom in Saint-Etienne, France. His professional background includes roles in web design, marketing, and communications, which he combined to address the challenges within the African medical system.

The platform Kénèya Koura provides a comprehensive suite of digital tools designed to modernize patient care. These services include online appointment scheduling, secure digital patient records, and telemedicine consultations. By using these tools, patients can easily connect with healthcare providers, while doctors can improve their visibility and manage their practices more efficiently.

One of the unique aspects of the platform is that it facilitates collaboration between local Malian doctors and international specialists, allowing for expert cross-border medical consultations. It also enables patients to download prescriptions digitally, reducing the need for physical paperwork. Under Ouologuem's leadership, the startup has expanded its operations to France, serving both domestic and international patients. His efforts have been widely recognized; he was accepted into the Orange Digital Center in 2022 and has won numerous accolades, including the "best e-health startup" at the Mali Digital Awards in both 2022 and 2023.

By 2026, Ouologuem's work has become a benchmark for digital transformation in West Africa, demonstrating how technology can bridge the gap in medical infrastructure. His journey reflects a growing trend of African innovators using data-driven solutions to solve critical social issues in health and wellness.

# WORLD

## MEDICAL CHRONICLES

### DR. HARI SUBRAMANIAM, INDIA

Dr. Hari Subramaniam is an Indian entrepreneur and cancer survivor who founded LifeSigns, a medical technology company based in Chennai. After being diagnosed with stage four lung cancer in 2010, Subramaniam underwent years of intensive treatments, including radiation and chemotherapy. During his time in various hospitals, he observed that healthcare technology often lagged behind other industries. Specifically, he noted that patients were frequently tethered to multiple machines by wires, which restricted their movement and made it difficult for doctors to consolidate data from different devices. These observations inspired him to develop a wireless system that could automate the tracking of vital signs.

The primary innovation of LifeSigns is the iMS biosensor, a palm-sized wearable device that is adhered to a patient's chest above the heart. This wireless patch continuously monitors critical vitals, including ECG, heart rate, respiratory rate, temperature, and oxygen saturation. The data is transmitted through a wireless network installed within the hospital to a central system, where it can be viewed by clinicians on computers or mobile devices in real-time. This technology allows patients to remain mobile and even shower without interrupting the stream of data.

Beyond improving patient comfort, the biosensor aims to address medical inaccuracies by accounting for ethnic physiological differences. Subramaniam noted during his research that certain vitals, such as oxygen saturation or baseline body temperature, can vary among different ethnic groups. For example, studies have indicated that pulse oximeters may sometimes provide less accurate readings for people with darker skin tones compared to those with lighter skin. By providing more objective, continuous data, the system helps doctors make more informed decisions. Since its deployment in late 2022, the technology has been used by approximately 15,000 patients across 76 hospitals in India, significantly reducing unexpected cardiac arrests in participating wards.

# WORLD

## MEDICAL CHRONICLES

### DR. HASEEB HAMID, SCOTLAND

Dr. Haseeb Hamid is a physician and entrepreneur based in East Renfrewshire, Scotland, who gained recognition for his work in modernizing medical training. He is the founder and CEO of MedSnapp, a digital education platform launched in September 2024.

Dr. Hamid's motivation for creating the platform stemmed from his personal experiences as a student and later as a doctor, where he observed that medical education often relied on outdated, passive resources like traditional textbooks and uninspiring question banks.

In 2025, Dr. Hamid secured a £65,000 grant from Scottish Enterprise to further develop MedSnapp's capabilities. The platform stands out by integrating artificial intelligence (AI) with gamification to create a more engaging learning environment.

Students using MedSnapp can interact with virtual patient simulations and earn experience points (XP), collect badges, and compete with their peers on leaderboards. This "gamified" approach is designed to improve clinical reasoning and long-term knowledge retention.

The platform also features AI-driven tools that can automatically convert a student's own lecture notes or PDFs into personalized quizzes and flashcards. The development of MedSnapp was supported by Business Gateway East Renfrewshire through its Accelerator programme, which provided Dr. Hamid with mentorship in business planning and marketing. Under his leadership, the company won the Scottish EDGE award and has attracted interest from medical institutions both in the United Kingdom and overseas.

By using short-form video content and interactive simulations, Dr. Hamid aims to transform medical school from a "tedious slog" into an efficient and enjoyable experience. Currently, he continues to scale the platform and explore institutional partnerships to expand access to high-quality, modern study tools for the next generation of healthcare professionals.

# WORLD

## MEDICAL CHRONICLES

**DR. HIBA J. BARQAWI, UAE**

Dr. Hiba J. Barqawi, a researcher at the University of Sharjah, led a 2022 study investigating the knowledge and practices of physicians regarding adult vaccination in the United Arab Emirates (UAE). While childhood immunization programs are well-established, adult vaccination—which includes shots for the flu, pneumonia, and shingles—often receives less attention. The study aimed to evaluate how much doctors know about these vaccines and what sources they use to stay informed.

The research team collected data from 500 physicians across various specialties, including internal medicine and family practice. The results revealed that both "perceived" knowledge (what doctors thought they knew) and "actual" knowledge (their scores on a factual test) were low.

For example, while 69% of doctors recommended the flu shot for seniors, only 57% recommended the pneumonia vaccine, and less than 20% recommended the shingles vaccine. The study found that family physicians and residents generally scored higher than other groups, but many doctors struggled to access clear local guidelines. In fact, 42% of participants reported difficulty finding official vaccination schedules.

Dr. Barqawi's findings highlight a significant gap in the UAE's healthcare system. Although physicians are the most trusted source of information for patients, a lack of training and inaccessible guidelines can lead to "vaccine hesitancy" or missed opportunities to prevent disease.

The study concludes that as the UAE's population ages, the burden of vaccine-preventable diseases will likely increase. To combat this, the researchers recommend updating national vaccination schedules, making them easier for doctors to use, and providing more professional training. By empowering doctors with better information, the healthcare system can better protect adults from serious illnesses.

# WORLD

# MEDICAL CHRONICLES

## DR. HOWARD HERRMANN, UNITED STATES

Dr. Howard Herrmann is a prominent American cardiologist and the Health System Director for Interventional Cardiology at Penn Medicine. He is recognized as a global leader in the development and refinement of Transcatheter Aortic Valve Replacement (TAVR), a minimally invasive surgery used to treat severe aortic stenosis. This condition occurs when the heart's aortic valve narrows, restricting blood flow to the rest of the body. Before the advancement of TAVR, patients often required risky open-heart surgery with long recovery times.

Under Herrmann's leadership, Penn Medicine has become a regional hub for this procedure, performing nearly 850 TAVR surgeries annually across its network of hospitals. Herrmann's involvement in the field dates back to the first successful TAVR procedure in 2002. He worked closely with French physician Alain Cribier to analyze early data and subsequently led the first clinical trials in the United States.

In 2024, Herrmann published the results of the SMART Trial in the *New England Journal of Medicine*. This landmark study was the first to provide a head-to-head comparison of the two most common TAVR devices. A major focus of the trial was healthcare equity, as 87% of the participants were women. Women often have smaller heart valves and are frequently underrepresented in medical research. Herrmann's findings help doctors choose the specific valve that best fits a patient's unique anatomy, leading to better long-term health outcomes.

Beyond his clinical work, Herrmann is a professor at the University of Pennsylvania's Perelman School of Medicine. His research focuses on hemodynamics, which is the study of how blood flows through the body. By understanding these dynamics, he aims to improve the durability of heart valves for younger, lower-risk patients. Herrmann's decades of research and patient advocacy have transformed TAVR from an experimental treatment for high-risk seniors into a standard of care utilized worldwide.

# WORLD

# MEDICAL CHRONICLES

## DR. ISAAC R. JOSEPH, MALAYSIA

Dr. Isaac R. Joseph is a healthcare entrepreneur and medical director known for advancing hyperthermia treatment and cancer care innovation in the Asia-Pacific region. As the co-founder and director of Adipolabs Healthcare (M) Sdn Bhd, Joseph has been instrumental in introducing specialized medical technologies to Malaysia and surrounding international markets. His work primarily focuses on hyperthermia, a therapeutic process that uses controlled heat to treat cancer and manage pain.

By integrating this technology with traditional methods like chemotherapy, Joseph aims to increase the effectiveness of treatments while reducing side effects for patients. In 2017, Joseph established Adipolabs Healthcare in Malaysia after researching hyperthermia applications in South Korea and Europe. Despite early resistance from the medical community, he led clinical research at the University of Malaya to prove the therapy's scientific validity. His efforts eventually led to the expansion of the company across several countries, including Singapore, Indonesia, and Australia.

Beyond cancer care, Joseph also serves as the Chairman of the International Virus Research Alliance (IVRA) in Malaysia. During the COVID-19 pandemic, he contributed to studies exploring how thermal therapy could be applied to viral infections, which further increased his influence in global medical circles. In addition to his corporate leadership, Joseph is recognized for his commitment to medical education and philanthropy. He has overseen the training of approximately 1,000 doctors and advocates for a "copy-paste" model of education to ensure specialized medical knowledge reaches a wider global audience.

Joseph's career is defined by his transition from a small-scale entrepreneur to a recognized figure in the pharmaceutical and medical device sectors. He has stated that his ultimate goal is to establish centers that provide free medical treatment to underserved populations, reflecting a vision of long-term social impact and sustainable public health improvement.

# WORLD

## MEDICAL CHRONICLES

### DR. ISMAIL BADJIE, GAMBIA

Dr. Ismail Badjie is a Gambian-American Doctor of Pharmacy (PharmD) and entrepreneur who is the co-founder and CEO of Innovarx Global Health. Born in The Gambia, Badjie moved to the United States at age 18 to pursue his education, eventually earning his doctorate from Purdue University.

Before transitioning to entrepreneurship, he served as a pharmacy manager for Walgreens in North Carolina, where he managed significant high-volume inventories and annual revenues. In 2019, Badjie and co-founder Gerard Mengang left their established careers in the United States to launch Innovarx, a healthcare company designed to modernize medical delivery in sub-Saharan Africa.

The operational model of Innovarx Global Health is based on a "vertically integrated" approach, which means the company manages multiple stages of the healthcare process, from sourcing medications to the final delivery to the patient. Headquartered in Banjul, The Gambia, the company utilizes a brick-and-mortar community pharmacy combined with modern digital tools. These include a global telemedicine platform, electronic health records (EHR), and a mobile clinical unit.

A key innovation of the company is its focus on preventative health for the Gambian diaspora; many Gambians living abroad use the platform to sponsor and manage the healthcare of their family members back home, ensuring they receive consistent medication for chronic conditions like diabetes. Badjie's work addresses the significant "talent gap" in the region by investing heavily in human development and training local staff to meet international standards.

Since its founding, the company has expanded its workforce to over 65 employees across The Gambia and Ghana, with plans for further expansion into Nigeria. By 2026, Badjie has become a leading voice for the role of technology and innovation in transforming the African continent. He advocates for young Africans to view local challenges as opportunities to create high-impact products and services that can improve community well-being and economic stability.

# WORLD

# MEDICAL CHRONICLES

## DR. ISMAIL DAUROV, KAZAKHSTAN

Dr. Ismail Daurov is a Kazakh physician and therapist specialized in Traditional Chinese Medicine (TCM) who gained international recognition for his humanitarian efforts and commitment to cross-cultural healthcare. Born in Kazakhstan, Daurov was inspired to pursue medicine after witnessing his grandfather use acupuncture to help a paralyzed girl walk. This event led him to China, where he spent nine years studying at the Shaanxi University of Chinese Medicine.

Despite the challenges of learning ancient Chinese characters and complex medical theories, he successfully earned a master's degree in acupuncture and massage. In 2021, while living in Xi'an during a COVID-19 resurgence, Daurov gained fame for his selfless volunteer work. His statement, "I am a foreigner, but I am not an outsider," was later quoted by Chinese President Xi Jinping as a symbol of the deep friendship and "intertwined destinies" between China and Central Asian nations.

President Xi highlighted Daurov's story as an example of the symphony of support between diverse cultures during global crises. By 2025, Daurov returned to his homeland to practice at the China-Kazakhstan Traditional Medicine Center in Astana. Under his influence, the center grew from 300 to 1,800 square meters, serving dozens of patients daily who seek holistic treatments for various ailments.

Daurov focuses on the "holistic approach" of TCM, which views disease as a result of multiple factors requiring a balance of the whole body rather than just treating symptoms. He actively works to establish professional standards for TCM in Kazakhstan, aiming to provide authentic training for a new generation of Kazakh doctors. His work serves as a practical bridge for the Belt and Road Initiative, demonstrating how ancient medical wisdom can be integrated into modern international healthcare to improve public wellness.

# WORLD

## MEDICAL CHRONICLES

### DR. JACOB K. DEY, UNITED STATES

Dr. Jacob K. Dey is an American facial plastic and reconstructive surgeon at the Mayo Clinic in Rochester, Minnesota, specializing in the rare subspecialty of facial reanimation. His clinical work focuses on restoring symmetry and movement to patients suffering from facial paralysis, a condition that can result from Bell's palsy, Ramsay Hunt syndrome, strokes, or the removal of tumors.

Dey describes his medical approach as "life-changing" rather than simply "life-saving," emphasizing that the inability to communicate through facial expressions profoundly impacts a person's social identity and psychological well-being.

The surgical techniques employed by Dey include nerve transfers, nerve rewiring, and muscle transplant surgery. In cases of severe paralysis, he often performs a functional muscle transfer, where a small section of muscle is taken from a patient's inner thigh (the gracilis muscle) and transplanted into the face. This muscle is then connected to a blood supply and a donor nerve to enable the patient to regain the ability to smile. Dey also utilizes non-surgical treatments, such as Botox and fillers, to address "aberrant reinnervation," a condition where nerves recover improperly and cause involuntary facial movements.

Dey earned his medical degree and pursued advanced training in both reconstructive and aesthetic facial surgery. He advocates for a holistic view of plastic surgery, arguing that aesthetic procedures are medically necessary when a patient's outward appearance does not align with their internal sense of self.

A significant portion of his research involves advancing the understanding of the microanatomy of facial nerves and the pathophysiology of nerve recovery. By integrating artistic aesthetic principles with microsurgical reconstruction, Dey aims to improve outcomes for patients globally, many of whom are unaware that surgical solutions for paralysis exist.

# WORLD

# MEDICAL CHRONICLES

## DR. JAGDISH CHATURVEDI, INDIA

Dr. Jagdish Chaturvedi, MD, is an Indian otolaryngologist (ENT surgeon), medical device innovator, and stand-up comedian known for developing affordable healthcare technologies for rural populations. Based at Fortis Hospital in Bengaluru, Dr. Chaturvedi has developed 18 low-cost medical devices designed to address common health challenges in resource-limited settings. His journey into innovation began in 2008 when he recognized that expensive diagnostic imaging was unavailable to poor farmers in rural India, leading him to create a "jugaad" or frugal alternative using a basic camera and an endoscope to detect throat cancer.

One of Dr. Chaturvedi's most significant contributions is the "ENTrerview," a portable digital otoscope that attaches to a smartphone. This device allows healthcare workers to capture high-quality images of the ear and throat, which can then be shared with specialists for remote diagnosis. Through the "Shruti" ear care program, this technology has reached over 700,000 people. Another widely used invention is the "Noxeno," a specialized tool designed to remove foreign objects from a child's nose without the need for invasive surgery. This device is currently utilized in over 1,000 hospitals across India, simplifying a procedure that previously required expensive equipment.

Dr. Chaturvedi is also the founder of HiiiH, a digital platform that connects doctors, engineers, and investors to foster medical entrepreneurship. He trained in the Stanford India Biodesign program, where he learned to focus on "applied innovation"—the process of turning medical needs into functional, marketable products. In addition to his surgical and inventive work, Dr. Chaturvedi uses stand-up comedy to bridge the gap between doctors and patients, performing hundreds of shows globally. His work demonstrates how simplified technology and interdisciplinary collaboration can solve large-scale public health issues and improve patient outcomes in underserved communities.

# WORLD

## MEDICAL CHRONICLES

### DR. JAN RYBNIKER, GERMANY

Dr. Jan Rybniker, a professor and physician at the University Hospital of Cologne, is the lead researcher of a major biotechnology project aimed at combating antibiotic-resistant bacteria. In December 2025, his research team received over five million euros in funding from the German Federal Ministry of Research, Technology and Space (BMFTR) through the "GO-Bio next" program.

The project, known as INNOPAK, focuses on developing a new type of medicine called "precision antibodies" to treat infections caused by *Pseudomonas aeruginosa*, a dangerous bacterium frequently found in hospitals.

Unlike traditional antibiotics, which work by killing bacteria directly but can also harm the body's healthy microbes, Rybniker's approach uses fully human antibodies to neutralize specific disease-causing mechanisms.

The project targets the Type III Secretion System (T3SS), a specialized "needle" that the bacteria use to inject toxins and kill human immune cells. By blocking this system, the antibodies prevent the bacteria from causing damage without actually killing them, a method known as anti-virulence therapy.

This approach is particularly useful because it works regardless of whether the bacteria are resistant to standard antibiotics. The total investment for this initiative exceeds 8.5 million euros, with additional support provided by the German Center for Infection Research (DZIF).

This funding is intended to move the project from the laboratory into the real world by supporting the manufacturing of the antibodies and preparing for Phase I clinical trials in humans. This research is considered a critical step in addressing the global crisis of antibiotic resistance, which currently leads to longer hospital stays and higher mortality rates, especially for patients with weakened immune systems or chronic lung conditions like cystic fibrosis.

# WORLD

## MEDICAL CHRONICLES

### DR. JASON CARON, UNITED STATES

Dr. Jason Caron is an American orthopedic surgeon at Sanford Health who has dedicated over 15 years to providing specialized medical care in developing regions. Since his medical residency, Caron has led annual surgical missions to Pucallpa, a city in Peru's Amazon rainforest. Working with the nonprofit organization Scalpel at the Cross, he addresses a critical shortage of medical specialists in the region, where only a handful of orthopedic surgeons serve a population of nearly 400,000 people. His work primarily focuses on mending broken bones and performing complex joint replacements for patients who lack the financial means or local resources to access such treatments in larger cities like Lima.

Cody Sessions is an orthopedic surgeon and colleague of Caron who joined these missions to address global healthcare disparities. Sessions advocates for the idea that orthopedic surgery should not be a luxury reserved only for wealthy nations. During his trips to Pucallpa, he performs life-changing operations on patients who have been confined to wheelchairs due to severe arthritis or untreated injuries. His involvement in Peru also became personal when he met his wife, a Peruvian physician, during a mission trip. The couple eventually plans to relocate to Peru permanently to establish a long-term medical practice, bridging the gap between American surgical techniques and local healthcare needs.

Nikki Pink is a dermatology provider and Doctor of Nursing Practice (DNP) who expanded the scope of these missions by providing vaccinations and health education. While her primary expertise is in skin health, she assists in the operating room by closing surgical wounds and managing patient recovery. These medical teams bring modern equipment and advanced surgical skills to resource-poor environments, significantly reducing the recovery time for patients.

By training residents and local staff during these "surgical campaigns," the group ensures that their impact extends beyond their ten-day visits, fostering a culture of medical exchange and humanitarian service between the United States and Peru.

# WORLD

# MEDICAL CHRONICLES

## DR. JAYANTA BHATTACHARYA, UNITED STATES

Dr. Jayanta "Jay" Bhattacharya is an American physician, economist, and health policy expert who serves as a professor of medicine at Stanford University. Born in 1968 in Kolkata, India, he moved to the United States as a child and later earned three degrees from Stanford University: a Bachelor's degree, a Medical Degree (MD), and a Doctorate (PhD) in economics. This unique academic background allows him to study healthcare by looking at both the biological science of medicine and the financial impact of health policies on society.

Jayanta Bhattacharya's career is defined by the integration of clinical medicine with advanced econometrics, creating a framework to evaluate how medical systems and government policies impact human longevity. His most significant academic innovation involved recalibrating how we measure the value of public health programs. By using individual educational data rather than broad geographic markers, he demonstrated that programs like Medicare are far more progressive and beneficial to the poor than previously understood by traditional economic models.

In the realm of technical innovation, Bhattacharya developed the Health Cost and Flexible Spending Account Calculator, a patented system designed to optimize healthcare spending by modeling risk and cost scenarios for individuals. This focus on "medical efficiency" extended to his research on the "stagnation of science," where he argued that the peer-review process often stifles innovation by favoring safe, incremental projects. To solve this, he has championed "lottery-based" or "high-risk" funding mechanisms to encourage breakthroughs that traditional panels might reject.

Bhattacharya also contributed to significant advancements in immunology and virology. He led research teams in the isolation of broadly neutralizing human monoclonal antibodies (bnAbs) for HIV-1. His innovations in this field include the development of engineered immunogens—molecular mimics of the virus—intended to trigger a more effective immune response through rational vaccine design. This work provided a foundation for characterizing how viruses evolve to evade immunity, a methodology he later applied to tracking SARS-CoV-2 variants.

# WORLD

# MEDICAL CHRONICLES

## JIRI VERMEULEN, BELGIUM

Jiri Vermeulen is a Belgian entrepreneur and the CEO of Minze Health, a digital health company based in Antwerp that specializes in urological innovation. In 2018, under the leadership of Vermeulen and CTO Josef Sageder, the company launched two medical devices, Hospiflow and Homeflow, designed to modernize the diagnosis and monitoring of urinary tract disorders. These devices address common conditions such as overactive bladder and bladder dysfunction, which affect a significant portion of the adult population.

Historically, urological tests required patients to use uncomfortable, specialized equipment in a hospital setting, which often led to inaccurate results due to patient anxiety or the unnatural testing environment. The Minze Health system is recognized as the world's first uroflowmeter that can be used on a standard toilet.

Hospiflow is designed for use within clinical practices, while Homeflow allows patients to perform multiple measurements in the privacy of their own homes. The hardware is linked to an automated voiding diary application, which collects data over several days and uploads it to a secure online platform for clinicians to review. This provides urologists and pelvic floor physiotherapists with a more representative set of data compared to a single, isolated hospital test. The devices achieved ISO 13485 and CE certifications, confirming they meet strict international safety and quality standards for medical technology.

The launch of these tools at the European Association of Urology congress (EAU18) marked a shift toward "tele-urology" and patient-centric diagnostics. By 2026, the technology has expanded beyond its initial markets in Belgium and the Netherlands to include the United States and other European nations. The integration of digital health tools in urology has been shown to improve clinical time efficiency and increase patient comfort, allowing for more personalized treatment plans for men, women, and children suffering from voiding disorders.

# *WORLD*

## **MEDICAL CHRONICLES**

### **DR. JOSE FERNANDO PENA, UNITED STATES**

Dr. José Fernando Peña is a Dominican-American internist and healthcare executive based in the Rio Grande Valley of Texas. He is the founder of the Donna Medical Clinic and the RGV Accountable Care Organization (ACO) Health Providers. Born in the Dominican Republic, Peña completed his medical training in Santo Domingo before moving to New York City, where he served as "Resident of the Year" at Saint Barnabas Hospital. In 1995, he relocated to South Texas, eventually establishing one of the largest primary care groups in the region. His practice is notable for achieving Level 3 Patient-Centered Medical Home recognition, the highest standard for coordinated patient care.

Peña is widely recognized for his "low tech, high touch" philosophy in managing chronic illnesses, particularly diabetes. This approach prioritizes frequent communication, patient coaching, and home visits over high-cost technological interventions.

By employing care coordinators to monitor patients between office visits, Peña's group has achieved significant improvements in blood sugar control, placing his organization in the top 5% of Medicare providers nationwide for diabetes management. His methodology was highlighted by the Brookings Institution in Washington, D.C., as a disruptive innovation capable of saving billions in healthcare costs by preventing complications like heart attacks, strokes, and amputations.

Beyond his private practice, Peña has held several leadership roles, including Chief of Staff at Knapp Medical Center and Doctors Hospital at Renaissance. His work with Accountable Care Organizations has expanded beyond Texas to include affiliated offices in San Antonio and New Jersey.

Peña's model focuses on decreasing the cost of healthcare while increasing quality through teamwork and preventative medicine. He remains a prominent advocate for health equity in underserved communities, emphasizing that the future of medicine lies in creating strong, accessible primary care programs that treat the patient within their own home environment.

# WORLD

## MEDICAL CHRONICLES

### KERI MCADOO, CANADA

Keri McAdoo is the Chief Executive Officer of Nova Scotia's Physician Assessment Centre of Excellence (PACE), a specialized organization that has transformed how internationally trained doctors enter the Canadian healthcare system. Under McAdoo's leadership, PACE was established in early 2025 to create a faster and more efficient licensing pathway for physicians who received their medical education outside of Canada.

In October 2025, the program achieved international acclaim when it received the "Innovation in Physician Assessment and Remediation Award" from the Coalition for Physician Enhancement during a ceremony in Chicago. This award recognized McAdoo and her team for developing a system that balances strict medical standards with the practical need for more primary care doctors. The PACE program is unique because it operates its own dedicated medical clinic in Halifax, Nova Scotia.

In this "community of practice," internationally trained doctors treat patients under the direct supervision of experienced assessors. This workplace-based model allows the province to evaluate a doctor's clinical skills and medical knowledge in real-time while they are actually providing care. This approach is more efficient than traditional methods because it helps doctors adjust to the specific resources and administrative rules of the Nova Scotian healthcare system while they are still in the testing phase.

As the head of the organization, McAdoo has overseen the expansion of the program to address the province's doctor shortage. When fully operational, PACE is expected to assess approximately 40 primary care physicians every year.

Statistics suggest that this influx of newly licensed doctors could provide tens of thousands of Nova Scotians with access to a family physician, significantly reducing wait times and alleviating physician burnout. By bridging the gap between international talent and local medical needs, McAdoo's work at PACE has become a model for other regions looking to integrate global professionals into their essential services.

# WORLD



# MEDICAL CHRONICLES

**DR. KHUANSIRI NARAJEENRON, THAILAND**

Dr. Khuansiri Narajeenron is a Thai medical professor and the Director of Academic Affairs in the Emergency Medicine Department at Chulalongkorn University. She is the lead developer of "ER-VIPE" (Emergency Room – Virtual Interprofessional Education), a virtual reality training system designed to improve patient safety in emergency departments. Launched in August 2025 in collaboration with King Chulalongkorn Memorial Hospital, the tool uses virtual simulation technology to allow medical teams to practice high-pressure scenarios in a safe, digital environment.

The project was created to address a critical healthcare issue in Thailand, where medical errors result in significant economic loss and patient harm annually. The ER-VIPE system is built on a framework known as TeamSTEPPS, which stands for Team Strategies and Tools to Enhance Performance and Patient Safety. Unlike traditional medical training that focuses on individual knowledge, this system emphasizes non-technical skills such as leadership, communication, and mutual support among doctors, nurses, and pharmacists.

Dr. Narajeenron describes the platform as "Med-Edutainment," as it combines inspirational films, medical knowledge through online courses, and interactive gameplay. Research conducted during the pilot phase showed that hospitals using the system experienced a reduction in medical errors and patient deaths, while also seeing a decrease in staff burnout.

In late 2025, Dr. Narajeenron and other healthcare leaders proposed a national policy titled "Zero Harm 2030," aiming to integrate this virtual training into the standard curriculum for all Thai healthcare professionals. The initiative is supported by nine major organizations, including the Medical Council of Thailand and the Nursing Council. By 2026, the program has expanded to include nationally recognized continuing education credits, ensuring that teamwork and interprofessional collaboration become central pillars of the Thai healthcare system.

# *WORLD*

## **MEDICAL CHRONICLES**

### **DR. KIHU PARK, SOUTH KOREA**

Dr. Kiho Park is a South Korean internal medicine physician and entrepreneur who founded MirabellSoft, a digital healthcare company headquartered in Siheung, Gyeonggi Province. Established in 2019, the company focuses on optimizing the administrative and clinical workflows of medical institutions. Park, who continues to manage his own private practice, founded the organization after experiencing the increasing complexity of patient data management and realizing that existing electronic chart services did not adequately meet the needs of busy clinicians.

By involving various medical specialists as shareholders, Park ensured that the company's software solutions remained grounded in actual clinical experience. The flagship product of MirabellSoft is a medical information system known as hDACS, often marketed as MDPACS. This technology allows for the integrated management and seamless exchange of health data between different medical facilities. Additionally, the company operates the "Care for Me" mobile application, which enables patients to store and view their test results and health statistics in real-time.

According to Park, these tools have significantly improved the treatment of chronic conditions like hypertension and diabetes by allowing doctors to analyze health trends more quickly and reducing the time spent on administrative tasks during consultations. As of 2024, MirabellSoft's services have been adopted by over 1,000 medical institutions throughout South Korea, including 64% of newly established internal medicine clinics in the Seoul metropolitan area.

The platform "Health Chemi" serves as a central hub for hospital management and information sharing. Looking toward the future, Park is leading the development of a time-series analysis service that uses historical data to predict health risks and assist in long-term care planning. Through his dual role as a doctor and CEO, Park aims to transform digital healthcare from a technical product into a standard habit for both medical professionals and their patients.

# WORLD

# MEDICAL CHRONICLES

## DR. KRISTIAN OLSON, UNITED STATES

Dr. Kristian Olson is an American pediatrician, internist, and global health innovator based at Massachusetts General Hospital (MGH) in Boston. He serves as the medical director of the Consortium for Affordable Medical Technologies (CAMTech) and is an assistant professor at Harvard Medical School.

Olson's career path was inspired by his travels through India as an undergraduate, where he decided to gain medical skills to address the suffering he witnessed in low-income regions. He holds a medical degree from Vanderbilt University, a master's degree in public health from the University of Sydney, and a diploma in tropical medicine from the London School of Hygiene and Tropical Medicine.

As the leader of CAMTech, Olson works at the intersection of clinical care and engineering to accelerate the development of affordable medical devices for third-world countries. One of his most notable projects is the Augmented Infant Resuscitator (AIR), which he co-developed with engineers and a Ugandan pediatrician during a medical "hack-a-thon." This device provides real-time feedback to birth attendants during newborn resuscitation, a critical period where correct ventilation significantly reduces infant mortality.

Approximately 1.8 million babies die annually because they cannot maintain their first breath; Olson's device aims to empower health workers with simple, low-cost technology to bridge this gap in care. In addition to his innovation work, Olson is a core educator at MGH, where he treats patients with complex medical conditions alongside residents and students. His global efforts have taken him to regions such as Darfur, Ethiopia, and Cambodia to combat diseases like multi-drug-resistant tuberculosis and to establish clinical trials for new medical tools.

Outside of medicine, Olson is an avid gardener and a certified beekeeper, managing a small farm known as "Triple O's Farm." He views clinical problems as challenges that can be overcome through creative collaboration, mentoring the next generation of healthcare leaders to think outside traditional fields to solve global health disparities.

# WORLD

# MEDICAL CHRONICLES

## DR. LAHJA NDAPEWA OMAGANO IPINGE, NAMIBIA

Dr. Lahja Ndapewa Omagano Ipinge is a Namibian medical doctor and specialist in cardiology and sports medicine who gained international prominence as a winner of the 2025 Intra-African Trade Fair (IATF) Healthcare Hackathon. Collaborating with South African entrepreneurs Jamie Thurston Wyngaard and Dimakatso Kanyane, Ipinge provided the clinical expertise necessary to develop an integrated health platform designed to reduce mortality rates among mothers and infants.

The team's victory included a \$20,000 grant from Afreximbank and Afrilabs, intended to expand their healthcare solutions throughout Southern Africa and improve the quality of maternal medical services. Ipinge's contribution to the project focused on identifying the specific medical needs of pregnant women and newborns, particularly from a cardiological perspective.

Many maternal complications arise from undetected heart issues or lack of monitoring during pregnancy. By combining her clinical insights with digital innovations, the team created a system where medical knowledge is supported by practical logistics. A key feature of their winning solution was the integration of a cashless transport system that allows mothers to reach healthcare facilities safely using WhatsApp-based payments. This ensures that a patient's inability to carry cash or find a ride does not prevent them from receiving life-saving cardiovascular monitoring or emergency obstetric care.

The success of Ipinge and her colleagues highlights the growing trend of cross-border medical collaboration in Africa. By merging cardiology, menstrual health, and financial technology, the team addressed the "social determinants of health"—the environmental factors that affect a person's medical outcomes. Dr. Ipinge has been recognized as a leading voice in this movement, advocating for "African solutions for African problems." Her work demonstrates how specialized medical professionals can partner with the private sector to bridge the gap between advanced hospital care and the daily realities of patients in underserved regions.

# WORLD

## MEDICAL CHRONICLES

### DR. LAURA PIGGOTT, IRELAND

Dr. Laura Piggott is an Irish physician and respiratory medicine specialist who developed a digital healthcare system to drastically reduce diagnosis times for sleep disorders. Originally from Gort, County Galway, she serves as a Specialist Registrar in Respiratory Medicine at St. James's Hospital in Dublin. In 2025, Dr. Piggott received the CEO's Special Award at the HSE Spark Summit for her project titled "Virtual Obstructive Sleep Apnoea (OSA) Identifier Pathway: A Whole New World?"

This initiative was recognized as a groundbreaking solution to long-standing delays in the Irish public health system. The innovation focuses on Obstructive Sleep Apnoea, a serious condition where a person's breathing repeatedly stops and starts during sleep. Before Dr. Piggott's intervention, patients often waited an average of three years for an assessment.

By implementing a digital pathway that uses electronic symptom questionnaires and high-quality home sleep tests, she reduced the average waiting time to just five and a half months. This system allows patients to be evaluated from their own homes without traveling to a hospital. Additionally, the project utilized the "myPatientSpace" app to conduct video consultations, resulting in an average cost saving of €1,000 per patient for the Health Service Executive (HSE).

Dr. Piggott's work highlights the potential for "digital care" to transform medical specialties that are overwhelmed by high patient volumes. Her project demonstrated that integrating technology into traditional hospital workflows could enhance patient safety and improve the overall user experience for both doctors and patients.

Since its successful implementation at St. James's Hospital, the pathway has served as a model for other clinics across Ireland. Dr. Piggott continues to advocate for frontline healthcare workers to use creative thinking and digital tools to address systemic challenges in modern medicine.

# WORLD

# MEDICAL CHRONICLES

## DR. LINDSAY RIEGLER, UNITED STATES

Dr. Lindsay Riegler is an American research speech-language pathologist and innovation specialist who has led significant advancements in remote patient monitoring (RPM) within the United States Department of Veterans Affairs (VA). Based at the Cincinnati VA Medical Center, Riegler is a Certified Brain Injury Specialist with an extensive background in using telehealth to treat and study brain injuries. In 2021, she was selected for the Entrepreneurship in Residence Fellowship, a leadership program designed to implement large-scale innovation projects that improve healthcare delivery for military veterans across the country.

One of Riegler's primary contributions involves the national scaling of remote healthcare technologies, which allow medical professionals to track a patient's health data without requiring an in-person hospital visit. She played a central role in the "Initiative to End Diabetic Limb Loss at VA," a collaboration using specialized monitoring tools to prevent complications from diabetes. A major challenge Riegler addressed was the administrative process known as "workload capture."

Before her intervention, clinicians often did not receive formal credit for the time spent reviewing patient data sent from home. Riegler successfully advocated for new national "stop codes" and "Store and Forward" protocols, ensuring that doctors and nurses are recognized for their work in digital care.

Through her fellowship with the VHA Innovation Ecosystem, Riegler has focused on making the VA a leader in preventative medicine. By utilizing asynchronous telehealth—where veterans send images or data to be reviewed by providers at a later time—she has helped reduce hospital admissions and improved the quality of life for patients with chronic conditions. Her work emphasizes that healthcare innovation is a collaborative effort involving various government offices and clinical stakeholders. Riegler continues to advocate for the use of modern technology to provide veterans with more choices and better access to essential medical services regardless of their physical location.

# WORLD

## MEDICAL CHRONICLES

### DR. LORENZO PIEMONTE, ITALY

Dr. Lorenzo Piemonti is a prominent Italian physician-scientist and the Director of the Diabetes Research Institute at the IRCCS San Raffaele Hospital in Milan. His work bridges the gap between laboratory research and clinical practice, focusing on regenerative medicine and organ transplantation to treat diabetes. Piemonti advocates for a modern medical model where doctors act as scientists, emphasizing that as artificial intelligence takes over routine medical tasks, the human doctor's role must evolve to integrate deep scientific knowledge with empathetic patient care. He is a strong proponent of international collaboration, citing the rapid development of COVID-19 vaccines as a prime example of what the global scientific community can achieve when focused on a single goal.

Piemonti is particularly recognized for his research into islet transplantation, a procedure where insulin-producing cells are placed into a patient with diabetes. To improve the success of these transplants, he explores three main strategies: physical barriers like encapsulation to hide cells from the immune system, gene editing to make cells "invisible" to immune attacks, and immune tolerance, which trains the body to accept foreign cells. He notes that while proof-of-concept for these therapies exists, the current challenge is scalability.

Transforming a complex procedure into a sustainable, low-cost treatment for millions of people requires a "quality by design" approach, ensuring that living cell therapies are safe, efficient, and accessible to all patients regardless of their financial status. Piemonti also promotes a comprehensive view of precision medicine that extends beyond genetics. He emphasizes the "exposome," which includes a person's environment, diet, and social stressors. In his view, true precision care involves tailoring treatments to the individual's entire life experience rather than just their biological markers. By combining advanced technology with a humanistic approach to medicine, Piemonti aims to develop a future where diabetes can be cured through regenerative science that is both ethically sound and globally equitable.

# WORLD

## MEDICAL CHRONICLES

### DR. LUKE BURCHILL, AUSTRALIA

Dr. Luke Burchill, M.B.B.S., Ph.D., is an Australian cardiologist and researcher recognized for his expertise in adult congenital heart disease (ACHD) and heart failure. Born in Mooroopna, Australia, Dr. Burchill is the first Aboriginal cardiologist in Australia's history. He joined the Mayo Clinic in 2021, where he currently serves as a leader of the Adult Congenital Heart Failure Care Pathway. His work addresses a significant gap in modern medicine: while many children born with heart defects now survive into adulthood due to advanced surgery, they often face late-onset complications such as heart failure, which require specialized treatment plans.

Dr. Burchill is noted for integrating his Indigenous heritage into clinical practice through a concept known as "radical listening." This approach emphasizes a deep heart-mind connection, ensuring that physicians treat patients as whole individuals rather than just biological cases. He advocates for "validation" in medicine, often helping patients find answers to symptoms that were previously dismissed by other providers.

Beyond his bedside manner, Dr. Burchill is a leader in medical innovation, serving as the president of the International Society for Adult Congenital Heart Disease. He is currently spearheading the development of the world's first standardized heart failure pathway specifically designed for the unique structural and physiological needs of ACHD patients. In the field of diagnostics, Dr. Burchill explores the use of advanced imaging and emerging biomarkers to detect heart issues.

One such innovation involves using the human voice as a "fingerprint" or biomarker to identify heart rhythm problems. By combining high-tech science with the traditional "art of healing," Dr. Burchill aims to move beyond simple surgical fixes toward lifelong, holistic care. His research and clinical pathways at the Mayo Clinic serve as a global model for treating complex heart conditions with both technical precision and cultural humility.

# WORLD

# MEDICAL CHRONICLES

## DR. MANIDEEP GOPISHETTY, CANADA

Dr. Manideep Gopishetty is a Canadian physician-entrepreneur and medical researcher based in Saskatoon, Saskatchewan, recognized for his contributions to digital health and healthcare management. Born in India, Gopishetty completed his medical education at Zaporizhzhia State Medical University, where he graduated among the top five students in his class. He later expanded his expertise by obtaining a Master of Business Administration from University Canada West. This dual background in clinical medicine and corporate strategy has allowed him to lead several healthcare ventures that focus on integrating modern technology with traditional patient care.

Gopishetty is a polyglot, fluent in English, Hindi, Telugu, Russian, and Ukrainian, a skill set that has enabled him to manage diverse medical teams and provide inclusive care to multicultural populations. Gopishetty's work is characterized by a "human-centered" approach to technology. He advocates for the use of artificial intelligence and digital monitoring systems to support, rather than replace, the relationship between doctors and patients.

His primary areas of focus include mental health services and assisted living, which he identifies as underserved sectors in the current healthcare landscape. By implementing data-driven management systems, he has improved operational efficiency and accessibility in home-based healthcare. His recent projects involve developing AI-driven solutions specifically designed to improve diagnostic accuracy and personalized treatment plans for mental health patients.

In addition to his entrepreneurial pursuits, Gopishetty is a proponent of proactive risk management and collaborative leadership. He emphasizes the importance of stakeholder engagement, ensuring that medical professionals, technology experts, and patients are all involved in the development of new health tools. His leadership philosophy is based on the idea that innovation must be grounded in medical best practices while remaining flexible enough to adapt to emerging trends.

# WORLD

# MEDICAL CHRONICLES

**DR. MANISH CHAUHAN, UNITED STATES**

Dr. Manideep Gopishetty is a Canadian physician-entrepreneur and medical researcher who has carved a niche at the intersection of clinical medicine, corporate strategy, and digital health. Based in Vancouver and Saskatoon, Gopishetty's career is defined by his "dual-lens" approach, utilizing both his MD and MBA to modernize healthcare delivery. As the co-founder and CEO of Cognitive Apps, he has spent over five years developing AI-driven solutions designed to enhance diagnostic accuracy and create personalized treatment pathways, particularly within the mental health sector. His primary innovations focus on human-centered technology, where digital tools are used to augment the doctor-patient relationship rather than automate it.

Gopishetty has been a pioneer in integrating artificial intelligence and remote monitoring systems into underserved areas like assisted living and home-based care. By implementing data-driven management systems, he has successfully streamlined operational efficiencies in residential care, making high-quality health monitoring more accessible for elderly and vulnerable populations.

Gopishetty's technical contributions extend to the development of AI-based diagnostic tools that analyze complex patient data to identify early markers of mental health decline. His methodology emphasizes stakeholder engagement, ensuring that software developers and medical practitioners collaborate to keep innovation grounded in clinical best practices. This collaborative framework ensures that new health tools are not only technologically advanced but also ethically sound and medically relevant.

Beyond his digital ventures, Gopishetty is a polyglot whose fluency in five languages—English, Hindi, Telugu, Russian, and Ukrainian—has been instrumental in his work with multicultural medical teams and global health initiatives. His leadership is characterized by proactive risk management and a commitment to "impact-first" investment, focusing his portfolio on disruptive technologies that address tangible gaps in global healthcare infrastructure.

# WORLD

## MEDICAL CHRONICLES

### DR. MARK SHIRLEY, NEW ZEALAND

Dr. Mark Shirley is the Chief Innovation Officer at Habit Health, New Zealand's largest community-based healthcare provider. Under his leadership, the organization developed the "Streamlined Recovery Pathway," an award-winning initiative designed to improve how workplace injuries are managed. In 2025, Shirley's work was recognized with the HALEO Excellence in Innovation and Rehabilitation award. This program was created through a partnership between Habit Health, the national employer Silver Fern Farms, and the claims administrator Howden Care.

It focuses on removing the delays and confusion that often occur in traditional rehabilitation by providing a single, coordinated process for injured workers. The initiative introduces a "health navigator" who acts as a personal guide for the patient. This navigator coordinates communication between doctors, specialists, and employers, ensuring that the injured person only has to tell their medical history once. This model is particularly helpful for people in rural areas who might otherwise struggle to access consistent healthcare.

By focusing on both the personal goals of the patient and their professional requirements, the pathway creates a more holistic recovery plan. Shirley has noted that the data-driven approach ensures that all parties involved are working from the same information, which leads to better clinical results and higher patient satisfaction.

Since its launch, the program has demonstrated significant economic and social benefits. Reports indicate that patients in the Streamlined Recovery Pathway return to work 30% faster than those in traditional programs, resulting in substantial cost savings for employers and less disruption for workers. Following the success of the pilot, Shirley has expressed plans to expand the service to other accredited employers across New Zealand. His work illustrates how interdisciplinary partnerships—where different types of medical and administrative professionals work together—can modernize primary care and place the needs of the patient at the center of the healthcare system.

# WORLD

## MEDICAL CHRONICLES

### DR. MARTIN SCHLEEF, GERMANY

Dr. Martin Schleef is a German scientist and entrepreneur who has made significant contributions to the fields of biotechnology and genetic engineering. In 2025, he was awarded the prestigious North Rhine-Westphalia (NRW) Innovation Award for his pioneering work in developing advanced DNA solutions.

Schleef is the founder of PlasmidFactory, a company he started in 2000 as a spin-off in Bielefeld, Germany. Over the course of 25 years, he led the organization to become a global leader in providing the specialized genetic materials needed for cell and gene therapy, which are modern medical treatments that attempt to fix or replace faulty genes to treat diseases.

Schleef's most notable scientific achievement is the development and commercialization of "Minicircle" DNA. Traditional plasmids used in medicine often contain extra genetic material that is not needed for the treatment, such as antibiotic resistance genes.

Schleef's Minicircle technology allows for the creation of smaller, more efficient DNA molecules that contain only the necessary therapeutic information. This innovation makes gene therapies safer and more effective because it reduces the risk of unwanted side effects and improves how well the body accepts the treatment.

These DNA products are essential for manufacturing mRNA vaccines and viral vectors used in cutting-edge cancer research. Under Schleef's leadership, PlasmidFactory expanded into an international supplier for academic institutions and pharmaceutical companies.

The NRW Innovation Award recognizes his success in "technology transfer," which is the process of taking complex scientific discoveries from a laboratory and turning them into practical products that can be used in hospitals and clinics. Today, his work serves as a foundational element for the global biotechnology industry, helping scientists develop new cures for previously untreatable genetic disorders.

# WORLD

# MEDICAL CHRONICLES

## DR. MEHRAN ANVARI, IRAN

Dr. Mehran Anvari is an Iranian-Canadian surgical pioneer and a professor of surgery at McMaster University, recognized globally for his leadership in the field of telerobotics. He is the founding director of the Centre for Minimal Access Surgery (CMAS) at St. Joseph's Healthcare in Hamilton, Ontario.

Dr. Anvari gained international attention in 2003 when he began performing the world's first series of remote telerobotic surgeries on patients located 400 kilometers away in North Bay, Ontario. Using a robotic system called Zeus and a dedicated high-speed fiber-optic link, he successfully conducted procedures such as colon resections and hernia repairs from a console located in a different city.

The concept of "telesurgery" originally emerged from research conducted by NASA and the United States military during the 1970s. These organizations sought ways to provide medical care to astronauts in deep space or soldiers on remote battlefields. Dr. Anvari's work translated these space-age concepts into civilian healthcare, proving that a surgeon could operate with high precision despite being hundreds of kilometers away. A critical factor in the success of these operations is "latency," or the time delay in communication.

Dr. Anvari's procedures maintained a lag of approximately 175 milliseconds, a speed that allowed him to move the robotic instruments in real-time as if he were physically standing at the operating table. Beyond Earth-bound surgery, Dr. Anvari has collaborated with NASA on projects like NEEMO (NASA Extreme Environment Mission Operations). In 2006, he remotely guided a robot to perform stitches at the Aquarius underwater base to simulate the challenges of surgery on the International Space Station.

By 2026, the legacy of his work has influenced the development of advanced systems like the da Vinci robot and "Trauma Pods" for emergency military use. His research continues to address the ethical and legal challenges of remote medicine, such as liability and international regulations, as the medical community moves toward a future of globalized, high-tech surgical access.

# WORLD

# MEDICAL CHRONICLES

## DR. MICHAEL DOLINGER, UNITED STATES

Dr. Michael Dolinger is an American pediatric gastroenterologist and medical educator who currently serves as the director of the Pediatric Inflammatory Bowel Disease (IBD) Program at Hassenfeld Children's Hospital at NYU Langone. He is recognized for his pioneering work in the clinical application of Intestinal Ultrasound (IUS), a noninvasive diagnostic tool used to monitor chronic conditions such as Crohn's disease and ulcerative colitis.

Dr. Dolinger was the first gastroenterologist in the United States to receive formal certification in performing IUS during routine office visits, having completed specialized training in Denmark, Germany, and Italy. His personal motivation for improving IBD care is often attributed to his wife's lifelong battle with a severe case of Crohn's disease. The primary innovation championed by Dr. Dolinger is the use of transabdominal ultrasound technology—similar to that used during pregnancy—to detect inflammation in the bowel wall.

Unlike traditional diagnostic methods, such as MRIs or CT scans, IUS does not require radiation, fasting, or intravenous contrast agents. This is particularly beneficial for children, as it avoids the need for sedation and provides real-time results within approximately ten minutes. By integrating these "point-of-care" scans into regular appointments, physicians can determine if a medication is working much sooner than with conventional blood tests or colonoscopies.

Beyond his clinical practice, Dr. Dolinger is a co-founder of the Intestinal Ultrasound Group of the United States and Canada. This organization leads educational initiatives to train hundreds of North American clinicians in IUS techniques, aiming to establish a new standard for gastrointestinal monitoring. He has characterized IUS as one of the most significant advancements in gastroenterology since the invention of the colonoscopy. His research also explores the future of home-based monitoring, where patients might eventually use handheld devices or ultrasound patches to track their own disease activity, promoting a more proactive approach to managing chronic illness.

# WORLD

# MEDICAL CHRONICLES

## DR. MICHAEL WENTZEL, UNITED STATES

Dr. Michael Wentzel is an American physician and medical commentator based in Tucson, Arizona, who has advocated for the importance of scientific investment and healthcare innovation. With a professional background that spans sixteen years of nursing in both the military and civilian sectors, Wentzel's expertise includes trauma care, intensive care, and flight nursing. His work emphasizes that the evolution of medical technology and pharmaceutical research has transformed once-fatal conditions into manageable or curable diseases, fundamentally shifting the landscape of modern public health.

Wentzel has highlighted significant advancements in oncology and infectious disease as evidence of the power of innovation. For instance, he points to the development of CAR T-cell therapy, a type of gene therapy that reprogrammes a patient's own immune cells to attack blood cancers, which has shown success rates as high as 90%.

In the field of infectious disease, he notes that antiretroviral therapy and Pre-exposure Prophylaxis (PrEP) have revolutionized HIV care, while new treatments for Hepatitis C can now cure up to 90% of patients. These breakthroughs are supported by early detection tools, such as mammograms and volumetric impedance phase-shift spectroscopy, the latter of which can detect strokes with 92% accuracy.

Digital integration is another key area of Wentzel's focus. He credits the rise of telehealth and wireless medical records with increasing healthcare efficiency and reducing emergency room visits by over 80%. By utilizing technologies like Functional Magnetic Resonance Imaging (fMRI), doctors can monitor brain activity in patients with Alzheimer's or seizure disorders with unprecedented precision.

Wentzel argues that continued trust in expert-led research and the integration of digital intelligence into medical devices are essential for navigating global health crises and improving the general life expectancy of the population.

# WORLD

## MEDICAL CHRONICLES

### DR. M.M.S VALIATHAN, INDIA

Dr. Mattuvalappil Madhavan Sarvothaman Valiathan (1934–2024), widely known as M. S. Valiathan, was a pioneering Indian cardiac surgeon and educator who transformed the landscape of medical technology in India. He is best known as the founding director of the Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST) in Kerala. Dr. Valiathan's career was defined by his "steely resolve" to provide high-quality medical care to the poor while reducing India's dependence on expensive, imported medical equipment.

One of his most significant contributions was the development of the "Chitra Valve," a low-cost mechanical heart valve. At a time when heart valves were unaffordable for most Indian patients, Dr. Valiathan collaborated with scientists and engineers to create an indigenous version made from specialized materials. This innovation has since been implanted in hundreds of thousands of patients. His leadership at SCTIMST also led to the creation of other essential medical products, such as disposable blood bags, oxygenators, and vascular grafts.

Unlike many surgeons of his era who focused on lucrative private practice, Dr. Valiathan prioritized correcting congenital heart defects in children from economically disadvantaged backgrounds, significantly contributing to the improvement of infant health in the region. Beyond his surgical achievements, Dr. Valiathan was a lifelong scholar with a deep interest in the history of Indian medicine.

After retiring from active surgery, he studied Sanskrit and authored several books on ancient medical traditions, including the works of Charaka and Sushruta. He aimed to bridge the gap between modern science and Ayurveda, promoting a concept he called "Ayurvedic Biology." For his tireless service to science and society, he was awarded the Padma Vibhushan, India's second-highest civilian honor. His legacy continues through the institutions he built and the generations of surgeons he trained to combine clinical excellence with innovative research.

# WORLD

## MEDICAL CHRONICLES

**DR. MOHAMMED JAMIL ASLAM, UNITED KINGDOM**

Dr. Mohammed Jamil Aslam is a Consultant in Emergency Medicine and the Clinical Lead for Quality Improvement at Walsall Manor Hospital in the United Kingdom. In 2025, he gained recognition for leading a pioneering pilot program that integrates artificial intelligence (AI) into the daily workflows of the National Health Service (NHS). The project utilizes "Ambient Voice Technology" through a tool called Heidi Health, which is designed to listen to patient consultations in real time and automatically generate structured clinical documentation.

By transcribing conversations and identifying key medical information, the system allows doctors to spend less time typing on computers and more time interacting directly with their patients. The implementation of this technology has led to significant improvements in hospital efficiency and patient safety. In the Emergency Department, Dr. Aslam reported that documentation time decreased by approximately six minutes per consultation, which is a 62 percent reduction.

Given the high volume of daily visitors, this efficiency gain is estimated to create nearly 11,000 hours of additional clinical capacity each year. In the Dermatology Department, the results were even more dramatic; the time required to send out clinical letters dropped from over nine days to just 18 minutes. This rapid turnaround ensures that both patients and their primary care physicians receive critical health information almost immediately after an appointment.

Supported by the hospital's charity, Well Wishers, the pilot has been extended due to its success in reducing administrative burdens on staff. Clinicians like Dr. James Halpern have noted that the AI-generated notes are often richer in detail than manual entries, which improves the overall quality of medical records.

By automating the production of discharge summaries and clinic letters, the technology helps prevent staff burnout and allows the hospital to treat more patients effectively. Dr. Aslam's leadership in this trial represents a major step toward the "digital transformation" of healthcare, demonstrating how AI can be used as a practical tool to enhance human-centered medical care.

# WORLD

## MEDICAL CHRONICLES

### DR. MOSTEFA NABIL, ALGERIA

Dr. Mostefa Nabil is an Algerian entrepreneur and the founder of the healthtech startup Ibn Hamza, which launched the innovative e-health platform eTabib. Established in 2016 and based in Algiers, the company is named after the 16th-century Algerian scholar Ibn Hamza Al-Maghribi. Nabil developed the eTabib mobile application to modernize the Algerian healthcare system by making medical services accessible through digital technology.

The platform's primary goal is to improve the quality and safety of patient care while also streamlining the daily workflows of healthcare professionals. The eTabib application, which has been downloaded thousands of times on major app stores, allows users to register personal information and connect with a network of over 40,000 doctors and clinics across Algeria.

One of the core features of the app is the online consultation service. This tool became particularly significant during the COVID-19 pandemic in 2020, as it allowed patients to receive medical advice without the need to travel or wait in crowded clinics, thereby reducing the risk of viral transmission. In addition to virtual visits, the platform introduced a digital medical records system. This feature stores a patient's medical history securely, allowing practitioners to view previous diagnoses and treatments instantly.

By providing a clear picture of a patient's health history, the system helps prevent the need for redundant medical tests and expensive X-rays, which lowers overall healthcare costs. Mostefa Nabil's work represents a major shift in North African medicine, moving toward a model where technology bridges the gap between urban centers and rural areas. By 2026, the success of such platforms has inspired further digital transformation across the region, including new AI initiatives in Morocco and digital infrastructure expansions in Guinea.

# WORLD



# MEDICAL CHRONICLES

## DR. MUHAMMED ASLAM NASIR, PAKISTAN

Dr. Muhammed Aslam Nasir is a British Pakistani anesthesiologist and inventor best known for developing the "i-gel," a revolutionary supraglottic airway device used in emergency medicine and anesthesia. Born and educated in Pakistan, Nasir graduated from Nishtar Medical College in Multan before moving to the United Kingdom in 1990 to further his medical career. His invention was born out of frustration with existing airway tools, which were often difficult to insert and frequently caused physical trauma or internal injuries to unconscious patients.

The i-gel is a single-use device made from a soft, gel-like thermoplastic elastomer. Unlike traditional airway tubes that require an inflatable cuff to create a seal in the throat, the i-gel mirrors the human anatomy to create a natural, pressure-free seal over the larynx. This design allows for faster and easier insertion by paramedics and doctors, significantly reducing the risk of tissue damage.

Since its launch, the device has been adopted by hospitals and ambulance services in over 90 countries. It is estimated to be used five times every minute worldwide and is credited with saving tens of thousands of lives by maintaining clear breathing paths during resuscitation and surgery. In addition to his scientific contributions, Nasir is a noted philanthropist.

In 2017, he announced a multi-million-pound initiative to renovate his alma mater, Nishtar Medical College and Hospital. Motivated by the deteriorating conditions he observed at the facility, he committed approximately £15 million of his own funds and organized alumni contributions to modernize the hospital's infrastructure. His plan included the complete refurbishment of emergency departments, wards, and nursing stations to return the institution to its status as a model medical center. Nasir remains an advocate for the global Pakistani medical community, encouraging overseas doctors to use their success to improve healthcare standards in their home countries.

# *WORLD* **MEDICAL CHRONICLES**

## **DR. NAGESWARA RAO KONETI, INDIA**

Dr. Nageswara Rao Koneti is a distinguished Indian pediatric cardiologist and medical researcher based in Hyderabad, Telangana. He serves as the Senior Consultant and Head of the Division of Pediatric Cardiology at the Rainbow Children's Heart Institute.

Dr. Koneti is widely recognized for his contributions to the field of cardiovascular medicine, particularly for his development of innovative medical devices used to treat congenital heart defects. In June 2025, he received a United States patent for his invention, the KONAR-MF Occluder, a multifunctional device designed to close septal defects in the hearts of both children and adults.

The KONAR-MF Occluder is a specialized medical tool used in minimally invasive procedures to fix "holes in the heart," such as ventricular septal defects (VSDs). Unlike traditional surgery that requires opening the chest, this occluder can be guided through the blood vessels to the heart to plug the defect. The device is noted for its adaptability, as it can be used to treat various conditions beyond standard holes, including paravalvular leaks and abnormal connections between blood vessels.

Before receiving the U.S. patent, the device had already been granted patents in India, Europe, South Korea, and several African nations between 2021 and 2023. The global recognition of Dr. Koneti's work highlights India's growing role in medical technology and innovation. By providing a single, flexible solution for multiple types of heart defects, the KONAR-MF Occluder helps surgeons perform safer and more efficient procedures.

In 2026, as India continues to expand its healthcare infrastructure and research capabilities, experts like Dr. Koneti represent a shift toward locally developed medical solutions that meet international standards. His work is especially significant for pediatric care, as it offers a less traumatic alternative to major surgery for infants born with heart complications.

# *WORLD*

## **MEDICAL CHRONICLES**

### **DR. NIKHIL KUMTA, UNITED STATES**

Dr. Nikhil Kumta, MD, is an American gastroenterologist and a prominent figure in the field of interventional endoscopy. In October 2024, he was appointed as the Chief of Endoscopy at NYU Langone Health's Tisch Hospital and Kimmel Pavilion.

Dr. Kumta is recognized for his clinical expertise in using minimally invasive techniques to prevent, detect, and treat gastrointestinal cancers. Unlike traditional surgery, interventional endoscopy allows doctors to treat internal issues of the digestive tract through natural openings, reducing recovery time and complications for patients.

Dr. Kumta's work focuses on advanced endoscopic procedures that visualize internal structures such as the esophagus, stomach, bile ducts, and pancreas. By utilizing a thin, flexible tube equipped with a high-definition camera and specialized surgical tools, he can remove precancerous lesions and abnormal tissue without the need for major abdominal incisions. His clinical practice also addresses complex conditions such as obesity, gastroesophageal reflux disease (GERD), and diseases of the biliary tract.

Prior to his leadership role at NYU Langone, Dr. Kumta served as the System Director for Interventional Endoscopy at Mount Sinai Hospital. He is a prolific researcher, having published over 125 peer-reviewed articles on endoscopic innovation and patient outcomes. He earned his medical degree from Sidney Kimmel Medical College and completed his advanced fellowship training at NewYork-Presbyterian/Weill Cornell Medical Center.

In addition to his surgical work, Dr. Kumta is a dedicated educator, serving as an associate professor at the NYU Grossman School of Medicine, where he mentors the next generation of specialists in the use of cutting-edge medical technologies.

# WORLD

## MEDICAL CHRONICLES

### DR. NILUFAR RAHIMOVA, AZERBAIJAN

Dr. Nilufar Rahimova is an Azerbaijani-American scientist and entrepreneur who transitioned from a career in high-level biomedical research to the skincare industry. Born in Baku into a family of scientists, she graduated as a pharmacist from Azerbaijan Medical University before earning a Ph.D. in Japan. During her postdoctoral studies at the University of Pennsylvania, she conducted research on finding new treatments for prostate and breast cancers.

In 2024, she launched NilCeutica, a skincare brand that combines her pharmaceutical background with her experience in laboratory research. In recognition of her professional achievements and contribution to innovation, she was awarded the Extraordinary Azerbaijani Woman Award by the Chamber of Commerce. The NilCeutica brand is characterized by its focus on "cosmeceuticals," which are products that combine cosmetics and pharmaceutical-grade ingredients.

Drawing on her ten years of experience in Ivy League research labs, Dr. Rahimova developed formulas that use advanced technologies like multi-lamellar emulsions. These emulsions are designed to mimic the natural lipid layers of human skin to help ingredients absorb more effectively. The brand's products avoid the use of distilled water, which often makes up the majority of traditional skincare items, and instead utilize standardized plant extracts and growth factors.

The brand logo features the buta, a traditional Azerbaijani motif, reflecting Dr. Rahimova's desire to link modern scientific innovation with her cultural roots. NilCeutica emphasizes ethical manufacturing and high-quality sourcing, maintaining an in-house production facility in the United States.

Dr. Rahimova personally oversees the manufacturing process to ensure compliance with strict federal regulations. By 2026, the brand has become a notable example of the "skintellectual" trend, where consumers prioritize scientific research and proven efficacy over simple marketing. Dr. Rahimova continues to balance her roles as a researcher and business owner, aiming to expand her company while promoting the idea that skincare should be backed by rigorous scientific evidence.

# WORLD

## MEDICAL CHRONICLES

### DR. NIRANJAN THOMAS, INDIA

Dr. Niranjan Thomas is a prominent Indian neonatologist who, along with the Gurugram-based company Pluss Advanced Technologies, developed MiraCradle, a low-cost medical device designed to treat birth asphyxia. Birth asphyxia is a life-threatening condition where a newborn does not receive enough oxygen during or immediately after birth, which can lead to permanent brain damage or death. While working at Christian Medical College in Vellore, Dr. Thomas noticed that many Indian hospitals could not afford the expensive medical cooling machines used in Western countries.

In 2014, he began collaborating with engineers to create an affordable alternative that could function effectively in developing nations. The MiraCradle device utilizes a scientific method known as therapeutic hypothermia, which involves cooling the baby's body temperature to approximately 33 degrees Celsius for 72 hours. This cooling process slows down the body's metabolism and helps prevent the chemical reactions that cause brain injury after a lack of oxygen. Unlike expensive electronic machines that cost up to \$25,000, MiraCradle costs less than \$2,500.

It achieves this by using Phase Change Materials (PCM), specialized substances that can absorb and release heat to maintain a constant temperature without requiring a continuous supply of electricity. Since its launch, MiraCradle has been adopted by over 500 hospitals worldwide and has impacted the lives of more than 20,000 infants.

The device is praised for being lightweight, portable, and easy to use in clinical settings with limited resources. For his contributions to medical technology and neonatal care, Dr. Thomas and the manufacturing team received the "Technology Day Award" from the Government of India. Currently, Dr. Thomas continues his work in newborn health, while the MiraCradle remains a vital tool in reducing neonatal mortality rates in India and other parts of the world.

# WORLD

# MEDICAL CHRONICLES

## DR. OGOBARA DOUMBO, MALI

Dr. Ogobara Doumbo was a Malian medical researcher and professor who became a world-renowned leader in the fight against malaria. Born in a small village in the Dogon region of Mali, Doumbo was the grandson of traditional healers, a background that influenced his lifelong dedication to medicine. He studied in Mali and France, eventually earning a PhD in parasitology.

In 1992, he co-founded the Malaria Research and Training Center (MRTC) in Bamako. His goal was to move beyond simply treating the sick to finding a scientific cure for a disease that kills hundreds of thousands of African children every year.

Under Doumbo's leadership, the MRTC grew into a world-class institution that challenged the idea that advanced scientific research could only happen in wealthy, industrialized nations. He was a pioneer in organizing large-scale clinical trials for malaria vaccines and treatments, proving that African scientists could manage complex international studies.

Doumbo was known for his "home-grown" approach, focusing on training local doctors and researchers to ensure that African communities had the expertise to solve their own health problems. He famously compared the impact of malaria on Africa to a recurring tsunami, noting that the disease prevented many brilliant minds from reaching their full potential. Following Doumbo's death in 2018, his legacy continued through his students and colleagues, such as Abdoulaye Djimdé.

The center he built remains at the forefront of testing promising new vaccines, such as the R21/Matrix-M, which has shown high effectiveness in clinical trials. Doumbo is remembered not only for his scientific contributions but also for his role in building a sustainable research environment in West Africa. His work transformed Mali into a global hub for tropical medicine and brought the world closer to the possibility of a malaria-free future.

# WORLD

## MEDICAL CHRONICLES

### DR. OWEN WITTE, UNITED STATES

Dr. Owen Witte is an American physician-scientist and professor at the University of California, Los Angeles (UCLA), widely recognized for his contributions to cancer research and regenerative medicine. In March 2025, he was awarded the Harrington Prize for Innovation in Medicine for his work in developing targeted therapies that have changed how doctors treat blood cancers.

Witte served as the founding director of the Eli and Edythe Broad Center of Regenerative Medicine and Stem Cell Research at UCLA, where he focused on how specific proteins can cause normal cells to turn into cancer cells.

One of Witte's most significant scientific breakthroughs was the discovery of tyrosine kinase activity in certain proteins. Specifically, he identified how the BCR-ABL protein acts as a "switch" that stays on, causing the body to produce too many white blood cells, leading to leukemia.

This discovery was the foundation for the creation of Gleevec, one of the first successful "targeted" drugs. Unlike traditional chemotherapy, which kills both healthy and cancerous cells, targeted therapies like Gleevec focus specifically on the proteins causing the disease, resulting in fewer side effects and better survival rates for patients with chronic myelogenous leukemia.

In addition to his work on leukemia, Witte co-discovered the gene for Bruton's tyrosine kinase (BTK). This protein is essential for the healthy development of B-lymphocytes, which are white blood cells that help the body fight infections. Mutations in this gene can cause serious immune system failures or lead to other types of cancers like lymphoma. His research into BTK led to the development of ibrutinib, a drug used to treat various immune disorders and blood cancers.

Witte's career has been defined by bridging the gap between basic laboratory science and the creation of life-saving medicines, earning him numerous international honors and memberships in prestigious groups like the National Academy of Sciences.

# WORLD

# MEDICAL CHRONICLES

## DR. PAUL FARMER, UNITED STATES

Dr. Paul Farmer was an American physician and medical anthropologist who revolutionized the global treatment of tuberculosis (TB), particularly multidrug-resistant tuberculosis (MDR-TB). In 1987, Farmer co-founded Partners In Health (PIH), an international nonprofit organization dedicated to providing modern medical care to the world's poorest communities. His work began in rural Haiti, where he challenged the prevailing medical belief that complex diseases like TB could not be treated in low-resource settings.

Farmer introduced a community-based care model known as "accompaniment," where local community health workers visited patients daily to ensure they took their medication and had access to food and emotional support. In the mid-1990s, Farmer expanded his efforts to Lima, Peru, to combat a deadly outbreak of MDR-TB. At the time, international health organizations often considered MDR-TB too expensive and difficult to treat in developing nations.

However, Farmer and his team proved that with the right social support and a specialized regimen of second-line drugs, even the most resistant cases could be cured. This success led to the development of "DOTS-Plus," a strategy that successfully influenced World Health Organization (WHO) policies and paved the way for the creation of the Global Fund to Fight AIDS, Tuberculosis and Malaria.

Throughout his career, Farmer argued that illness is deeply tied to social conditions like poverty and inequality. He continued to advocate for shorter, less toxic drug treatments through initiatives like the "endTB" project. Following his death in 2022, his research led to the 2024 WHO approval of new, shortened treatment regimens that are safe for children and pregnant women. His legacy remains a cornerstone of global health, proving that high-quality healthcare is a fundamental human right that can be delivered anywhere in the world.

# *WORLD* **MEDICAL CHRONICLES**

## **DR. PHIL SMITH, UNITED STATES**

Dr. Phil Smith was a distinguished American physician and infectious disease specialist who gained international recognition for establishing one of the world's most advanced medical isolation facilities. A professor at the University of Nebraska Medical Center (UNMC), Dr. Smith was the visionary founder of the Nebraska Biocontainment Unit in 2005. At a time when many questioned the necessity of such a high-level facility, he insisted on creating a secure environment designed to treat the world's deadliest pathogens, including anthrax, Ebola, and various respiratory viruses.

Dr. Smith's expertise became a focal point of global health in 2014 during the largest Ebola outbreak in history. Under his leadership, the Nebraska unit treated three patients evacuated from West Africa, including Dr. Rick Sacra. This period proved the effectiveness of Smith's rigorous protocols and specialized infrastructure, such as advanced air filtration and strict personal protective equipment (PPE) requirements. The success of the unit in Omaha transformed it into a global blueprint for biocontainment and earned Dr. Smith a reputation as a pioneer in the field of highly infectious disease management.

Beyond clinical care, Dr. Smith was a dedicated educator and researcher who authored numerous studies on infection control and epidemiology. He served as the medical director of the unit until his retirement in 2016, during which time he helped establish federal guidelines for how hospitals should prepare for biological threats. His work ensured that Nebraska became a primary training ground for healthcare workers across the United States.

Following his death in 2025 at the age of 78, he was remembered by the medical community as a leader whose foresight saved lives and prepared the modern healthcare system for the challenges of emerging global pandemics.

# WORLD

# MEDICAL CHRONICLES

## DR. RAFAEL FONSECA, UNITED STATES

Dr. Rafael Fonseca, MD, is a Mexican-American hematologist and oncologist who serves as the Chief Innovation Officer and a Professor of Medicine at Mayo Clinic in Arizona. Born and raised in Mexico City, Dr. Fonseca initially planned a career in mathematics, but a severe boating accident at age 17 redirected his interests toward medicine. He joined Mayo Clinic in 1998 and has since become an international leader in the study and treatment of plasma cell disorders, most notably multiple myeloma, a cancer of the white blood cells.

Dr. Fonseca is recognized for his "pathological optimism" regarding the curability of blood cancers. When he began his career, multiple myeloma was considered an incurable disease with a typical survival rate of only two years. Through his research into prognostic markers and the development of new drug therapies, survival rates have increased significantly, with many patients now living 20 years or longer after diagnosis.

Dr. Fonseca has authored over 370 medical articles and played a pivotal role in leading clinical trials that resulted in the approval of several life-saving medications. In addition to his work with myeloma, Dr. Fonseca has fostered innovation in treating rare blood disorders such as amyloidosis.

Amyloidosis occurs when abnormal proteins build up in organs, interfering with their function. By adapting myeloma treatments for patients who could not undergo traditional bone marrow transplants, his team helped establish new global standards of care.

As Chief Innovation Officer, he promotes partnerships between academic medicine and the biotechnology industry to accelerate the development of new treatments. His leadership has helped transform Mayo Clinic in Arizona from a small research group into a nationally ranked comprehensive cancer center dedicated to individualized patient care.

# WORLD

## MEDICAL CHRONICLES

### RAYVON STEWART, JAMAICA

Rayvon Stewart is a Jamaican inventor and entrepreneur known for developing health-focused technologies designed to reduce the transmission of infectious diseases. Born and raised in the rural farming community of Mount Prospect, Stewart was the first in his family to attend university, where he initially explored interests in 3D software. His most significant contribution to medical technology is the invention of "Xermosol," a self-sanitizing door handle. He conceived the idea while volunteering at a hospital, where he observed the daily challenges faced by nurses and the high risks patients faced from hospital-acquired infections.

The Xermosol device utilizes ultraviolet (UV) light technology to disinfect the surface of a doorknob automatically after it has been touched. According to technical reports, the device is capable of killing 99.9 percent of pathogens, including bacteria and viruses, while remaining safe for proximity to humans and animals. This innovation targets a major point of cross-contamination in high-traffic institutions such as businesses and schools, but its primary intended application is within the healthcare sector.

By eliminating germs on one of the most frequently touched surfaces in a hospital, the device aims to protect vulnerable patients and reduce the workload of cleaning staff. Stewart has become a prominent figure in the Caribbean's expanding technology sector, earning praise from regional scientific leaders and organizations like Tech-Beach-Retreat. His success is often cited as an inspiration for youth in the West Indies to pursue careers in global problem-solving and social entrepreneurship.

By 2026, Stewart's journey from a small farming village to an award-winning inventor serves as a testament to how personal observation and academic dedication can lead to world-changing innovations. His work continues to influence discussions on public health infrastructure and the integration of automated sanitation tools in modern architecture.

# WORLD

# MEDICAL CHRONICLES

## DR. ROBERT MANIKER, UNITED STATES

Dr. Robert Maniker is an American anesthesiologist and associate professor at the Columbia University Vagelos College of Physicians and Surgeons who has pioneered the use of virtual reality (VR) for medical education. Working alongside computer scientist Steven Feiner and emergency medicine specialist David Kessler, Dr. Maniker developed a VR training system for ultrasound-guided procedures. This project was launched through the Columbia Clinical Innovation Lab, an initiative founded by physicians Shunichi Homma and Timothy Crimmins to turn practical medical ideas into real-world products.

Dr. Maniker's work focuses on standardizing complex clinical tasks so that medical students and residents can gain competence and confidence without the high costs associated with traditional simulation centers. The primary focus of this technology is the "ultrasound-guided central line placement," a delicate procedure where a doctor must insert a large IV into a major vein using live ultrasound images for guidance. This task requires exceptional hand-eye coordination.

Traditionally, students practiced on expensive plastic mannequins, but Dr. Maniker's system allows trainees to put on a VR headset and use a physical ultrasound probe to scan a virtual patient. This immersive environment provides a safe space where learners can practice repeatedly without any risk of injuring a real person. The development of the VR ultrasound trainer involved an interdisciplinary team of engineers, designers, and physicians.

Dr. Maniker envisions a future where the majority of medical simulation is conducted in virtual environments rather than using "archaic" plastic models. The team is currently expanding the platform to include other procedures, such as ultrasound-guided nerve blocks for pain management. By making high-level simulation accessible via VR, Dr. Maniker aims to reach a global audience of healthcare workers who may lack access to specialized simulation facilities. As of 2026, the project continues to advance through pilot programs across multiple medical departments.

# WORLD

# MEDICAL CHRONICLES

## DR. ROBERT A. MONTGOMERY, UNITED STATES

Dr. Robert A. Montgomery, MD, DPhil, FACS, is a world-renowned transplant surgeon and researcher who was awarded the 2024 Jacobson Innovation Award by the American College of Surgeons. This prestigious international honor recognizes living surgeons who have developed groundbreaking new techniques. Currently serving as the chair of the Department of Surgery at NYU Langone Health, Dr. Montgomery has spent over three decades advancing the field of organ transplantation to save lives.

During his early career at Johns Hopkins University, Dr. Montgomery pioneered several techniques that are now common in modern medicine. He developed the laparoscopic donor nephrectomy, a minimally invasive surgery that allows people to donate kidneys with less pain and faster recovery times. He also created the "domino" and "paired-donation" systems. These systems allow incompatible donor-patient pairs to swap kidneys with other pairs, creating a chain of transplants that helps hundreds of people who otherwise could not find a match.

In recent years, Dr. Montgomery has become a global leader in xenotransplantation, which is the process of transplanting organs from animals into humans. In 2021, he led the team that completed the first successful pig-to-human kidney transplant. He later directed heart and kidney xenotransplants using gene-edited pig organs. These breakthroughs are intended to solve the worldwide shortage of human donor organs.

Dr. Montgomery predicts that within ten years, animal-to-human transplants will be a common medical practice. Dr. Montgomery's dedication to his work is deeply personal. He lives with genetic cardiomyopathy and received a heart transplant himself in 2018. This experience motivated him to push the boundaries of science to ensure no patient dies while waiting for an organ. He encourages young scientists to be persistent and to learn directly from their patients to identify the most urgent medical needs.

# WORLD

# MEDICAL CHRONICLES

## DR. RON MOSES, UNITED STATES

Dr. Ron Moses is a prominent American otolaryngologist and surgeon based at Houston Methodist Hospital who has gained international attention for his work in medical device innovation. In 2025, Dr. Moses introduced NanoEar, a microscopic hearing aid designed to be the smallest in the world. Unlike traditional hearing aids that sit behind the ear or inside the canal, the NanoEar is an implantable device placed directly into the eardrum.

Dr. Moses developed this technology to address the limitations of the current hearing aid market, which he argues has seen only small improvements over several decades. The device is designed to be invisible and is installed during a brief five-minute office procedure, offering a more powerful and natural hearing experience than traditional external models. Beyond his clinical work, Dr. Moses is part of a larger community of researchers and entrepreneurs in Houston driving significant advancements in technology and science.

This environment includes major progress in space exploration, such as Axiom Space's development of orbital data centers and Intuitive Machines' lunar missions in partnership with NASA. Dr. Moses' focus on challenging the "status quo" in medicine mirrors these broader efforts to turn complex scientific research into practical, real-world solutions. His invention is categorized as a major breakthrough in health technology, particularly for patients seeking discreet and high-performance options for hearing loss.

By combining the size of a tiny medical tube with advanced audio power, the NanoEar represents a shift toward "invisible" medical implants that require minimal recovery time. Dr. Moses continues to be a leading voice in the field of Ear, Nose, and Throat (ENT) surgery, advocating for radical new ideas that improve the quality of life for patients through the integration of micro-technology and surgical precision.

# WORLD

## MEDICAL CHRONICLES

### DR. RYO KIKUCHI, JAPAN

Dr. Ryo Kikuchi is a Japanese physician and entrepreneur who co-founded Fast DOCTOR Co., Ltd., a medical technology company that operates Japan's largest platform for after-hours urgent care. Established in 2016 alongside co-representative Takashi Mizuno, the organization was created to address the difficulty patients face when seeking medical attention at night or during holidays. Dr. Kikuchi's platform serves as a primary point of contact for emergency consultations, connecting users with a network of over 1,100 full-time and part-time doctors.

The service provides a variety of medical solutions, including telephone guidance, online video consultations, and physical house calls for patients who cannot travel to a hospital. The platform gained significant recognition for its social contributions during the COVID-19 pandemic. Under Dr. Kikuchi's leadership, Fast DOCTOR partnered with local governments in major cities like Tokyo and Osaka to provide essential medical support for patients recovering at home.

By managing non-emergency cases and providing urgent care outside of standard hospital hours, the service helps reduce the administrative burden on family doctors and prevents emergency rooms from becoming overcrowded. In 2021, the company received a major investment from the KDDI Open Innovation Fund to further expand its user base and integrate advanced technologies like 5G and the Internet of Things (IoT) into the Japanese healthcare system.

Dr. Kikuchi's work is considered a major step in the digital transformation of Japanese medicine. By utilizing mobile technology, Fast DOCTOR aims to create a "one-stop" center that ensures medical resources are available 24 hours a day. The company continues to work with medical institutions across numerous prefectures to provide a safety net for patients experiencing sudden illness. As of 2026, the organization remains a leader in the "health-tech" sector, focusing on making urgent care more accessible and reducing anxiety for families during medical emergencies.

# WORLD

# MEDICAL CHRONICLES

**DR. SANDEEP VOHRA, INDIA**

Dr. Sandeep Vohra is an Indian psychiatrist and healthcare entrepreneur who is recognized for his contributions to digital mental health. A veteran in his field with over 30 years of clinical experience, Vohra is the founder of No Worry No Tension (NWNT.ai), a digital platform dedicated to making mental wellness accessible and stigma-free. His medical journey was inspired by a personal tragedy—the loss of his younger brother in an avalanche—which led him to pursue psychiatry to help families navigate grief and emotional trauma.

Based in New Delhi, he has served as a senior consultant at Indraprastha Apollo Hospital and is a well-known media advisor on behavioral and psychological issues. Vohra is the creator of the Emotional Wellness Index (EWI), which is noted as India's first patented emotional wellness screening tool. Developed over a decade in collaboration with researchers from the University of Houston, the EWI is a 55-point digital scale designed to assess stress, anxiety, and overall emotional health.

Unlike traditional clinical assessments, this software-based tool is built for mass screening, allowing schools, corporations, and government bodies to evaluate the mental well-being of thousands of people simultaneously. The tool, often referred to as a "Stressometer," provides data-driven insights that help organizations identify individuals in distress early, allowing for timely intervention before emotional issues escalate into serious conditions.

The EWI has been implemented in various academic and corporate settings, including Manav Rachna University and numerous colleges under Pune University. Internationally, the tool has seen use at institutions like the University of California, San Diego. Vohra's vision for the future involves the "democratization" of mental health care, using AI and digital platforms to bridge the gap in regions where psychiatrists are scarce. By providing cost-effective and confidential assessments, Vohra seeks to transform mental health from a reactive medical service into a proactive, everyday wellness practice.

# WORLD

## MEDICAL CHRONICLES

### DR. SANDUK RUIT, NEPAL

Dr. Sanduk Ruit is a world-renowned Nepali ophthalmologist who has gained international recognition for his work in restoring sight to the blind. Often referred to by his patients as the "God of Sight," Ruit is credited with performing over 100,000 cataract surgeries and revolutionizing eye care in developing nations. Born in a remote village in the Himalayas, Ruit witnessed the devastating effects of preventable blindness early in his life, which motivated him to study medicine in India and later specialize in eye surgery.

In 1994, Ruit co-founded the Tilganga Institute of Ophthalmology in Kathmandu. His primary innovation was the development of a high-quality, low-cost surgical technique that could be performed in areas without advanced medical infrastructure. Traditional cataract surgery in the West required expensive ultrasound equipment, but Ruit perfected a method to remove the cloudy lens through a tiny, sutureless incision that heals quickly.

To make the procedure affordable, he partnered with Australian doctor Fred Hollows to manufacture intraocular lenses (IOLs) in Nepal. These artificial lenses, which once cost over \$150, are produced at Tilganga for less than \$4, allowing millions of impoverished patients to receive treatment. Ruit's impact extends far beyond Nepal through his commitment to education and global outreach. He has trained thousands of doctors from Asia, Africa, and South America, ensuring that his techniques can be replicated worldwide. His institute has distributed nearly 7 million lenses to over 40 countries.

In 2025, Ruit announced plans to expand production by building a new facility to meet the global demand for affordable eye care. While he has moved toward a role focused on mentorship, his legacy remains the "army of doctors" he has trained to continue the fight against preventable blindness.

# *WORLD* **MEDICAL CHRONICLES**

## **DR. SANJIV GUPTA, NEPAL**

Dr. Sanjiv Gupta is a Nepali physician and public health innovator known for his work in making healthcare more affordable and accessible in South Asia. He began his medical career after graduating from Kathmandu University School of Medical Sciences. While working as a hospital physician, Gupta witnessed the financial hardships faced by rural families who were often forced to sell their only assets to pay for basic medical treatments. This experience motivated him to leave the traditional hospital system and focus on community-based healthcare solutions that prioritize patient welfare over profit.

In 2017, Gupta established the Bhaktivedanta Community Hospital in Nepal. What began as a small clinic eventually expanded to provide a wide range of services, including family medicine, diagnostic testing, and school health programs. To improve his ability to manage large-scale health systems, Gupta moved to the United States as a Fulbright Scholar to study at the Boston University School of Public Health. During his time in Boston, he focused on healthcare management and pharmaceutical access, earning the 2025 John Snow, Inc. Award in Global Health for his leadership and academic achievements.

One of Gupta's most significant contributions to modern medicine is his development of advanced telehealth technology designed for low-income countries. Unlike standard video calls, his system uses Internet of Things (IoT) devices that allow specialists to remotely monitor vital signs and perform physical exams, such as listening to a patient's heart or viewing an eardrum in real-time.

Upon returning to Nepal in 2025, Gupta began working with the Ministry of Health to integrate artificial intelligence and digital tools into the national healthcare system. His vision is to use technology to bridge the gap between urban and rural care, creating a more equitable health system where high-quality medical advice is available to everyone, regardless of their location or income level.

# *WORLD*

## **MEDICAL CHRONICLES**

### **DR. SEAN PATRICK GNECCO, UNITED STATES**

Dr. Sean Patrick Gnecco, MD, is a prominent American physician and medical educator recognized for integrating artificial intelligence into healthcare training. Born in New Jersey and raised in Peru, Dr. Gnecco's multicultural upbringing influenced his commitment to expanding medical access for diverse and underserved populations. He currently serves as the Senior Director and Associate Dean of University Enablement for Adtalem Global Education, where he oversees academic initiatives for the American University of the Caribbean School of Medicine and Ross University.

Throughout his career, Dr. Gnecco has focused on "competency-based" learning, which uses data and AI to tailor education to the specific needs of each student rather than using a one-size-fits-all approach. Before his leadership roles, Dr. Gnecco spent over a decade at Ross University School of Medicine in various capacities, including Associate Professor of Family Medicine and Director of Simulation Centers.

In these roles, he used high-tech "high-fidelity" simulations to help students practice clinical skills in a realistic, safe environment. His efforts have led to significant improvements in student performance on medical licensing exams. Beyond the classroom, Dr. Gnecco is a licensed family physician in Florida who is known for his compassionate bedside manner, often providing direct support to his patients. He also volunteers his time at the Miami Rescue Mission Clinic to care for those in need.

Dr. Gnecco's academic background includes a degree from the University of California, Davis, and a Doctor of Medicine from Drexel University. For his innovations in teaching and curriculum development, he has received numerous honors, such as the Adtalem Excellence Award and the Resident Teacher Award from the Society of Teachers of Family Medicine. Today, he continues to advocate for the use of AI to automate administrative tasks, allowing professors to spend more time mentoring the next generation of doctors and improving healthcare outcomes worldwide.

# WORLD



# MEDICAL CHRONICLES

## DR. SEBASTIAN PAULO, SAMOA

Dr. Sebastian Paulo is a Samoan physician and junior registrar at the Tupua Tamasese Meaole Hospital who is leading the integration of modern diagnostic technology into the Samoan healthcare system. He is the primary organizer of the Point-of-Care Ultrasound (POCUS) training program, known as PEARLS, which aims to equip local doctors with portable, handheld imaging devices. These devices are roughly the size of a smartphone, a significant advancement over traditional ultrasound machines that are often as large as a refrigerator.

Dr. Paulo's work focuses on overcoming the shortage of specialized radiologists and sonographers in the Pacific islands by empowering frontline clinicians to perform their own scans at the patient's bedside. By 2026, the use of POCUS in Samoa has become a vital tool for diagnosing emergencies, especially in rural areas where patients might otherwise have to travel hours by boat to reach a major hospital. The technology allows doctors to see inside the body in real-time to identify internal bleeding, fluid buildup, or maternal emergencies like ectopic pregnancies.

Dr. Paulo advocates for the sustainability of this program, working alongside international volunteers from Australia and New Zealand and the World Health Organization to ensure that the training eventually becomes a fully Samoan-run initiative. The impact of this technology extends beyond emergency rooms to specialized care.

For example, general practitioners like Nola Gidlow use these pocket-sized scanners at the National Kidney Foundation to help nurses safely access veins for dialysis. Because these devices are cloud-connected, doctors in remote clinics can upload images to receive expert feedback from specialists abroad once they have internet access. Dr. Paulo views this digital transformation as the "future of medicine," providing a cost-effective and life-saving alternative to expensive scans like CT or MRI, which are often unavailable in resource-limited settings.

# WORLD

## MEDICAL CHRONICLES

### DR. SHIV RAO, UNITED STATES

Dr. Shiv Rao is an American cardiologist, entrepreneur, and the co-founder and CEO of Abridge, a healthcare technology company valued at approximately \$2.75 billion. Raised in Pittsburgh, Rao's early interests spanned the arts, skateboarding, and electronic music before he pursued a career in medicine.

He attended Carnegie Mellon University and the University of Michigan Medical School, eventually becoming a practicing cardiologist. His dual background in creative arts and clinical medicine significantly influenced his approach to solving technical problems within the healthcare system.

In 2018, Rao founded Abridge to address the administrative burden of medical documentation. The company utilizes artificial intelligence to record and summarize conversations between doctors and patients, automatically turning them into structured clinical notes.

This technology is designed to reduce the time physicians spend on paperwork, allowing them to focus more on direct patient care. By early 2025, Abridge had expanded its reach to over 100 health systems across the United States, including major providers like Kaiser Permanente.

The company's growth was further supported by a \$250 million Series D funding round led by major venture capital firms. Rao is noted for his unconventional leadership style, which he often describes through the metaphor of "side quests."

These are exploratory projects outside of his main business goals that provide creative inspiration. His pursuit of diverse perspectives has led him to collaborate with music producers like Rick Rubin, interior designers, and even professional magicians to shape his company's culture and office environment.

Despite his success as a tech executive, Rao remains a practicing physician, seeing patients regularly and serving on-call shifts. This ongoing clinical work ensures that his technological innovations remain grounded in the practical, human needs of the medical profession.

# WORLD

# MEDICAL CHRONICLES

## DR. STANLEY JORDAN, UNITED STATES

Dr. Stanley Jordan is a world-renowned American transplant nephrologist and immunologist who has dedicated his career to making organ transplants safer and more accessible. As the director of the Kidney Transplant Program at Cedars-Sinai Medical Center in Los Angeles, he is recognized for developing "immunomodulatory" therapies. These are specialized treatments that help the body's immune system accept a donor organ rather than attacking it as a foreign object. In 2025, the American Society of Transplantation honored him with its Lifetime Achievement Award for his revolutionary work in transplant immunology.

Jordan is best known for pioneering two major protocols: plasmapheresis and intravenous immunoglobulin (IVIG) therapy. Plasmapheresis is a process where harmful antibodies are filtered out of a patient's blood to prevent them from rejecting a new kidney. IVIG therapy involves adding helpful antibodies to a patient's bloodstream to calm the immune system. Together, these techniques allow doctors to perform transplants even when the donor and recipient have different blood types or incompatible immune profiles.

In 1990, his research led to the first successful kidney transplant from a non-matching donor at Cedars-Sinai, a feat that was previously thought impossible. His interest in medicine began at the age of five after he contracted polio, which left him temporarily paralyzed. This early experience with illness, and a later meeting with polio vaccine inventor Jonas Salk, inspired him to pursue translational research—turning laboratory discoveries into life-saving treatments.

Beyond his clinical successes, Jordan is a highly decorated scientist, having received the Medawar Prize in 2020, one of the highest honors in the field of transplantation. Today, his methods are used internationally, helping thousands of patients who were once considered "untransplantable" to receive life-saving organ donations and reclaim their health.

# WORLD

# MEDICAL CHRONICLES

## DR. SUDHIR SRIVASTAVA, INDIA

Dr. Sudhir Srivastava is an American-trained cardiothoracic surgeon and medical entrepreneur who achieved a major milestone in medical history in 2025 by performing a complex heart surgery from a distance of 2,000 kilometers.

As the founder and CEO of SS Innovations, Srivastava utilized the SSI Mantra, India's first indigenously developed surgical robot, to operate on a 35-year-old patient located in Bengaluru while he remained at a console in Gurugram.

The patient suffered from an atrial septal defect, a congenital condition commonly known as a "hole in the heart." The procedure lasted 2 hours and 40 minutes and was conducted with the local assistance of Dr. Arul Furtado at Aster CMI Hospital. The technology used in this operation is known as telesurgery or telerobotics. During the procedure, the lead surgeon sits at a computer station and views a high-definition 3D map of the patient's heart.

When the surgeon moves their hands, the robotic arms at the distant hospital mimic those movements with extreme precision. A critical factor in the success of this 2,000 km operation was the imperceptible latency, meaning there was no noticeable delay in the communication signal between the two cities.

This allowed the surgeon to react in real-time as if they were physically present in the operating room. Srivastava's achievement represents a significant advancement in healthcare accessibility, particularly for rural or underserved areas where specialized surgeons are rare.

By proving that geographical distance is no longer a barrier to high-quality surgical care, this event marks a shift toward a future where patients do not need to travel across the country for life-saving interventions. This breakthrough is considered a landmark for the Indian medical device industry, showing that locally developed technology can compete on a global scale.

# WORLD

# MEDICAL CHRONICLES

## DR. SUMEER BHUSHAN, INDIA

Dr. Sumeer Bhushan is an Indian Ayurvedic practitioner and researcher who serves as the founder and director of Dr. Bhushan Research Lab (DBRL). Based in Panchkula, Haryana, he has gained significant popularity for his focus on "research-driven" Ayurveda, aiming to provide scientific validation for traditional herbal remedies.

Dr. Bhushan holds a PhD in Ayurveda, and his work focuses on creating specialized formulations for modern lifestyle disorders. His approach stands out in the wellness industry by moving away from generic, "copy-paste" formulas and instead focusing on unique, rapid-acting treatments for conditions such as chronic joint pain, arthritis, and liver issues.

The lab's influence is notably driven by its digital presence, particularly its YouTube channel, which has grown to over 2 million subscribers. Through this platform, Dr. Bhushan educates the public on holistic health and home remedies, emphasizing a philosophy that a doctor's success should be measured by how many patients can safely stop taking long-term medications rather than how many are added to them.

This educational content has turned DBRL into a major direct-to-consumer brand, bridging the gap between ancient Vedic wisdom and the needs of 21st-century healthcare consumers. In recent years, the company has expanded its operations to include a wide range of AYUSH-certified and ISO-compliant products, such as the "Battle Balm" for joint pain and various wellness powders.

By maintaining in-house manufacturing and strict quality protocols, the lab ensures the purity and efficacy of its treatments. Dr. Bhushan continues to lead the organization with a vision to make scientifically validated Ayurveda a primary choice for healthcare both in India and internationally, focusing on long-term wellness rather than temporary fixes.

# *WORLD* **MEDICAL CHRONICLES**

## **DR. S.V. MAHADEVAN, UNITED STATES**

Dr. S.V. Mahadevan is a prominent American physician and educator who serves as a professor and chair of emergency medicine at the Stanford School of Medicine. He is widely recognized for his work in global health, specifically for teaching life-saving medical techniques in developing countries.

In 2016, Mahadevan's work in Madagascar gained international attention when a 2-month-old infant was saved using a specialized procedure he had taught to local healthcare workers just months earlier. This intervention demonstrated how sharing medical expertise can have lasting "ripple effects" in areas with limited resources.

The procedure Mahadevan introduced involves the use of an intraosseous (IO) needle. This device is designed to penetrate the hard outer layer of a bone to reach the soft marrow inside, which provides a direct path to the body's circulatory system. In emergency situations, such as when a patient is severely dehydrated or in shock, their veins often collapse, making a traditional IV line impossible to start.

By using the IO needle, doctors can quickly deliver life-saving fluids, antibiotics, and medications directly through the bone. In the case of the infant in Madagascar, who was suffering from advanced meningitis and dehydration, the use of this needle allowed clinicians to provide the necessary treatment when no other options were available.

Through his organization, Stanford Emergency Medicine International, Mahadevan has traveled to many countries, including India, Cambodia, and Myanmar, to provide similar training. He emphasizes that providing health-care workers with the tools and knowledge to intervene in critical moments creates a "sense of hope" that counters the helplessness often felt in poor clinical settings.

# WORLD

## MEDICAL CHRONICLES

### DR. THOMAS KELLY, AUSTRALIA

Dr. Thomas Kelly, MD, is an Australian physician, entrepreneur, and technology innovator recognized for his role in integrating artificial intelligence into clinical practice. He is the co-founder and CEO of Heidi Health, an AI-driven healthcare company established to address the administrative burdens faced by medical professionals. Before transitioning into the technology sector, Dr. Kelly practiced medicine for several years, where he observed that inefficient documentation systems frequently led to physician burnout and reduced the time doctors could spend with their patients.

This firsthand clinical experience provided the foundational insight for his work in medical software design. Under Dr. Kelly's leadership, Heidi Health has developed tools that utilize natural language processing to automate clinical workflows. These AI systems "listen" to patient consultations and generate accurate medical notes, allowing clinicians to maintain better eye contact and engagement with their patients. In 2025, the company secured a \$65 million Series B funding round, reflecting a growing global interest in practical, ethical AI solutions for the healthcare industry.

Dr. Kelly is frequently cited as a thought leader in the "HealthTech" community, advocating for a balanced approach where machine intelligence supports, rather than replaces, the human empathy essential to healing. Dr. Kelly is also a prominent figure on professional social media platforms, where he shares insights on the intersection of medicine and venture capital. He is noted for his transparency and his ability to explain complex data science concepts in a way that is accessible to both doctors and the general public.

As of 2026, he remains at the forefront of the conversation regarding the safety and ethics of AI in hospitals. His career represents a modern shift in the medical field, where practitioners leverage their frontline experience to build scalable digital solutions that aim to make healthcare systems more efficient and patient-centered.

# WORLD

# MEDICAL CHRONICLES

## DR. TIMOTHY TAYLOR, UNITED STATES

Dr. Timothy Taylor is a resident of Vashon Island, Washington, who became an advocate for innovative cancer care after being diagnosed with advanced prostate cancer. His journey began four years ago when a sudden inability to urinate led to the discovery of a prostate-specific antigen (PSA) level of 1,614—far exceeding the high-risk threshold of 20. A subsequent biopsy and PET scan confirmed that the cancer had already metastasized, or spread, to his bones.

Given his family's extensive history with various forms of the disease, Taylor's diagnosis required an immediate and highly aggressive medical intervention. Under the supervision of medical oncologist Dr. Jennifer Slim, Taylor initially underwent a traditional regimen of eight rounds of chemotherapy and ongoing androgen deprivation therapy (ADT). While this approach managed the disease for several years, his cancer eventually became resistant to these methods, a common occurrence in metastatic cases.

To combat this progression, his care team at the MultiCare Cancer Institute introduced an innovative radioligand therapy known as Pluvicto. Pluvicto works by delivering targeted radiation directly to cancer cells that express a specific protein called PSMA. Administered through intravenous (IV) injections every six weeks, the treatment seeks out and destroys cancer cells while minimizing damage to the healthy surrounding tissue.

For Taylor, the results were rapid; his PSA level dropped from 50 to 2 after just two treatments. Medical professionals noted that this therapy significantly improved his response rate compared to older standards of care. Today, Taylor's condition is managed as a chronic disease. While he continues periodic treatments and monitoring, the reduction in side effects compared to traditional chemotherapy has allowed him to return to his favorite activities, such as gardening and fishing. His case highlights the shift in modern oncology toward precision medicine, where advanced technology provides new options for patients who have exhausted traditional therapies.

# WORLD

# MEDICAL CHRONICLES

## DR. TITUS RUND, UNITED STATES

Dr. Titus Rund is a Major and flight surgeon in the Alaska Army National Guard who is credited with designing the Casualty Evacuation (CASEVAC) Ecosystem, a specialized medical system created for extreme cold weather environments. Known as "Doc Rund" within the military aviation community, he developed the technology to address the unique dangers of treating injured soldiers in the Arctic. In such freezing conditions, hypothermia can become fatal within minutes, making traditional medical response times insufficient.

Rund's invention aims to protect both the patient and the medic by creating a "bubble of warmth" at the point of injury, ensuring that life-saving care can be administered despite sub-zero temperatures. The core of the CASEVAC Ecosystem is the Casualty Protection Unit, an inflatable sled that acts as both an environmental shelter and a transportation platform. The device can inflate in just ten seconds, providing immediate cover from wind and snow. Once the patient is secured, the sled is designed to be pulled easily across ice and snow by soldiers on skis, snowshoes, or snowmobiles.

The structure is built to keep a casualty's head and torso elevated, which improves survival rates during transport. Additionally, the system includes a larger collection point shelter with a portal design that allows multiple casualties to be slid directly inside without losing internal heat. Rund's project was developed in partnership with the U.S. Army's medical research departments and Ryzing Technologies.

The system underwent rigorous testing during major military exercises in Alaska, including the 2024 Arctic Edge and the 2025 Special Operations Forces Arctic Medic exercise. Beyond its physical protection, the ecosystem is designed to reduce the heat signature of medical stations, making them harder for enemy forces to detect. By focusing on the "golden hour" of trauma care, Rund's innovation seeks to provide standardized, high-quality medical support for soldiers serving in the world's most austere climates.

# WORLD

## MEDICAL CHRONICLES

### TONY VAUGHAN, AUSTRALIA

Tony Vaughan is the Chief Executive of the Royal Flying Doctor Service (RFDS) for South Australia and the Northern Territory, an organization that provides emergency and primary health care to rural and remote areas of Australia. Under his leadership, the RFDS has achieved significant milestones in medical technology and safety standards. In 2025, the organization received the prestigious "Exemplar Practice" award from the Australian Commission on Safety and Quality in Health Care.

This honor was given for the development of a digital system known as the Electronic Health Record (EHR), which allows flight crews to record patient information on tablets rather than using traditional paper forms. The implementation of the EHR system has transformed how doctors and nurses provide care during flights. By automating much of the documentation process, the digital tool acts like an "extra pair of hands," giving crews more time to focus directly on patient treatment.

It also ensures that medical data is shared in real time with hospitals, which reduces the risk of errors during the handoff of a patient. This achievement made the RFDS only the second health service in Australian history to receive such high recognition for digital innovation, following the Royal Children's Hospital in Melbourne.

In addition to digital advancements, Vaughan's administration led the RFDS to gain international accreditation from the European Aeromedical Institute (EURAMI). This certification proves that the service meets or exceeds global benchmarks for specialized care, including mental health transport and newborn intensive care.

Every year, the service airlifts over 10,900 patients across some of the most challenging environments in the world. Through these technological and professional upgrades, the RFDS continues to set a global standard for aeromedical services, ensuring that people living in remote regions have access to the same quality of healthcare as those in major cities.

# WORLD

## MEDICAL CHRONICLES

### DR. VALENTINA BUSIK, GERMANY

Dr. Valentina Busik is a German dermatologist and medical researcher known for integrating artificial intelligence into patient education. Born to Kazakhstani immigrants, Busik's medical career was deeply influenced by a childhood kidney condition that nearly went undiagnosed due to language barriers and complex medical jargon. This experience motivated her to pursue medicine at the University Hospital of Giessen, where she focused on improving the relationship between doctors and patients through better communication.

Busik gained international attention in 2025 as a finalist for Miss Germany, a competition that transitioned from a traditional beauty pageant into an award for female leadership and social responsibility. During the selection process, she presented a pilot project featuring an AI-driven avatar designed to assist patients diagnosed with melanoma.

The avatar uses Busik's own face and voice to provide medical explanations in multiple languages, allowing patients to process life-changing information at their own pace. This technology aims to solve the problem of limited consultation times and the technical language often found in medical consent forms, which can be overwhelming for elderly patients or those who do not speak the local language fluently.

Beyond dermatology, Busik advocates for the expansion of AI education across all medical specialties, including oncology and pediatrics. Her vision includes using digital characters to explain procedures to children to reduce anxiety during vaccinations or surgeries.

Her project is structured as a clinical study to observe how standardized, digital information affects the quality of the doctor-patient interaction. By providing patients with accessible videos that can be rewatched at home via QR codes, Busik seeks to ensure that every individual, regardless of their educational background or native tongue, can make informed decisions about their healthcare. Her work represents a modern intersection of technology, clinical practice, and social advocacy.

# WORLD

# MEDICAL CHRONICLES

## VLASSIS SFYROERAS, GREECE

Vlassis Sfyroeras is a prominent Greek engineer and technology leader who served as the CEO of IDIKA S.A., the national e-Government Center for Social Security in Greece, during the critical development of the country's electronic health infrastructure. Under the management of IDIKA, Greece launched the "e-Prescription" project, a digital platform designed to modernize the national medical care network. This system replaced traditional handwritten prescriptions with an integrated digital framework that connects all national social insurance funds.

The project aims to track the entire lifecycle of a prescription, from the initial doctor's visit and laboratory referral to the final payment and clearance of transactions. The e-Prescription system provides several benefits for patients, doctors, and health authorities. For patients, the process of renewing prescriptions has become significantly simpler, and the risk of medical errors caused by misreading a doctor's handwriting has been greatly reduced.

Doctors gain instant online access to a patient's medical history, allowing them to provide better care that aligns with official health guidelines. Administratively, the system reduces the burden of paperwork and streamlines bureaucratic procedures, making the entire healthcare network more efficient and transparent. Financially, the project represented a major investment of approximately €11.9 million, with the European Regional Development Fund contributing over €10 million.

Since its implementation began in earnest around 2014, the system has achieved high penetration across Greece. By early 2015, the platform was facilitating roughly 6 million e-prescriptions and 2 million diagnostic referrals every month, involving over 40,000 active doctors and 10,000 pharmacies. By 2026, Greece's digital health infrastructure has continued to evolve, setting a standard for how e-government applications can improve public services and patient safety in the European Union.

# WORLD

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## DR. WUBIN BAI, UNITED STATES

Dr. Wubin Bai is an American applied physical scientist and assistant professor at the University of North Carolina at Chapel Hill, where he leads a research laboratory specializing in the development of next-generation medical technology. Bai's research sits at the intersection of physics, materials science, and biology, focusing on "soft materials"—flexible substances like gels and polymers—and "nanomaterials," which are particles smaller than 100 nanometers.

By combining these materials, his team creates "smart" medical devices designed to be less invasive and more efficient than traditional clinical tools. One of Bai's primary innovations is a wireless, wearable drug-delivery patch. Approximately the size of a bandage, this device utilizes microneedles to administer medication through the skin. Controlled via smartphone or computer, the patch is designed to deliver complex combinations of drugs, which could improve the treatment of chronic conditions like Alzheimer's or HIV.

Additionally, Bai has worked to address health disparities by developing a more inclusive pulse oximeter. While standard devices can sometimes provide inaccurate readings for patients with darker skin tones, Bai's version uses a broader light spectrum to ensure precision across all ethnicities. Beyond wearable tech, Bai's lab develops "electronic skin" (e-skin) using silver nanowires.

This material mimics the sensitivity of human skin, allowing it to sense its surroundings and mold to the shape of internal organs. This technology is being explored for use in monitoring bladder volume or blood pressure internally. Bai also collaborates with geneticists to create microelectrodes that interface with brain organoids—small, lab-grown clusters of human brain cells—to study disease and test treatments.

Throughout his work, Bai emphasizes mentorship, training a large cohort of students ranging from high school to the postdoctoral level. His goal is to translate laboratory discoveries into practical, real-world tools that revolutionize patient monitoring and healthcare delivery.

# WORLD



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## DR. YOALEXIS TOVAR, VENEZUELA

Dr. Yoalexis Tovar is a Venezuelan surgeon whose career represents the broader movement of healthcare professionals migrating to Peru to escape economic instability. Arriving in Lima in 2018, Tovar initially worked low-paying manual labor jobs to support his family, a common experience for many of the estimated 25,000 Venezuelan health professionals now living in Peru. Because medical licenses are not immediately recognized across borders, many doctors must undergo a lengthy and expensive process called "homologation" to prove their qualifications meet local standards.

Tovar eventually successfully revalidated his license, allowing him to return to the surgical field and contribute to the Peruvian medical system. Juan Miguel Someter is another Venezuelan physician who exemplifies the challenges of professional integration. After migrating in 2019, Someter worked in the construction sector for several years before a new training initiative allowed him to return to clinical practice. This program is part of a 2024 agreement between the International Organization for Migration (IOM) and the Peruvian Ministry of Health. It provides certified medical internships at major facilities like the Jose Casimiro Ulloa Emergency Hospital in Lima.

These internships help migrant doctors learn local hospital protocols and master the specific medical procedures used in the Peruvian public health system. The integration of these professionals addresses significant staffing shortages in Peru's emergency units. By working side-by-side with local staff, Venezuelan doctors help stabilize critical patients and treat a wide variety of injuries and illnesses.

This collaboration is often described as a "win-win" scenario: it provides migrants with stable, skilled employment while improving the quality of healthcare available to the Peruvian public. Beyond clinical work, the IOM supports this effort by donating medical supplies and equipment, ensuring that the influx of new expertise is matched by the necessary tools to save lives.

# WORLD

# MEDICAL CHRONICLES

## DR. ZAHER MERHI, LEBANON

Dr. Zaher Merhi is a Lebanese-American reproductive endocrinologist and researcher known for developing experimental fertility treatments. He is the founder and medical director of the Rejuvenating Fertility Center (RFC), which operates in New York, Connecticut, and the Bahamas. Merhi earned his medical degree in Lebanon before completing advanced training in the United States at institutions such as the Albert Einstein College of Medicine and NYU. Throughout his career, he has authored over 100 peer-reviewed publications and received multiple awards from the American Society for Reproductive Medicine.

Dr. Merhi is best known for his work in "ovarian rejuvenation," particularly the use of platelet-rich plasma (PRP) injections. In this procedure, growth factors are extracted from a patient's own blood and injected into the ovaries. The goal is to stimulate tissue repair and activate dormant eggs, which may help women in their 40s or those experiencing early menopause to conceive using their own genetic material.

In 2016, Merhi was also part of the medical team that performed the first successful "three-parent" baby birth using Mitochondrial Replacement Therapy (MRT). This controversial technique replaces unhealthy mitochondria in a mother's egg with healthy DNA from a donor to prevent inherited diseases.

In addition to laboratory science, Merhi has developed practical technologies like portable IVF incubators to transport embryos safely between clinics. He is also a vocal advocate for healthcare equity, publishing research on the racial and economic barriers that prevent minority women from accessing fertility care.

By 2026, Merhi's focus has shifted toward using artificial intelligence for embryo selection and investigating stem cell therapies. While some of his methods remain under regulatory scrutiny in the United States, his work highlights the ongoing global effort to expand the boundaries of reproductive medicine through biotechnology.

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