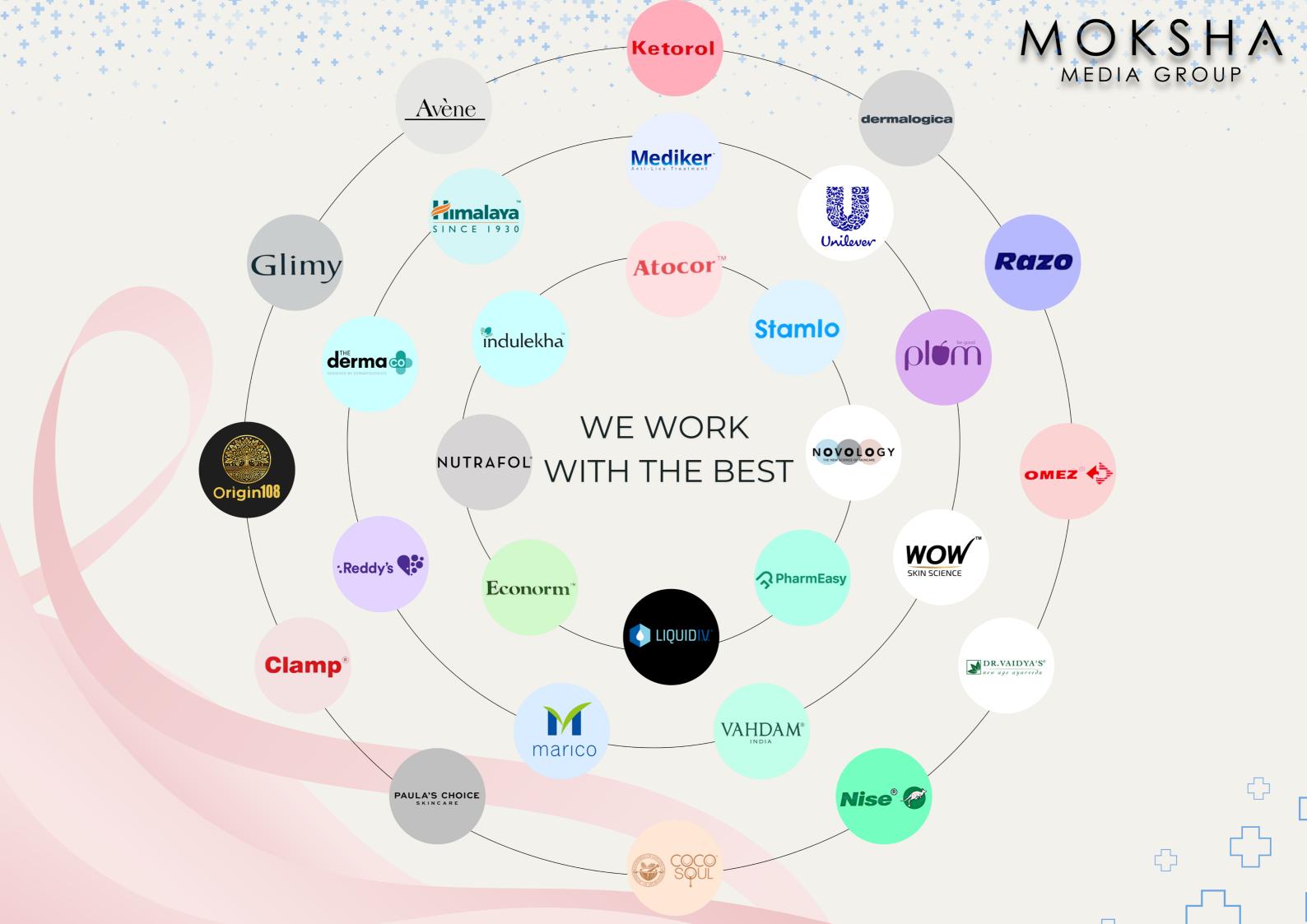
MOKSHA MEDIA GROUP **August Edition** ULSE<u>OF</u>RETA<u>IL</u> & <u>E-</u>COM<u>MERC</u>E W W W . S A G A - M E D I A . C O M WELLNESS, ENGINEERED FOR IMPACT **DNA Precision Wellness FUTURE IN EVERY GENE** and Personalised Medicine **Genomics transforming Powered by Origin 108 Genomics** healthcare and Illumina is leading the way THODY

INTERNATIONAL EDITION















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EDITOR'S NOTE

Dear SAGA's readers,

We live in an age where the boundaries between science, technology, and humanity are dissolving to reveal a new frontier, one where healthcare, wellness, and innovation converge to reshape our very existence.

> This edition of SAGA captures that momentum. From genomics and personalized medicine to nanotechnology, immunotherapy, and FemTech, we highlight how breakthroughs are not just solving problems but redefining the way we live, heal, and thrive. These aren't distant promises, they are real, transformative shifts unfolding before us.

Our cover stories on Illumina's global genomic revolution and Origin108's approach to DNA-powered precision wellness demonstrate how knowledge coded in our genes is becoming the foundation of tomorrow's healthcare. We also explore how AI and automation are driving a \$500B revolution in pharma, how wearable technologies are bringing healthcare into our daily lives, and how Narayana Nethralaya is setting new benchmarks for accessible, life-changing eye care.

Yet, beyond the science, what resonates most is the human impact. Every innovation, whether a gene-editing therapy, a regenerative medicine breakthrough, or a wearable that saves a life, reminds us that progress is meaningful only when it empowers people.

> At SAGA, we believe storytelling has the power to make complex science both accessible and inspiring. Our mission is to connect ideas with action, research with humanity, and innovation with impact.

The future of medicine is not a distant horizon, it is unfolding now, in every genome sequenced, every algorithm trained, and every barrier broken. As you turn the pages of this issue, I invite you to reflect not only on the science but also on the movement it represents: a future where wellness is not generalized, but deeply personal; where healthcare is not reactive, but predictive; and where technology does not replace humanity, but amplifies it.

Together, let us embrace this future, because it belongs to all of us.

> Warm regards. Dr. Asher T. Gianchandani **Editor-in-Chief, SAGA Magazine**



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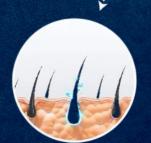




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The Future of Tailored Healthcare

The future of medicine is personalized. No longer will we treat diseases—we will treat patients, with therapies designed specifically for their unique biology.

- Dr. Francis Collins, Former Director of the National Institutes of Health

Personalized medicine represents a transformative approach in healthcare, tailoring medical treatment to the individual characteristics of each patient. By considering factors such as genetics, environment, and lifestyle, this strategy aims to optimize therapeutic efficacy and minimize adverse effects. Unlike the traditional "one-size-fits-all" model, personalized medicine acknowledges the unique biological makeup of each person, leading to more precise interventions.

The foundation of personalized medicine lies in advancements in genomics and molecular biology. The completion of the Human Genome Project in 2003, which mapped over three billion base pairs of human DNA, was a pivotal moment. This monumental achievement, which took nearly 13 years and cost over \$3 billion, has since paved the way for rapid developments in genomic sequencing. Today, sequencing an entire human genome can be accomplished in mere hours at a cost of less than \$1,000. This drastic reduction in time and expense has

By Akshata Shailendra Singh



made genomic data more accessible, facilitating its integration into clinical practice.

One of the most promising applications of personalized medicine is in oncology.

Traditional cancer treatments often involve standardized protocols, but not all patients respond similarly.

Personalized approaches,

such as neoantigen vaccines, are being developed to target unique mutations present in an individual's tumor. These vaccines are designed based on the specific genetic alterations of a patient's cancer, enabling the immune system to recognize and combat malignant cells more effectively. While still under research, such strategies hold the potential to

revolutionize cancer therapy by improving outcomes and reducing side effects.

Beyond cancer, personalized medicine has applications in various fields. For instance, pharmacogenomics studies how genes affect a person's response to drugs. This knowledge allows for the customization of medication types and dosages to align with an individual's genetic profile, thereby enhancing treatment efficacy and reducing the risk of adverse reactions. An example is the anticoagulant drug warfarin, where genetic testing can guide dosage decisions to prevent complications like major bleeding.

The importance of personalized medicine extends to disease prevention and early detection. Genetic screening can identify individuals at heightened risk for certain conditions, enabling proactive monitoring and preventive measures. For example, detecting mutations in the BRCA1 and BRCA2 genes can inform decisions about increased surveillance or preventive interventions for breast and ovarian cancers.

Looking ahead, the future of personalized medicine is both promising and complex. As of 2024, over 300 million people worldwide are affected by rare genetic diseases. Genomic sequencing offers a powerful diagnostic tool for these conditions, about 80% of which have a genetic basis. Rapid genomic sequencing can provide diagnoses

in a matter of hours,

particularly benefiting

newborns and children in

intensive care with suspected genetic disorders.

However, several challenges must be addressed to fully realize the potential of personalized medicine. Ensuring diverse representation in genetic research is crucial, as current datasets are predominantly derived from populations of European ancestry. This lack of diversity can limit the applicability of findings across different ethnic groups. Additionally, integrating vast amounts of genomic data into healthcare systems necessitates robust infrastructure and raises concerns about data privacy and security.

Global initiatives are underway to tackle these challenges. Organizations like the Global Alliance for Genomics and Health are working to establish standards and policies that promote the responsible and secure use of genomic data for human health. National efforts, such as the establishment of Genomics Australia in 2025, aim to drive excellence in genomics research and facilitate its clinical implementation, ensuring equitable access to genomic medicine's

In conclusion, personalized medicine is poised to significantly transform healthcare by providing tailored interventions based on individual patient profiles. While substantial progress has been made, ongoing efforts to overcome

diversity, data integration, and ethical considerations are essential. As these hurdles are addressed, personalized medicine will likely become a cornerstone of modern healthcare, offering more effective and precise treatments for a wide range of diseases.

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At Illumina, our goal is to apply innovative technologies to the analysis of genetic variation and function, making studies possible that were not even imaginable just a few years ago. It is mission critical for us to deliver innovative, flexible, and scalable solutions to meet the needs of our customers. As a global company that places high value on collaborative interactions, rapid delivery of solutions, and providing the highest level of quality, we strive to meet this challenge. Illumina innovative sequencing and array technologies are fueling groundbreaking advancements in life science research, translational and consumer genomics, and molecular diagnostics.



CONTACT US

Unlocking the code of Life: How Illumina is Bringing Genomics to the World

By SAGA Editorial Team

"When you know your risks early, you have options. That's what matters in life—having options." — Mr. Gregory Essert

These words from Mr. Gregory, General Manager of Emerging Markets at Illumina, capture the promise at the heart of genomic science: empowering people with the knowledge to change their lives.

Not long ago, sequencing genetic material whether from humans, plants, or microbes was something reserved for research labs and specialized institutions. Today, it's becoming an everyday tool, showing up in clinics, farms, and public health programs around the world. With each breakthrough, Illumina is redefining what's possible—and making it more affordable.

Mr. Gregory spent much of his career in diagnostics and pharmaceuticals, industries known for cautious, incremental innovation. But he sensed something bigger on the horizon. In 2018, he joined Illumina, convinced that genomics would become the cornerstone of modern health care. Founded in San Diego, Illumina evolved into a global leader in DNA sequencing and array-based technologies, serving customers in the research, clinical, and applied markets, with more than 10,000 employees. Today, Illumina's sequencers can analyze the genome of any organism, from people and animals to crops and microbes. That flexibility has opened up possibilities across medicine, agriculture, and public health.

Even before the pandemic, Illumina was steadily



expanding into new markets. But COVID-19 dramatically accelerated adoption. Almost overnight, terms like "PCR test" and "genetic sequencing" became part of everyday language. Health ministries recognized that tracking viruses and understanding genetic vulnerabilities weren't luxuries—they were essential public services. The pandemic compressed decades of progress into mere months, proving that widespread genomic capabilities could save lives and shape policy.

Making Sequencing Accessible

One of Illumina's biggest achievements has been driving down the cost of sequencing. About a decade ago, decoding a single human genome could cost as much as a million dollars or more. Today, it is around \$200 per genome, less than many households spend in a month on subscriptions or groceries. This dramatic drop in price has transformed genomic testing from a niche offering into something almost anyone can access. Families can now pursue prenatal screening, assess cancer risks, or understand how their bodies process medications without facing crippling bills.

But sequencing a genome is only part of the picture. Our environment—what we eat, how we live, and the microbes we carry—also shapes how our genes express themselves. That's why this year, at the global Advances in Genome Biology and Technology (AGBT) conference, Illumina unveiled a series of innovations, establishing the industry's largest portfolio of omics solutions and sequencing applications. The solutions – spanning genomics, spatial transcriptomics, single-cell analysis, CRISPR technologies, epigenetics, and data analytics software – will enable researchers to derive breakthrough insights into the drivers of disease from smaller samples. The new omics solutions surpass industry standards for scale, accuracy, and reliability and will contribute to reforming the genomics landscape across the world.

Al and data science will find their most profound application in genomics. Illumina's sequencing and analytics platforms, combined with accelerated computing and Al, will drive the next generation of genomics interpretation and democratize genomics for drug discovery through Al-powered insights. Still, Mr. Gregory believes that artificial intelligence should never replace human expertise. The most powerful future, he says, will come from blending the speed and precision of technology with the experience and judgment of clinicians.

Beyond Health Care: Agriculture and Climate

While many developed nations move cautiously through regulatory processes, some emerging economies are embracing genomics with surprising speed. In the UAE, every newborn's genome is sequenced, and engaged couples receive compatibility reports before marriage. Similar initiatives are rolling out across Asia and the Middle East. These programs show how countries can skip older systems and build modern genomic

infrastructure from the ground up. As more evidence emerges and costs continue to fall, other nations are expected to follow. For Mr. Gregory, the most profound promise of genomics isn't simply better treatment—it's prevention. He envisions a future where health care shifts from reacting to problems to anticipating them, where researchers and clinicians provide meaningful insights to help people stay healthy. He believes that before long, routine checkups will include genomic, proteomic, and microbiomic data, giving clinicians the ability to spot risks early and guide patients with confidence.

Illumina's work also reaches far beyond improving human health. The sequencing technologies are helping farmers breed more resilient crops and livestock that can withstand disease and climate pressures. He often points out that the nutritional value of our food has declined dramatically over the past fifty years. Genomics offers a chance to reverse that trend and make agriculture more sustainable. Of course, with this progress comes new responsibilities. Health data is already sensitivegenetic data even more so. Mr. Gregory is clear that privacy protections, strong governance, and respect for personal choice must be non-negotiable. As genomics becomes part of everyday life, society will need honest conversations about how information is stored, shared, and used.

In the end, this mission is both deeply personal and profoundly hopeful. He dreams of a world where everyone, regardless of income or geography, can access the tools to understand their health—and act on that knowledge. As he puts it, "There's no way back. The only question is how fast we get there—and whether we bring everyone along." — Mr. Gregory Essert At a time when health care systems are strained and inequality is growing, Illumina's work is a reminder that science can still be a force for equity. The code of life belongs to all of us—and with the right tools, we can use it to write a healthier future.



FemTech: A New Era of Wornen's Health Innovation

By Roopak Pathak

"A BETTER TECHNOLOGY FOR HER MAKES A BETTER FUTURE FOR EVERYONE!"

For a long time, women's health has been neglected in the realms of medical research and innovation. Yet we stand on the brink of an extraordinary transformation. Armed with groundbreaking advancements in technology such as artificial intelligence, wearable devices, telemedicine, and personalized medicine. we are witnessing not merely an enhancement of healthcare, but a powerful revolution that empowers women to take charge

of their health and well-being. At the centre of this evolution is FemTech, an industry that is actively addressing critical gaps in women's healthcare. What initially began as a narrow focus on reproductive health is now expanding to include every aspect of women's wellness from mental health to chronic disease management. Most importantly FemTech is dismantling the barriers to healthcare access in rural and underserved regions, demystifying



medical care for women who have previously been sidelined. The integration of AI, wearable technology, and telemedicine is the key to bridging these gaps and reshaping the future of women's health.

One of the most pressing issues in rural healthcare is the lack of infrastructure and limited access to trained professionals. FemTech is not only rising to the occasion with innovative solutions, such as remote diagnostics and Al-driven symptom checkers that enable women to self-navigate their health. Mobile health applications provide essential guidance for self-care and early detection, making healthcare feel approachable and less intimidating. Furthermore, in communities where cultural stigmas can deter women from seeking assistance, discreet health-tracking apps and virtual consultations are tearing down barriers, transforming healthcare into a journey that is both private and accessible.

Wearable technology is another Glorious innovation, that allows women to proactively manage their health. Devices like smartwatches and fitness trackers offer real-time insights into menstrual cycles, heart rates, sleep patterns, and stress levels. For expectant mothers, advanced monitors can track fetal movements and contractions, facilitating early detection of complications. Enhanced by AI, these wearables deliver personalized health

invasive procedures. Al-powered imaging tools and

advanced algorithms are transforming this process

by analyzing mammograms and ultrasounds with

exceptional accuracy. This not only minimizes false positives but also uncovers subtle irregularities that could easily go unnoticed, which allows for earlier

intervention, ultimately resulting in better health

outcomes. Additionally, Al-driven chatbots and

virtual assistants provide women with instant

that is caused by health uncertainties.

symptom evaluations, empowering them to seek

medical attention sooner and reducing the anxiety

It is making significant inroads into fields like cardiovascular health, autoimmune diseases, and oncology. With the power of Al-driven diagnostics and wearable biosensors, early detection of diseases such as breast cancer and osteoporosis is no longer a distant hope.

Moreover, improvements in personalized medicine, leveraging genetic testing and biomarker analysis, herald a new era where treatments can be

Artificial intelligence stands as a transformative force within this landscape, significantly optimizing the diagnosis of critical conditions such as breast and ovarian cancer. Traditional diagnostic methods often involve lengthy waiting periods and

customized to individual health profiles, ensuring more effective and targeted care. recommendations,
shifting the
emphasis
from
reactive
healthcare
to proactive
wellness.
However,

we must also tackle challenges around accessibility and affordability to maximize the benefits of these cutting-edge devices.

Telemedicine is further revolutionizing healthcare accessibility, transforming the way women in remote and underserved areas receive care. Virtual consultations with specialists, including gynaecologists and mental health professionals, eliminate geographical barriers, making essential medical services more attainable than ever. Innovative digital healthcare platforms now provide tailored solutions for fertility tracking, pregnancy support, and menopause management—offering women a pathway to expertise with just a click.

Moreover, personalized medicine is redefining women's healthcare by delivering treatments finely tuned to individual genetic profiles.

Breakthroughs in genetic testing enable women to assess their hereditary risks for conditions like breast cancer and PCOS. Direct-to-consumer genetic testing empowers women to make informed decisions about their health and collaborate effectively with their healthcare providers on bespoke treatment plans.

The vision for FemTech is not just about enhancing healthcare; it is about transforming it into a predictive, preventive, and personalized system. Future innovations will likely integrate big data analytics to anticipate health risks before symptoms appear, allowing women to take proactive measures. Companies and researchers are exploring how machine learning can create personalized treatment plans, reducing reliance on one-size-fits-all medical approaches and ensuring better health outcomes for women worldwide.

As this sector continues to evolve, collaboration between healthcare providers, policymakers, and tech innovators will be crucial to ensuring FemTech reaches its full potential. Governments and regulatory bodies should play an active role in standardizing data security measures, making policies more inclusive, and funding initiatives that bring these technologies to the masses.

Ethical considerations, especially around data privacy, need to be prioritized so that women can trust and fully benefit from these advancements.

FemTech is not just about technology; it represents a fundamental shift in how women's health is perceived, prioritized, and protected. By integrating innovation with accessibility, FemTech is paving the way for a healthcare system that is more inclusive, proactive, and tailored to the unique needs of every woman, regardless of where she lives. Challenges like affordability, digital literacy, and infrastructure must still be addressed, but with ongoing advancements and the right support, FemTech has the potential to revolutionize women's health on a global scale. The journey has just begun, and the future looks promising.

"Empower her with innovation, uplift the world with transformation."

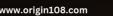






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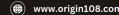
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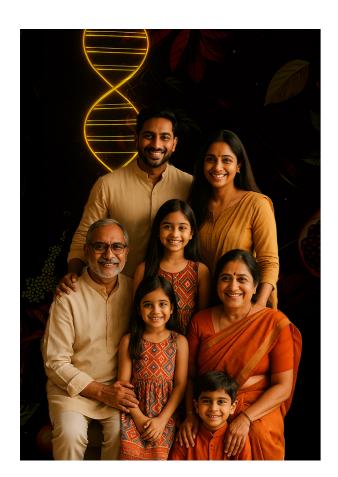






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Wellness with Origin108: The Science of Inner Balance



In an era when wellness is often reduced to fleeting trends or packaged solutions, Origin108 emerges as something profoundly different: a movement that unites ancient wisdom with modern science to craft a truly individualized approach to health. Behind this vision stands Dr. Asher T. Gianchandani, whose own transformation from fatigue and illness to vitality and purpose has become the living proof of his philosophy.

A Journey Born of Struggle, Shaped by Discovery

Origin108 was not conceived in a corporate brainstorming session, it was born from a deeply personal reckoning. At 50, Asher found himself in a state of constant exhaustion. He was battling monthly bouts of flu, struggling to work even a

By the Editors of Saga Magazine

few hours a day, and carrying both physical and emotional heaviness that no treatment seemed to relieve.

"I felt like I was carrying a ton of weight, both literally and figuratively," he recalls. The experience forced him into a relentless search for answers: What does true vitality really mean? How do body, mind, and spirit converge to sustain it?

Fifteen years later, the contrast is striking. At 65, he works 16-hour days managing multiple ventures, travels the world without fatigue, and has not experienced a single flu in more than a decade. This transformation, he emphasizes, was not luck. It was the result of merging scientific discipline with the wisdom of timeless traditions , blending discovery with discipline, and biology with spirituality.

Having lived across India, Europe, and the United States, Asher noticed how fragmented wellness had become. In the West, it was often coldly clinical. In the East, it was sometimes unquestioningly spiritual. What was missing was synthesis, an intelligent bridge. Origin108 became that bridge: a platform where modern genetics meets ancient Ayurveda, and where the individual is seen not as a statistic but as a unique constellation of biology, ancestry, and spirit.

The Philosophy in a Name

The name Origin108 itself encapsulates this vision. "Origin" speaks to the beginning, our DNA, our ancestry, and our inner truth. The number 108 carries profound symbolism across civilizations.

- In Hinduism and Buddhism, malas hold 108 beads, used in meditation and mantra recitation.
- Ayurveda maps 108 marma points, vital centers of life energy, and yogic science describes 108

nadis converging at the heart.

- Cosmology finds resonance too: the distance between the Earth and the Sun is about 108 times the Sun's diameter.
- In Buddhism, 108 represents the passions and defilements to be transcended on the path to enlightenment.

enlightenment.

"To me, 108 is not just a number. It is completion, balance, and universal connection," Asher explains. "Together, Origin108 is about returning to the self, uniting science with spirit, body with soul, and the measurable with the mystical."

Leadership Rooted in Empathy and Purpose

Asher's leadership philosophy is inseparable from his life journey. A citizen of India, educated in Europe and the US, and having conducted business across four continents, he embodies diversity not just as an idea but as lived reality.

"I don't believe in disruption for the sake of it," he says. "True innovation is about creating bridges where they matter most." For him, leadership begins with listening, with empathy as its core. Technology, he insists, must never replace humanity but elevate it.

This philosophy extends to Origin108's culture: a company built not on short-term ambition, but on long-term devotion. For Asher, success is measured not in profit margins but in the lives transformed.

When Vision Becomes Mission

Among the countless milestones, one story stands out. A client, after following a personalized Origin108 protocol, told him: "I feel like I've met myself for the first time."

"That sentence shook me to the core," Asher reflects. "It reminded me that we're not creating products. We're creating mirrors, spaces for

people to rediscover who they truly are."

In that moment, his motivation shifted. Origin108 was no longer about scaling a company; it became about scaling impact. What had begun as a quest for personal healing evolved into a mission for collective transformation.

A Unique Niche in a Crowded Industry

The wellness industry today is saturated with promises, but Origin108 has carved out a rarefied niche: precision wellness. While most brands push generic superfoods or one-size-fits-all regimens, Origin108 integrates DNA insights, lifestyle profiling, and nutraceutical intelligence with Ayurvedic tradition to design protocols as unique as the individual.

"In a world obsessed with what's trending, we ask:
Is this right for you?" Asher emphasizes.

Technology as a Conscious Bridge

Technology is not an accessory at Origin108, it is the bridge that makes timeless practices relevant and scalable. DNA sequencing, Al-based analysis, and intelligent logistics make it possible for someone in Tokyo or New York to receive a wellness plan crafted with the same care as a traditional consultation in India.

"Your wellness plan should evolve as you do," Asher explains. "That's the promise of technology in service of human evolution."

Looking ahead, he foresees a future where Al refines diagnostics, AR/VR creates immersive meditation and retreat experiences, blockchain ensures radical transparency in sourcing, and wearables offer real-time biofeedback that dynamically adapts wellness protocols.

Honoring the Past, Embracing the Future
Perhaps the most delicate, and defining, element
of Origin108 is its approach to tradition. "We never

SAGA | 20

treat Ayurveda as outdated. But neither do we romanticize it," says Asher. Instead, every practice is rigorously validated, refined, and adapted for modern life.

This balance, reverence without rigidity, innovation without arrogance, is what gives Origin108 its timeless appeal.

The Future of Conscious Living

Asher believes wellness is moving from experimentation to embodiment. "People no longer want to dabble. They want to integrate," he says. The next decade, he predicts, will be shaped by three principles:

Precision: leveraging genomics and AI to craft uniquely personal health plans.

Integration: recognizing the indivisibility of mind, body, and environment.

Integrity: building trust through transparent sourcing, ethical production, and sustainability.

The future, he insists, will belong to brands that can deliver not just products but meaningful, science-backed transformation, rooted in both the soul and the planet.

Emerging Markets and Global Ambition

While the movement has global resonance, Asher sees particular momentum in regions where ancestral traditions meet youthful, tech-savvy populations: Southeast Asia, Africa, and Latin America. In India, a revival is already underway as people reclaim Ayurveda, yoga, and indigenous practices with pride.

To meet this rising demand, Origin108 is preparing multilingual platforms, localized formulations, and cultural partnerships, ensuring its offerings feel both globally sophisticated and locally authentic.

What Lies Ahead for Origin108

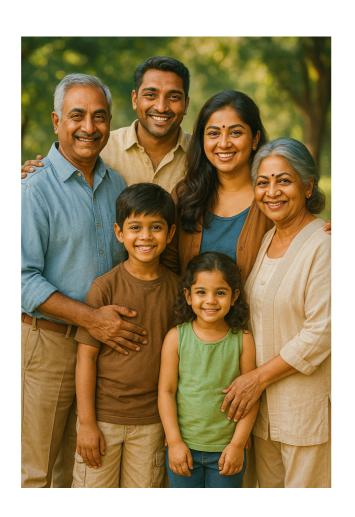
The next chapter is ambitious: a global Origin108

Wellness Platform that integrates DNA testing, Al-driven coaching, and personalized Ayurvedic and nutraceutical kits. But the vision stretches further, into wellness clinics, immersive retreats, and digital apps designed not only to heal but to help individuals evolve.

"Our community can expect more than supplements and advice," Asher says. "They can expect a sense of belonging. Origin108 isn't just a brand. It's a revolution in how humanity approaches health and inner balance."

Editor's Reflection

Asher's story is not merely one of entrepreneurship; it is a testament to resilience, curiosity, and the pursuit of wholeness. With Origin108, he is not chasing a market trend, he is charting a timeless movement. One where science and spirit meet, where the personal becomes universal, and where wellness is no longer generic but deeply, beautifully personal.







THE NEXT DECADE OF PHARMA: AI, AUTOMATION & PRECISION MEDICINE A \$500B REVOLUTION

Dr. Rashmi Chaturvedi Upadhyay Principal Consultant

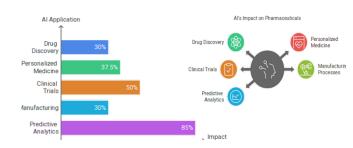
- 1. Can you share a bit about your career and what got you interested in combining healthcare, AI, and automation?
- Dr. Rashmi Upadhyay: My career journey has been rooted in the intersection of healthcare, life sciences, and innovation. With a background in drug development and pre-clinical experience, I recognized early on that traditional healthcare processes often lacked efficiency and scalability. The potential of AI and automation to streamline drug discovery, improve patient outcomes, and enhance decision-making inspired me to explore this field. The ability to merge scientific discovery with cutting-edge technology has been a driving force behind my work. This passion for integrating technology with healthcare reflects a broader trend where inefficiencies in traditional systems are being challenged by innovative solutions. Every time we accelerate a drug's journey to market or enhance the precision of patient care through technology, we're fulfilling healthcare's fundamental promise: to heal more effectively and save more lives.

2. As a leader in healthcare innovation, what's been one of the toughest challenges you've faced, and how did it shape the way you work to bring about change?

Dr. Rashmi Upadhyay: The path to healthcare innovation is riddled with interconnected challenges that demand both strategic thinking and practical solutions. At the forefront are data-related obstacles from fragmented records to inconsistent formats which fundamentally impact our ability to implement Al effectively. Regulatory complexities, particularly around patient privacy and data security, create lengthy approval cycles that can stall innovation. Within organizations, we face deeply entrenched resistance to change, where traditional methodologies often trump new approaches. The financial landscape presents its own hurdles, with substantial implementation costs and uncertain reimbursement models making it difficult to justify investments. Perhaps most challenging is the persistent issue of interoperability, where disparate healthcare systems struggle to communicate effectively.

Through years of experience, I've developed a strategic framework to address these challenges head-on. Our approach begins with small-scale pilot programs that demonstrate clear, measurable outcomes - speaking the language of both clinical impact and financial returns. We've found remarkable success in identifying and empowering early adopters within healthcare organizations, particularly those who bridge the gap between clinical expertise and technological understanding. The hard lessons learned from our first Al diagnostic implementation taught us to prioritize system integration from day one. Most crucially, we've built strong partnerships across the pharma healthcare and technology sectors, creating an ecosystem that supports sustainable innovation. This comprehensive approach not only addresses immediate implementation challenges but also builds a foundation for sustained innovation - a critical consideration as the pharma sector continues to evolve rapidly.

- 3. All is really shaking up healthcare. What do you think are the most exciting ways All will change the pharmaceutical industry in the next 10 years?
- **Dr. Rashmi Upadhyay:** Al isn't just enhancing pharmaceuticals—it's fundamentally transforming how we discover, develop, and deliver drugs. By 2034, we



expect AI to reduce drug development timelines by up to 60% while cutting costs by billions. The most promising applications span the entire value chain: from using deep learning algorithms to identify novel drug candidates in days rather than years, to deploying AI-powered precision medicine platforms that can predict patient responses with over 90% accuracy.

With the AI market in pharmaceuticals projected to reach \$16.49 billion by 2034, we're witnessing the dawn of a new era in healthcare innovation. Early adopters are already reporting ROI increases of 200-300% on their AI investments, suggesting that artificial intelligence will become not just an advantage but a necessity for pharmaceutical companies within the next decade. As these technologies mature and converge, we're likely to see even more dramatic improvements in drug development efficiency, treatment effectiveness, and patient outcomes.

4. As AI gets smarter and more independent, how do you think we'll balance human input with machine decision-making in healthcare?

Dr. Rashmi Upadhyay: Al excels at data-driven tasks but lacks the empathy and ethical judgment of human clinicians. Striking the right balance involves implementing collaborative protocols where AI supports human decisions, training healthcare professionals to leverage AI effectively, and maintaining transparency in Al processes for accountability. The integration of AI and human expertise in healthcare represents a critical balancing act that directly impacts patient outcomes. Current studies show that AI algorithms can process medical data up to 100 times faster than human practitioners and achieve diagnostic accuracy rates of 90-95% in specific areas like radiology. However, these impressive capabilities must be carefully weighted against the irreplaceable human elements of healthcare delivery.

Successful collaborative protocols between AI and

healthcare providers have already demonstrated promising results. For instance, at major medical centers, Al-assisted mammogram screenings have reduced false positives by 30% while maintaining high detection rates. However, it's the radiologists who make the final call and handle complex cases that require contextual understanding. Similarly, while Al can analyze thousands of drug interactions instantly, physicians must consider patient-specific factors like lifestyle, preferences, and social circumstances that Al cannot fully comprehend.

Transparency and accountability frameworks are being standardized across healthcare systems.

Organizations must now document all AI involvement in clinical decisions, similar to how human consultations are recorded. Regular audits of AI systems show that bias detection and correction can improve outcome equity by up to 40%. Healthcare providers are implementing "AI disclosure protocols" where patients are informed about the role of AI in their care, fostering trust and enabling informed consent.

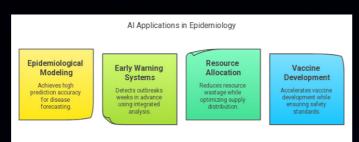
Looking ahead, the key to successful AI integration lies in developing what experts call "augmented intelligence" rather than artificial intelligence. This approach focuses on enhancing human capabilities rather than replacing them.

5. Do you think AI could play a big role in predicting and managing global health crises like pandemics? What's your take on that?

Dr. Rashmi Upadhyay: Absolutely! Al has already demonstrated its tremendous potential during COVID-19 by predicting disease spread patterns and optimizing resource allocation. Machine learning algorithms have shown remarkable accuracy in forecasting outbreak hotspots weeks in advance. Key contributions include sophisticated epidemiological modeling that can process multiple data streams simultaneously, early warning systems that monitor

everything from social media to hospital admissions, intelligent resource allocation systems that can predict where medical supplies will be needed most, and accelerated vaccine development through protein structure prediction.

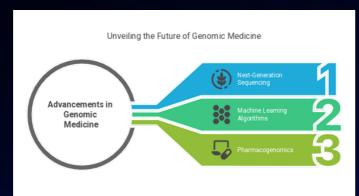
What's particularly exciting is how AI can analyze patterns across different geographic regions and demographics to identify vulnerable populations and predict mutation patterns.



6. Precision medicine is a big deal in healthcare. How do you think advances in genomics and Al will make it more common in the next decade?

Dr. Rashmi Upadhyay: Al-powered genomic analysis is transforming precision medicine by reducing genetic data interpretation time from months to mere hours. Three key technologies are driving this revolution:

- 1) NGS
- 2) MLA
- 3) Pharmacogenomics



By 2035, I expect precision medicine will be standard practice in most hospitals, enabling truly personalized care that can improve treatment success rates by 30-40% while reducing adverse drug reactions by up to 50%. Precision medicine promises a healthcare revolution where one-size-fits-all becomes obsolete. Yet, the challenge remains—how do we scale this vision without leaving millions behind?

7. How do you see AI companies and drug makers working together in the future?

Dr. Rashmi Upadhyay: Al-pharma partnerships are already reshaping the industry. Collaborations like

BenevolentAl with Merck KGaA or Nvidia with Genentech focus on drug discovery and generative Al innovations. These alliances aim to reduce costs and accelerate development timelines.

These partnerships aim to streamline the drug

Al Company	Pharmaceutical Partner	Collaboration Focus
BenevolentAl	Merck KGaA	Drug discovery in oncology, and immunology.
Exscientia	Merck KGaA	Al-driven drug design and discovery.
ВіоМар	Sanofi	Al-powered biotherapeutic drug discovery.
Nvidia	Genentech (Roche)	Generative AI for drug discovery.
Absci	AstraZeneca	Al-designed antibody development for oncology.

development process, potentially reducing costs and time-to-market for new therapies. The synergy between AI and pharma giants is a game-changer. But it also sparks curiosity: could these alliances disrupt traditional R&D models entirely, or will they merely refine them? The stakes—faster, cheaper cures—are undeniably high. However, success will require overcoming significant challenges, including standardizing AI validation protocols, ensuring data security across partnerships, and adapting regulatory frameworks to keep pace with technological innovation.

8. Looking ahead to 2035, what's your vision for healthcare, and how do you see technology playing a big part in it?

Dr. Rashmi Upadhyay: The healthcare landscape of 2035 promises a revolutionary transformation from today's reactive model to a proactive, personalized ecosystem. This vision encompasses not just technological advancement, but a fundamental reimagining of how healthcare is delivered, experienced, and integrated into daily life. The shift toward preventive care and enhanced accessibility represents a crucial evolution in meeting the complex healthcare challenges of the future. By 2035, AI is projected to aid 32% of diagnoses and 31% of therapeutic decisions. Advancements in genomics and AI will make precision medicine standard, and telemedicine will expand, with 64% of inpatient admissions potentially moving to home settings. Imagine a hospital bed in your living room, monitored by wearables and guided by Al-science fiction or

soon-to-be reality? The question lingers: will society embrace this shift, or resist it?

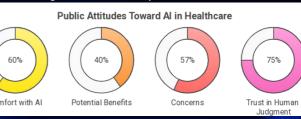
9. As someone who's leading change in healthcare, what advice do you have for young people who want to make a difference in this field?

Dr. Rashmi Upadhyay: Young leaders in healthcare have the potential to drive significant change and innovation. Here's key advice for those looking to make a difference: Stay curious and embrace lifelong learning. The pharma industry is evolving rapidly, so adaptability is key. Build a strong foundation in the sciences, but also develop skills in data analysis, project management, and communication. Networking is vital—seek mentors and learn from their experiences.

Finally, never lose sight of the ultimate goal: improving patient lives.

10. A lot of people are still unsure about machines or Al taking over healthcare. How do you think the general public will react to these technological changes in the future?

Dr. Rashmi Upadhyay: Public perception of Al in healthcare is mixed, with both optimism and caution: As Al demonstrates its ability to enhance diagnostic accuracy and treatment planning, public acceptance is likely to increase. Education and transparency will be crucial in shaping public perception, emphasizing Al as a tool to augment human expertise.



The public's unease is palpable—60% discomfort is no small hurdle. Yet, the 40% who see Al's promise hint at a tipping point. Building public confidence requires a three-pronged approach:

- 1) ensuring complete transparency in Al systems,
- 2) conducting targeted education campaigns, and
- 3) demonstrating how AI augments rather than replaces human medical expertise.

Success will favor organizations that embrace discomfort, champion innovation, and forge meaningful partnerships with patients and technology providers. The opportunity isn't just to adapt to change—it's to become an architect of healthcare's future, creating lasting impact that extends far beyond balance sheets to the very fabric of global health.

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Origin108: When Ancient Ayurveda Meets Genetic Precision

By the Editors of Saga Magazine

In an age where wellness trends rise and fade as quickly as hashtags, few voices manage to bridge the timeless with the futuristic. With *Origin108: The Science of Inner Balance & Modern Ayurveda*, Dr. Asher T. Gianchandani does exactly that, offering not just another health book, but a manifesto for a new global movement in personalized wellness.

A Book Born from Experience, Not Theory

What makes Origin108 compelling is not just its blend of Ayurveda and biotechnology, but the deeply personal journey that birthed it.

Dr. Gianchandani, a seasoned entrepreneur who built businesses across four continents, writes with rare vulnerability. Success, he confesses, once came at the cost of inner misalignment, burnout, anxiety, and a creeping disconnection from his body.

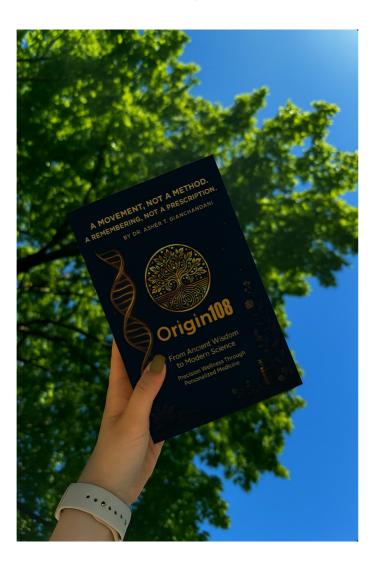
It was this crucible of exhaustion that pushed him to revisit his ancestral roots in Ayurveda while simultaneously exploring cutting-edge genetic science. Out of that convergence emerged Origin108, a framework he calls

Precision Wellness™, a model that is neither rigid protocol nor passing trend, but a system designed around each individual's DNA, dosha, and daily rhythm.

The Philosophy: You Are Not Broken

The manifesto at the heart of the book is simple yet radical: *you are not broken; you are bio intelligent*.

Origin108 challenges the notion that health is something to be "fixed" by external prescriptions.



Instead, it presents healing as a remembering, a return to one's natural coherence. Dr. Gianchandani insists that vitality is not a luxury but a fundamental right, and the path to it lies in personalized alignment.

This alignment is explored across multiple dimensions: **Doshas and DNA:** Mapping the ancient Ayurvedic constitution with modern genomic markers.

Ritual over Routine: Transforming daily practices into intentional acts of remembrance.

Supplements as Energetic Medicine: Reframing

nutraceuticals not as chemical fixes but as vessels of vital intelligence. Community Healing: Recognizing that wellness radiates beyond the self, shaping families, workplaces, and societies.

Inside the Pages: A Journey of Realignment

The book unfolds in five sections, each echoing a stage of the reader's journey:

The Call to Realignment: Recognizing misalignment and reclaiming health as our most sacred currency.

The Origin108 System: Science Meets

Soul – Introducing formulas, rituals, and genetic insights that tailor wellness to the individual.

Living the Origin108 Experience: Turning knowledge into embodiment, and isolation into community.

The Future of Wellness, Redefined : A vision of Al-driven wellness coaches.

sustainable herbal supply chains, and global healing hubs.

The Sacred Return: Closing with reflective chapters that remind readers that at the core of all science and systems lies stillness, presence, and self-awareness.

Sprinkled throughout are case studies, practical protocols, and even a 7-day roadmap for readers eager to begin their journey immediately. The narrative shifts seamlessly between poetic reflection, rigorous scientific insight, and actionable tools.

Why This Book Matters Now

At a time when chronic disease, burnout, and disconnection dominate global headlines, Origin108 feels urgent. Its message reframes health not as a luxury wellness pursuit for the privileged, but as a collective responsibility and a cultural revolution.

In Dr. Gianchandani's words:

"You can't lead well if you aren't well. You can't serve sustainably if your nervous system is on fire. The most successful people in the next generation won't be the busiest, they'll be the most aligned."

Saga's Verdict

been waiting for.

Origin108: The Science of Inner Balance & Modern Ayurveda is more than a book, it's a movement disguised as a manual. Visionary in scope yet intimate in tone, it offers readers both a philosophy to live by and practical tools to embody it.

For those tired of generic wellness fads and searching for something both timeless and technologically advanced, Origin108 may well be the compass they've





has been adapted to make precise changes to Imagine a world where diseases like cancer, genetic material. The process is both simple and diabetes, or inherited genetic disorders are no powerful: scientists create a guide molecule to longer a life sentence but challenges we can locate the exact part of the DNA they want to overcome with a precise tweak to our DNA. edit, the Cas9 protein acts like molecular This once-unimaginable future is now within scissors to cut the DNA, and specific genes can reach, thanks to CRISPR-Cas9, a groundbreaking then be removed, added, or replaced. This gene-editing technology that is reshaping the incredible precision has unlocked very foundation of medicine. With CRISPR-Cas9, groundbreaking possibilities, from curing the ability to edit DNA has become faster, more genetic diseases and fighting cancer to affordable, and incredibly precise, unlocking preventing inherited disorders, making CRISPR possibilities that could transform how we a game-changing technology for the future of approach health, disease, and even aging itself. medicine and beyond. Think of it as a molecular ability that allows scientists to "cut and paste" sections of DNA, CRISPR is already transforming medicine in rewriting the genetic code that defines us. This revolutionary technology is not just a scientific marvel-it's glimpse

ways that were once unimaginable, offering hope for curing diseases and improving lives. This revolutionary technology allows scientists to fix genetic

problems at their source, like repairing a typo in a ✓ book. Diseases caused by single-gene mutations, such as sickle cell anemia and cystic fibrosis, can now be treated by correcting the faulty gene, as seen in a groundbreaking case where a woman with sickle cell anemia was cured using

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CRISPR-Cas9 (pronounced "crisper") is a revolutionary ability in gene editing that has transformed the way scientists can alter DNA in humans, animals, and plants. First discovered in bacteria, where it acts as a defense mechanism against viruses by cutting their DNA, this natural system

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CRISPR. Beyond curing diseases, CRISPR is paving the way for personalized medicine, where treatments are tailored to an individual's unique DNA, potentially preventing conditions like cancer before they even develop. It's also being used to reprogram immune cells to fight cancer more effectively, offering new hope for patients with aggressive forms of the disease. Even inherited disorders, like Huntington's or certain types of blindness, could be stopped from passing to future generations by editing DNA in embryos or reproductive cells.

CRISPR technology is advancing rapidly and is set to revolutionize healthcare and beyond, becoming a major part of our everyday lives. One of the biggest reasons for its growing impact is affordability—over the years, the cost of genome sequencing, which is the process of reading our DNA, has dropped signifi-

cantly, making it accessible to more

people. As CRISPR becomes more widely used, the cost of gene-editing treatments is also expected to decrease, making life-changing therapies available to millions.

What makes CRISPR even more exciting is its ability to shift healthcare from treating diseases to preventing them entirely. Instead of waiting for illnesses like cancer or genetic disorders to develop, CRISPR can help stop them before they even start, saving lives and reducing healthcare costs. But CRISPR's potential doesn't

stop at medicine—it's also being
used in agriculture to create
crops that are resistant to
diseases and pests, in

environmental
conservation to
protect
endangered
species, and
even in fighting
pandemics by
developing antiviral
treatments. As this

technology becomes more

accessible and its applications grow, it's likely to become as transformative in the 21st century as vaccines and antibiotics were in the 20th. CRISPR isn't just a scientific breakthrough it's a glimpse into a future where we can solve some of humanity's biggest challenges with the power of our own DNA.

The Road Ahead: Challenges, Controversies, and Opportunities

CRISPR is undeniably one of the most exciting breakthroughs in modern science, but it's not without its challenges—and controversies. While the technology holds the promise of curing diseases and transforming lives, scientists are still working to ensure it's 100% safe and accurate. What happens if a gene is edited incorrectly? Could it lead to unintended consequences, like new diseases or unforeseen

genetic problems? These are real concerns that need to be addressed before CRISPR becomes a routine part of medicine. Then there's the issue of accessibility—will this life-changing technology only be available to the wealthy, creating a divide between those who can afford to "fix" their DNA and those who cannot? And what about the ethical dilemmas? Should we be editing embryos to prevent diseases, or does that open the door to "designer babies," where parents choose traits like intelligence, height, or eye color?

Despite these challenges, the potential of CRISPR is too big to ignore. Beyond medicine, it's already being used to create disease-resistant crops, protect endangered species, and even develop treatments to combat pandemics. But as we move forward, society will need to grapple with tough questions about how far we should go with gene editing and who gets to decide.

Conclusion: A Revolution That's Just Beginning

CRISPR-Cas9 is not just a scientific breakthrough—it's a technology that could redefine what it means to be human. The idea of editing our DNA may sound like science fiction, but it's quickly becoming a reality. In the near future, gene editing could be as common as getting a vaccine or taking a pill. Imagine a world where diseases like cancer, diabetes, or genetic disorders are no longer a threat, where we can prevent illnesses before they even start, and

where medicine is tailored to your unique DNA.

But with this power comes responsibility. CRISPR is a beacon of hope for millions, but it also raises questions about ethics, equality, and the limits of human intervention. Are we ready for a world where we can rewrite the code of life? Whether we like it or not, the future of medicine is here, and it's written in our DNA. The question is: how far are we willing to go?

A Real-Life Case: How CRISPR is Changing Lives

Let's look at a real-world example of how CRISPR is already making a difference.

Victoria Gray's Story

Victoria Gray, a woman from Mississippi, suffered from sickle cell anemia, a painful and life-threatening genetic disorder. For years, she endured frequent hospital visits, blood transfusions, and excruciating pain. In 2019, she became one of the first people to receive CRISPR-based treatment.

Doctors used CRISPR to edit her bone marrow cells, correcting the genetic mutation that caused her disease. The results were astonishing. Victoria no longer experiences the debilitating symptoms of sickle cell anemia, and her life has been transformed. Her story is a testament to the power of gene editing and the hope it offers to millions of people.







Elevate Your Family's Health DNA Analysis & Personalized Healthcare By Origin108 DNA Lab.









The Silent Revolution

Mental Wellness in India, the World, and the Future

By the Editors of Saga Magazine

The Global Pulse of a Quiet Epidemic

We live in an age of paradox. Humanity has never been more connected, yet never felt more alone. Across the globe, mental wellness has emerged as one of the greatest challenges of our century, often overshadowed by physical health crises, but no less urgent. The World Health Organization estimates that one in eight people worldwide live with a mental disorder, with depression and anxiety leading the statistics.

In high-income countries, conversations about therapy, burnout, and self-care have moved into mainstream discourse. Yet, even there, stigma lingers. In low- and middle-income countries, the struggle is compounded by limited access to resources, cultural silence, and economic barriers.

What unites us is a shared recognition: mental health is not a private battle, but a public issue with profound social and economic implications.

India's Complex Landscape: Tradition Meets Taboos

In India, mental wellness is a layered story. On one hand, the nation has centuries-old wisdom traditions, Ayurveda, yoga, meditation, that inherently value the mind-body connection. On the other, it grapples with deeply entrenched stigma around mental illness.

While urban India has seen a rise in awareness, therapy apps, and wellness startups, rural regions often lack even basic access to mental health professionals. According to India's National Mental Health Survey, nearly **150 million Indians need mental health care**, but fewer than 30 million receive it.

The cultural lens adds complexity:

Silence as Strength: Families often discourage open discussion of stress, depression, or anxiety, equating silence with resilience.

Generational Gaps: Younger Indians are more open to therapy, but older generations view it as unnecessary or shameful.

Economic Realities: For many, daily survival overshadows mental well-being, reducing

it to a "luxury concern."

Yet, there are signs of change. The pandemic broke old taboos, forcing conversations about isolation, grief, and burnout into everyday homes. Universities, corporations, and government initiatives are slowly normalizing counseling, stress management, and mindfulness practices.

The World's Mirror: A Shared Struggle

What India faces is mirrored worldwide, albeit in different contexts:



The West wrestles with over-diagnosis, rising pharmaceutical dependence, and the culture of relentless productivity that feeds burnout.

East Asia battles staggering suicide rates, particularly in Japan and South Korea, where cultural pressure for perfection collides with emotional isolation.

Africa and Latin America confront systemic gaps, underfunded health systems, migration-related trauma, and a lack of culturally attuned care.

Despite the differences, the common threads are clear: stigma, underfunding, and an urgent need to bridge modern psychology with holistic, culturally relevant approaches.

The Digital Age: Blessing or Burden?

Technology has become both villain and healer in the mental wellness story.

The Burden: Social media fuels comparison, anxiety, and loneliness, especially among youth. Constant digital overload overstimulates the nervous system, leaving many exhausted yet unable to disconnect.

The Blessing: The same technology offers lifelines, mental health apps, teletherapy, Al driven chatbots, meditation platforms, and global communities where people find solidarity in shared struggles.

In India, apps like MindPeers, InnerHour, and even Instagram communities are giving young people permission to seek help in ways their parents never imagined.

The challenge is balance: how do we harness digital tools without letting them become another source of mental fragmentation?

Towards a New Paradigm: The Future of Mental Wellness

The future of mental wellness will not be built on pills alone, nor on technology in isolation. It will emerge from an integrative model where science, culture, and consciousness converge.

1. Holistic Systems of Care

Future wellness will look beyond treating disorders to cultivating resilience, emotional intelligence, and self-awareness.

Ayurveda, yoga, breathwork, and mindfulness will play equal roles alongside psychiatry and neuroscience.

2. Preventive, Not Reactive

Al and genetic testing will help predict susceptibility to stress, anxiety, or depression before symptoms manifest. Workplaces and schools will adopt preventive wellness as seriously as physical safety.

3. Community as Medicir

Healing will shift from individual therapy rooms to collective spaces, ritual circles, peer groups, and digital communities of support.

India's traditional community-centric approach to life may offer the world valuable models here.

4. Mental Wellness as Leadership

In the future, emotional regulation, empathy, and self-care will not be "soft skills," but central qualifications for leaders.

Countries and corporations will recognize that sustainable progress is impossible without psychologically resilient populations.

5. Breaking Stigma Across Borders

As generations evolve, the silence around mental health will erode. What therapy is today, meditation once was, unfamiliar, then accepted, and eventually essential.

A Saga Reflection

Mental wellness is not a Western import or a modern invention. It has always been part of humanity's story, only now, the silence is breaking.

In India, the dialogue is shifting from hushed corners to classrooms and boardrooms. Globally, cultures are beginning to accept that well-being is more than survival, it is about thriving in harmony with oneself and others.

The future of mental wellness is not about eliminating pain but reimagining how we relate to it. It is about building societies where healing is not an afterthought, but a foundation.

Because in the end, the most radical act is not to fight harder, but to pause, to feel, to listen, and to remember that wellness, mental or otherwise, is not a luxury. It is our original state.

Narayana Nethralaya: Because Every Eye Deserves a Brighter Tomorrow

By SAGA Editorial Team

In today's rapidly evolving world of medicine, eye care has witnessed some of the most remarkable advancements, and in India, one name consistently stands out: Narayana Nethralaya. Nestled in Bangalore, this leading eye hospital has become much more than a trusted medical institution; it's a shining example of what compassionate, cutting-edge, and patient-centred eye care should be.

At Narayana Nethralaya, technology and expertise work hand in hand to restore and protect one of life's most precious gifts: vision. From routine check-ups to some of the most complex eye surgeries, the hospital's teams handle every case with the same unwavering commitment to clinical precision and empathetic care. One of the hallmarks of Narayana Nethralaya is its pioneering work in oculoplasty—the largest department of its kind in Karnataka—where delicate reconstructive and cosmetic eye procedures help thousands regain both function and confidence every year.

Beyond restoring appearances, the hospital is equally adept at tackling some of the most intricate connections between the brain and vision. Its neuro-ophthalmology unit collaborates closely with neurologists, using advanced diagnostic tools like Visual Evoked Potential (VEP), Optical Coherence Tomography (OCT), and sophisticated electrophysiology to catch issues early and treat them effectively, from optic nerve diseases to brain-related vision problems.

When it comes to keratoconus—a condition that affects the cornea's shape and clarity—Narayana Nethralaya is recognised not just across India but worldwide. Under the guidance of Dr. Rohit Shetty, its Centre of Excellence has become a benchmark for innovative treatment plans. Using cutting-edge diagnostics like Pentacam, Schwind Sirius, and confocal microscopy, each treatment is tailored with precision, whether it's a simple cross-linking procedure or a complex corneal transplant. Their innovative INTACS nomogram is now setting global standards for care in this field.

This dedication to precise, evidence-based medicine echoes throughout every department. For instance, the hospital's team for uveitis and ocular immunology employs advanced molecular testing and fluid analysis to identify the root cause of inflammation, ensuring each patient receives targeted, effective therapy. In corneal diseases too, rigorous research and finely detailed mapping allow for care plans that are as unique as each patient's eye.

Behind all these breakthroughs is a powerhouse of renowned doctors. Dr. Rohit Shetty, the Chairman, is an internationally respected leader in keratoconus and ocular surface diseases. Dr. Naren Shetty, Vice Chairman, brings deep expertise in corneal and refractive surgery, transforming lives with precise laser corrections.

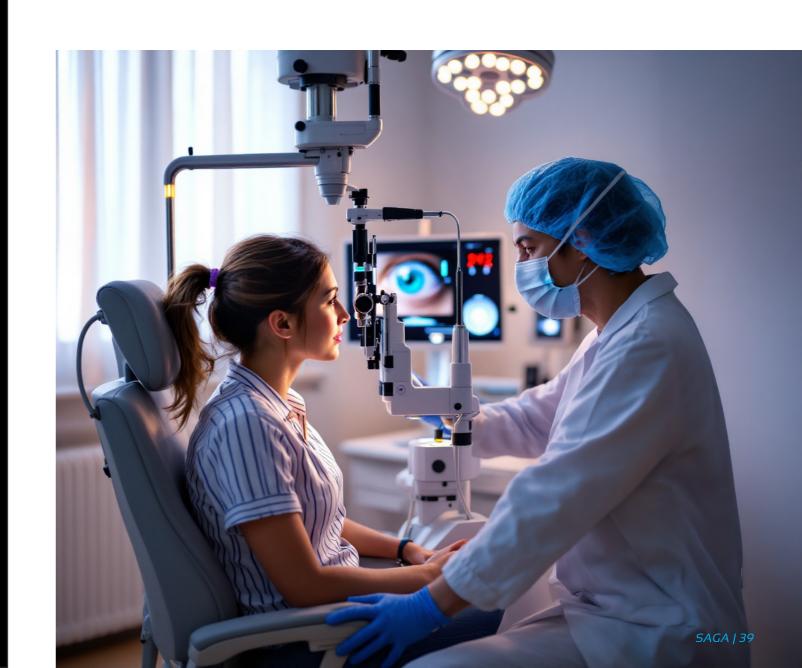
Retinal conditions that once meant irreversible vision loss are treated skillfully by Dr. Santosh Gopi Krishna G, whose calm expertise provides hope to many. Meanwhile, the bright future of countless children is safeguarded by Dr. Shruthi S, whose gentle approach ensures early diagnosis and treatment of pediatric eye conditions during their most formative years.

What truly makes Narayana Nethralaya exceptional is not just its technological edge or clinical rigor, but the warmth and compassion that greet every patient. Each centre, accredited by NABH, upholds the highest standards of safety and quality while ensuring every patient feels heard, cared for, and guided at every step. Research and treatment go hand in hand here, so patients always benefit from the latest advancements without losing the human touch that makes healing possible.

Today, Narayana Nethralaya stands tall as a beacon of world-class eye care. With its unwavering blend of scientific excellence and heartfelt compassion, it continues to redefine what is possible in ophthalmology—helping people see better, live better, and look forward to tomorrow with renewed hope.

If you or your loved ones are looking to safeguard your vision, seek trusted advice, or explore advanced treatments, Narayana Nethralaya is ready to walk that journey with you.

Visit www.narayananethralaya.org, call +91-80-6612 0200, or drop by one of their centres in Rajajinagar, Indiranagar, Bannerghatta Road, or Kanakapura Road in Bangalore. Discover eye care that's driven by science, guided by experience, and delivered with genuine compassion—because your vision truly matters.



Wearable Health Tech: Redefining How We Care for Ourselves

By Soham Biswas

"WHAT STARTED AS STEP COUNTERS HAS EVOLVED INTO DEVICES THAT DETECT HEALTH RISKS AND ASSIST IN EARLY DIAGNOSIS."

Imagine a world where your watch can alert you to an irregular heartbeat, your ring can track how well you slept, and your bracelet can monitor your stress levels—all in real time. This isn't a distant future; it's happening now. Wearable health technology is quietly transforming the way we approach healthcare, making it more accessible and personalized for everyone.

What began as simple step counters has evolved into sophisticated abilities capable of tracking vital signs, detecting potential health risks, and even assisting in

early diagnosis. These devices are no longer just accessories—they're becoming an integral part of how we monitor and manage our health.

As technology advances and more brands enter the market, wearable health tech is becoming more than just a trend. It's a shift in how we think about our wellbeing, empowering individuals to take charge of their health in ways that were once unimaginable. Let's take a closer look at how this technology is advancing and the impact it's already having on people's lives.

The Future of Wearable Health Tech

As wearable technology continues to evolve, its potential applications are limitless. Imagine a future where your smartwatch not only tracks your health but also predicts illnesses using AI, recommends personalized treatments, and connects seamlessly with your doctor. But as exciting as this sounds, it

also raises ethical questions: Should we trust machines to make decisions about our health?

Wearable health tech is not just a trend; it's a glimpse into the future of healthcare. But like any new technology, it comes with its share of challenges and controversies. As we navigate this new era, it's important to ask the tough questions: How do we ensure the accuracy of wearable devices? How do we protect our data? And most importantly, how do we make this technology accessible to everyone?

Critics argue that while wearable tech provides valuable insights, it's not a

substitute for professional medical

advice. For instance, a smartwatch might alert you to an irregular heartbeat, but it can't diagnose the underlying cause. On the other hand, proponents believe that wearable tech is empowering individuals to take control of their health, offering early warnings that

could save lives.

This tension between innovation and skepticism is what makes wearable health tech so fascinating. It's not just about the technology itself—it's about how we, as a society, choose to use it. Will we embrace it as a ability for better health, or will we become overly reliant on devices that might not always get it right?

Regardless of where you stand, one thing is clear: Wearable health tech is reshaping the way we think about healthcare. It's no longer just about fitness tracking; it's about creating a bridge

between personal health monitoring and professional medical care. And as the technology continues to evolve, the debate over its role in our lives will only grow louder.

The global wearable technology market is exploding, with projections suggesting it will surpass\$150 billion by 2028. This rapid growth is fueled by breakthroughs in sensors, artificial intelligence (AI), and connectivity. From tech giants like Apple and Samsung to fitness pioneers like Fitbit—and even luxury fashion brands—everyone seems to be jumping on the wearable health tech bandwagon. But with so many players entering the market.

Wearable health technology is transforming healthcare by making it more accessible, personalized, and proactive for everyone, regardless of age or lifestyle. From managing chronic conditions like diabetes and heart disease to encouraging physical activity, improving sleep quality, and monitoring stress, wearable devices are empowering individuals to take control of their health. For instance, continuous glucose monitors help people with diabetes track blood sugar levels in real time, while smartwatches with ECG capabilities can detect irregular heart rhythms, potentially saving lives. Fitness trackers increased daily step counts, and sleep monitors provide insights to improve rest. For the elderly, fall detection wearables offer safety and peace of mind. Beyond individual benefits, these devices collect vast amounts

monitoring, and public health insights. As wearable tech becomes more affordable and integrated into daily life, it's not just a gadget—it's an ability shaping the future of healthcare, empowering people to live healthier, more informed lives.

A Case in Point: How Wearable Tech is Helping People

Apple Heart Study (Stanford University)

The Apple Heart Study, conducted by Stanford University in collaboration with Apple, demonstrated that the Apple Watch could detect atrial fibrillation with 84% accuracy. The study involved over 400,000 participants and highlighted how wearable devices can alert users to irregular heart rhythms, prompting timely medical intervention.

Source: Stanford Medicine - Apple Heart Study Real-life case of atrial

fibrillation detection by an Apple Watch:

ABC News: A 46-year-old man, Ed Dentel, was alerted by his Apple Watch to an irregular heartbeat, which was later confirmed as atrial fibrillation (AFib) by doctors. This early detection prompted him to seek medical attention, potentially saving his life.

Source: ABC News - Apple Watch detects AFib



1. Tell us more about your journey and what inspired you to get into the health and wellness sector? How did you start HealDesire?

I've always been deeply interested in consumer behavior and emerging trends, which is why I pursued an MBA from IIM Lucknow, one of India's premier business schools. From there, I built a career in marketing, working with Reckitt across some of the most iconic global brands like Dettol, Durex, and Mortein, handling markets in India, ASEAN, and beyond. This gave me firsthand experience in understanding consumer needs and how they evolve across different geographies.

Over the years, I started noticing a growing global shift—people are no longer just looking for quick fixes to illnesses; they want to stay healthier for longer. This shift is driven by rising life expectancy, greater awareness, and increasing affluence, especially in developed markets where categories like air purification, functional foods, and preventive healthcare are already mainstream.

However, in India, we are a bit behind the curve. Take air pollution, for example—despite alarming levels, it's often normalized, and we don't talk about solutions enough. Similarly, vitamin and supplement usage is still relatively small compared to Western markets. But things are changing, and I strongly believe that the Indian healthcare and wellness market is on the brink of an explosion. People are becoming more conscious about their long-term health, and I wanted to be part of this transformation.

That's why I made the decision to return to India and start HealDesire—a company focused on helping Indians live healthier, longer, and better lives. At HealDesire, we don't just want to sell products; we want to educate, empower, and normalize conversations around health and wellness, including sexual wellness, which is often overlooked due to cultural taboos.

For me, this is more than just business—it's about driving change and creating a movement in an industry that's set to redefine how Indians approach their health.

2. Can you tell us more about the vision behind HealDesire and how it differentiates itself from other wellness brands?

At HealDesire, our vision is to normalize conversations around sexual wellness in India and make intimacy

solutions accessible to everyone. Sexual well-being is fundamental to a happy life, yet it's still a taboo topic. We take inspiration from Vatsyayana, who saw intimacy as an integral part of human well-being, not something to be ashamed of. For us, this isn't just a business-it's a mission to bring awareness, education, and science-backed solutions to people across India. What sets us apart is our holistic approach. Most brands focus only on men in metros, but we cater to all genders, all age groups, and people beyond big cities. We bring the best of science and nature, but we also keep our products affordable and approachable. More importantly, we go beyond selling—we focus on education, breaking taboos, and offering expert guidance in vernacular languages, so people feel comfortable seeking help.

At the end of the day, we're not just creating a brand we're starting a movement to make sexual wellness a normal, accepted part of life in India.

3. How do you balance the demands of work with maintaining your own physical and mental well-being?

Over the years, I've built some simple but effective habits that I've stuck to with strong discipline, and they've made a huge difference in keeping me healthy, both physically and mentally.

One thing not many people realize is that sleep is one of the most underrated yet powerful drivers of good health. I make it a point to go to bed early and wake up early, ensuring that I get at least 7 hours of sleep every night. It keeps my energy levels steady and helps me stay sharp at work.

For physical fitness, I swear by badminton—I play every single day for an hour. There's a reason why racquet sports are considered one of the best activities for overall health—they improve mobility, coordination, cardiovascular endurance, and even brain function. Plus, it's a great way to de-stress and challenge myself.

And for mental wellness, I do something that I find even simpler than meditation—I spend an hour with myself over a cup of coffee in a cozy café. It's a small but powerful habit. Often, we spend so much time caring for others, managing teams, or handling responsibilities that we forget to check in with ourselves. That one hour of solitude, just reflecting and thinking, is incredibly refreshing and keeps me motivated.

So for me, it's really about consistency with sleep, movement, and self-reflection—that's what keeps me grounded, no matter how hectic things get.

4. If you could change one thing about the way people approach health and wellness today, what would it be?

If I could change one thing, it would be how little attention people give to their health. In India, most of us only think about health when something goes wrong—when we fall sick, but by then, the damage is often already done. And for mental and sexual wellness it is even worse, we don't even talk about it; we don't acknowledge it to even ourselves or take any action. I wish more people made small, simple efforts every day to take care of themselves. It doesn't have to be extreme—just sleeping better, staying active, eating well, and managing stress can make a huge difference. With rising pollution, unhealthy diets, and high stress, we can't afford to take our health for granted anymore.

WELLNESS REIMAGINED: Innovation & their Paths to Healthier

akesh Roxy ounder Healdesire

future



If more people started being proactive—getting regular checkups, exercising, or even just being mindful of their habits—it would change lives.

5. What role should technology play in making wellness solutions more accessible to people?

Honestly, technology is both the problem and the solution when it comes to wellness. On one hand, our phones are probably one of the biggest reasons people struggle with their health today—endless scrolling, late-night screen time, and constant notifications all take a toll on sleep, mental well-being, and even physical activity.

But at the same time, if used the right way, technology can actually make wellness more accessible and easier to practice. Take smartwatches, for example—they track sleep, activity, and stress levels, which can help people make better choices. Telehealth is another game-changer; getting a doctor's appointment or speaking to a therapist used to be a hassle, but now it can be done from anywhere. Technology is especially useful for health issues with taboos associated with them, it can be a great means to educate oneself as well as reach out for support in a slightly more impersonal manner.

6. What changes do you think the health and wellness sector needs to make to become more inclusive and accessible for everyone?

The health and wellness sector has grown a lot, with plenty of content and solutions available today. But the problem is, most of it is designed for educated consumers in big cities, leaving those in smaller towns and villages without good options. This is even more evident in sexual wellness, where taboos and lack of access prevent many from seeking the right information and products.

A simple change, like creating content in vernacular languages, could make a huge difference in spreading awareness. Similarly, partnering with local communities—whether through doctors, pharmacists, or wellness ambassadors—can help bring trusted health solutions to places where access is still limited. In sexual wellness especially, people need a safe, judgment-free space to ask questions and seek help without fear or embarrassment.

If we truly want wellness to be inclusive, we need to bridge the gap and ensure that people outside urban centers also get the knowledge and tools to take charge of their health—including their intimate well-being.

7. What do you think are some of the most promising innovations in the Indian healthcare sector that excite you?

I think the biggest change happening right now is how technology is democratizing healthcare and wellness solutions by making these more accessible to everyone, not just people in big cities. Earlier, good healthcare often meant expensive treatments and long waits to see specialists. But now, digital platforms are helping more people get the information and care they need, no matter where they live. And I think we have barely started to scratch the surface- there are a lot more innovations waiting to be developed.

One of the most exciting innovations in Indian healthcare right now is Al-driven diagnostics. In a country like India, where doctor-to-patient ratios are low and access to quality medical facilities is limited, especially in rural areas, Al has the potential to bridge a massive gap.

With Al-powered health checkers and diagnostic tools, people can get an early indication of health issues without needing immediate access to a doctor. For example, Al is now being used to analyze medical scans for early detection of diseases like cancer and heart conditions, making diagnosis faster, more accurate, and accessible to people who otherwise might not get checked in time.

Beyond diagnostics, Al is also helping with personalized healthcare, from predicting disease risks based on genetic data to guiding people on lifestyle changes, nutrition, and medication adherence.

For a country where preventive healthcare is still evolving, AI has the power to unlock better health outcomes for millions by providing early warnings, faster diagnoses, and more efficient treatment plans. It's a game-changer that could make healthcare more proactive rather than reactive, and that's what makes it so exciting.

8. What do you think the Indian healthcare and wellness system will look like in the next 10 years? And where do you see HealDesire fitting into that future?

This is an incredibly exciting space to be in right now, and I truly believe that in the next 10 years, India will have a highly developed healthcare system—one that is built for India, by India.

We will definitely learn from the West, but just like UPI and Paytm revolutionized finance in a uniquely Indian way, I see healthcare evolving in a way that solves Indian problems with uniquely Indian solutions. The biggest shift will be in access—thanks to technology, Al-driven diagnostics, and telehealth, millions more people, even in the remotest corners of the country, will have low-cost, high-quality healthcare at their fingertips.

Preventive healthcare will also become a way of life rather than an afterthought. People will start prioritizing their well-being early, whether it's through better nutrition, fitness, or proactive medical checkups.

At HealDesire, we are proud to be contributing to this transformation. We see ourselves as pioneers in making Indians healthier, happier, and more informed about their well-being. As healthcare and wellness evolve, we will continue to innovate—bringing accessible, science-backed solutions to people across the country, breaking taboos, and making wellness an open, stigma-free conversation.

The next decade will be game-changing for Indian healthcare, and we are excited to be part of this journey.

9. What's one piece of advice you'd give to someone looking to improve their health and well-being?

My biggest advice would be to be proactive about your health. Too often, we wait until something goes wrong before we start paying attention, but good health isn't something you should fix—it's something you should protect.

Start by getting educated. There's so much information available today, but the key is to seek out the right knowledge and understand what works for you. Don't just follow trends—learn about your body, your needs, and make informed choices.

And most importantly, don't shy away from talking about your health and seeking help. Whether it's physical health, mental wellness, or even something as personal as sexual well-being, there's no shame in asking questions and getting expert advice. The more

we normalize these conversations, the healthier we'll all be.

Small steps—like staying active, eating well, managing stress, and prioritizing check-ups—can go a long way. The sooner you start, the better your future self will thank you.

10. What do you think about personalised medicine and their effectiveness?

Personalized medicine is one of the biggest trends in healthcare globally, but for Indians, this is not really a new concept. Ayurveda, which has been around for thousands of years, is fundamentally built on a personalized approach—treating individuals based on their dosha, prakriti, and unique lifestyle factors rather than a one-size-fits-all model. From dietary choices to herbal formulations, Ayurveda has long recognized that what works for one person may not work for another.

The rise of genetic testing, microbiome analysis, and Al-driven health insights is now bringing this concept into modern medicine, allowing for highly customized treatment plans based on a person's unique biology. Naturally, personalized solutions will lead to better results because they align with an individual's specific needs. This is why this space is so exciting and must be supported for further development.

For companies working on personalized solutions, the real challenge—and opportunity—lies in scaling personalization. Right now, customization is either expensive or limited to niche consumers. But if someone cracks the ability to deliver truly personalized healthcare at scale, that's a gold mine waiting to be tapped. The future of medicine is personal, and the companies that master this balance will define the next decade of healthcare.



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Tomorrow's MedTech:

How it Will Help Regrow, Repair, and Reclaim

By Ramanan Thirunavukarasu

Imagine a world where damaged organs can be replaced without waiting for a donor, where degenerative diseases are no longer a life sentence, and where the body's natural ability to heal itself is enhanced by science. This is not the plot of a futuristic novel but the promise of regenerative medicine—a field that is rapidly evolving and poised to transform the way we approach healthcare. By combining breakthroughs in stem cell research, gene editing, and advanced biotechnologies, regenerative medicine is on the brink of making the impossible possible. The global regenerative medicine market is projected to grow at a compound annual growth rate (CAGR) of 23.3%, reaching an estimated \$150 billion by 2030. This growth is fueled by advancements in stem cell therapies, 3D bioprinting, and gene editing technologies. By 2040, experts predict that regenerative medicine could reduce the need for organ transplants by up to 70%, significantly alleviating the burden on healthcare systems worldwide. Additionally, the integration of artificial intelligence (AI) is expected to increase the success rates of regenerative therapies by over 50%, as personalized treatment plans become more precise and effective.

Today, we are already seeing glimpses of this future. Burn victims are treated with lab-grown skin, patients with leukemia are given a second

chance at life through stem cell transplants, and cartilage damaged by an injury is repaired using tissue engineering. These are not isolated cases but the first steps toward a broader revolution in healthcare. In the United States, researchers have successfully bioprinted patches of heart tissue that can repair damage caused by heart attacks. This technology could potentially save the lives of the 17.9 million people who die annually from cardiovascular diseases. Similarly, in Japan, lab-grown retinal cells have been transplanted into patients with age-related macular degeneration, restoring vision in over 80% of cases. This breakthrough offers hope to the 196 million people worldwide affected by this condition. Early trials using CRISPR technology have also shown promise in treating genetic disorders like sickle cell anemia, with a success rate of over 90% in correcting the genetic mutation responsible for the disease. One of the most exciting advancements on the horizon is

the use of 3D bioprinting to create functional human organs. Picture a patient with kidney failure

BIOPRINTER

who no longer has to endure years on a transplant waiting list. Instead, their own cells could be used to bioprint a new kidney, perfectly tailored to their body, eliminating the risk of

rejection.

This technology is already being tested in labs, where researchers have successfully printed small-scale tissues and organoids-miniature versions of organs that mimic their real-life counterparts. By 2035, experts predict that fully functional bioprinted organs could become a reality, potentially saving the lives of over 1,00,000 patients annually in the United States alone who are currently on organ transplant waiting lists. Stem cell research is another cornerstone of regenerative medicine's future. Scientists are now able to

reprogram ordinary cells into induced pluripotent stem cells (iPSCs), which can then be transformed into any cell type in the body. This means that a patient with a spinal cord injury could potentially regain mobility through the regeneration of nerve cells, or someone with diabetes could have their insulin-producing cells restored. With over 422 million people living with diabetes globally, the impact of such therapies could be monumental. These advances in stem cell technology are increasingly converging with other breakthrough fields, accelerating the pace of innovation in regenerative medicine.

Gene editing technologies like CRISPR are also set to play a pivotal role in the future of regenerative medicine. Imagine being able to correct a genetic mutation that causes a debilitating disease before it even manifests. This is not just theoretical; early trials are already showing promise in treating genetic disorders like sickle cell anemia. In the future, gene editing could be combined with regenerative therapies to enhance the body's natural healing processes, creating "super cells" that are more resilient and capable of repairing damage. For example, a patient recovering from a heart attack could receive gene edited cells that not only repair the

damaged tissue but also strengthen the heart against future episodes. These possibilities represent an entirely new paradigm in treating previously incurable conditions.

The integration of artificial intelligence (AI) into regenerative medicine is another game-changer. Al is already being used to analyze vast amounts of medical data, identify patterns, and predict outcomes. In the context of regenerative medicine, Al could help design personalized treatment plans by analyzing a patient's genetic and cellular data. For instance, if a patient requires tissue regeneration, Al could determine the optimal

"Medicine is evolving beyond treatment ushering in an era of complete regenerative healing

and scaffolds to ensure the best possible outcome. This level of precision and personalization could dramatically improve the success rates of regenerative therapies, which currently range between 60% and 80% depending on the condition being treated. The synergy between AI and regenerative technologies promises to revolutionize treatment protocols and outcomes for countless patients. Despite the challenges that remain, the trajectory of regenerative medicine is clear. In the coming decades, we can expect to see a shift from reactive to proactive healthcare. Instead of treating diseases after they occur, regenerative medicine will allow us to repair and regenerate tissues before they cause significant harm. This could lead to longer, healthier lives and a dramatic reduction in the burden of chronic diseases on healthcare systems. For example, regenerative therapies could reduce the prevalence of chronic conditions like diabetes, heart disease, and arthritis by up to 40% by 2050, saving billions in healthcare costs. As these technologies mature and become more accessible, their impact on global health outcomes will be transformative. The future of regenerative medicine is not just about technology; it's about hope. It's about giving a child with a genetic disorder the chance to live a normal life, helping a paralyzed individual walk again, and offering a second chance to patients who have run out of options. As we stand on the brink of this new era, one thing is certain: the future of regenerative medicine is not just about healing-it's about transforming lives. With continued investment in research and development, collaborative approaches across scientific disciplines, and thoughtful consideration of ethical implications, regenerative medicine will fulfill its promise to revolutionize healthcare in the decades to come.

combination of cells, growth factors,

A New Dawn in Cancer Care: Harnessing Al for Hope and Healing

"Al in Cancer Care: Turning fear into hope, and hope into healing."

Imagine a world where cancer can be detected before it has a chance to take hold. This is no longer a distant dream-Artificial Intelligence (AI) is making it possible. By analyzing complex data from genomic sequencing, proteins, and other biological markers, AI can identify cancer in its earliest stages, often before symptoms appear. Non-invasive tests, like liquid biopsies powered by AI, are already showing remarkable promise. For instance, a groundbreaking study by GRAIL in 2020 demonstrated that liquid biopsies could detect over 50 types of cancer with an accuracy rate of 89% in early stages. These innovations have the potential to save millions of lives, sparing families the heartbreak of late-stage diagnoses. However, to make this vision a reality, we must ensure that Al technologies are seamlessly integrated into healthcare systems and made accessible to everyone, regardless of geography or financial

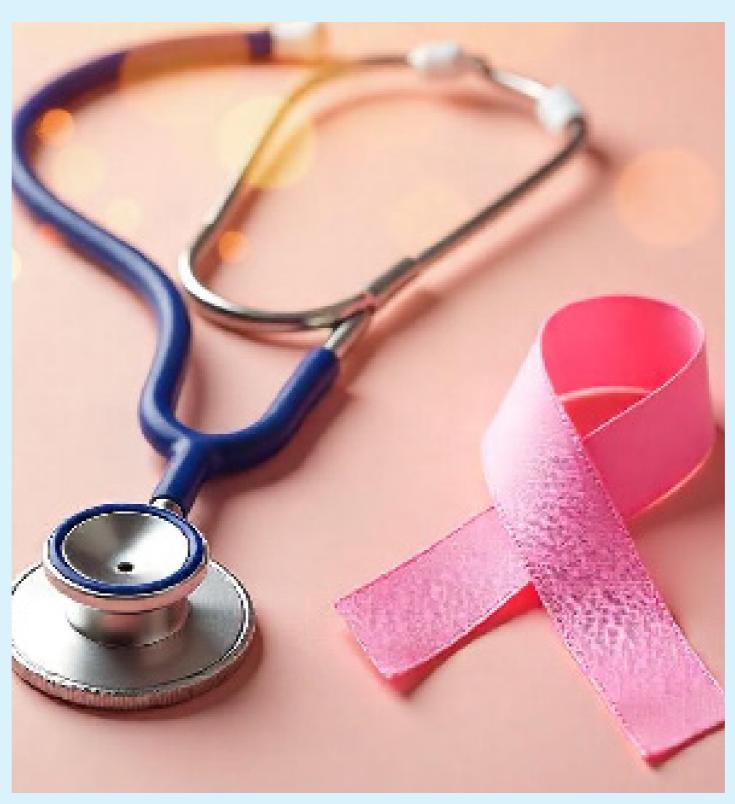
We are entering a transformative era in cancer care, where AI is reshaping how we diagnose, treat, and manage this devastating disease. This changing technology is not just an advancement—it

situation.

represents a profound shift in our fight against cancer. According to the World Health Organization (WHO), cancer is the second leading cause of death globally, responsible for nearly 10 million deaths in 2020. Al offers a powerful ability to change this trajectory, bringing us closer to a future where cancer can be treated more effectively and, one day, even cured. Predictive models suggest that with widespread adoption of AI in early detection and treatment, global cancer mortality rates could drop by as much as 20% over the next decade. For millions of patients and their families, AI offers something invaluable: Hope.

Al is also transforming how we treat cancer. By analyzing a patient's unique genetic and molecular profile, Al can help doctors create highly personalized treatment plans. This approach, known as precision medicine, is already showing results. For example, Al-driven platforms like IBM Watson for Oncology have

By Roopak Pathak



been used to recommend treatment options with a 93% concordance rate with human oncologists. These tailored therapies are not only more effective but also gentler, reducing side effects and improving the quality of life for patients. Predictive analysis suggests that as AI becomes more integrated into treatment planning, survival rates for certain cancers, such as breast and lung cancer, could improve by 15–25% in the next five years. However, it is critical that these advanced treatments are available to all, breaking down barriers of cost and accessibility so that no one is left behind in this new era of cancer care.

In drug discovery, AI is accelerating the development of new treatments for patients who have exhausted existing options. Traditionally, developing a new drug takes 10–15 years and costs over \$2.6 billion. AI is cutting this timeline significantly. For instance, the AI platform BenevolentAI identified a potential drug candidate for breast cancer in just 12 months, a process that

"With AI, cancer's future is no longer a mystery—it's a challenge we can beat."

 would have taken years using traditional methods. Predictive models estimate that AI could reduce drug development costs by up to 40% and bring new therapies to market 50% faster. By identifying new drug targets and optimizing drug design, AI is opening doors to therapies that were once unimaginable. This progress requires collaboration between AI researchers, oncologists, and pharmaceutical companies to ensure these breakthroughs reach the patients who need them most, as quickly as possible.

Al is also revolutionizing how we monitor and manage cancer treatment. Imagine wearable devices and smart systems that providing doctors with instant updates on how treatments are working. These systems are already being implemented. For example, Tempus, an Al powered platform, collects and analyzes patient data to help oncologists make data-driven decisions. Such systems can detect changes early, allowing for timely adjustments and giving patients and their families peace of mind. A study published in **Nature Medicine found that** Al-based monitoring reduced hospital readmissions by 30%

for cancer patients undergoing chemotherapy. Predictive analysis suggests that as these systems become more widespread, they could reduce treatment complications by up to 25% and improve overall patient outcomes significantly. To fully embrace these technologies, we must educate both patients and healthcare providers, building trust and understanding around their use.

It also has the potential to close healthcare gaps on a global scale. In low-resource settings, where access to advanced cancer care is limited, Al can provide affordable and effective solutions. For example, Al-powered diagnostic platforms like PathAl are being used to analyze pathology slides with accuracy comparable to track a patient's health in real time, expert pathologists, even in regions with limited medical infrastructure. Predictive models suggest that by 2030, Al could help reduce diagnostic delays in low income countries by 50%, potentially saving hundreds of thousands of lives annually. By making these technologies accessible worldwide, we can prevent the growing divide between and low-income countries. At the same time, we must develop

long-term strategies to manage the vast amounts of data generated by Al systems, ensuring its security and integrity over time.

The future of cancer care is brighter than ever, with AI leading the way. From early detection to personalized treatments, faster drug discovery, and real-time monitoring, AI is transforming every aspect of how we fight cancer. But this future will only be possible if we work together healthcare providers, researchers, policymakers, and communities to ensure that these innovations are accessible, ethical, and equitable.

Al is not just a ability; it is a beacon of hope for millions of patients and their families. It brings us closer to a world where cancer is no longer a life sentence but a challenge we can overcome. Predictive analysis suggests that with continued advancements in Al. we could see a 30% reduction in global cancer mortality rates by 2040. Together, we can turn this vision into reality, offering healing, hope, and a better quality of life to those who need it most.



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1. What inspired you to pursue a career in brand management, particularly in the healthcare and skincare sectors?

I believe both the sectors are growing terrifically. Consumers are well informed and they look forward to brands who can offer innovative products and services. It is a challenging job to meet the consumer's requirements, but that's what pushes me to think out of the box, in terms of what more could the brand offer to meet the increasing needs of the consumers. The role also needs a good mix of creativity and strategy, which are my interest areas and I love to be in this space of the business.

2. What personal values or philosophies guide your approach to building and managing brands?

Honesty and reliability, are one of the important aspects for any individuals to build a strong relationship. And even more important when you are building a brand, as the only way to communicate to the consumer is largely via content. We exist in a world where personal touch or conversations are not possible every time, hence building these values becomes crucial to drive brand consideration.

3. What is the unique value proposition of Depiwhite, and how does it stand out in the dermatology market?

Depiwhite has two variants - Depiwhite Advanced Cream and Depiwhite Eye Contour Gel. The unique value proposition is its key ingredients, and the efficacy of the product. Our products contain ingredients like Vitamin C, Niacinamide, Kojic Acid, Plant extracts and Antipollon which has shown results within 28 days*. Our consumer testimonials speak volumes, with visible reduction seen in dark spots, dark circles and under eye puffiness within 4 weeks*

4. How do you ensure that Depiwhite meets the evolving needs of consumers and dermatologists?

Our products are developed post extensive consumer research. The need gap analysis is important to understand, what next can be built, considering the changing needs of the consumers. Our products are made in France and the ingredients are meticulously esigned to meet the real life skin problems. Our strategy is always consumer first approach, and create products basis insights from the Dermatologists and the end users.

5. How do you see advancements in health tech, such as AI, telemedicine, and wearable devices, impacting the skincare and dermatology industry?

We are seeing tremendous developments in the skincare industry, where technology is helping both in identifying the needs and educating the consumers about the product. Leading brands like L'Oréal, Neutrogena, Sephora, Cetaphil, Nivea and Olay are embracing Al to revolutionize personalized diagnostics, utilizing facial recognition, skin type analysis and texture assessments.

With the advanced technology, brands will be in a better position to cater the consumer needs and also tailor skincare solution for best results.

6. What are your thoughts on the integration of augmented reality (AR) and virtual reality (VR) in consumer education or product demonstrations for skincare brands?

Augmented reality (AR) and virtual reality (VR) has been around for years now, and some brands have made a good use of these technologies to educate the consumer. AR and VR can be used to simulate skincare routines, educating consumers about product usage and benefits. AR integration makes virtual beauty experiences more personalized and realistic where consumers can visualize beauty products on them in real time and determine how they will look on them in reality. For skincare brands, it is difficult to show the product benefits unless experienced. With these technologies, it becomes easy to make the consumer understand how the product can work across the different layers of the skin through visual representation.

7. What technological innovations is Dr. Reddy's exploring for Depiwhite, and how is the brand adapting to upcoming market changes? Would avoid this as it is confidential at this moment

8. How can AI-powered abilities, such as skin analysis apps, help brands provide more personalized solutions to consumers?

The AI powered apps can help in analysing various skin related problems like texture, dryness, roughness, moisture level and how deep the problem is. It helps in understanding the real problem, enabling customization with the product offering making the consumer experience pleasant.

9. What advice would you give to aspiring brand managers looking to make an impact in the healthcare or skincare industry?

A consumer centricity approach and effective execution. No matter how impressive the strategy slides are, the real success will be seen only by understanding the unmet needs of the consumers along with flawless execution. Most of us focus on creating high level strategy, but at times we fail to visualize the challenges during execution.

10. What legacy do you hope to leave behind as the Brand Manager of Depiwhite

Hmm, that's a tough question \(\mathbb{I} \) Well people usually like to be remembered for their work, mentorship, and their achievements. However, for me, what made our consumers happy, a positive testimonial and a great experience with the product is what I would love to be remembered for.



The Future of the Healthcare System with Al

Artificial Intelligence (AI) is no longer a concept of the future—it is actively reshaping global healthcare in real time. From predictive diagnostics and robotic surgeries to AI-powered drug discovery and personalized treatment plans, the integration of AI is redefining how care is delivered, managed, and experienced.



Al in Early Detection and Diagnostics

Al algorithms are increasingly outperforming human radiologists in detecting diseases such as cancer, tuberculosis, and even rare genetic conditions. Through deep learning models trained on millions of images and datasets, machines can now detect anomalies with exceptional accuracy—often in seconds reducing both human error and diagnostic delays.

Personalized Medicine

The fusion of AI and genomics is enabling hyper-personalized healthcare. By analyzing an individual's DNA, lifestyle, and medical history, AI can suggest custom treatment regimens, predict disease susceptibility, and even guide dietary or supplement plans. This transition from generic to precise care is a leap toward proactive health management.

Virtual Health Assistants and Chatbots

Al-powered virtual assistants are revolutionizing outpatient care. These tools offer medication reminders, mental health support, and even preliminary diagnoses through conversational interfaces, making healthcare accessible beyond clinics—especially in remote and underserved areas.

By Dr. Asher T. Gianchandani

Robotic Surgeries and Smart Hospitals

Al-guided surgical robots are making procedures more accurate and less invasive, shortening recovery times and reducing hospital stays. Smart hospital systems use Al to manage bed occupancy, streamline logistics, and predict patient admissions, ensuring better resource allocation.

Drug Discovery and Vaccine Development

Al accelerates drug development by simulating molecular interactions, predicting compound success rates, and optimizing clinical trial designs. COVID-19 proved the importance of such technologies, and the next wave of treatments for chronic diseases may emerge from Al labs faster than ever before.

"The future of healthcare is not just high-tech—it is deeply human"

Mental Health and Cognitive Care

Al is becoming an invisible ally in managing mental health. Natural language processing models can detect signs of depression or cognitive decline from speech or writing patterns. Wearables synced with Al can track mood changes in real-time and provide actionable insights or alert caregivers.

Ethics, Data Privacy, and Equity

With Al's power comes great responsibility. The future of Al in healthcare must be governed by transparent algorithms, equitable access, and stringent data privacy. Policymakers, technologists, and clinicians must collaborate to ensure that Al benefits everyone, not just the privileged.

Conclusion: A Human-Centered Al Future
Al is not here to replace healthcare professionals,
but to augment them. The future will see doctors
and Al working hand-in-hand—combining empathy
and expertise with machine precision and speed. As
we move toward 2030, healthcare will no longer be
reactive and siloed, but predictive, personalized, and
interconnected.

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Revolutionizing Treatment at the Molecular Level

By Akshata Shailendra Singh

"Nanomedicine is not just the future—it's the present. We are already using nanoparticles to target disease at an unprecedented level of precision."

> – Dr. Robert Langer, Biomedical Engineer

Nanomedicine stands at the forefront of medical innovation, leveraging the unique properties of nanoscale materials to revolutionize diagnostics, therapeutics, and disease prevention. By manipulating structures at the molecular and atomic levels, typically between 1 and 100 nanometers, nanomedicine offers unprecedented precision in targeting disease mechanisms, potentially transforming patient care.

A primary application of nanomedicine is in drug delivery systems. Traditional drug administration often faces challenges such as poor solubility, limited bioavailability, and non-specific distribution, which can lead to suboptimal therapeutic effects and adverse side effects. Nanocarriers, including liposomes, dendrimers, and polymeric nanoparticles, have been engineered to overcome these obstacles. For instance, liposome-encapsulated drugs like Doxil have been approved for treating various cancers, offering improved drug stability and targeted



Imagine a world where medicine is delivered directly to diseased cells, minimizing side effects and maximizing effectiveness. That's the power of nanomedicine.

Or Chad Mirkin Nanotechnology Researcher.

- Dr. Chad Mirkin, Nanotechnology Researcher

delivery to tumor sites. This encapsulation not only enhances the therapeutic index but also reduces toxicity to healthy tissues. In the realm of diagnostics, nanomedicine advanced introduced techniques. Nanoparticle-based contrast agents have been developed to improve sensitivity and specificity of imaging modalities such as magnetic resonance imaging (MRI) and ultrasound. Quantum dots, a type of nanoparticle, exhibit size-tunable light allowing for high-contrast imaging of biological tissues. When conjugated with targeting ligands, these nanoparticles can bind to specific cellular markers, enabling the early detection of diseases like cancer at the molecular level. significance of nanomedicine is underscored by its rapid market growth. In 2022, the global nanomedicine market

was valued at approximately \$174.13 billion and is projected to expand at a compound annual growth rate (CAGR) of 11.57% from 2023 to 2030, potentially reaching \$410.15 billion by the end of the decade. This growth is driven by the increasing prevalence of chronic diseases, advancements in nanotechnology, and the rising demand for personalized medicine. Looking ahead, the future of nanomedicine is poised for remarkable advancements. One promising area is the development of magnetic nanopharmaceuticals for targeted cancer therapy. Researchers have designed magnetic nanodrugs capable of precisely attacking colon cancer cells. These nanopharmaceuticals combine specific antibodies with magnetic materials, allowing for targeted delivery and controlled release of anticancer agents. Preclinical studies have demonstrated enhanced efficacy and

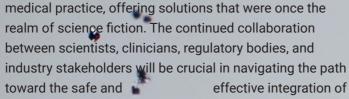
 reduced side effects compared to conventional therapies.

Another frontier is the application of nanomedicine in space exploration. Astronauts on long-duration missions, such as those to Mars, are exposed to high levels of cosmic radiation, increasing their risk of developing cancer and other health issues. A biotech startup, Nanotics, is developing nanoparticle injections designed to counteract these risks. Their nanomedicine, known as NaNots, targets immune system signals exploited by tumors, offering a potential therapeutic strategy to maintain astronaut health during deep-space missions.

Despite these promising developments, several challenges must be addressed to fully realize the potential of nanomedicine.

Ensuring the safety and biocompatibility of nanomaterials is paramount, as their small size and unique properties may pose unforeseen biological interactions. Regulatory frameworks need to evolve to keep pace with the rapid innovation in this field, establishing standardized protocols for evaluating the efficacy and safety of nanomedicine products. Additionally, ethical considerations regarding the long-term effects of nanomaterials on human health and the environment must be carefully examined.

In conclusion, nanomedicine is set to play a transformative role in the future of healthcare. Its applications in targeted drug delivery, advanced diagnostics, and novel therapeutic strategies hold the promise of more effective and personalized treatments. As research progresses and overcomes current challenges, nanomedicine will likely become integral to







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Revolutionizing Medicine: How Al is Transforming Drug Discovery

By Varun Siddhaarth

Al in drug discovery is revolutionizing how new medicines are developed. It accelerates the process by analyzing massive datasets, identifying potential drug candidates, and predicting their effectiveness. Al-driven models can simulate drug interactions, reduce reliance on animal testing, and optimize clinical trials. Technologies like DeepMind's

AlphaFold and Insilico Medicine's Al assist in protein structure prediction and drug design.

Al also enhances personalized medicine by predicting patient responses to treatments.

Despite challenges like data quality, regulatory hurdles, and computational costs, Al is making drug discovery faster, more cost-effective, and more precise.

The journey of a single drug to market costs

approximately \$2.8 billion and takes more than a decade, yet the success rate remains alarmingly low, with nine out of ten therapeutic molecules failing to progress past Phase II clinical trials. These roadblocks have driven growing interest in Al as a transformative tool for drug discovery.

The AI pharmaceutical market grew from \$200 million in 2015 to \$700 million in 2018 and is projected to reach \$5 billion by 2024. AI accelerates drug development by analyzing vast datasets, predicting drug-target interactions, and streamlining the entire drug discovery pipeline, from computational chemistry to clinical trial optimization.

Generative AI is reshaping pharmaceutical research by significantly improving how scientists

design, test, and refine drug candidates. Al models now analyze massive experimental datasets, evaluating compound efficacy, physicochemical properties, and safety profiles, all without the need for physical synthesis.

Al-driven systems can review hundreds of thousands of compounds in a single day using advanced techniques such as Variational Autoencoders (VAEs) to generate new molecules based on learned data, Generative Adversarial Networks (GANs) to optimize drug properties, and Reinforcement Learning algorithms to design molecules with specific constraints such as potency, safety, and metabolic profiles.

A major breakthrough in Al-driven drug discovery is Computational Autonomous Molecular Design (CAMD), which integrates efficient data generation tools, reliable data representation techniques, physics-informed machine learning models, and molecule generation based on learned knowledge. Biotech companies leveraging AI are already making significant progress. Over 150 Al driven small-molecule drugs have entered the discovery phase, and 15 have reached clinical trials. These Al-powered techniques are growing at nearly 40% per year, demonstrating their increasing role in drug development.

Companies like Eisai are achieving remarkable results by combining deep generative models with predictive analytics. Their AI systems identify promising compounds from computergenerated possibilities, significantly speeding up the discovery process.

Future innovations like generative AI can design new drug molecules, quantum computing will solve complex chemical interactions faster, and AI-powered lab automation will handle experiments more efficiently. Personalized medicine will allow treatments to be tailored to an individual's

genetics, while digital twin technology will create virtual patients for safer testing. Leading pharmaceutical companies have successfully integrated Al-human collaboration into their R&D processes. A prime example is Sanofi's Al research factory strategy, which focuses on identifying disease mechanisms, enhancing molecular design, and running biomarker-guided precision medicine trials.

Moreover, pharmaceutical companies are building intelligent data layers that integrate molecular structures, clinical operations, and patient data. Al automates repetitive tasks, while researchers focus on high-level strategy, ethics, and clinical decision-making. The most effective drug discovery teams seamlessly combine "wet lab" (physical experiments) and "dry lab" (computational analysis) operations, ensuring Al models work with high quality experimental data.

By 2025, Al-driven pharmaceutical research is expected to reach a critical milestone. The global Al in clinical trials market is projected to grow at a 16% compound annual growth rate (CAGR), reaching over \$10 billion by 2030. Pharmaceutical companies are investing heavily in Al to cut drug discovery time and costs. Al could reduce preclinical research timelines by 25-50%, significantly accelerating the development process. A leading pharmaceutical company anticipates saving \$1 billion in development costs over five years by leveraging Al-driven approaches. Additionally, Al-powered clinical trial recruitment tools have transformed patient enrollment, reducing timelines from months to just minutes.

The growing reliance on AI has prompted regulatory bodies like the FDA to develop guidelines on trustworthy Al, bias mitigation, and model validation in drug development. The industry is also moving toward specialized Al pipelines that target specific diseases with high precision. Experts predict that AI will contribute to the discovery of 30% of new drugs by 2025, marking a major shift in how pharmaceutical companies approach innovation. Al is transforming pharmaceutical research by reducing drug development costs and timelines while enhancing molecular design and clinical trials. While Al streamlines data analysis and prediction, human expertise remains crucial for oversight, regulation, and ethics. With Al-driven drug discovery expected to contribute to 30% of new medications by 2025, this marks a fundamental shift in how life-saving treatments are developed.



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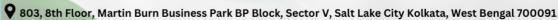
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New Frontiers of Immunotherapies

By Varun Siddhaarth

"The future of medicine is reprogramming immunity into precision disease fighters."

Immune engineering is a field that uses engineering and immunology to create new ways to treat diseases and injuries. It's a rapidly growing field that uses tools like biomaterials and cell and gene therapy.

Medical science has seen immune engineering grow remarkably since 2012. Scientific publications jumped from 2 papers to 111 by 2019, representing a 53% increase that reshaped the medical landscape.

This field blends immune cell engineering with engineering tools to control our immune system. The advances affect many medical areas, especially cancer treatment, autoimmune diseases, and infectious diseases. NIH funding tells the success story well - starting at zero in 2014 and reaching \$30 million by 2019.

The Science behind Immune engineering is the immune engineering blends principles from engineering, materials science, and immunology to create breakthrough technologies that manipulate the immune system. Scientists and researchers

use this mix of disciplines to build tools that modify our body's natural defenses and treat complex diseases in new ways.

The life-blood of immune engineering revolves around developing vaccines and immunotherapies, engineered T and B cell treatments, immune cell manufacturing processes, and rapid diagnostic tools and bioelectronic devices. Immune engineering serves as an enabling technology that powers basic discoveries and creates new treatment approaches. The field works on two vital layers of specificity: antigen-specificity protects specific cells and tissues, while immunomodulatory specificity triggers precise immune responses. These mechanisms have made immune engineering the life-blood of modern medical breakthroughs.

The FDA has approved six CAR T-cell therapies since 2017, which proves this remarkable progress. These therapies know how to eliminate advanced leukemias and lymphomas and have managed to keep cancer in remission for many years.

Engineered macrophages have also emerged as powerful tools in cancer immunotherapy. These modified immune cells work as carriers for anticancer drugs and nanoparticles that target solid tumors.

Vaccine technology has made notable advances, especially when you have mRNA vaccines. These state-of-the-art solutions have shown 90-95% protection against COVID-19, which led to rapid emergency and full FDA approval. This success has gotten scientists started in thinking about new vaccine designs as they learn about lyophilized formulations that remain stable at room temperature. Immune engineering breakthroughs reach beyond cancer and infectious diseases, with key developments in autoimmune disease treatment showing promise. B-cell depletion therapy demonstrates positive results for neuroinflammatory conditions, while targeted immunotherapy achieves disease control without compromising overall immune function.

Scientists now focus on developing precise, patient-specific approaches for immune based treatments. They have created vaccines using patient's DNA and RNA information to identify unique mutations found only in cancer cells. These customized therapeutic vaccines teach the body's immune system to recognize and destroy specific threats.

Recent research highlights several promising developments, including neoantigen targeting immunotherapies as ultimate precision cancer treatments, combined immunotherapy approaches to enhance effectiveness, and the integration of artificial intelligence to optimize treatment.

Tata Memorial Hospital is
pioneering CAR-T cell therapy in
India, modifying patients' immune
cells to fight cancer, while biotech
firms like ImmunoACT develop affordable
homegrown solutions.
Meanwhile, Al-driven immune profiling is
enabling Bengaluru-based startups like Bugworks

Research and Mynvax to create personalized

vaccines by predicting immune responses.

Additionally, CRISPR gene-editing is being explored by Hyderabad research institutes to reprogram immune cells, offering hope for autoimmune diseases like rheumatoid arthritis and Type 1 diabetes by preventing the body from attacking itself.

The field moves toward "off-the-shelf" therapies that could make treatments more available and affordable. These standardized approaches combined with customized treatment combinations are a great way to get broader patient access. The future of medical treatment through immune engineering balances personalization with availability, ensuring these breakthrough therapies reach those who need them most.

Modern medicine has made incredible strides with immune engineering. What started as a theoretical concept has evolved into treatments that change lives. The success of CAR T-cell therapies and mRNA vaccines shows how immune engineering affects patient care.

India is shifting from pharma manufacturing to pioneering immune engineering, with Al-driven diagnostics, affordable therapies, and

Ayurveda-inspired hybrid treatments. By 2040, immune enhancements

could fight
diseases,
slow aging,
and extend life
span.Immune
engineering
is no
longer
science

fiction, it's happening now. In a few years, we might walk into a clinic, get our

immune system
analyzed, and walk
out with a tailor-made immune

boost.

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