GLOBAL HEALTHCARE TRENDS

SingHealth 2024

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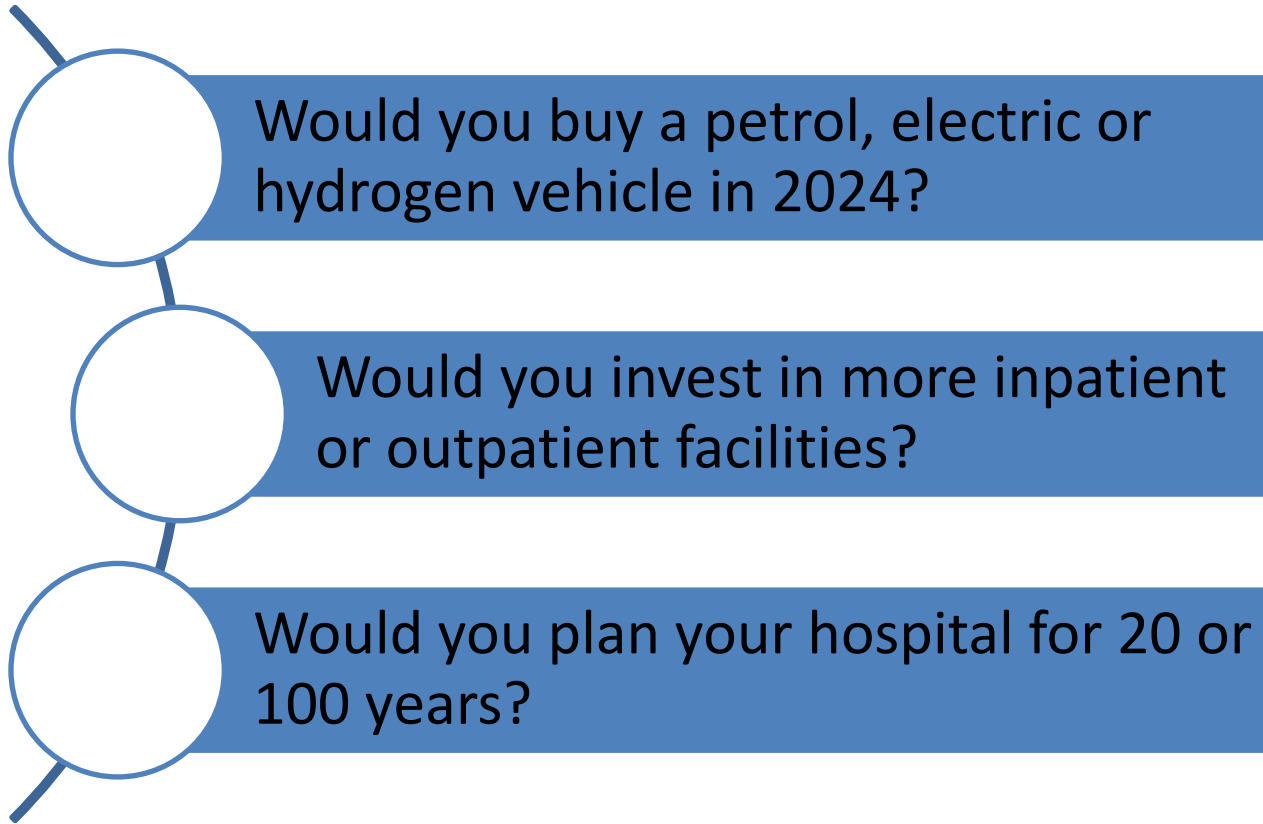
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AGENDA

1   Megatrends

2   Global Trends

3   Healthcare-Specific Trends

4   Emerging Trends and Signals

5   25-year Trends

MEGATRENDS

Would you buy a petrol, electric or hydrogen vehicle in 2024?

Would you invest in more inpatient or outpatient facilities?

Would you plan your hospital for 20 or 100 years?

What is a megatrend?

A megatrend is **a general direction of development, consisting of several phenomena, or a wide-ranging process of change**. They are considered to occur at the global level and development is often believed to continue in the same direction

TIMEFRAMES MATTER

natural evolution and climate change

↓

megatrends

↓

sociocultural trends

↓

technology trends

↓

consumer trends

↓

Zeitgeist and fashion trends

↓

microtrends

TIMEFRAMES MATTER

Megatrends don't "emerge"

- They are observed retrospectively as a long-term development.
- They affect all aspects of the economy and society, across geographies.
- The development can be extrapolated into the future with a high degree of reliability.

Megatrends are therefore not invented or proclaimed.

…And they may last for up to 50 years!

TIMEFRAMES MATTER

- In the beginning, new things can often only be recognized in the form of qualitative observations and the interpretation of so-called weak signals

Real trends emerge when:

- ... social, economic or technical phenomena or innovations are moving from social fringe areas or niches into the middle of society.
- ... new phenomena are becoming more relevant and small avant-gardes are developing the potential to change the mainstream –

Examples of the latter include:

- ways of life or family models,
- media use,
- consumer behavior,
- the world of work,
- technological applications,
- individual sectors.

ORIGINS OF TRENDS

- Difficult to pinpoint.
- Usually formed by several similar and simultaneous phenomena that reinforce each other.
- Megatrends appear all over the world, with different characteristics and converge over time.

Examples:

- When it comes to breakthrough innovations for cashless payment by mobile phone, it was worth looking to Africa a few years ago.
- If you want to know which trends are taking place in the area of urbanization, you have to look at developments in Asian megacities.
- Tesla may be the company with the greatest pioneering spirit and the greatest impact on e-mobility initially, but the actual growth of e-mobility has long since taken place in China.

CURRENT GLOBAL TRENDS

Being Alive
Awareness that good health extends longevity & leads to a new way of life

Future Tense
Consumers, anxiety-ridden by simultaneous social, economic, political & ethical chaos, find themselves beyond their ability to cope with today or image tomorrow.

Down Aging
Nostalgic carefree childhood, baby boomers & millennials alike find comfort in familiar pursuits & products from decades past.

Cocooning
The need to protect oneself from the harsh, unpredictable realities of outside world

THE **17** Global
TRENDS
that Reveal
The **FUTURE**

CASHING OUT — Co
BEING ALIVE — Ba
SMALL INDULGENCES — Si
99 LIVES — 99
EGONOMICS — En
FUTURE TENSE — Ft
ANCHORING — Ac
CLANNING — Cn
ATMOSFEAR — Af
ICON TOPPLING — It
SAVE OUR SOCIETY — So
DOWN AGING — Da
EVEOLUTION — Eo
COCOONING — Cc
PLEASURE REVENGE — Pr
FANTASY ADVENTURE — Fa
VIGILANTE CONSUMER — Vc

CURRENT GLOBAL TRENDS

Global Impact of Ukraine and Israel-Hamas Conflicts:
Ongoing Ukraine war with potential escalation challenges. Israel-Hamas conflict de-escalating but causing geopolitical rifts and supply chain disruptions.

Election Overload:
Over 40 elections worldwide, with impacts on political stability and geopolitical risks, especially in the US.

Geopolitical Regulatory Competition:
Strategic competition between the US and China through trade restrictions and export controls, affecting key sectors like tech and defense.

Rising Hate:
Increase in hate crimes motivated by racial, ethnic, and religious biases, with significant impacts during election periods in various regions.

Terrorism – Acute Local and Regional Threats:
Persistent terrorism threats in regions like the Sahel, Pakistan, and parts of the Middle East, motivated by geopolitical events and mixed extremism.

More Global Sanctions Enforcement Capabilities:
Increased sanctions enforcement to counter circumvention, with companies needing to enhance due diligence to comply with evolving sanctions regimes.

Disruptive Environmental Activism:
Growing climate activism leading to protests and direct actions targeting companies and governments perceived as lagging on climate commitments.

Global Economic Resilience Challenges:
Below-average global growth with tighter credit conditions, impacting corporate and consumer spending, and increasing political instability risks.

Energy Transition: The Resource Nationalism Challenge:
Investment in renewables driven by decarbonisation goals and energy security, with rising demand for critical minerals and green industrial policies.
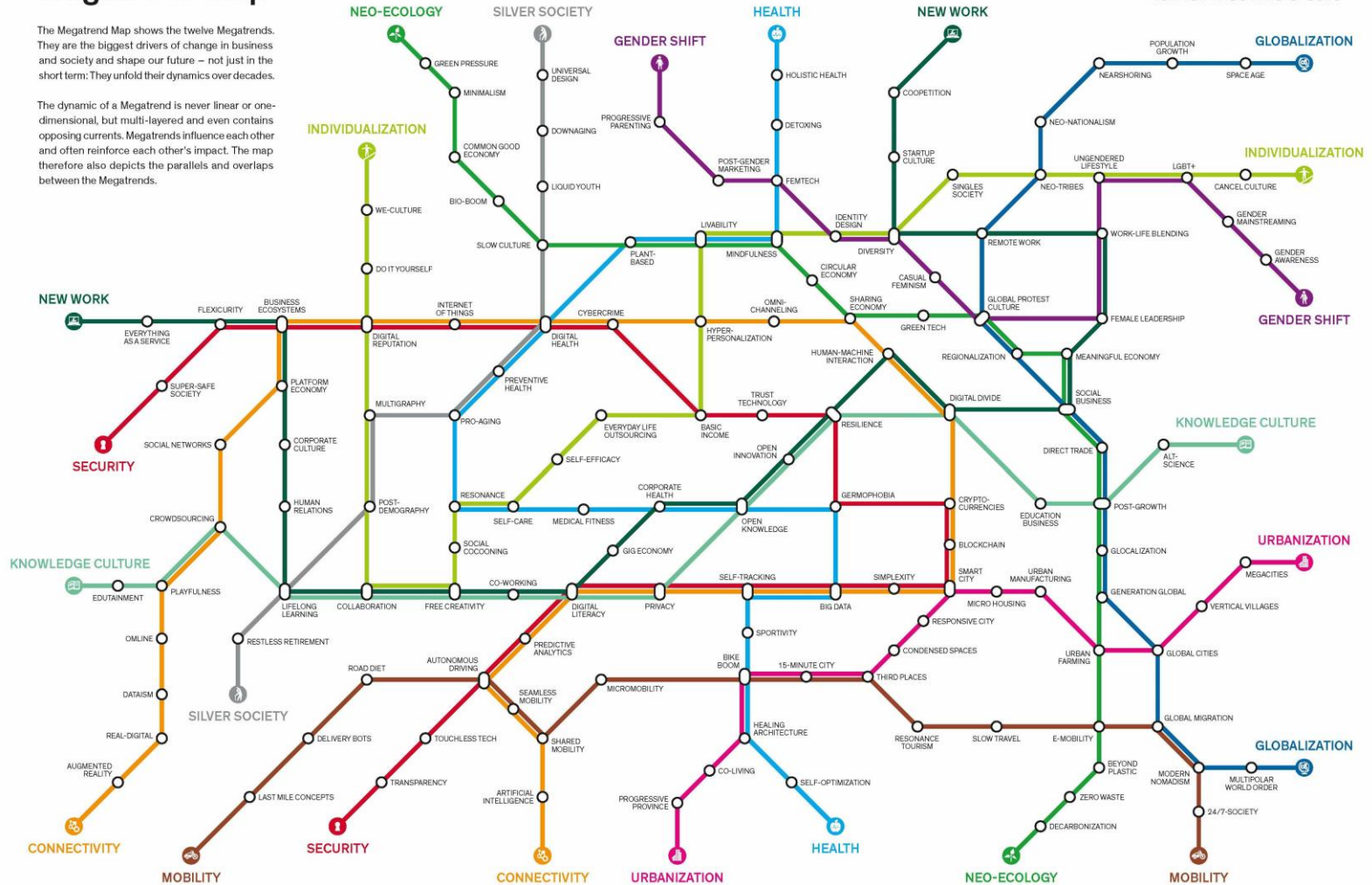
AI – Regulation and Innovation Race:
Rising regulatory pressures on AI development, with a race between the US, EU, and China to set AI standards, affecting corporate strategies and innovation.
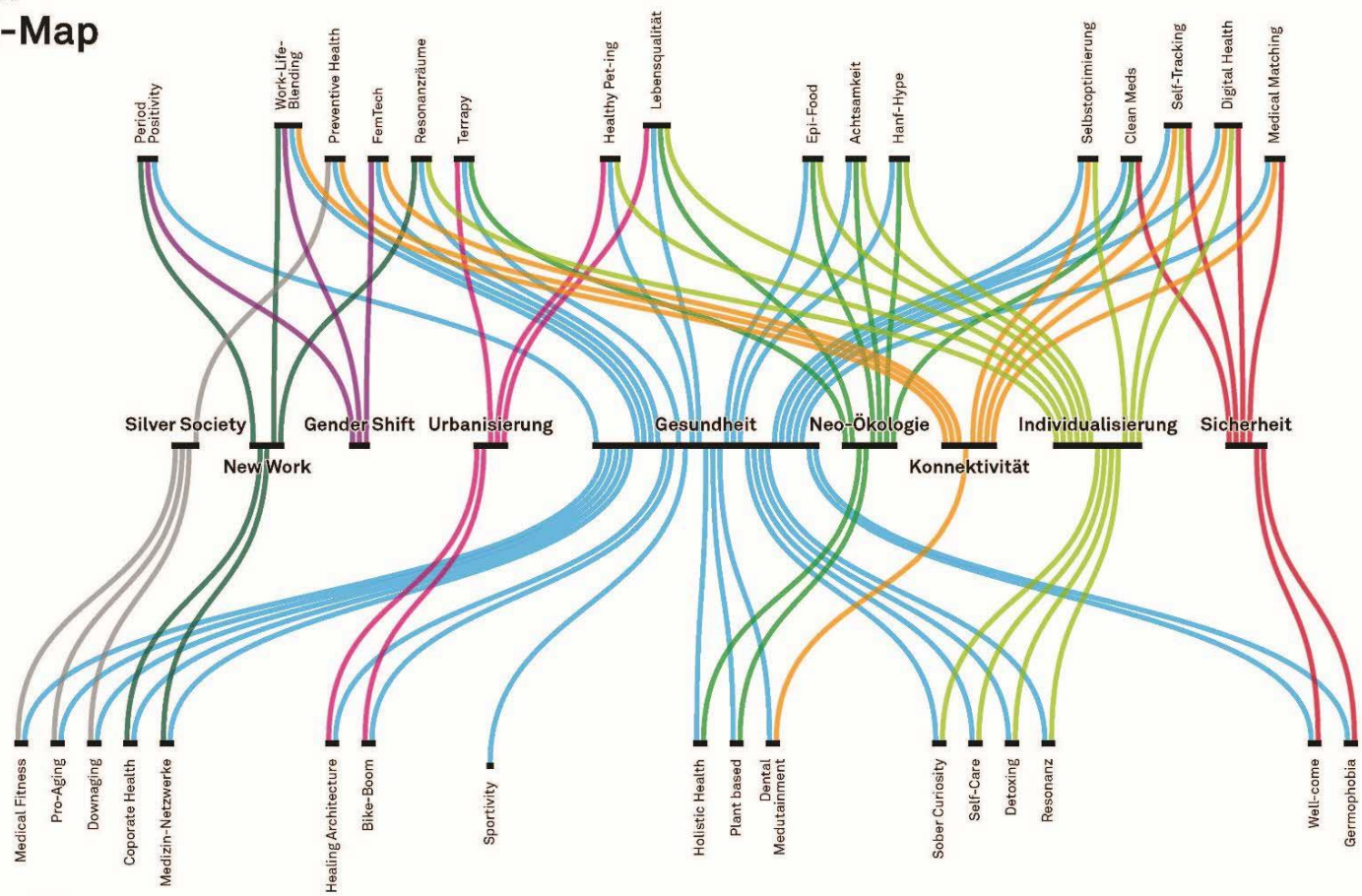
Ten global topics and trends to watch in 2024

Megatrend Map

zukunfts**Institut**

The Megatrend Map shows the twelve Megatrends. They are the biggest drivers of change in business and society and shape our future – not just in the short term: They unfold their dynamics over decades.

The dynamic of a Megatrend is never linear or one-dimensional, but multi-layered and even contains opposing currents. Megatrends influence each other and often reinforce each other's impact. The map therefore also depicts the parallels and overlaps between the Megatrends.

Health-Trend-Map 2024

zukunfts**Institut**

MEDICLINIC GROUP | GLOBAL HEALTHCARE TRENDS

Aus: Health Report 2024

HEALTHCARE SPECIFIC TRENDS

HEALTHCARE SPECIFIC TECHNOLOGY TRENDS
CURRENT TRENDS

Trends shape the future of healthcare by driving innovation, transforming patient care, and improving health outcomes. From AI to personalized medicine, healthcare trends are revolutionizing the industry.

AI in Medical Decision Support

Mental Health and Wellness

Genomic Analysis & Trends

Retail Giants Transforming Healthcare

Robotics in Healthcare

Patient Digital Twins

Boom in the FemTech Industry

Immersive Technologies in Healthcare

HEALTHCARE SPECIFIC TRENDS

Trend	In 2024, to date
AI in Healthcare	Expanded use in patient monitoring, predictive analytics, administrative efficiency, and Generative AI applications.
Genomics/ Personalised Medicine	Precision medicine has expanded beyond pharmaceuticals to include medical devices, supplements, and nutraceuticals. Countries like the UAE and Saudi Arabia have made precision medicine a core healthcare objective.

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Trend	In 2024, to date
Robotics in Healthcare	Robotics performed complex tasks; microrobots advanced significantly amid rising regulatory and infrastructure issues.
Boom in the FemTech/ FemCare Industry	Poised for further growth as more women seek personalized healthcare solutions. Advancements in areas such as fertility tracking, menstrual health, and postpartum care are expected to drive innovation and adoption.

HEALTHCARE SPECIFIC TRENDS

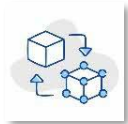| Trend	In 2024, to date
Exploring Extended Reality	Industry is expected to further explore XR technologies, making virtual therapy sessions, RPM, and immersive medical education more prevalent. Integrating XR with AI and ML will enhance their effectiveness in healthcare.
Mental Health and Wellness	Will continue to gain prominence. Advances in AI-powered chatbots and virtual reality therapy will improve access and outcomes. Preventive care will further highlight mental health as essential to overall well-being.

Trend	In 2024, to date
Retail Giants Transforming Healthcare	Have experienced some setbacks, but are likely to further transform healthcare with AI, telemedicine, and personalized wellness programs, blurring the lines between traditional providers and retail health clinics.
Patient Digital Twins	Expected to become more widespread, enhancing care by simulating things like disease progression and treatment outcomes for better decision-making and interventions.

EMERGING HEALTHCARE TRENDS

HEALTHCARE SPECIFIC TRENDS
EMERGING TRENDS 2024

Precision medicine revolutionizing obesity treatment and management:
- The emergence of precision medicine in obesity treatment marks a shift from conventional, one-size-fits-all methods to personalized interventions.
- By considering genetic composition, bodily functions, and lifestyle choices, this approach recognizes obesity as a complex biological condition.
- Utilizing advanced research and technologies like phenotyping and biomarker testing, healthcare providers can offer tailored treatments, resulting in more effective therapies and better patient outcomes.

Increase in global medical costs:
- The 2024 Global Medical Trend Rates Report reveals a notable trend in the healthcare industry characterized by a significant upsurge in medical costs worldwide.
- This trend is driven by a combination of factors, including macroeconomic instability, regional disparities, and specific medical conditions.
- Key findings indicate a sharp increase in employer-sponsored medical plans globally, with projected trend rates reaching the highest levels since 2015.
- The rise in medical costs is fueled by prevalent health issues such as cancer, cardiovascular diseases, and hypertension, impacting healthcare expenditures across diverse regions and countries.

Social media footprint to diagnose mental illnesses:
- Using social media footprints to diagnose mental illnesses involves machine learning algorithms analyzing online behavior, achieving over 50% accuracy for conditions like schizophrenia and mood disorders.
- Incorporating digital footprints into patient care could enhance early detection and treatment.
- However, challenges include the diversity of online behaviors among patients with the same illness and privacy concerns regarding social media data in clinical settings.

HEALTHCARE SPECIFIC TRENDS
EMERGING TRENDS 2024

Younger generations have bigger brains – and it's impacting dementia:
- The trend indicates a gradual increase in brain size over generations since the 1930s, as observed in multiple cohorts.
- This pattern suggests a potential correlation between birth decade and brain size, with more recent generations exhibiting larger brains.
- The trend underscores the influence of external factors such as health, education, and sociocultural changes on brain development and long-term brain health.

Non-Chemical Prescriptions:
- This trend envisions a transition away from an over-reliance on pharmaceuticals toward a more holistic approach to healthcare.
- This holistic approach incorporates various non-chemical interventions—natural, physical, mental, and cultural remedies—to complement or replace chemical medications.
- These interventions span ancient practices like acupuncture, herbal medicine, yoga, biofeedback, dietary changes, lifestyle modifications, and physical exercise.

Telemedicine 2.0:
- Recent exits of major players like Walmart and Optum from the telehealth sector suggest a shifting landscape in virtual care.
- This trend indicates a move away from the initial telehealth model, often focused on transactional interactions, towards more holistic and integrated care approaches.
- Telemedicine is evolving from a transactional model focused solely on immediate patient-provider interactions to a more comprehensive approach that considers the patient's long-term healthcare needs and integrates with traditional care delivery models.
- This shift reflects a growing recognition of the importance of holistic care and patient-centered healthcare experiences.
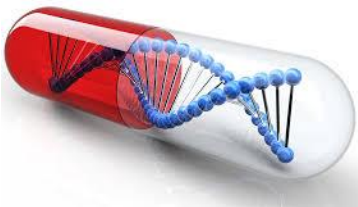
HEALTHCARE SPECIFIC TRENDS
EMERGING TRENDS 2024

Shifting dynamics in healthcare workforce and communication:
- The healthcare industry is shifting as baby boomers retire earlier and new physicians emerge.
- With more graduating doctors and changing workforce dynamics, there's a marked preference for digital learning among younger healthcare professionals.
- High usage of digital channels for development, networking, and telemedicine underscores the need for agile communication strategies.
- Healthcare companies must adopt digital learning platforms, enhance telemedicine services, and develop omnichannel strategies to engage the new generation of digitally-savvy healthcare professionals.

Pharma industry shift from treating illness to Curative Therapies:
- There is a drastic shift in the model of treating illnesses from managing diseases to curing diseases.
- While there are already some approved curative therapies, such as CAR-T cell therapies, the field is still rapidly evolving and expanding.
- The trend is driven by advancements in technologies like gene editing, gene therapy, and cell therapy, which are enabling the development of more effective and targeted treatments for various diseases.
- These are complete turning points and can deal with chronic diseases or difficult-to-treat conditions by eliminating the need for long-term treatments.

Precision medicine in mental health:
- Precision medicine, known as "precision psychiatry" in mental health care, aims to provide personalized treatment based on an individual's genetic, environmental, and lifestyle factors.
- This approach leverages advances in multi-omics technologies and data analytics to identify biomarkers for improved diagnostics and targeted treatments, potentially revolutionizing mental health care.
- Despite challenges in regulation and accessibility, significant funding and collaborations, like Columbia University's $75 million SNF Center, are advancing this innovative field.

25 YEAR TRENDS

HOSPITAL REDESIGN 2050

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1. Virtual-First Patient Care:
- Most patient care will be conducted remotely through telehealth technology.
- At-home advanced healthcare services will be the norm.
- Physicians will be supported by AI and machine learning for data-driven recommendations.

2. Transformation of Hospital Buildings:
- Existing hospital sites may become community hubs.
- Specialist clinical services, general practice, and community teams will work together.
- Separate surgical hubs will become common within smart hospital environments.

3. Redefinition of Hospital EHRs:
- Hospital EHRs will become obsolete.
- Patients will control their health data through wearable devices and sensors.
- Focus will shift to promoting wellbeing, prevention, and population health management.
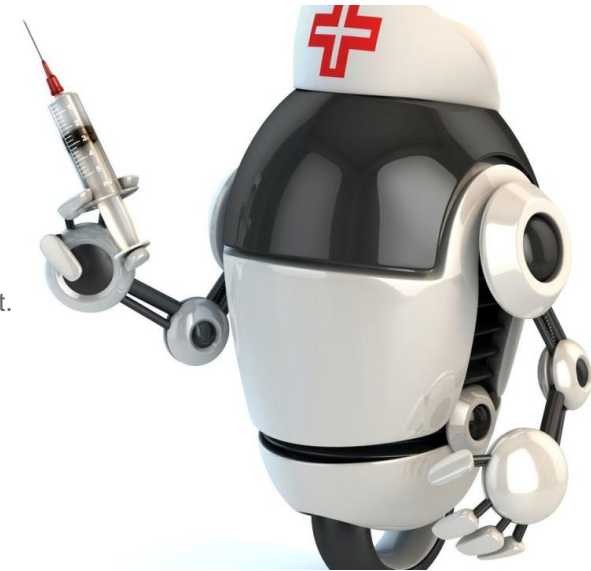
4. Increased Use of Remote Consultations:
- Remote consultations will become more prevalent, utilizing video and AI.
- In-person consultations will still be available when necessary.
- Virtual reality technology may support patient rehabilitation at home.

5. Advancements in Robotics and AI:
- Robotics will play a significant role in surgery and patient movement.
- AI will support image analysis, language processing, and virtual assistants.
- Data analytics and AI will enhance hospital processes and administrative tasks.

6. Improved Connectivity and IoT Integration:
- Hospitals will become smaller and better connected.
- Satellite, 6G, and 7G technologies will be utilized for reliable data transfer.
- IoT-enabled remote monitoring devices will reduce hospital stays and readmissions.

7. Transition to Preventive and Precision Healthcare:
- Preventive diagnostics and continuous monitoring will limit hospital visits.
- Generalized healthcare will shift to precision and personalized care.
- Highly specialized caregiving centers will replace traditional hospitals.

8. Challenges and Solutions:
- Staffing shortages will require local care with remote monitoring.
- Hospitals will focus on care efficacy within stretched services.
- Enhanced security, stability, and customized medical treatment pathways will be vital.

9. Role of Digital Solutions:
- AI, machine learning, and digital technologies will drive healthcare transformation.
- Digital solutions will support remote care, diagnostics, and patient education.
- Technology will enable informed treatments, customizability, and efficient supply chains.

10. Integration of Connectivity and AI in Healthcare:
- Improved connectivity and AI will revolutionize healthcare delivery.
- AI will enhance administrative processes and clinical decision-making.
- Virtual wards and digitally-enabled care will provide safer and more efficient care.

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1. Introduction of Genetic Testing for Common Diseases
- Genetic testing before conception helps assess disease risks.
- Testing allows selection of healthier embryos through IVF and PGT.

2. Expansion of Marketplace for Screening Tests
- Screening tests for genetic diseases become more widespread.
- Initially targeted at high-risk populations, now offered universally.
- Carrier screening becomes a $1.7-billion industry.

3. Inclusion of Common Diseases in Risk Assessment
- Risk assessment expands to include common diseases.
- Prospective parents are likely to find potential health concerns.
- IVF and embryo testing enable selection of healthier embryos.

4. Use of Polygenic Risk Scores (PRSs)
- PRSs assess lifetime risk of common diseases.
- Risk is determined by observing patterns of genetic variation.
- Concerns arise due to limited understanding of genetic variants.

5. Uncertainties and Limitations of Polygenic Risk Scores
- Biological implications of genetic variants are not well-known.
- Associations with decreased risk may have other implications.
- Current knowledge is insufficient for comprehensive prediction.

Designer Babies

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6. Challenges with Sibling Embryo Selection
- PRSs face challenges in distinguishing among sibling embryos.
- Communication of benefits and uncertainties is difficult.

7. Need for Enhanced Disease Prediction in Diverse Populations
- Current polygenic risk scores are limited by Eurocentric genetic databases.
- NIH grants aim to improve disease prediction for diverse populations.

8. Unequal Access to Technologies
- Testing and IVF costs may limit access to certain populations.
- Unequal access to reproductive technologies remains an issue.

9. Broader Ethical Considerations
- Use of embryo selection raises concerns about influencing parental decisions.
- Historical context of eugenics raises ethical questions.

10. Perception of Reproductive Technologies as Careless Parenting
- Using basic reproductive methods may be viewed as irresponsible.
- The ability to reduce disease risk raises questions about deserving outcomes.

baby bean portraits

No one knows for sure what technologies will take hold, what discoveries will be made, or how pop culture will evolve – and business foresight is no exception.

When something seems impossible, consider why. History is filled with determined people who overcame long odds.

It's much easier to say something is impossible or that it won't work than it is to try it.

THANK YOU