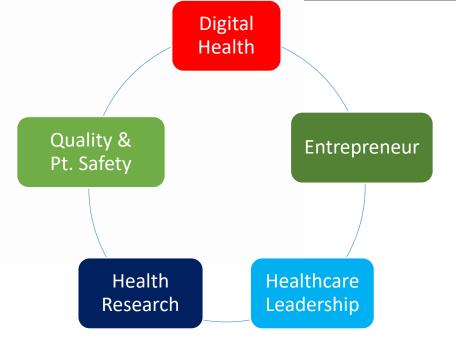




Globalization Toward Quality & Patient Safety A Future Perspective

HomesPital

Safer Care through Innovation



Dr. Zakiuddin Ahmed

Adjunct Professor Digital Health



CEO



Chairman

www.icps.riphah.edu.

Project Director





Adjunct Professor



Secretary



Founder & Coach







RIPHAH INSTITUTE OF HEALTHCARE IMPROVEMENT & SAFETY



Hassan Huhammad Khan Chanceller Righsh International Drevenaty Haraging Trainer, Marris International Medical College Tust CEO, Ras Al Priamati College of Denter Sciences RAE LIAL th Industrial Improvements in Economics, MIRA



Dr. Zakluddin Ahmed Project Director Righten Institute of Heatmoare **Engepworkland Salety** Chairman, International Conference on patient Safyty (ICPS) HEAD MANAGES IN MARRIED MAINAGEMENT



Dr. Saima Aslam Assistant Director Rightsh Institute of Healthcare Improvement and Safety





(m)



V

RIPHA

Public Policy and Advocacy





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At Riphah Institute of Healthcare Improvement and Safety, we aspire to take leadership in the national movement to improve quality and safety in healthcare.









SCOPE OF

RIPHAH INSTITUTE OF HEALTHCARE IMPROVEMENT & SAFETY LAUNCH EVENT

> Thursday, March 16, 2017 Al-Mizan Campus, Rawalpindi

> > COLLABORATORS

0



Partnerships & Collaborations

Services

Research



Regional Consortium of Patient Safety

Pakistan

Qatar

Saudi Arabia

Jordan

Turkey

Abu Dhabi

Oman

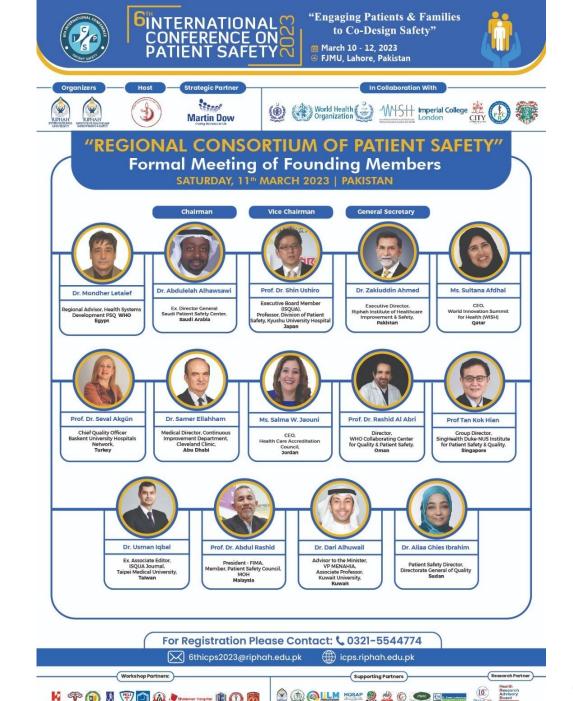
Taiwan

Malaysia

Lebenon

Sudan

Japan



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5INTERNATIONAL CONFERENCE ON PATIENT SAFETY "Implementation Research in Healthcare Quality & Safety"

March 18 - 20, 2022 Liaquat National Hospital, Karachi



submit your paper

BMJ

bmjopenquality.bmj.com









INSTITUTE OF INNOVATION LEADERSHIP IN MEDICINE

Empower Healthcare Professionals to become Inspirational Leaders



liLM's role in building the Healthcare Leadership Eco System



Leadership Session for CEOs & Medical Directors

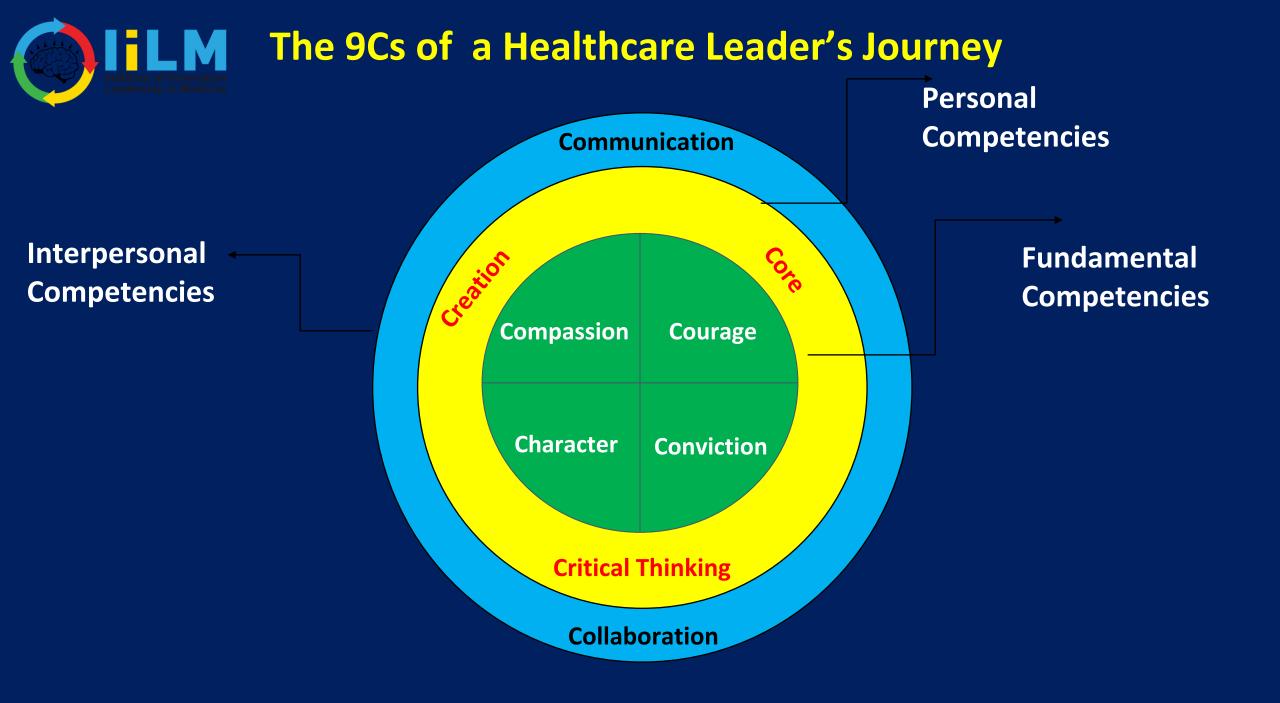


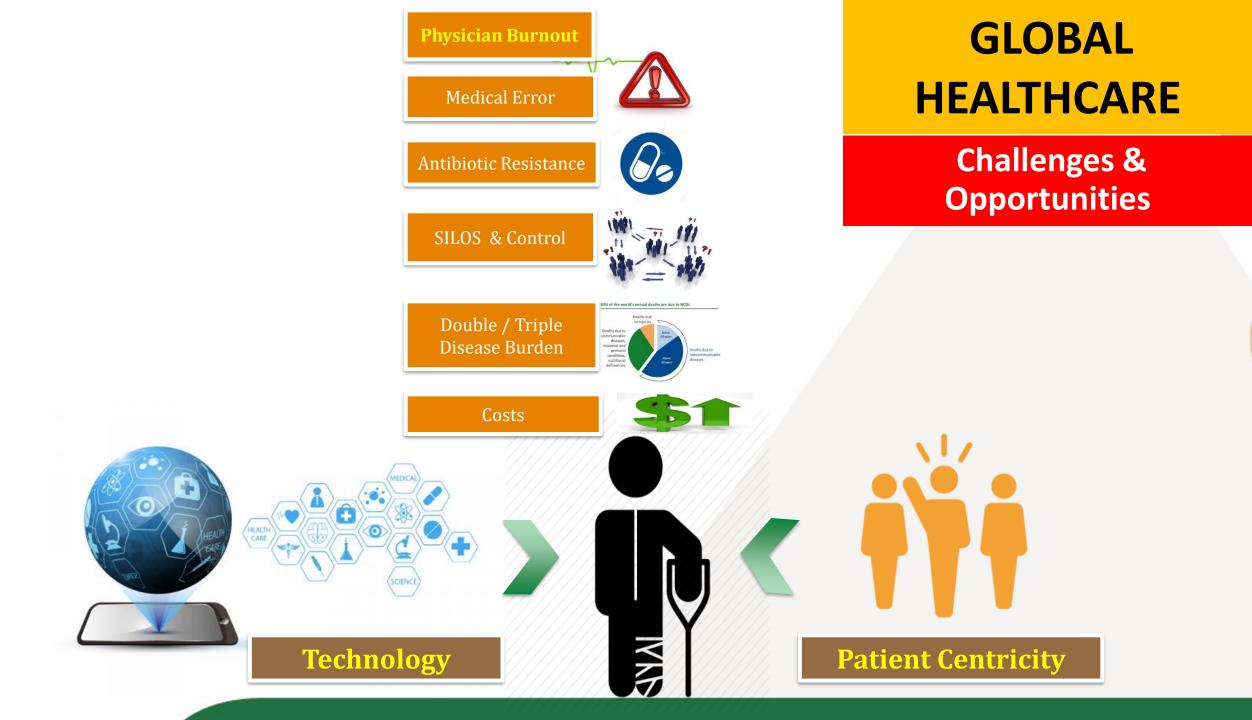
Mou Signing with University of Child Health & Sciences, Children's Hospital, Lahore, to establish Center for Leadership in Child Health

7 Habits of Highly Effective People certification









"Modern healthcare is the most complex human activity there is, due to interpersonal relationships between many different expertise and interests, and we haven't figured out how to make that work well. We have come to full stop against a complex environment that resists accepting change on the scale clearly required"

Lucian Leape, MD *Founder of the Modern Patient Safety Movement* Adjunct professor of health policy at Harvard University

"Error in Medicine," published in JAMA, 1994



Current Healthcare System is INEFFICIENT & Our Hospitals are UNSAFE

The hospital is dead, long live the hospital !

The world is changing, and so are hospitals. In response to significant external forces, innovations in both how healthcare is delivered and how hospitals are structured are emerging.

Nine major forces are involved:

- **1.** Changes in patient populations and their needs
- **2.** Higher patient expectations
- **3.** Recognition that many types of care can be better provided in community settings
- 4. Data suggesting that high-quality care requires high-volume centers, and the emergence of standalone single-specialty centers
- 5. Advances in clinical knowledge and technology
- 6. Impact of digital technologies on how healthcare is delivered
- 7. Difficulties in attracting and retaining an appropriately skilled workforce
- **8.** Financial and funding challenges
- 9. Requirements to measure quality



Smart / Digital Hospital of the future

As the **cost of care continues to rise**, many hospitals are looking for longterm solutions to **minimize inpatient services**.

"The technology and health care delivery will merge to influence the future of hospital design and the patient experience across the globe"



HOSPITAL CARE IN 2030 THE NEXT NORMAL



Around the world, populations are getting older, and their health needs are becoming more complex. At the same time, technological advances are changing healthcare delivery.

In this edition, *The Next Normal* explores how hospitals will innovate in the coming decade—and what it will mean for both patients and healthcare professionals.

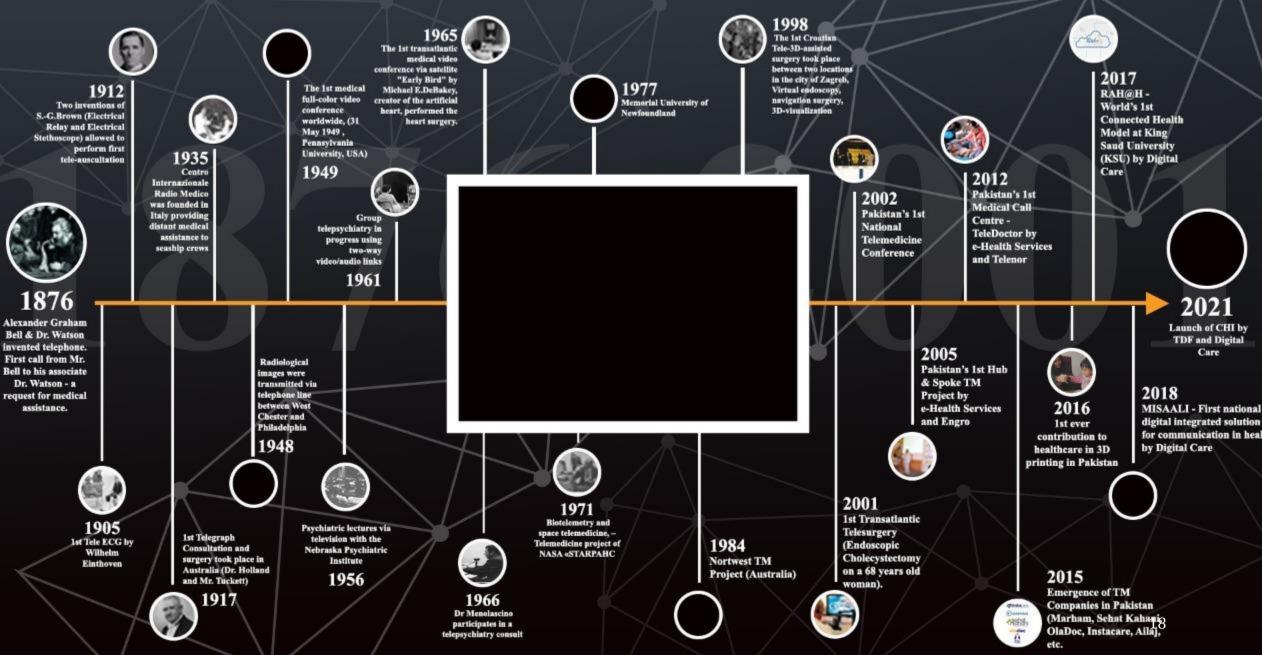
& Company

KOREA'S SMART HOSPITAL

The South Korean Government is investing in digitalization and is currently looking to transform 18 hospitals into highly digitalized 'smart hospitals' between 2020 and 2025.



Evolution of Digital Health 1876-2021



1905

1st Tele ECG by Wilhelm Einthoven

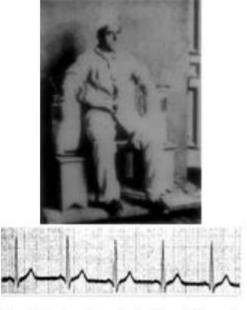


Fig. 2.4. A patient in Leiden University Hospital, the process of conducting the first in the world tele-ECG; the first worldwide ECG recorded remotely (22.03.1905, the Netherlands) (Einthoven 1906)

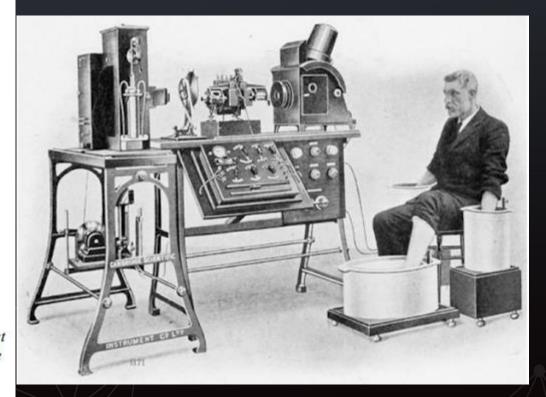


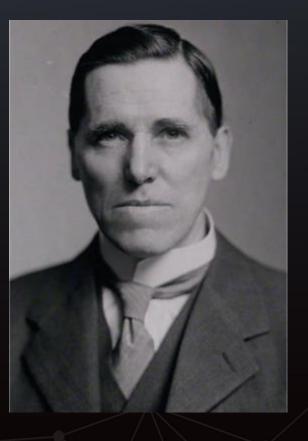


Fig. 2.5. Walter Belknap James (11.05.1858-06.04.1927) and Horatio Burt Williams (17.09.1877-01.11.1955)

In 1910, in New York (USA), two cardiologists Walter Belknap James and Horatio Burt Williams (Fig. 2.5) created the first intra-hospital teleECG system.

1912

Two inventions of S.-G.Brown (Electrical Relay and Electrical Stethoscope) allowed to perform first tele-auscultation





Watch the world's first surgery streamed in virtual reality live from London

The world's first surgery to be broadcast live through virtual reality is happening today in London. Dr Shafi Ahmed, a cancer surgeon at the Royal London...



ePhysicians (Google Drs)

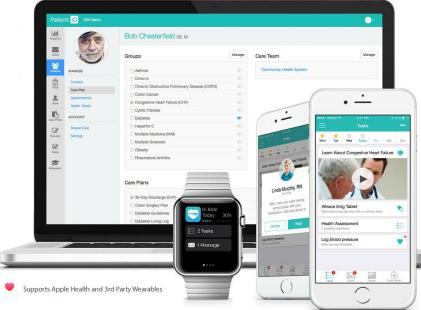




ePatients

The Digital Patient is Empowered







Younger consumers are **MUCH MORE LIKELY** to choose medical providers with digital capabilities

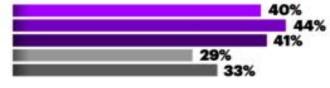
Compared with older generations, younger consumers are much more likely to choose medical providers who offer digital capabilities such as easy access to test results via mobile or online (40 percent of Gen Z and 44 percent of millennials) and requesting prescription refills electronically (38 percent of Gen Z and 42 percent of millennials).

Figure 7. More than other generations, digital capabilities influence whether younger consumers choose medical providers

🕒 Gen Z 🛛 🔵 Millennials 🛛 🔵 Gen Xers

Baby Boomers Silent

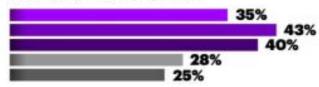
Easy access to my test results (e.g., mobile or online)



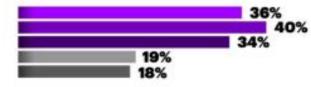
Request prescription refills electronically



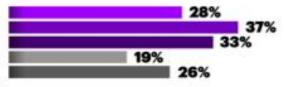
Online access to my electronic medical records



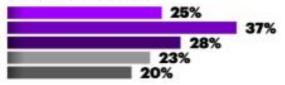
Book, change, or cancel appointments online



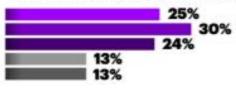
Receive reminders via email or text message, when it is time for preventative or follow-up care



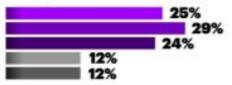
Communicate with your provider through secure email



Use remote or tele-monitoring devices to monitor and record your own health indicators



Communicate with your provider through video conferencing



Q: If you were choosing a new or adding an additional medical provider,

Google & AI in Health

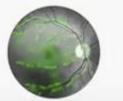


Image of retina



Predicting cardiovascular risk

Age Predicted: 69.1 years Actual: 57.6 years



A1C dicted, Non-chaberic



Biological sex Predicted: Female Actual: Female

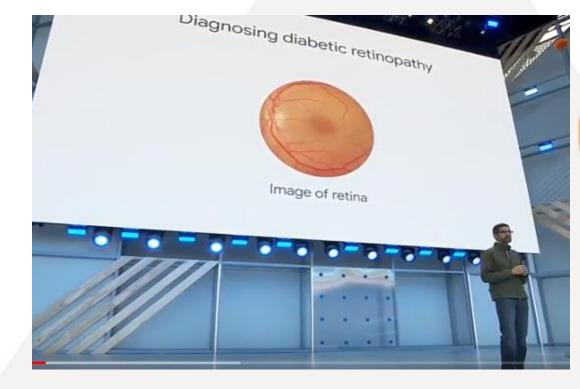
BMI



Smoking Predicted: Non-smoke Actual: Non-smoker



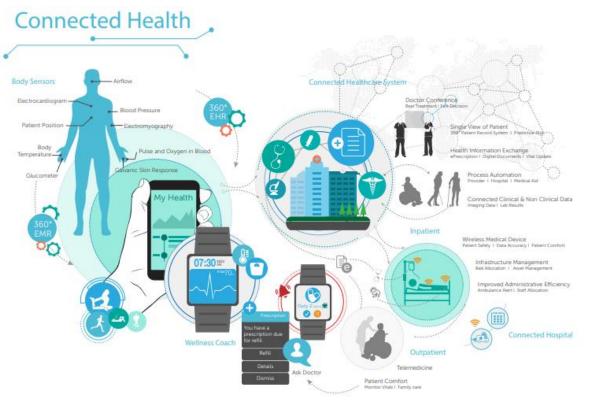
Systolic blood pressure Predicted: MR.0 mmHg



Uberization of Healthcare

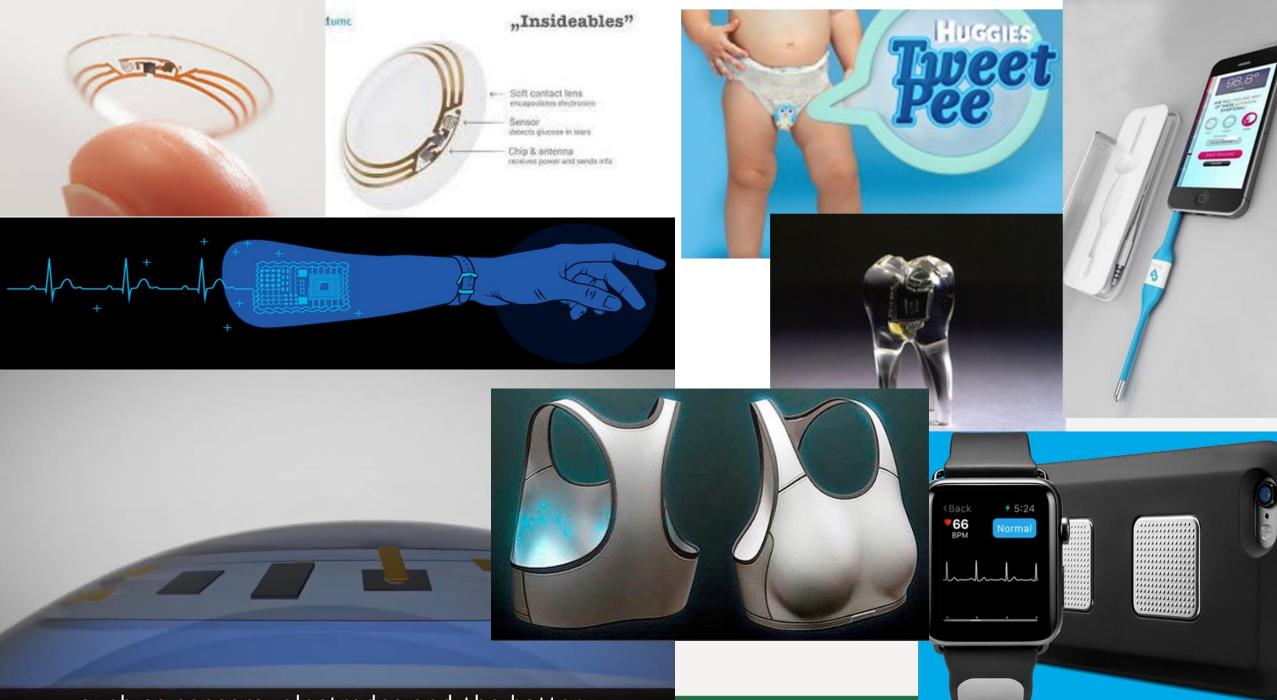
Uber connects the driver and the consumer directly in an incredibly efficient way, In healthcare,

patients are now connected directly with providers through technology



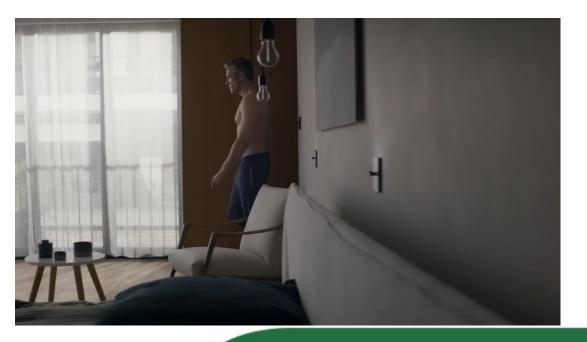
The Connected Health ecosystem leverages innovation in sensors, devices, connectivity, and apps for a new level of datadriven patient-centered and patient-empowered care. It enables continuous 360-degree medical record data collection over time, not just point-in-time office visits, and it benefits patients, caregivers, hospitals, populations, and policy makers.

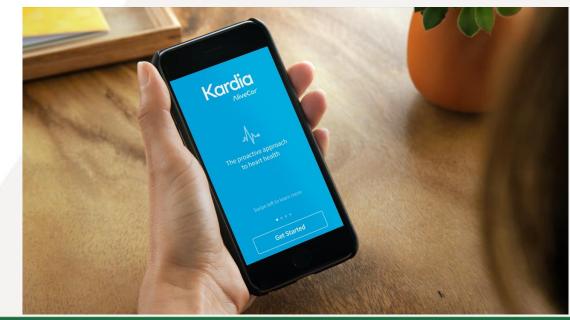




such as sensors, electrodes and the battery

Connected Health





The number of mHealth apps continues to soar year on year, with more than 300,000 currently available on iOS and Android compared with the approximately 165,000 available in 2015.

There are approximately 2,000 apps in the US alone related to supporting people with diabetes.

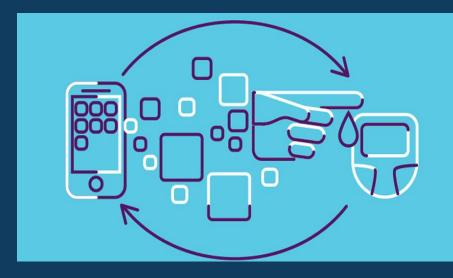


Stern Infoctious and Parasite Diseases Strand Other Eddorrine, Nutritional and Metabolic Disease Fyes and Ear System Sy

Exhibit6: Disease-Specific Apps by Therapy Area

The Role of mHealth and Digitization in Diabetes Care

A study from 2018 stated that using Ascensia's Contour Diabetes app for over 180 days was associated with a reduced frequency of both hypoglycemic and hyperglycemic events.



https://www.med-technews.com/medtech-insights/therole-of-mhealth-and-digitisation-in-diabetes-care/





mHealth and Patient Centered Care go hand in hand

The rise of mHealth apps is closely associated with the upcoming of patient-centered care models (39%).

mHealth apps are supposed to empower patients to take a more active role in their treatment process.

4th global mHealth App Developer Economics 2014 study http://research2guidance.com/8-drivers-and-barriers-which-will-shape-mhealth-market-in-the-next-5-years

Future of Healthcare Proactive & Patient Centric Care at Home

How It Used To Be: Doctors and House Calls - 1891



The Child has not come to the Dr. He has come to the Child !

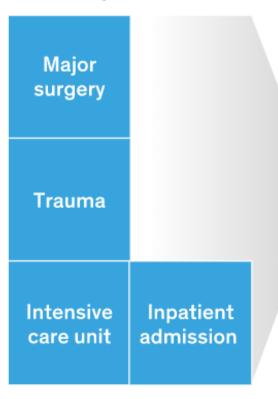
Healthcare Before and After Digital Transformation

Before

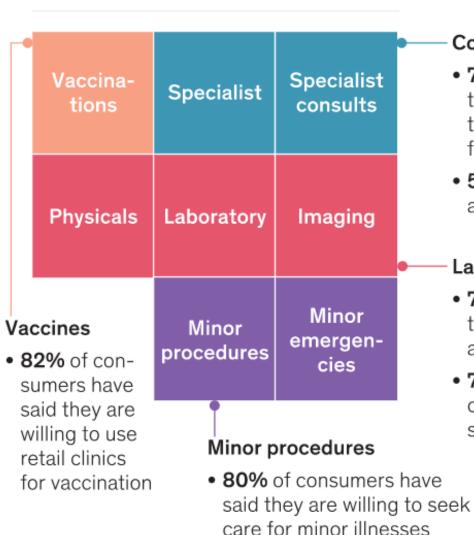
After

Hospitals, Clinics , Labs	The Point of Care	Wherever patients are
For Medical Professionals only	Data access	For patient and medical professionals
Patient Centricity	Patient inclusion	Patient Design
In medical silos and institutions only	The place of health data	At patients
Key holders to the ivory tower of medicine	The role of physicians	Guides for patients in jungle of information
Passive, only asking for medical health after a symptom appears	The role of patients	Proactive, becoming empowered and engaged in their care
Population based	The reference point for treatment	Personalized
Patriarchal hierarchy	The doctor-patient relationship	Equal-level partnership
The ivory tower of medicine	Knowledge base	Social media and online repository
Localized	Healthcare supply chains	Globalized
Only in person meetings	The place of doctor visits	Remote care and in person meetings

Services that will remain in the hospital



Retail (services that will move out of the hospital)



Consultations

- 70% of consumers have said they prefer digital solutions to phone/in-person solutions for many healthcare interactions
- 55% have used digital appointment reminders

Lab/diagnostics

- 76% of consumers have said they are willing to seek lab tests at retail clinics
- 74% are willing to go to those clinics for preventative health screening

• **40%** of retail clinic visits are

at retail clinics

Buurtzorg: the Dutch model of neighborhood care that is going global

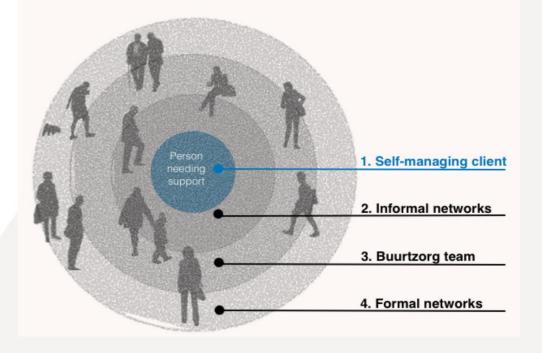
The principle underpinning the model is that the **nurse acts as a "health coach"** for the individual and their family, emphasizing preventive health measures

The golden rule is that nurses must spend 61% of their time in direct contact with the people they support.



Buurtzorg's model of care

The Buurtzorg onion model starts from the client perspective and works outwards to assemble solutions that bring independence and improved quality of life.



Disruption by Unconventional Players

Amazon indicated its interest in health care when it **bought online pharmacy PillPack** for about \$750 million in 2018.

Walgreens recently struck a deal with primary-care company **Village MD** to open doctor offices in 500 to 700 of its stores over the next five years.

CVS Health, which owns **insurer Aetna**, is remodeling 1,500 drugstores by the end of 2021 to turn them into **HealthHUBs** that have a health clinic, a lab for blood testing and other wellness services such as yoga and consultations with dietitians.

Numerous large health systems and smaller businesses such as **Carbon Health, Circle Medical and Forward** offer primary-care services.







Walgreens



Walmart to open at least six more health clinics in greater Atlanta area by end of 2020 as part of bigger health-care push

- Its **low prices** stand out from rivals.
- Its clinics are **doctor-led versus other similar clinics**, which tend to rely on nurse practitioners or medical assistants.
- It has a ready-made audience of customers who already consider the locations convenient and go there to shop.
- **They include** exam rooms, a waiting area and larger rooms that host community events, such as a free yoga class or nutrition seminar.
- The **clinics are staffed** by doctors, nurse practitioners, dentists, counselors and optometrists.
- The company considered a membership-based health program for \$10 a month for perks such as discounted telemedicine, free prescription delivery, preferred access for doctor's appointments, generic prescriptions, glasses and contact lenses and over-the counter medications



Hospital (centralized)

Ambulatory Care (decentralized)

Homspital (patient centered)

HOMSPITAL DEHOSPITALIZATION OF HEALTHCARE

- The future of healthcare is much **less centered around institutions.**
- It's rapidly becoming **decentralized**, **dematerialized**, **demonetized** and, ultimately, **democratized**.
- It will be more **continuous**, more **integrated**.
- As healthcare becomes more data-driven, it also is becoming **more personalized and proactive and less reactive.**

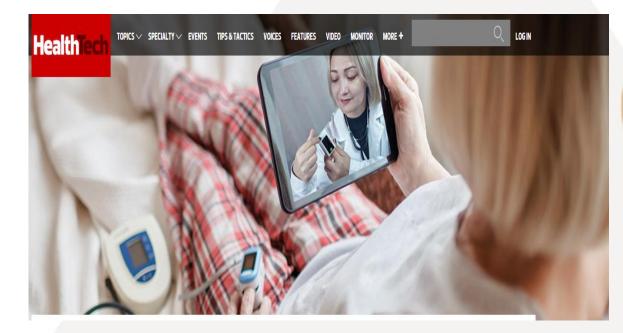
Building a Case for "Homspital"

- Hospitals are inaccessible, physician centered & costly Inefficient & Ineffective System
- Focus on Value Equation **Better Outcomes**
- Hospitals are unsafe environments **Patient Safety**
- Patient centricity is the key foundation of healthcare **Empowered Patients**
- Technology has brought services to our doorstep Accessibility & Affordability
- We all live in a connected world **Connected Health**
- Availability of Broadband Internet + Seamless VC + IoT + AI + allows Physicians to Diagnose + Treat + Monitor patients - Remote Patient Monitoring
- Rise of the Z generation **Business Case**

Is hospital at home the future of healthcare?

46% of hospital care can move to the patients' home (mobile care for chronic diseases)

Global home care is growing 10% year over year – technology and logistics are making home healthcare works.



Hospital-at-Home Model Improves Value

ssociation"

Advancing Health in America

A growing body of research shows that hospital at-home is an effective strategy that improves all three components of the value equation *improve outcomes,* enhance the patient experience and reduce cost.

AHA's Value Equation

Through *The Value Initiative*, the AHA is addressing affordability through the lens of value to improve outcomes and enhance the patient experience while reducing cost.



Source: American Hospital Association, 2018.



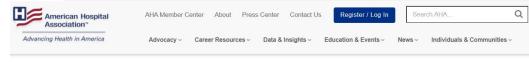
Advancing Health in America

American Hospital Association (AHA)

Hospital-at-home enable some patients who need acute-level care to receive care in their homes, rather than in a hospital.

This care delivery model has been shown to

reduce costs, improve outcomes and enhance the patient experience.





Hospital-at-Home



info@hospitalathome.org

	Home	About Us	Develop Your Program	News & Resources	Stories	Contact Us
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QUALITY ACUTE CARE FOR OLDER ADULTS

Hospital Care in the Comfort of Home



Hospital at Home® provides safe, high-quality, hospital-level care to older adults in the comfort of their own homes.

How Does Hospital at Home Work?

Is Your Organization Ready for Hospital at Home?

Hospital at Home Toolkit

Hospital at Home[®] was developed by researchers at the Johns Hopkins University Schools of Medicine and Public Health

- 1995: Dr. John Burton, of Johns Hopkins School of Medicine, and Dr. Donna Regenstreif of The John A Hartford Foundation conceived a new program to provide safe and effective hospital-level care in the home.
- 1996-1998: A 17-patient pilot trial showed the Hospital at Home® was feasible, safe, and cost effective.
- **2000-2002:** A National Demonstration and Evaluation Study tested **Hospital at Home®** in three Medicare managed care organizations and one Veterans Affairs medical center. **Hospital at Home®** met disease-specific quality standards at rates similar to the acute hospital. The **average patient length of stay was shorter, and overall costs were a third lower** than an inpatient stay. Patients also had a lower chance of developing delirium, requiring sedatives, or needing chemical restraints. In addition, both patients and family members were more satisfied with care compared to those treated in the hospital, and family member stress was lower. Patients also regained their ability to do usual tasks more quickly.
- **2002-Present: Hospital at Home** is in practice or is being developed at numerous sites throughout the country,

Hospital at Home[®]

Hospital at Home® is an innovative care model for adoption by health care organizations that provides hospital-level care in a patient's home as a full substitute for acute hospital care.

It was the first implementation of the Hospital at Home model to completely substitute care in the patients' home for acute inpatient care.

The program is being implemented at numerous sites around the United States by VA hospitals, health systems (including Presbyterian Health System), home care providers, and managed care programs as a tool to cost-effectively treat acutely ill older adults, while improving patient safety, quality, and satisfaction.

Using the hospital's eligibility criteria for Hospital at Home, the ED or physician identifies a patient sick enough to require hospital-level care but stable enough to be treated at home

Hospital at Home® Outcomes

- Compared to similar hospitalized patients, HaH patients experience **better clinical outcomes:** lower rates of mortality, delirium sedative medication use, restraints. Better satisfaction of patient and family, less caregiver stress, better functional outcomes.
- **Cost savings of 19% to 30%** compared to traditional inpatient care;
- Lower average length of stay;
- Fewer lab and diagnostic tests compared with similar patients in acute hospital care;
- Advances the Triple Aim of clinical quality, affordability and exceptional patient experience.

Mayo Clinic, Kaiser Permanente to scale up hospital-at-home efforts with \$100M investment into Medically Home

- **Provider-led transformation** of healthcare delivery
- It **installs a suite** of communications devices, remote patient monitoring devices, emergency response systems and other supplies such as durable medical equipment in a patient's home.
- **Using integrated tools to coordinate care** from a "command center" for continuous monitoring and on-demand communication with patients.
- More than 300 patients have been discharged from Mayo clinic who received Medically Home's services with the benefits of reduced readmission rates, "extraordinarily low" complication rates and much higher satisfaction among patients and their families.
- **Entering the home allows teams** to observe behaviors, diet, relationships and other health determinants and then mold their approach of care around those factors.
- visualize the reality of a patient's home through true community-level care that's inclusive of home nurses, physician's assistants and paramedics







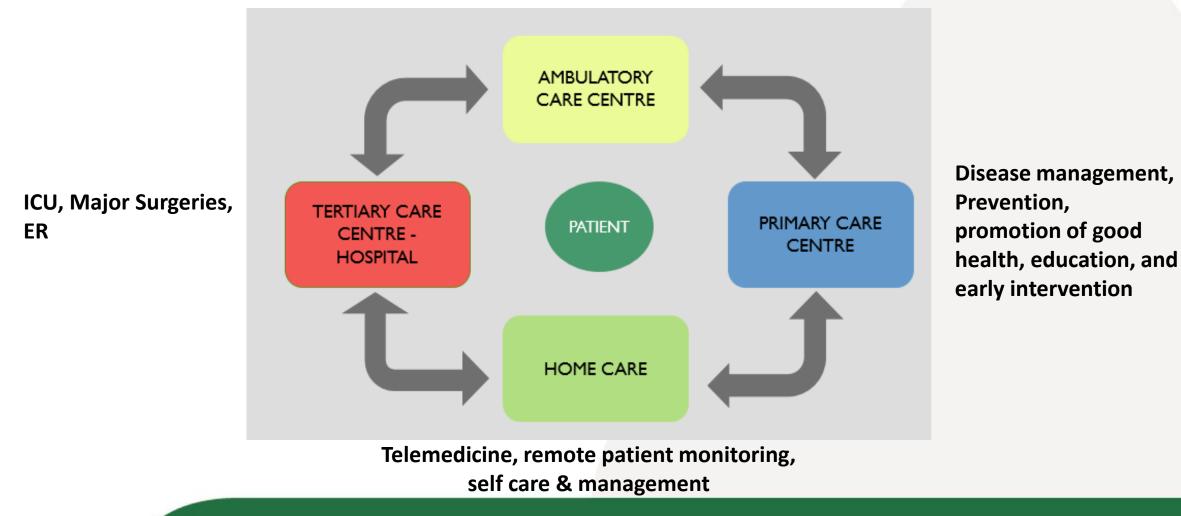
- Earliest pilot study of HaH in 1997, showed that, compared with usual hospital care, HaH resulted in fewer complications (e.g., drastic reductions in delirium), greater satisfaction with care for patients and family members, less caregiver stress, better functional outcomes, and lower costs.
- A 2012 meta-analysis of randomized controlled trials of HaH showed a 38% lower six-month mortality rate for HaH patients than hospitalized patients.

Since then, HaH has been one of the most studied innovations in health care.

Clearly, if HaH were a drug, it would be a blockbuster!

HOMSPITAL MODEL PATIENT CENTRIC CONTINUUM OF CARE

Outpatient services: diagnosis, observation, consultation, treatment, day care, intervention, and rehabilitation services.





What Is a Patient-Centered Medical Home (PCMH)?

It's not a place... It's a partnership with your primary care provider.



PCMH puts **you** at the center of your care, working with your health care **team** to create a **personalized plan** for reaching your goals.



Your **primary care team** is focused on getting to know you and earning your trust. They care about you while caring for you.



Technology makes it easy to get health care when and how you need it. You can reach your doctor through **email**, **video chat**, or after-hour **phone calls**. **Mobile apps** and **electronic resources** help you stay on top of your health and medical history.



Studies show that the PCMH:







Saves you time

Provides better support and communication

Creates **stronger relationships** with your providers

A Patient-Centered Medical Home is the right care at the right time. It offers:



Personalized
care plans you
help design that
address your
health concerns.Medication
review to help
you understand
and monitor the
prescriptions
you're taking.







Coaching and advice to help you follow your care plan and meet your goals.

Connection to support and encouragement from peers in your community who share similar health issues and experiences.



المدينة الطبية الجامعية



مركز الأمير نايف بن عبدالعزيز للأبحاث الصحية Prince Naif Bin Abdulaziz Health Research Center



RAHAH - Remotely Accessible Healthcare @ Home

A patient centric connected health model



A Patient Centric 24/7 Connected Health Model

to improve Healthcare Outcomes

through Technology for

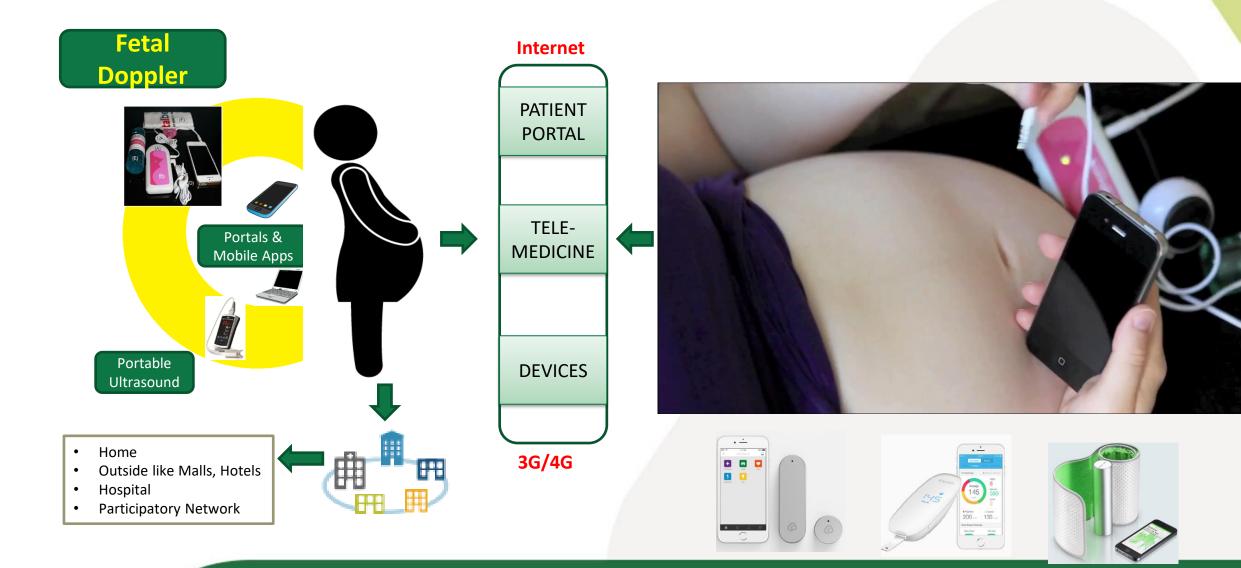
Education, Engagement, Empowerment, Monitoring & Treatment of patients virtually





2017 © Prince Naif bin AbdulAziz Health Research Center

DH in Gestational Diabetes









Thank you zakiuddinahmed@gmail.com



