



มหาวิทยาลัยราชภัฏนครปฐม
Nakhon Pathom Rajabhat University

4172801 Digital Technology and Nursing Information

Topic 2

Information and Digital Health Technology in the Next Normal Era











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Learning objectives

Explore Healthcare Technology
Trends and Digital Innovations
in 2022

Learning Topics

-  Developments in technology enabled care services
-  Trend 1: Artificial Intelligence (AI) in Healthcare
-  Trend 2: Telemedicine and the Evolution of Remote Care
-  Trend 3: Extended Reality in Healthcare Settings
-  Trend 4: IoT and Wearables in Healthcare
-  Trend 5: Healthcare Privacy and Security
-  Trend 6: Organ Care Technology & Bioprinting
-  Discussion topic: Future of Healthcare Technology

Deloitte.

Connected health

How digital technology is
transforming health and
social care

Deloitte Centre
for Health Solutions



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How digital technology is transforming health care?



Technology is becoming more pervasive



Top pharma companies have **63% more** unique apps in 2014 vs. 2013



Need for cost effective healthcare is increasing

2020-2021 NHS funding gap forecast to reach



Rise in chronic conditions expected to cost **£5 billion** per year by 2018



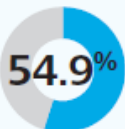
Care home residents are **40-50%** more likely to have an emergency admission / AGE attendance than the general population of over 75s

Significant mHealth market growth predicted

Global revenues

2013 mHealth valued at **\$2.4 billion**
2018 Forecast to reach **\$21.5 billion**

Growth per year of



European revenues

By 2018 Europe will be the largest mHealth market worth **\$7.1 billion**



With the highest predicted growth per year at **61.6%**

Connected health or Technology-enabled care (TEC) is capable of providing cost-effective solutions at a time when the demands on health and social care services continue to increase

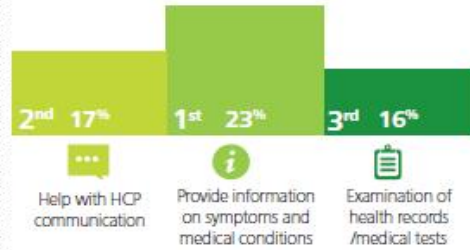
Health provider view

Patient view

Benefits of digital health for providers



Patients single most important use of health apps



Factors that increase the use of health apps:

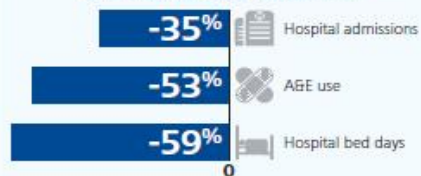
- Trustworthy, accurate data: 69%
- Ease of use, simplicity and design: 66%
- Guarantee of data security: 62%

Evidence of health technology benefit for providers

A mobile working solution for community nurses



A telehealth hub across 210 care homes



Evidence of health technology benefit for patients



Patients using technology to manage their COPD:



There is enormous potential for digital technology to improve many aspects of health care provision

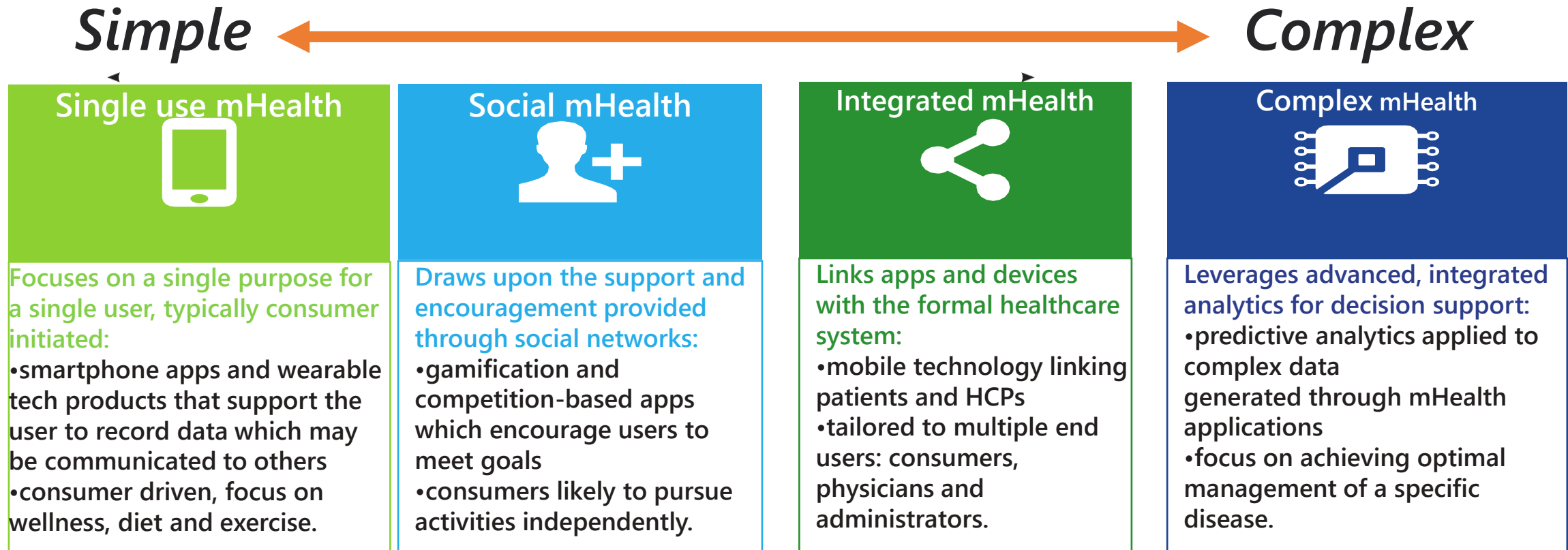
Developments in Technology Enabled Care Services

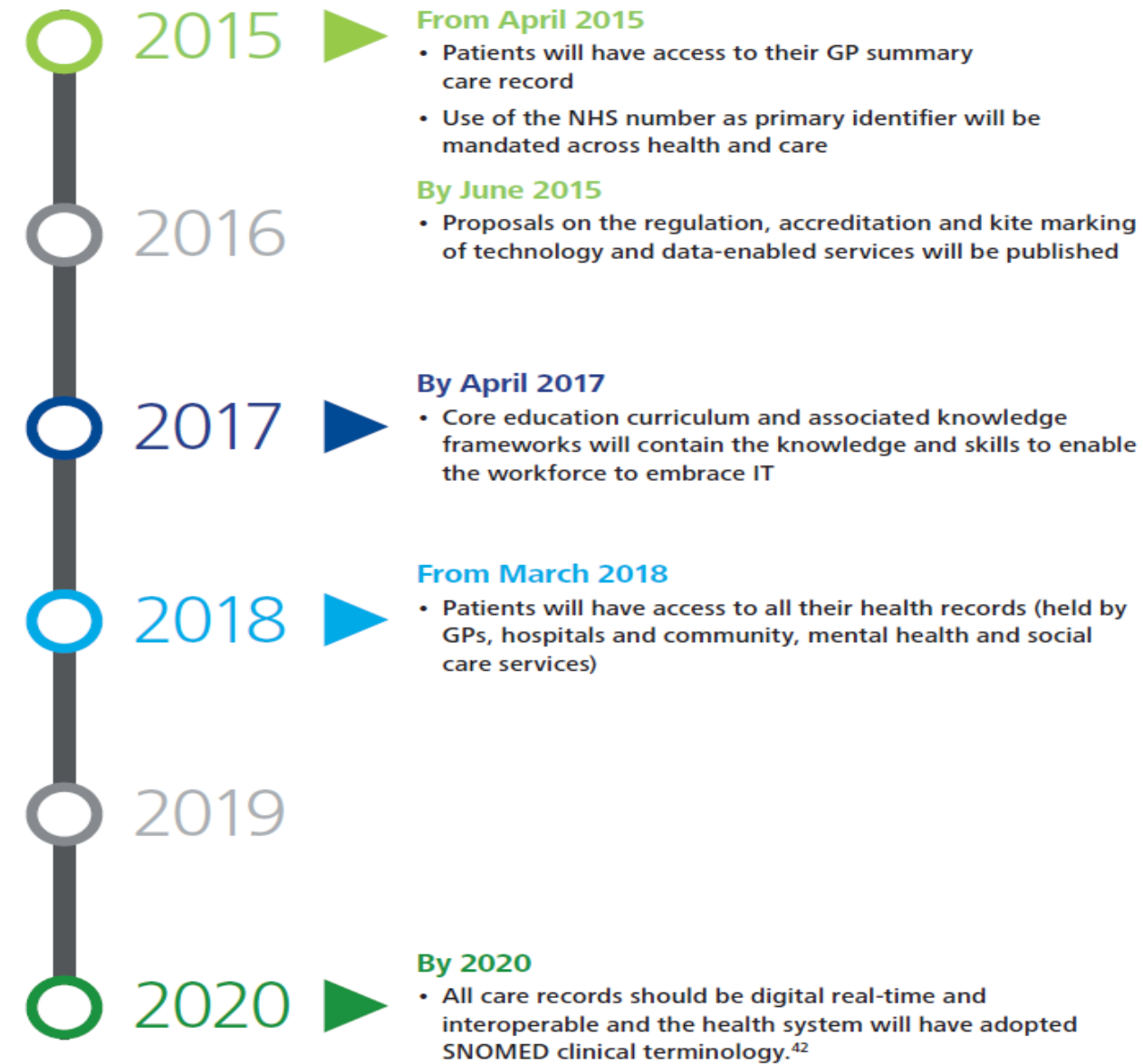
- Digital technology and associated devices can deliver TEC services and enable patients to connect to information and data and improve quality and outcomes of health and social care.
- **TEC, in particular mobile and digitally enabled technology, has the potential to reduce healthcare costs, increase access and improve outcomes.**

The challenge for the future sustainability of digital healthcare systems is to find a balance between:

- constrained budgets and the rising costs of advanced medical treatments
- increasing patient expectations and demand for better quality, patient-centred healthcare
- increasing complexity and costs of delivering care to an ageing, comorbid population
- reduced availability and increased costs of healthcare profession, in-patient beds and residential care places.

Digital and mHealth opportunities range from simple to complex



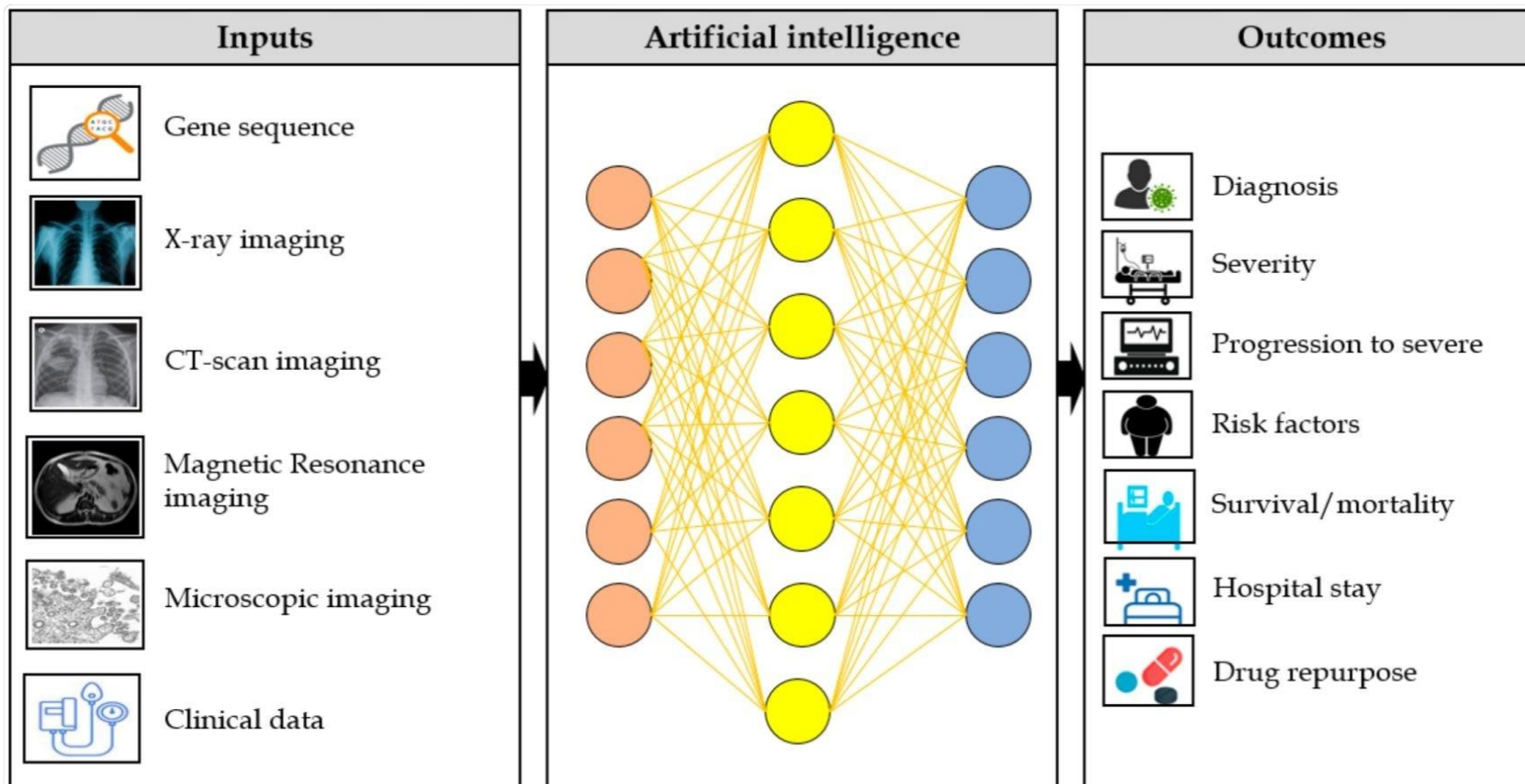


“the biggest challenge is not the development and implementation of new technologies, but ensuring equality of access.”

Healthcare Technology Trends and Digital Innovations in 2022



Trend #1: Artificial Intelligence (AI) in Healthcare



- ✓ AI'S ROLE AGAINST COVID-19
- ✓ AI IN DIAGNOSIS & DRUG DEVELOPMENT
- ✓ AI IN MENTAL HEALTH

Trend #2: Telemedicine and the Evolution of Remote Care

TELEHEALTH BENEFITS:

- ✓ COMPLYING WITH REGULATIONS
- ✓ WEBRTC FOR VIDEO CONFERENCING
- ✓ CLOUD HOSTING AND DATA STORAGE

**BETTER
TREATMENT
OUTCOMES**



**IMPROVED PATIENT
ENGAGEMENT & SATISFACTION**



**EXPANDED ACCESS
TO MEDICAL CARE**

**HEALTHCARE COST
REDUCTION**



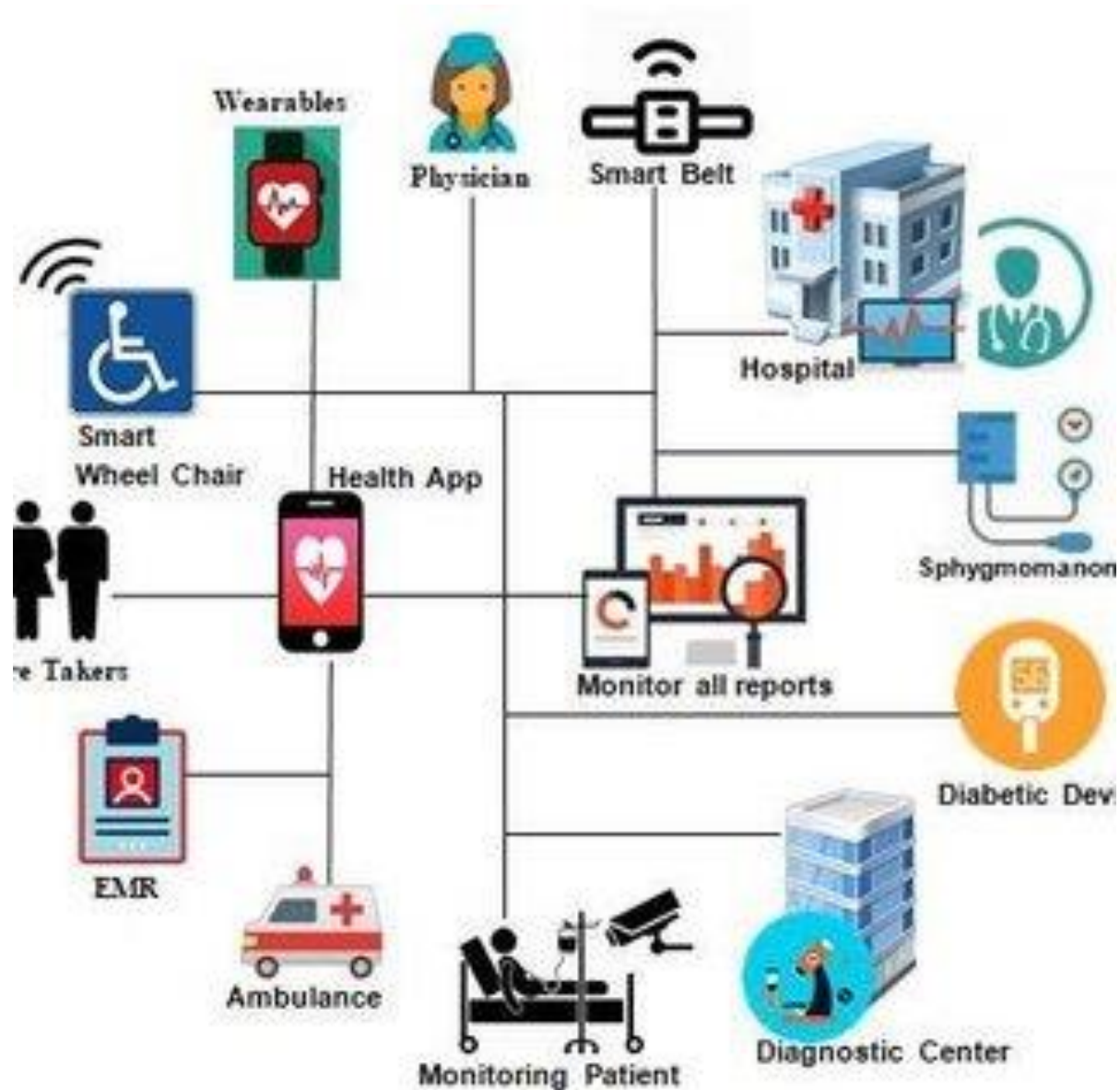
Trend #3: Extended Reality in Healthcare Settings



- ✓ AUGMENTED REALITY AND MIXED REALITY IN HEALTHCARE
- ✓ METAVERSE: FUTURE OR HYPE?
- ✓ The Virtual Reality Medical Center
- ✓ VR therapy



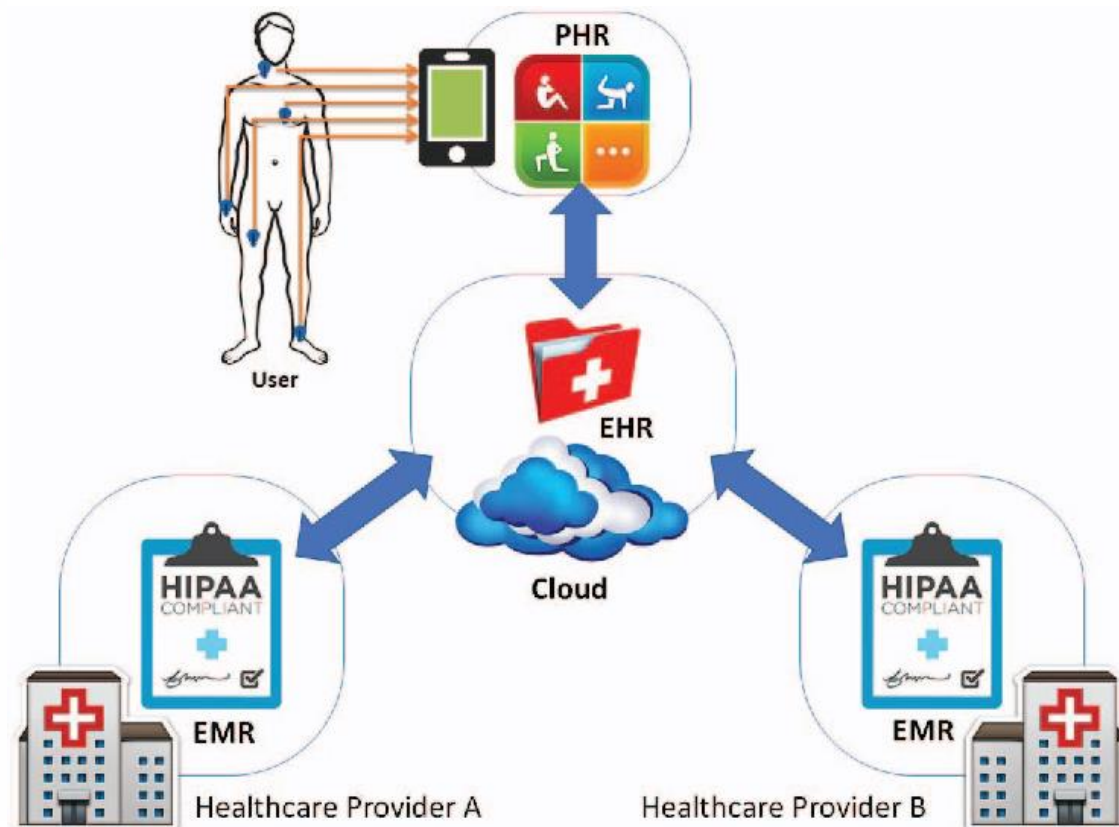
Trend #4: IoT and Wearables in Healthcare



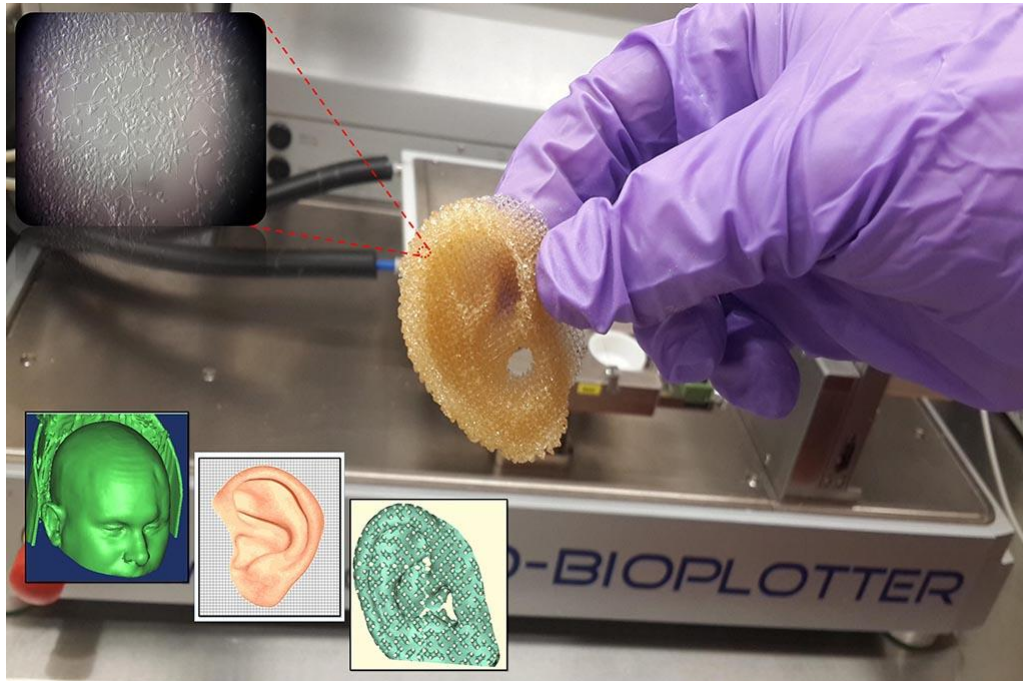
- ✓ WEARABLES
- ✓ Smartwatches
- ✓ SMART PILLS
- ✓ CREATING Internet of Medical
- ✓ Thing (IOMT) SOLUTIONS

Trend #5: Healthcare Privacy and Security

BEST PRACTICES TO ENSURE DATA SECURITY IN THE
HEALTHCARE INDUSTRY



Trend #6: Organ Care Technology & Bioprinting



- ✓ IMPROVING ORGAN CARE TECHNOLOGY: EXTENDING TIME FOR ORGAN EVALUATION AND TRANSPORT
- ✓ BIOPRINTING: CREATING NEW ORGANS



Summary

- Digital Technology and Nursing Information skills are provided recommendations to meet the needs of the 2020 and 2030 workforce today
- Quality and efficiency of care will continue to improve due to groundbreaking and evolving technologies like artificial intelligence, machine learning, and extended reality.

Discussion

Future of Healthcare Technology

Homework:

Read → Conclude → Mind mapping

BRIEFING



The rise of digital health technologies
during the pandemic

SUMMARY

Coronavirus has accelerated the rise of digital health, a broad concept that includes solutions for telemedicine and teleconsultation, remote monitoring, connected devices, digital health platforms and health apps. The concept also covers the related health data analysis and application in systems based on big data, for instance for epidemiological research and AI-enabled diagnosis support.

Digital technologies are becoming critical in the fight against the ongoing pandemic. They have been used, among other things, for online medical consultations from home and for increasing efficiency in diagnosis and treatment of patients through telemedicine, which, like teleworking and online education, has been a novel experience for many.



Thank You