THE DIGITAL HOSPITAL REVOLUTION

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WHAT IS DIGITAL HEALTH?

Digital health in a broad sense is the convergence of digital and genomic technologies with health, healthcare, living, and society to enhance the efficiency of healthcare delivery and make medicines more personalized and precise.

BENEFITS OF DIGITAL TECHNOLOGY

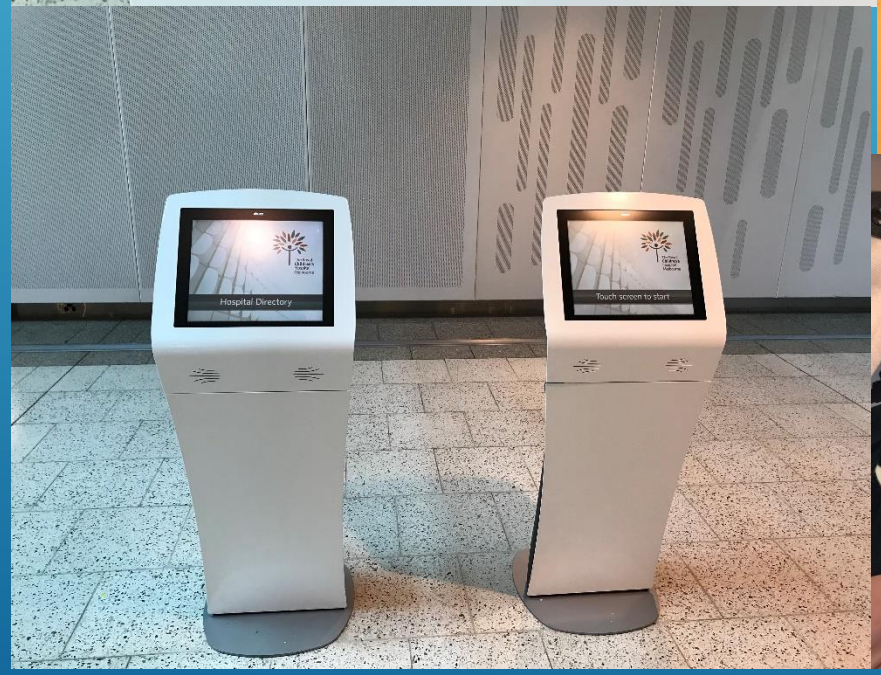
- To improve patient care and safety.
- To improve patient flow.
- To provide enhanced patient information, patient portals.
- Provide greater access to healthcare in the home.
- To reduce health service inefficiency.
- To reduce health service costs.
- To enhance research by using the systematic collection of data.

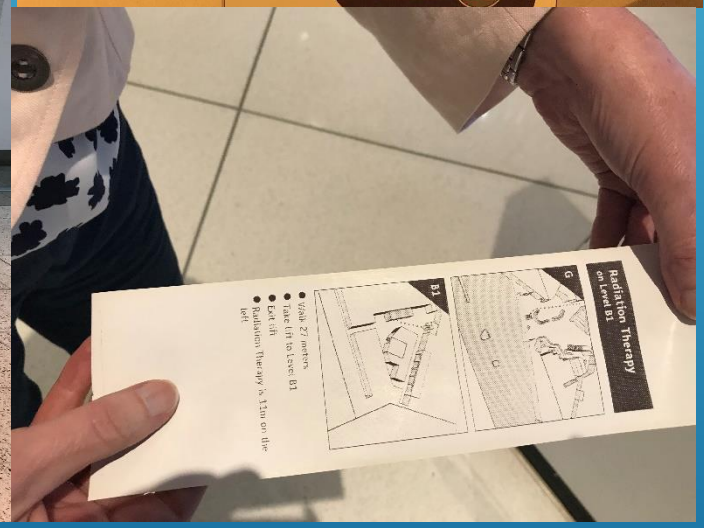
DIGITAL APPLICATIONS IN HEALTH

- Electronic (paperless) medical record, prescribing, patient information
- Medical robots – venepuncture, exoskeletons for paralysis rehab, cleaning of hospital rooms, robotic surgery, automated dispensing machines
- Artificial intelligence – analysis of radiology, assist in medication management, provide some medical consultations
- Social media – crowdsource medical diagnosis, patient motivation, connecting physicians
- Health sensors – vital signs, artificial pancreas, exercise monitoring and motivation

Digital wayfinding – kiosks

- Touch Screen
- Adjustable Height
- Different Language Options
- Print out Maps
- Scan your QR Code from your appointment and it will show you where your appointment is on the map.





emaze.com

hospitalnews.com

DIGITAL APPLICATIONS IN HEALTH

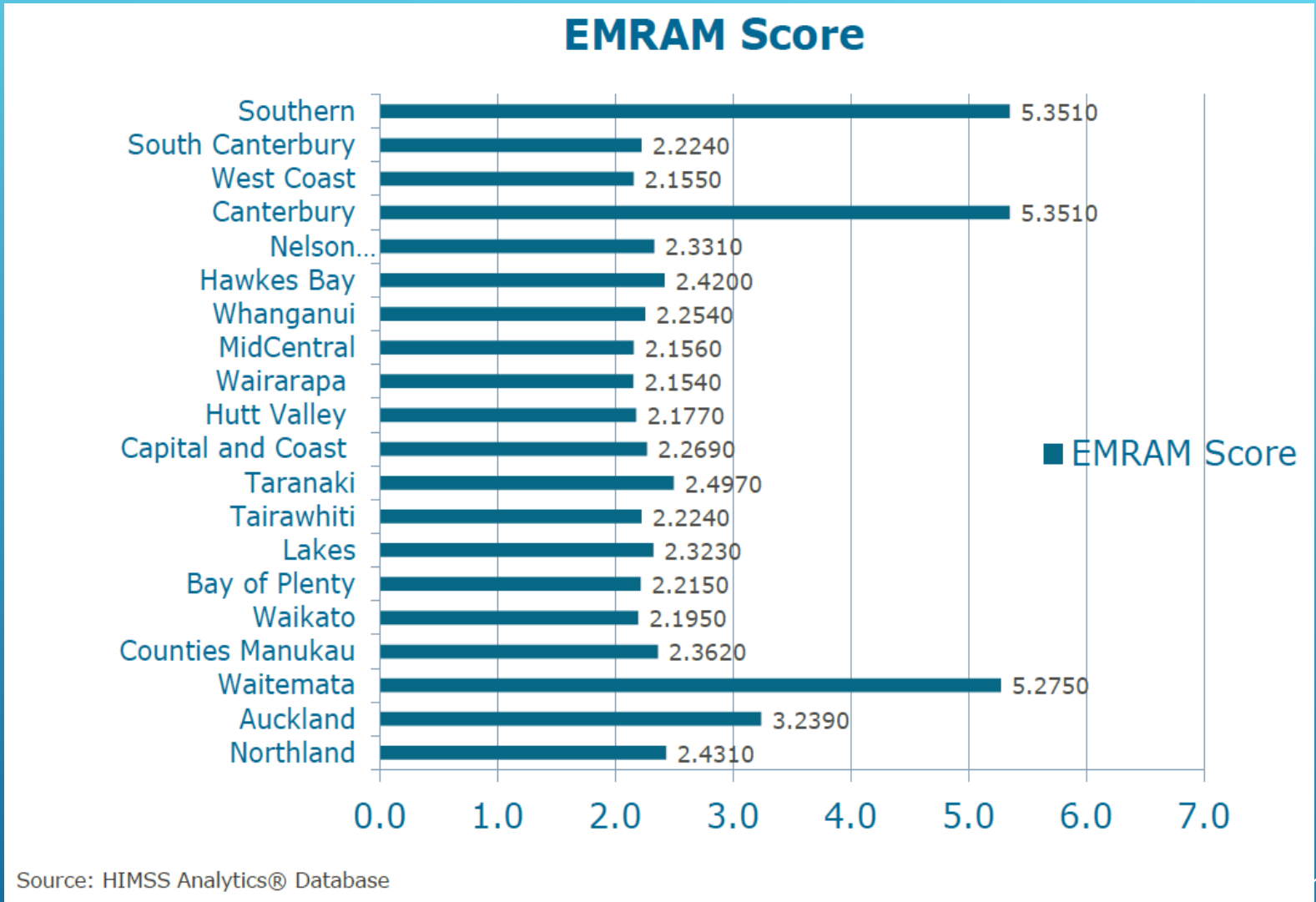
- Virtual reality – pain reduction, depression management, phobia treatment
- Augmented reality – find veins, assist in surgery, healthcare training
- 3D printing – prosthetic joints, replacement bones, printing of drugs
- Nanotechnology – target cancer tissues, microsurgery
- Genomics – disease risk assessment, definition of the microbiome, drug sensitivity

3D PRINTING - BONE

3ders.org

THE ELECTRONIC MEDICAL RECORD

- Tracking of all referrals
- Ability to view the overall care of the individual patient
- A platform for integrated and interprofessional practice
- Monitoring of national targets
- Ability to view pending demand for services
- Greater ability to manage elective and acute demand
- Ability to coordinate resource availability
- Facilitated clinical research



Source: HIMSS Analytics® Database

DIGITAL IMPLEMENTATION

- Patient consultation and admission records are moved to a digital platform
- e-prescription and e-signature
- Orders for all investigations are electronic
- All generated clinical data and results are archived digitally
- Treatment orders are entered digitally
- Patient recordings and treatment records are entered at the bedside
- All correspondence and administrative documents are held electronically
- Infrastructure such as security, fire protection, electricity etc are monitored electronically
- Budget information and stock reconciliation is held electronically

Monash Heart Hospital will open in 2022 and will use digital technology for the EMR, patient portal, telemedicine, patient education, GPS tracking of ambulances, live telemetry from ambulances and helicopters, real time location of patients and equipment, patients ordering meals, patient access to the internet, Skype, TV and movies.

MONASH HEART HOSPITAL

IMPLICATIONS OF THE DIGITAL REVOLUTION

- Increased patient health literacy, self care
- Improved care coordination
- Increased real time decision making
- Skill mix for health professionals will change
- Health professional mix will change
- Increased remote delivery of care, particularly home care