

# Data and Digital. What's that all about.

**Kate Yeo,**  
**1/09/2023**

# Who am I

Tēnā koutou katoa,  
nei ra te mihi mahana ki a koutou katoa.  
Ko wai au?

Ko Danbury Hill te Maunga

Ko Chelmer te Awa

Ko Ingarangi te Iwi

Ko Essex te Hapu

I tipu au No Chelmsford

Naianeī, E noho ana ahau I Kirikiriroa, Aotearoa

Ko Kataraina Yeo toku ingoa

Tena Koutou, Tena Koutou, Tena Koutou Katoa

**Kate Yeo**  
**Deputy Chief Nurse**  
**Te Whatu Ora**  
**Waikato**

**What Nursing needs  
An example or 2 or what it might  
look like  
National Direction  
Questions**





# Executive summary

Wanted: approval to move forward and develop a strategy that can be used at the national, regional and local level

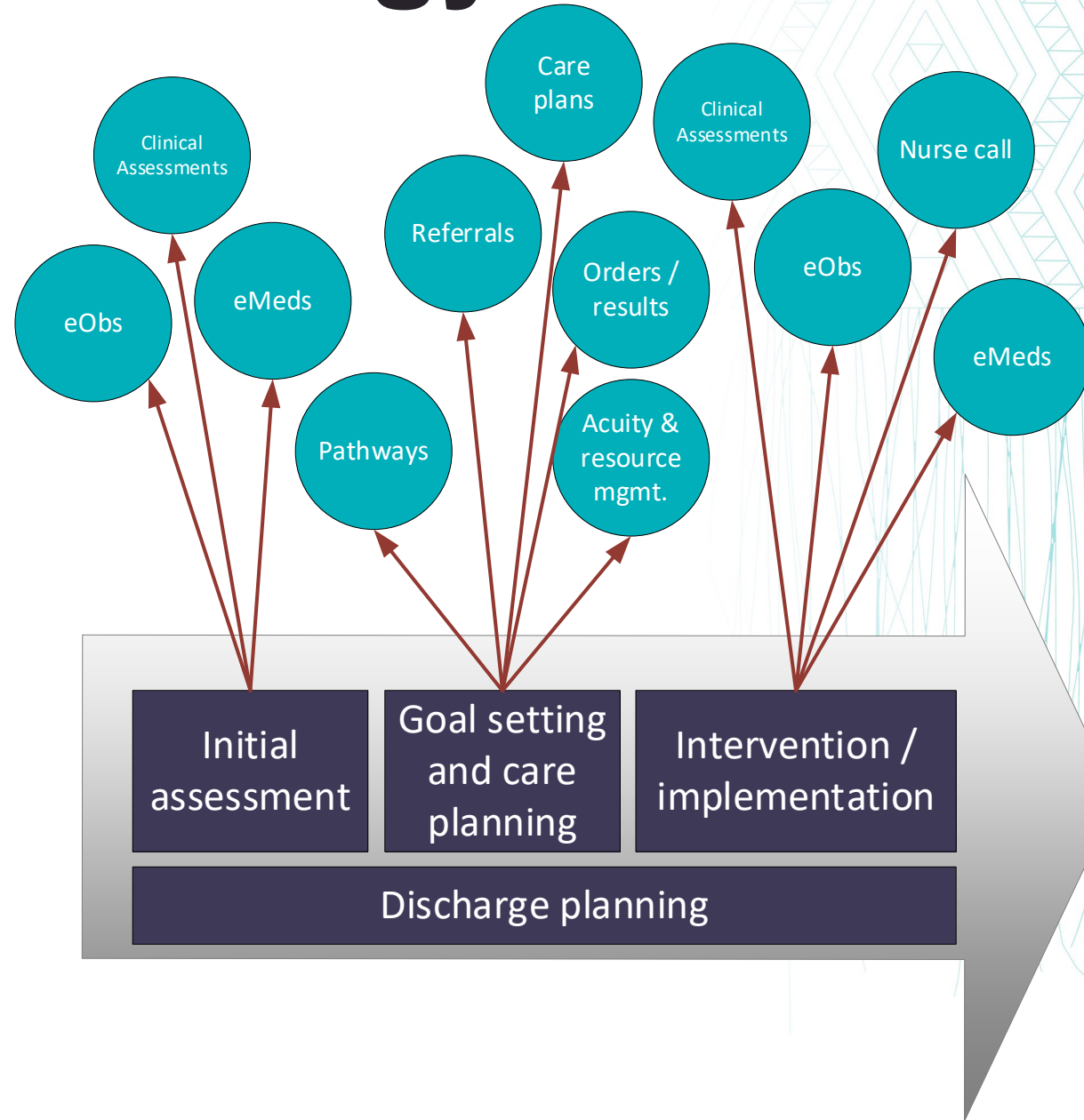
- Electronic applications and work tools will become more endemic in the clinical space
- The work of nursing has often been fragmented and extended in an ad hoc manner, with the introduction of new technology
- If technology is not perceived as useful and adding meaning, nurses choose to disengage
- There is a lack of understanding, outside of nursing, of what is needed and the desired endpoint
- Nursing can inform their future with a cohesive overarching strategy and systems map of what is needed to support and enhance their work and improve health outcomes for our people, especially for Māori
- The strategy will include workforce development, technology needs and system architecture requirements

It is recommended that the following work is used to inform the development of a regional and national strategy and roadmap that ensure a convergent approach to technology for nursing.

# Current Technology & workflow

Current nursing digital experience is not connected and not supporting nursing workflow.

Each area shown is focussed only on a particular individual task





# Vision - Synchronising the art of nursing with digital transformation

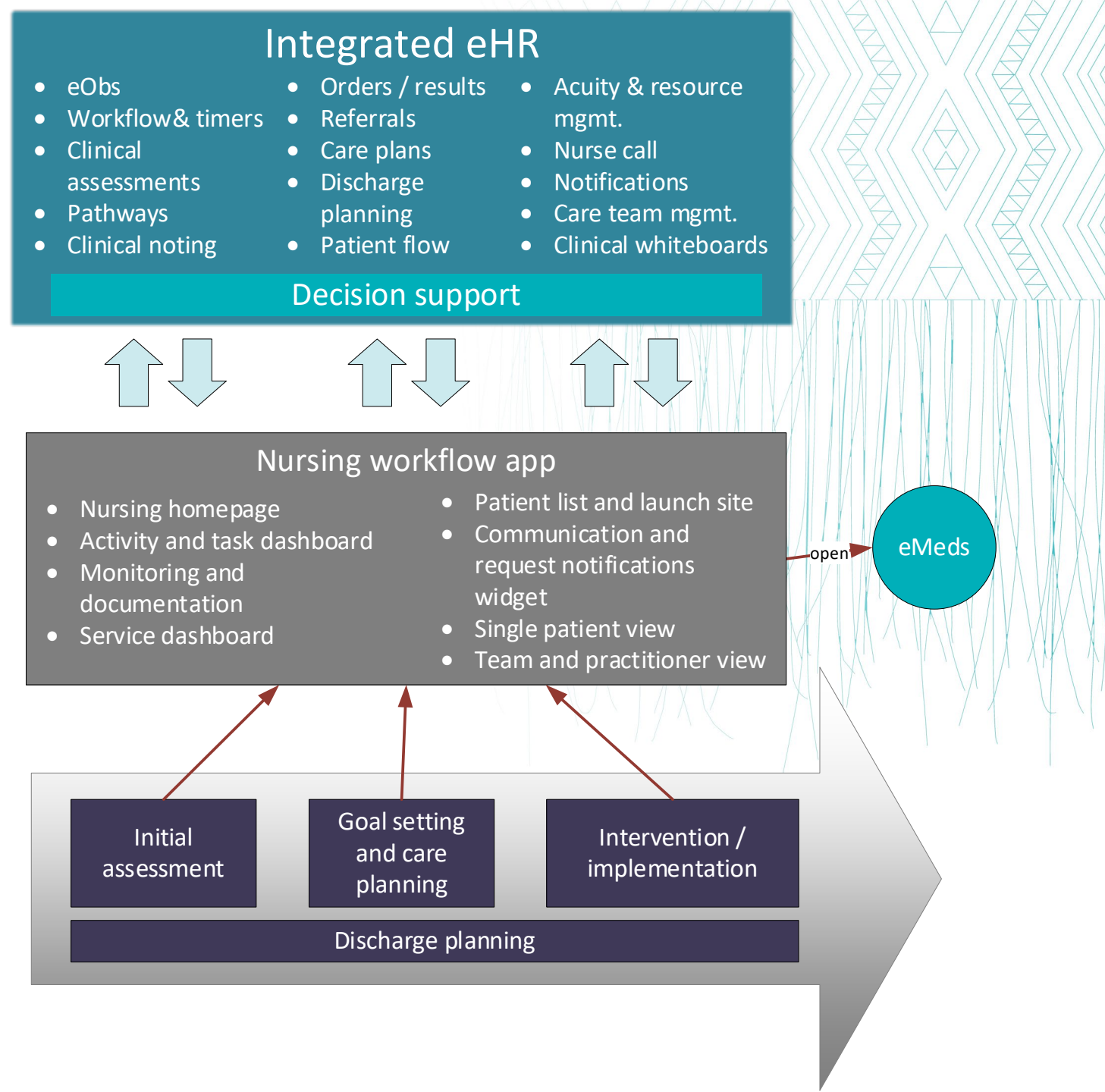
We recognise the capacity constraint in health, and electronic systems that support automation and collaboration (through careful design) are key to helping reducing the impact of this constraint, and utilising nursing time and skill as effectively as possible

## Key objectives:

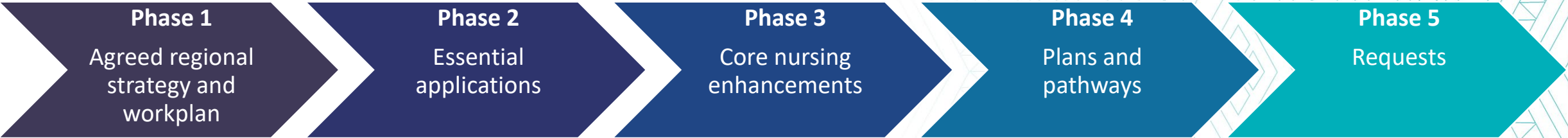
- Create a system that is intuitive with a good user experience, doesn't require extensive training
- Include observations, early warning score applications, and assessments together with other known patient information give the foundations for ongoing workflows
- Procedure documents, care plans, and discharge plans are integrated, intelligent, and accessible
- Equity outcomes are improved through careful co-design, equity reporting, and surfacing cultural considerations in nursing applications to enable culturally safe provision of care
- Electronic medicines management and allergies management support the reduction of avoidable harm

# Concept: Nursing Workflow app & eHR

Harness technology to support nursing workflow, through an integrated eHR and mobile capable nursing workflow application



# High level suggested timeline



Activities				
Agreed digital transformation plan	Nursing workflow system core	Decision support	Care plans	Tasks
Agreed workforce development plan	eObs	Notifications system	Pathways	Orders
Build digital capability in the workforce	Integration	Assessments	Evaluation Documentation	Referrals
	Mobility	Monitoring		Enterprise scheduling
Outcomes				
Digital investment	Data informing planning	Alerts & patient comms	Integrated intelligent care plans and pathways	Integrated / orders, tasks, referrals
nursing workforce capability increasing to support digital and data	Launch to assessments	In-line assessments & monitoring		Appointment booking



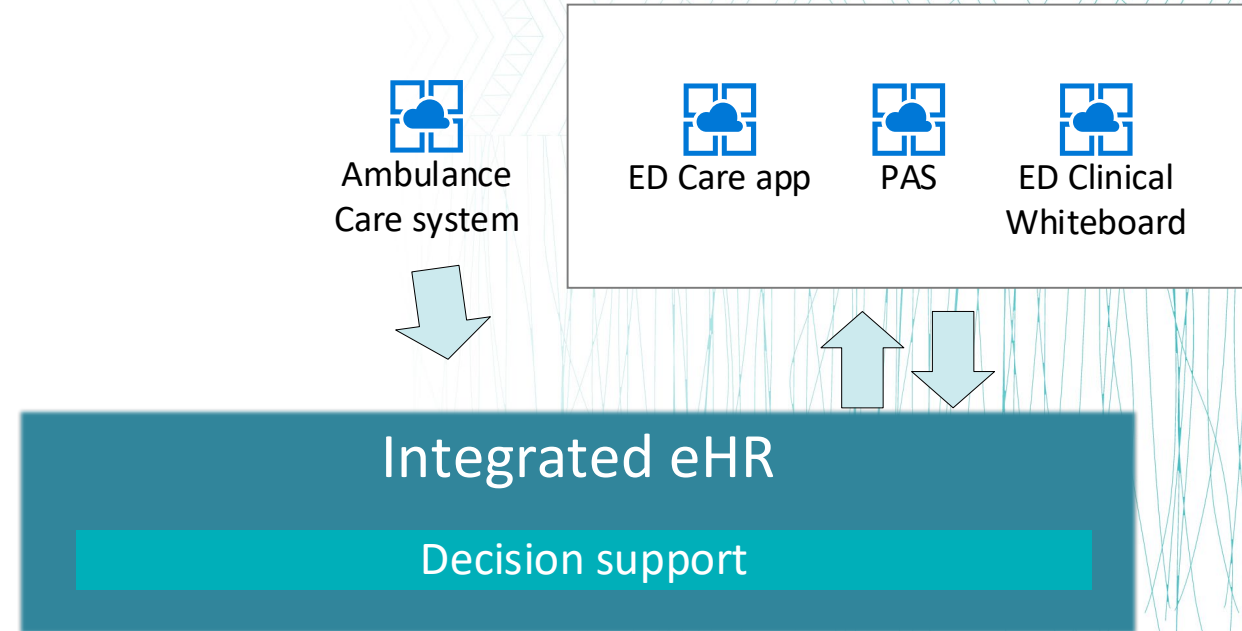
# Grace User story – patient journey



# Home, Paramedic



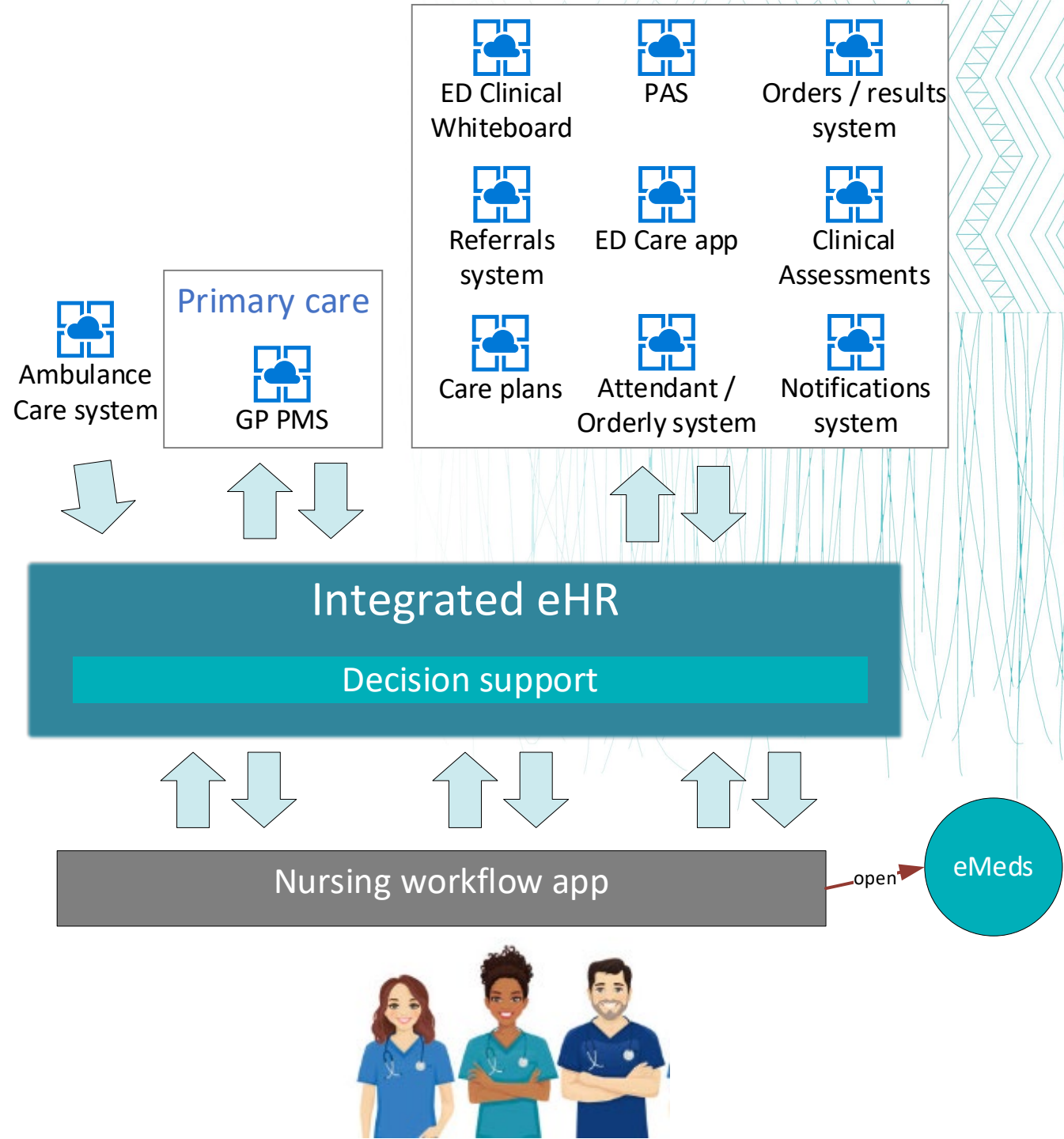
- Grace lives in a small rural town. She has a fall and can't reach her phone. Her friend discovers her and calls the ambulance and her son Aaron
- Paramedic arrives, creates record in Ambulance Care System which integrates to ED hospital systems (PAS, Clinical Whiteboard, and ED Care app)
- The paramedic gives Aaron a parking token for ED carpark



# ED



- After the ambulance handover, Grace has initial assessments and a package of care assigned with monitoring and tasks
- She is administered medications and has an Xray request, which confirms fracture of the neck of femur
- ED inpatient bed request via clinical whiteboard. Orderly request is triggered when bed is available
- eMeds triggers a perioperative anticoagulation protocol, decision support creates bloods order for monitoring
- ED Care app notes go into EHR. ACC flagged
- Grace admission to ward triggers whānau notification

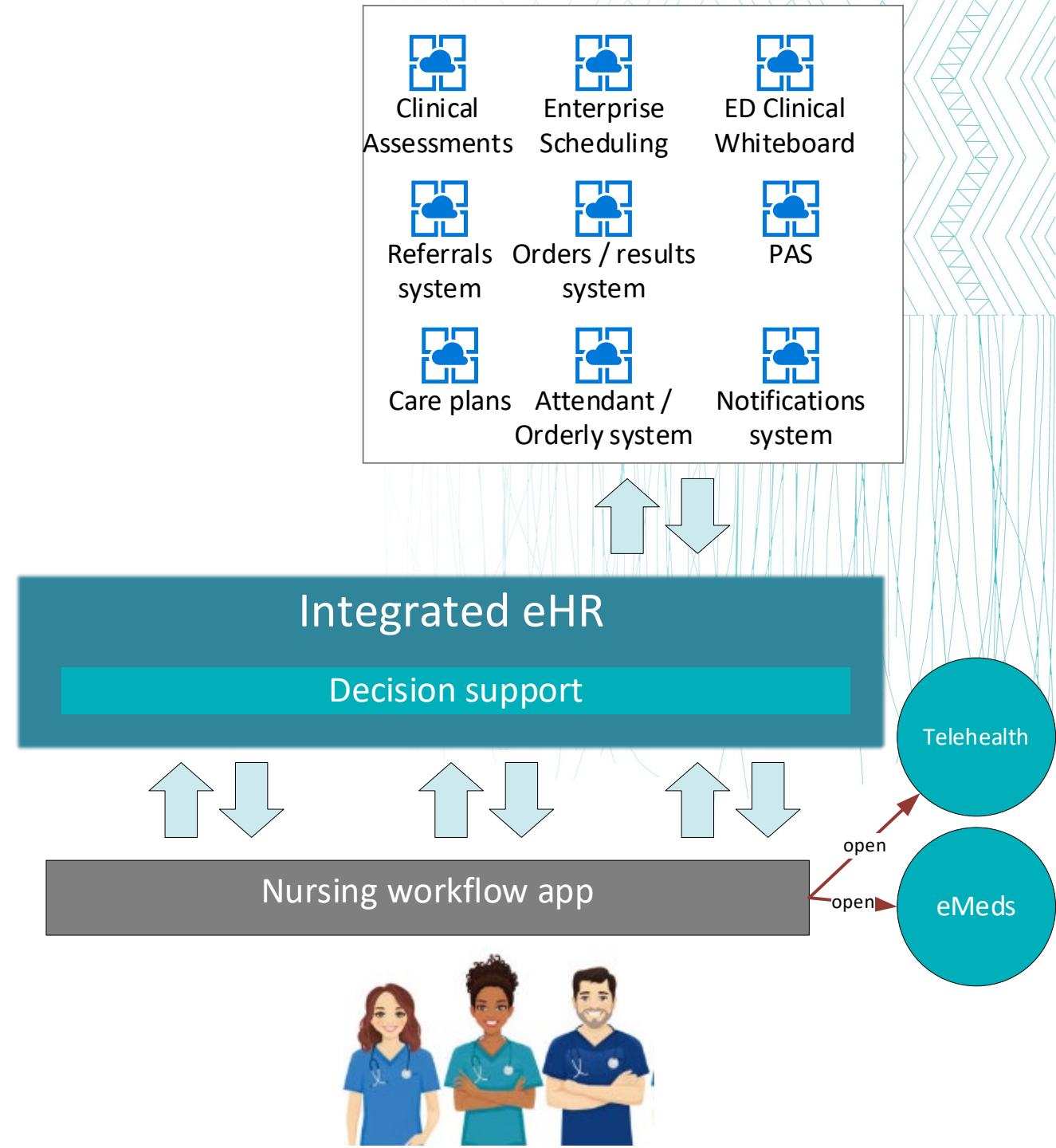




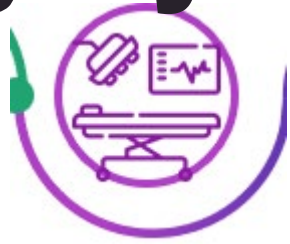
# Pre-Op Ward



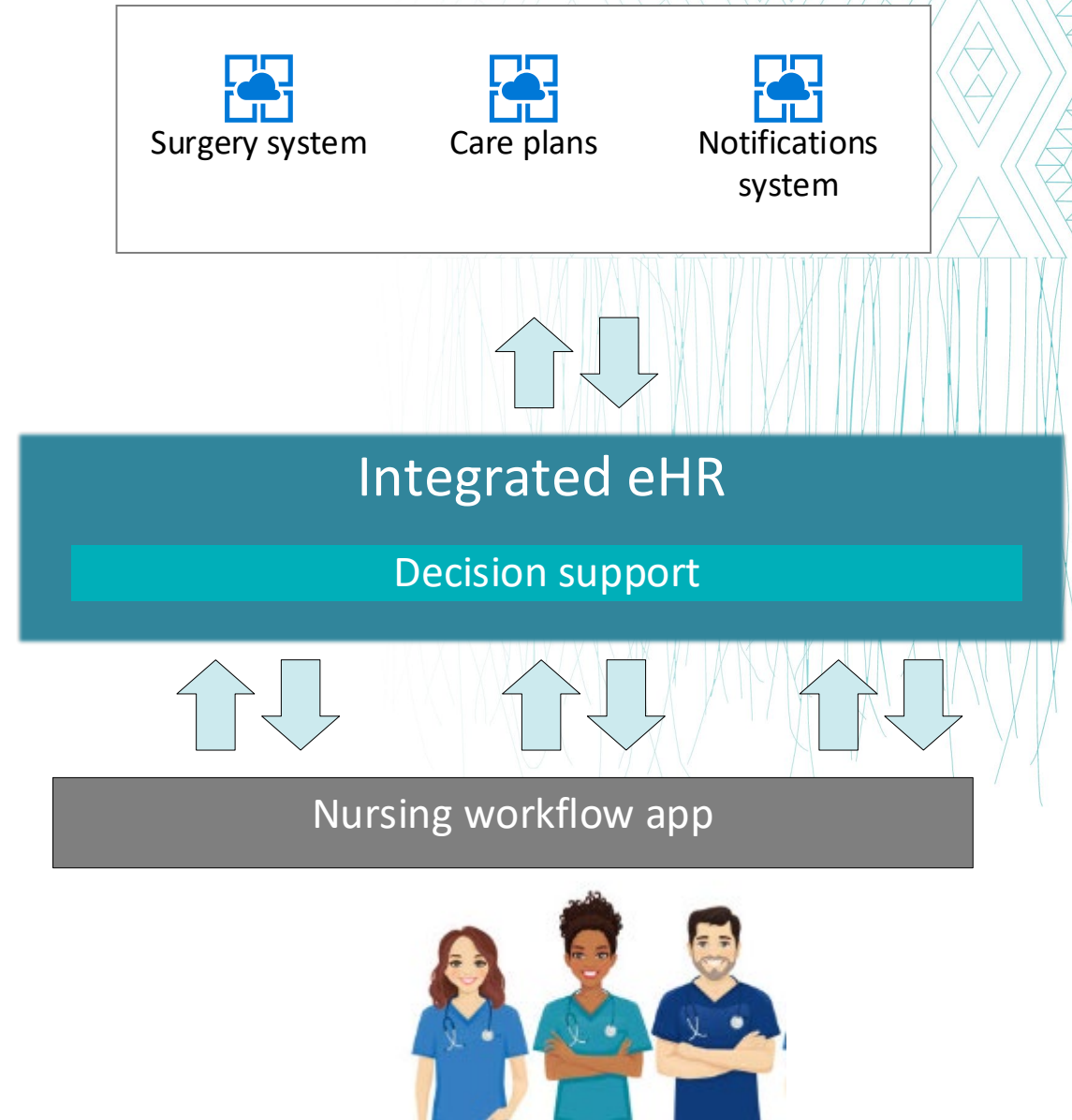
- On ward Nurse introduces Grace, then does nursing assessment on mobile tablet. ED notes & EHR with community care info visible. Nurse covers domains described in Te Whare Tapa Whā, vital signs, and a safety review
- Discharge planning begins, includes social aspects, MDT approach. Discharge checklist begins and EDOD set
- Nurse selects pathway, plan of care customised for Grace
- Decision support factors diagnosis, ethnicity, disability, rurality and assessment information
- Nurse does allergies assessment, Doctor schedules pre-anaesthetic assessment and prescribes pain meds (using eMeds app)
- MDT appointment with telehealth includes Aaron. Shared MDT notes are visible, tasks and referrals created as outcomes. Chaplain referral sent as requested by Grace
- Planned monitoring triggers nurse assessment and observations
- Prior to going to theatre, Grace has a karakia with the chaplain and Aaron



# Surgery



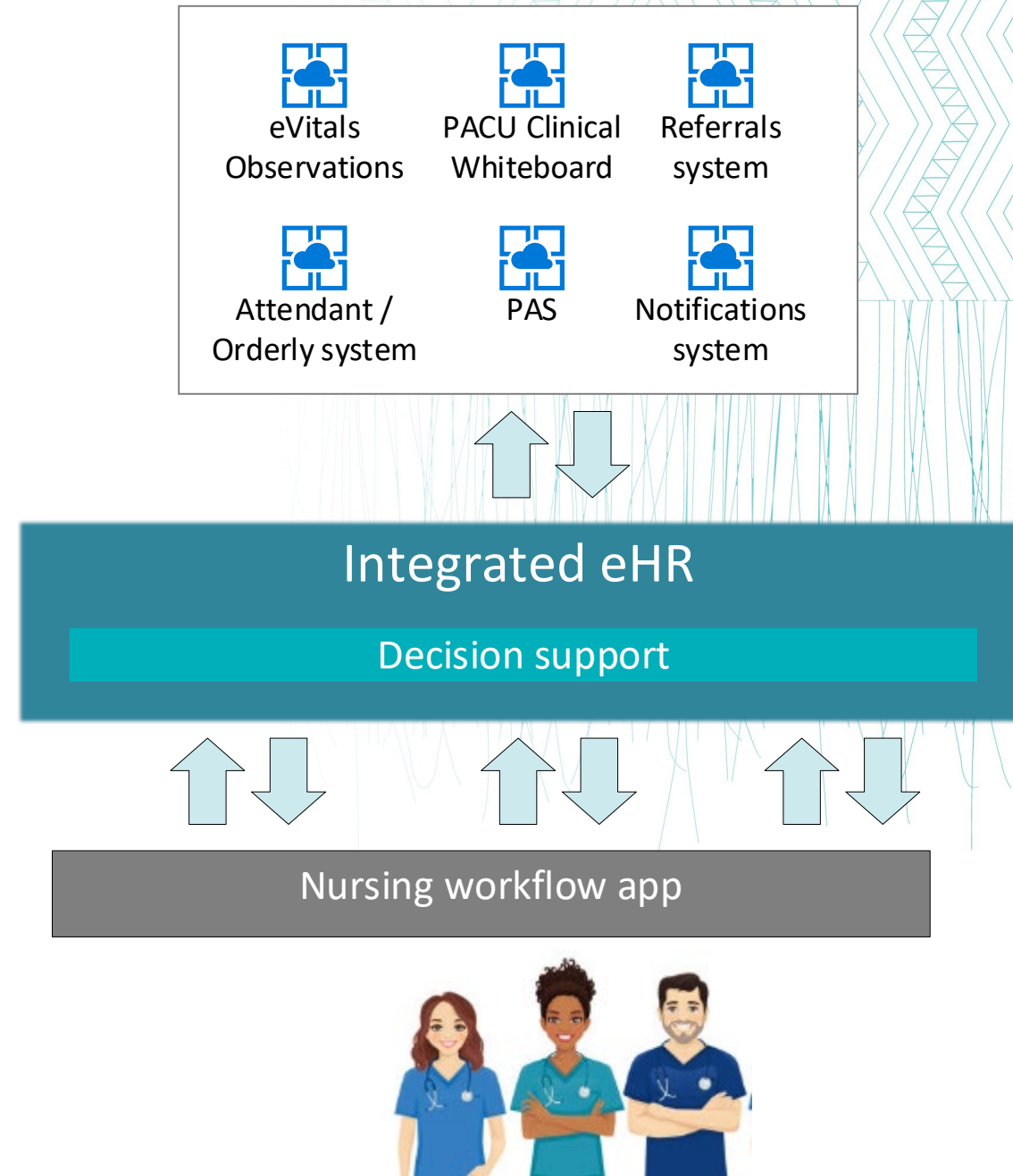
- Theatre best practices for anaesthesia and surgery are followed
- Grace's surgery workflow state changes (moved to surgery, surgery start, surgery finished, etc.) can be seen by Grace's care team
- Surgical notes are sent to the EHR with triggers for post-op care, and decision support feeding into workflow, care plans, and discharge planning
- Grace being moved from surgery prompts a text to Grace's whānau (with admin confirmation)



# Post-Op PACU



- The PACU nurse monitors Grace during recovery, vital signs are pulled into the eVitals Observations system. Other obs such as level of consciousness, airways, movement, pain scores entered at regular intervals. TED stockings are checked
- Grace's waking is recorded, this prompts the nurse to trigger a text to whānau (Aaron) to say awake and recovering
- Once Grace's post anaesthetic recovery score & post-surgery obs are looking good, Grace is ready to be transferred back to the ward. The nurse updates the PACU Clinical Whiteboard and this triggers a notification to the ward nurse, who is then able to view Grace's latest obs and electronic handover
- The ward nurse goes to PACU to retrieve Grace, receives a detailed verbal bedside handover. This includes a patient head to toe, identifying the surgical site, skin integrity, drains and infusions – all of which the ward nurse records in the Nursing Workflow App

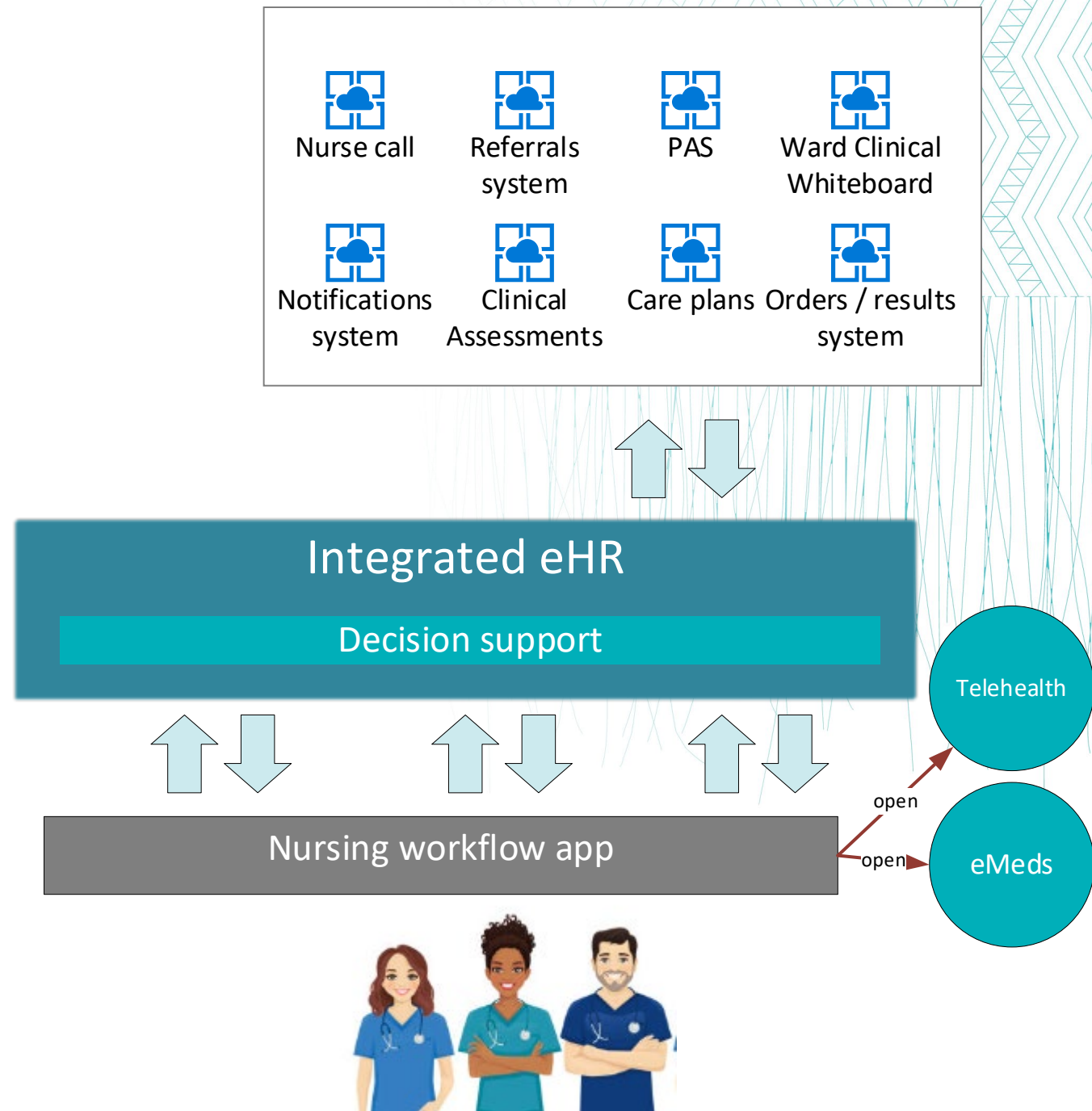




# Post-Op Ward



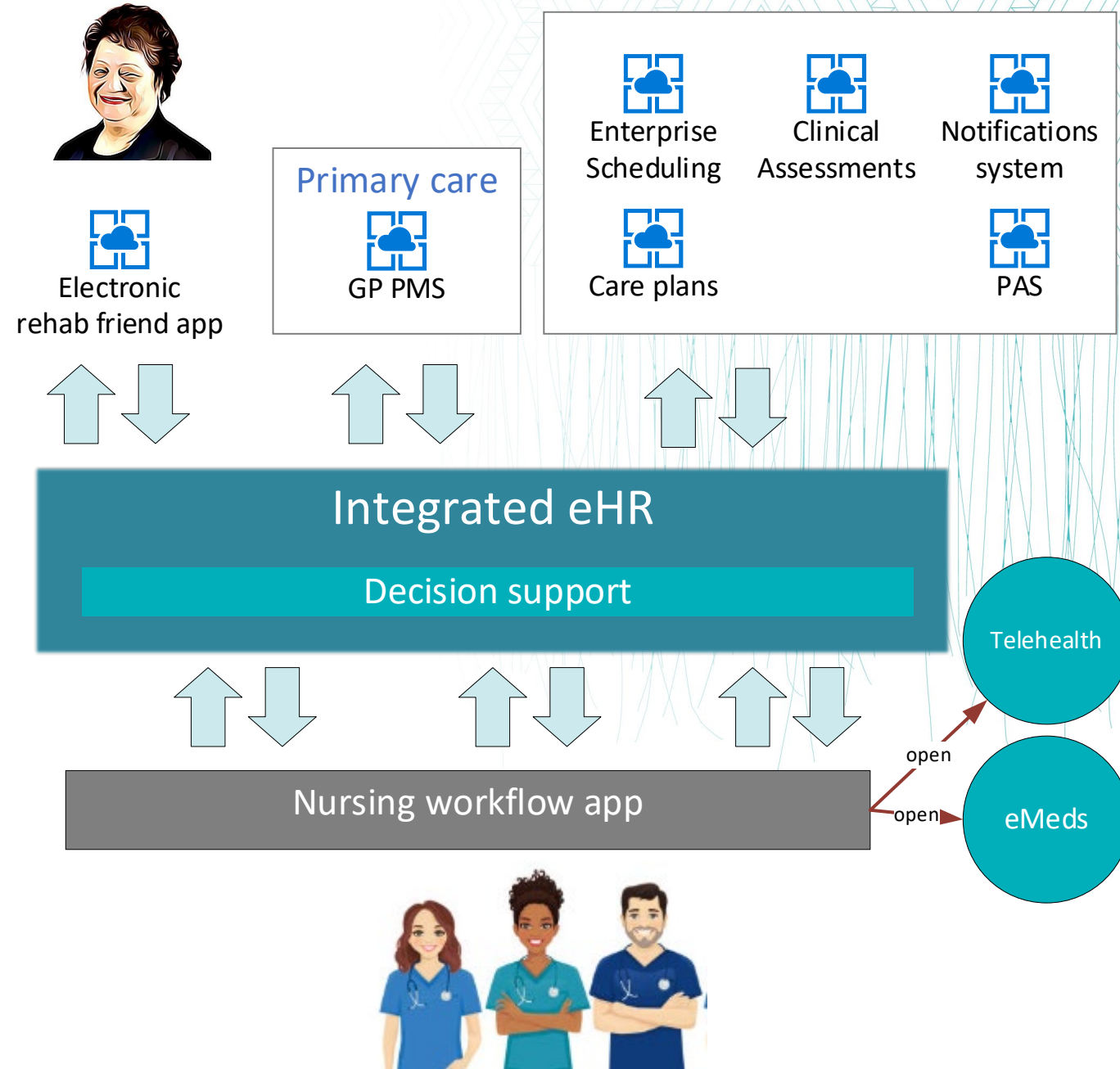
- The Ward Nurse is prompted to check items from the post-surgical care plan. As they are marked complete the discharge checklist updates
- Aaron visits and notices Grace unusually confused. He pushes the nurse call button which shows on the Ward clinical whiteboard, and the nurse is notified
- The nurse performs a delirium/dementia assessment and vitals, showing a change in cognition triggering notification to the doctor
- Doctor assesses as probable UTI, orders blood cultures and prescribes via eMeds, which triggers a nurse task to administer the meds.
- Grace recovers quickly
- The nurse checks the status of tasks and referrals associated to the discharge plan, updates Grace
- A physiotherapist and OT visit Grace to introduce themselves, explain their roles in her recovery, and discuss her recorded goals
- The next day Grace is discharged / transferred to the rehabilitation unit. A text is triggered to Aaron



# Rehab



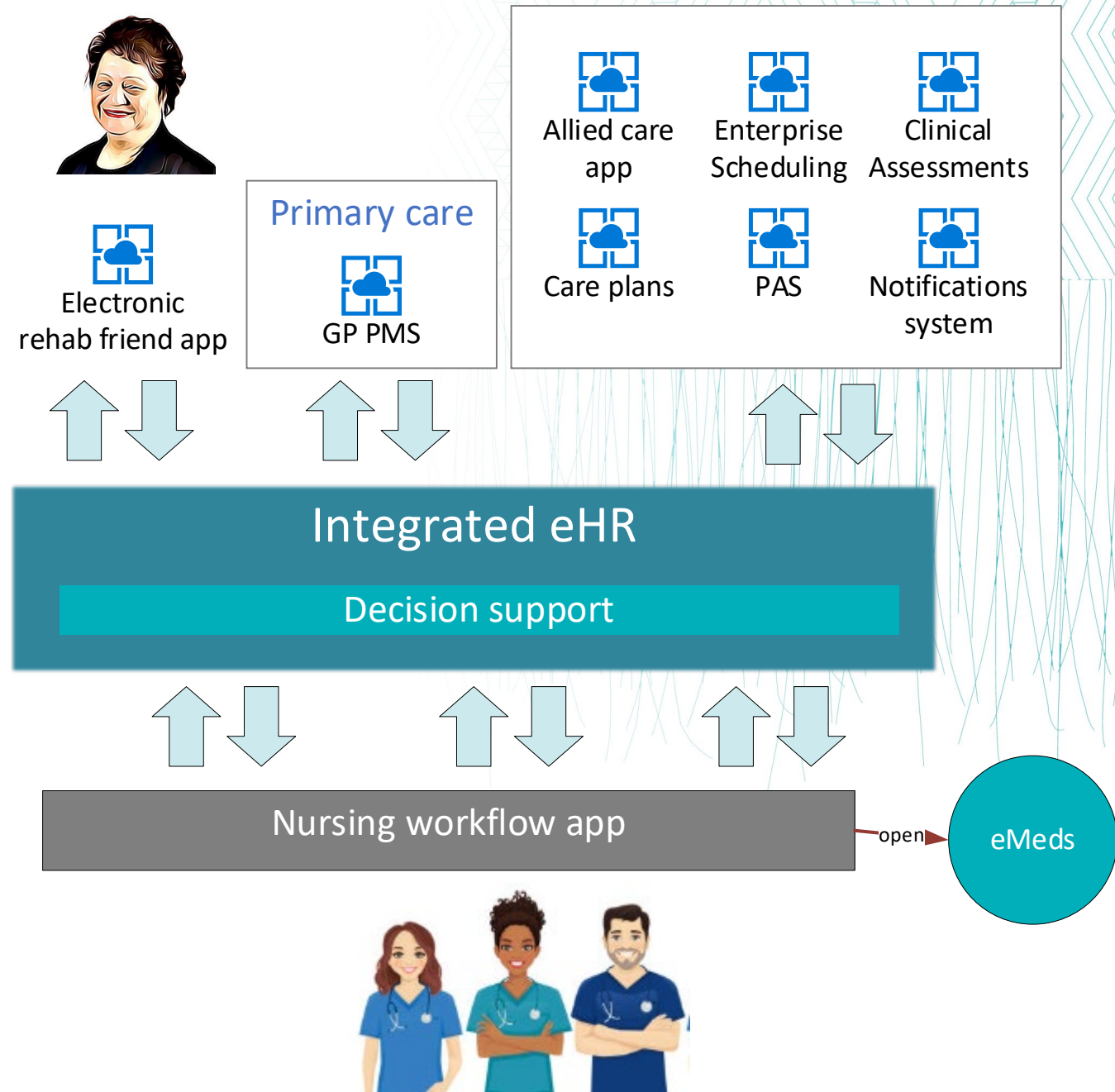
- The staff help Grace settle on the ward.
- The physio assesses Grace against handover info & her goals, and builds on previous plans; 1 week of intensive rehab then home supported care. EDOD update triggers reschedule of OT home appt and comms to MDT
- The care support assistant shows Grace her (no charge) 'Electronic rehab friend app' & device. This supports meeting rehab goals, communicating, has reminders for exercises, and eating the right food. Survey feedback is seen by the MDT, with action on low scores. Surveys are optionally in te reo Maori and cover physical, spiritual, social and mental wellbeing.
- Grace chooses to share info with Aaron
- Grace works hard, is comfortable with the rehab friend and more confident moving
- The discharge summary includes EHR info and community rehab plan, sent to GP and available in Grace's patient portal
- On discharge day, the updated care plan, final assessment and self reported info is sent to community care teams, with appointment details in rehab friend



# Home



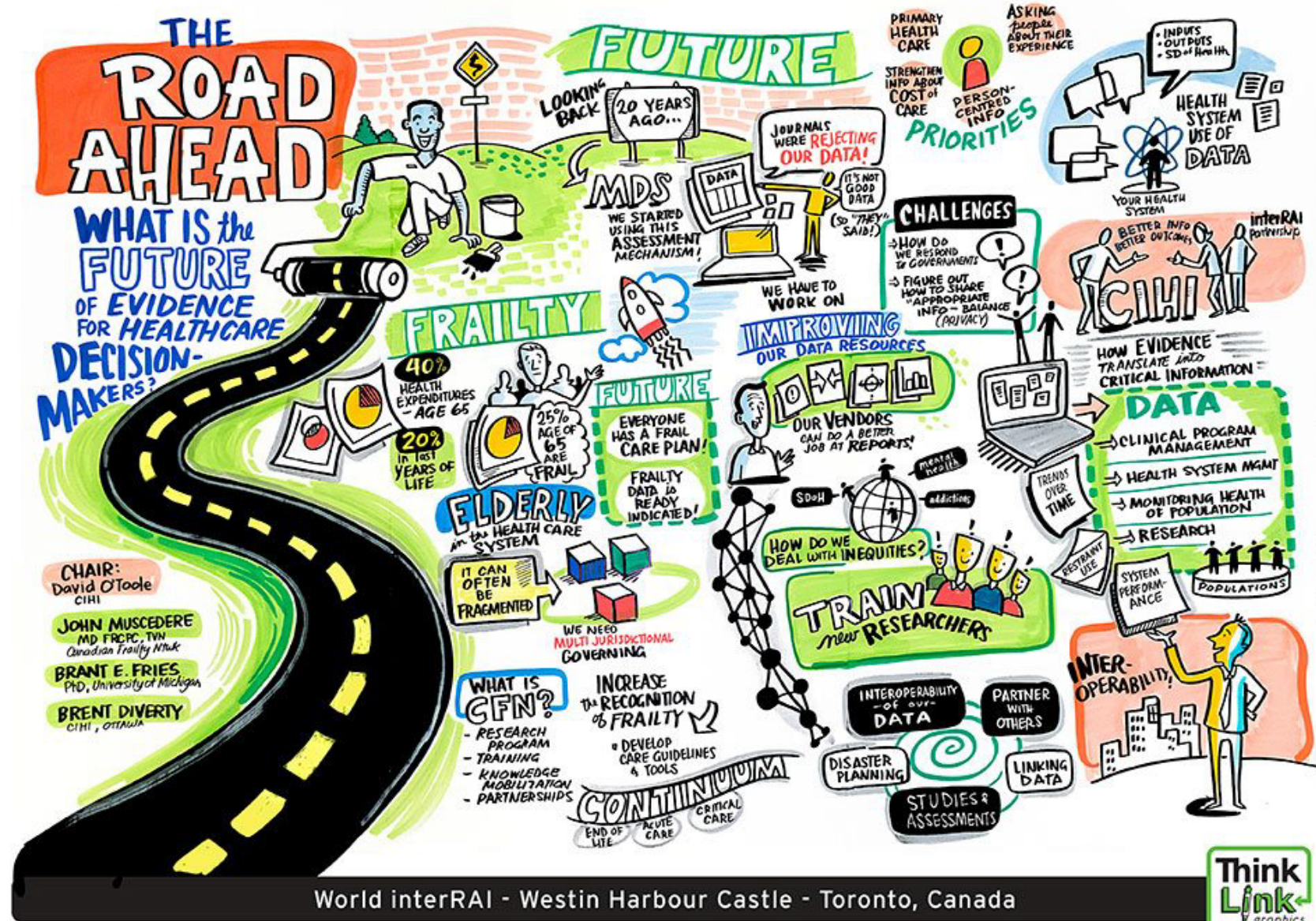
- Grace arrives back home to continue her rehabilitation. Meals and a cleaner provided as agreed in the MDT
- Grace continues to work with the rehab friend. The physio reviews goals, plan, progress before visiting
- Grace is worried her wound is a bit weepy and warm. The physio takes a photo for District Nurse referral. The DN visits and also reviews Grace's wellbeing as she reported feeling low (visible in the Nursing Workflow App). She runs through checks, launches eMeds for antibiotics. This triggers message to the GP
- The DN review activates an ACC psychological support referral. The GP has a telehealth appt with to do a more thorough review. The MDT team (incl Aaron) can see App entries and trigger a meeting.
- Need for intensive input is lessening. The physio & DN discharge Grace. She can message GP from App and GP can monitor for 3 months. GP arranges a green prescription for Grace through the local sports organisation, to help Grace increase her strength, balance and activity levels.
- Grace achieves her goal of playing bowls, now carries a personal alarm linked to the first responder service





# Examples

Medicines  
Management.  
Vitals and monitoring.  
Assessment.





# Simplify to Unify

A national approach.



# Questions

Ngā mihi nui.

