mHealth - Future Vision

This document outlines a vision for mHealth in New Zealand. It does so by describing clinical scenarios and high level requirements for the use of mobility in patient care, and for patient use, across the NZ health sector.

Vision:

Mobile 'anywhere anytime' connectivity for healthcare services empowers staff to use real-time health information and access clinical decision tools to provide the best care for all regardless of location.

People (patients, families, caregivers, population) can access health information and services when they need it regardless of time or location via mobile communications devices.

Use Scenarios:

1. Hospital-based staff can access health information systems 'on the go'. Examples are:		
a. A tertiary or secondary hospital-based specialist can view results, charts & other important systems on their mobile phone in order to answer questions/deal with issues arising with their patients from wherever they are inside or outside the hospital		
b. Hospital-based clinicians can use approved clinical decision support tools and apps on their mobile phones at the point of care		
c. Hospital-based staff use mobile friendly systems to enter and view data such as vital signs, assessment forms		
d. Some roles may require service-provided mobile devices and others may use their own (BYOD)		
e. Hospital-based staff use mobile tools for communications, handover, keep track of tasks, emergency communications		
2. Community-based health providers can access health information systems regardless of location. Examples are:		
a. Community clinicians can view and enter information about their patients, book appointments, order tests/procedures etc whilst visiting patients in the community (without having to return to base)		
b. Community clinicians are provided with safety net tools via mobile devices such as 1-touch alarms for lone workers, GPS, maps, ask for help from other agencies etc		
3. Community-based health providers can communicate and share health information systems regardless of location. Examples are:		

a. *Community clinicians can communicate with hospital specialists about their patients, and can safely share information including images and live video, via mobile devices in order to obtain advice on a course of action*		
b. *Primary care clinicians can communicate with hospital-based specialists to ask for advice via phone or video*		
4. Remote consultations can be conducted anywhere. Examples are:		
a. *Remote consultations (where the patient and clinician are not in the same place) allow access via mobile devices*		
5. Access to multi-disciplinary meetings via mobile devices. Examples are:		
a. *Monthly meetings where patient cases are discussed in a multi-disciplinary format. Attendance is open to an unlimited number of people from different organisations including primary care who may need to access the meeting via mobile devices*		
b. *Attendees receive single and dual live streams of content sent from host MDM such as radiology or pathology images*		
6. Patients are supported to manage their own conditions via mobile devices. Examples are:		
a. *Text message support programmes are sent directly to patients mobile phones after discharge from hospital with rehab instructions, reminders to visit GP etc*		
b. *Text message and smartphone app self-management support programmes for people with long-term conditions that integrate their health information and provide data back to health service systems*		
c. *Patients can access generic searchable reputable/validated personalisable health information, and their own health information, via mobile devices*		
d. *Patients can access information on which consumer health apps are supported by their health service providers*		
e. *Patients can upload their own data via mobile phones so that they can be viewed by their health providers, including data from mobile and wearable sensors*		
f. *Clinicians can monitor patients via mobile devices e.g. TeleDOT directly observed therapy for TB via mobile video*		
g. *Patients can manage their health service appointments via mobile friendly apps or web services (including practical issues such as public transport, parking, taxis etc)*		
h. *Patients are supported to self-monitor their health via mobile and wearable sensors for healthy lifestyle behaviour change*		
7. Urgent and emergency care is supported by mobile communications technology. Examples are:		
a. *Emergency Department staff are able to see patients and their readings eg.ECG s etc. while in transit to the ED*		
b. *During patient retrieval i.e. between the patient bed space and the retrieval service pre and during retrieval*		
c. *Patients can access information on where to go for urgent care*		

including likely waiting times and alternative options via their mobile devices		
d. Emergency staff can access key information on an unconscious patient from the patient's mobile phone (eg. via Apple Health Kit) regardless of location or country of residence		
8. Hospital patients and caregivers can access mobile friendly systems. Examples are:		
a. Hospital patients can access their own health information and care plans whilst in hospital, and other related systems such as meal ordering		
b. Family members can access information about the patient and can video conference in to ward rounds and family meetings where appropriate (considering confidentiality and security)		
c. Hospital patients can access the internet, skype, social networking, entertainment, email etc whilst in hospital on mobile devices		
9. Hospital mobile systems for staff. Examples are:		
a. Hospital clinical communications tools using mobile devices, task management tools, that enhance the efficiency of hospital work flow		
b. Systems that can identify and locate people (patients, infants, clinicians) or equipment for asset tracking and management		

Key Considerations:

Mhealth solutions are often classified, with differing levels of requirements, as

> Medical level – particularly any solution involving diagnostic, clinical decision support, treatment advice, containing any personal health information or accessing any health provider information systems. These types of programmes would generally require some sort of official endorsement, privacy and security assessments, and possibly regulatory approval.
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> Wellness/consumer level – that does not involve any of the above but is more generic advice and support for health/wellbeing. These mHealth programmes/apps are generally not required to have the same level of scrutiny and approval as medical level programmes.

A continuum of solutions exists between these two extremes that may require case-by-case evaluation. The clinician is responsible for ensuring that the system they are using in any given situation supports them to make the right treatment decisions.

Another common consideration for health service providers in setting up systems and policies for mobility is around providing corporate devices or allowing staff to use their own devices (BYOD). Generally both circumstances require consideration.

mHealth Technology Should:

- Be simple to introduce and use
- Ubiquitous technology – device agnostic, easily available
- Be able to operate in and switch between high/low cellular network connectivity, with and without WiFi, in an offline capacity etc
- Be cost effective
- Provide image and sound quality suitable for clinical and educational use
- Work across operating systems and devices
- Meet standards for health information security and privacy
- Have low requirements for user and technical support
- Be able to integrate with patient portals, clinical information systems and patient administration systems
- Be provided by vendors committed to ongoing system development and support
- Be able to be locally branded eg. with NDHB/Northland Health Sector or Regional telehealth service brand