Barriers & Enablers to Implementation of mHealth Programs

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MEDICAL AND HEALTH SCIENCES
SCHOOL OF POPULATION HEALTH

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Why mHealth?

- integrated into daily life
- reach into populations
- proactive
- there at the ‘right’ times
- personal/ised
- interactive
- on-going
- providing support
- can be tailored

PORTABLE, PERSONAL, CONNECTED

How is mHealth used in practice?

- To **reach** populations current services don’t reach
- To make interventions more **accessible** when they are needed most
- To deliver intervention in a way that the patient can **understand, interpret and use**
- To enable **self-management** and put patient at centre

Aims of this project

- To examine the perspectives of key stakeholders in New Zealand to the enablers and barriers impacting mHealth implementation
- To inform our current and future mHealth research programs for greater translation into practice

Methods

- Key senior stakeholders from several ongoing mHealth development and implementation projects being conducted by NIHI were identified
- Semi-structured interviews were conducted by an independent intern (LF)
- The Consolidated Framework for Implementation Research (CFIR) was used as a framework to identify key themes arising from interviews as 39 specific constructs within five domains (Damschroder 09, CFIR Guide)
- The Expert Recommendations for Implementing Change (ERIC) framework was then used to map implementation strategies to those constructs (Powell 15, Waltz 15)

Results

- All were enthusiastic about the potential for mHealth on outcomes
- However, despite evidence of positive outcomes there is a lack of funds and other resources in the system to implement and maintain these tools
- Frustration around inertia and around working across different health organisations to implement programs
- Systemic and cultural changes are needed
- Consumer and clinical champions are important
- Funding should be secured early for release on demonstration of outcomes

Results table

CFIR Domain	Main Ideas from Interviews (Barrier (B) or Enabler (E))	No. (n=9)	Specific CFIR Construct
Process	Poor management of control and adoption phases, translating to implementation (B)	2	Executing
	Use of MDTs (E)	3	Engaging
	Both clinical and consumer champions (E)	3	Champions
	Design for implementation from the start (E)	1	Planning
	Difficult to scale projects from local to national level (B)	3	Executing
	No framework to help prioritization process (B)	1	Planning
	No framework for measuring and evaluating innovations (like what exists for medicine) (B)	1	Reflecting and Evaluating
	Find early adopters for the intervention (E)	2	Opinion leaders, champions
	Use MBIE sourcing rules early in process to create plan post-pilot (E)	1	Planning
	Secure funding for continuation of intervention after pilot finishes (E)	3	Planning
	Change the timing of funding – agree outcomes before that must be demonstrated to release funds; payments contingent on milestone reporting (E)	3	Planning
	Using expanded health teams - not just GPs – to deliver intervention (E)	2	Engaging
	Intensive on-site training and support available (E)	1	Executing
	Secure early buy in, socialize people to the idea early on (E)	2	Engaging
	Need to see pathway to commercialization from beginning (E)	1	Planning
	Need a group to enable the bureaucratic process (E)	2	Formally appointed implementation leaders

CFIR Domain	Main Ideas from Interviews (Barrier (B) or Enabler (E))	No. (n=9)	Specific CFIR Construct
Intervention Characteristics	Easily integrated into existing systems and work processes (E)	2	Adaptability
	Generic interventions more likely than disease-specific to get funding (B/E)	1	Relative Advantage
	Convenient and functional for clinicians (E)	1	Complexity
	Robust process for approving apps, based on clinical and privacy issues (E)	1	Evidence Strength and Quality
	Design with end-user in mind (E)	1	Evidence Strength and Quality
	Private PHOs are able to get things done if commercial value can be demonstrated (E)	1	Relative Advantage
	Strong evidence demonstrated over reasonable length of time (E)	2	Evidence Strength and Quality
Individual Level	Tools/interventions often viewed as additive rather than substitutive; competing demands (B)	3	Knowledge and beliefs about the intervention
	Culture of fear/risk-aversion (B)	3	Other Personal Attributes
	GPs operate in commercial environment and may not value public health projects (B)	2	Knowledge and beliefs about the intervention
	Find early adopters for the intervention (E)	2	Individual Stage of Change
Inner Setting	Alignment with organizational strategy/goals/priorities (E)	3	Compatibility
	Securing executive leadership and multiple sign-offs (B)	1	Leadership engagement
	Difficulty working across DHBs and PHOs (B)	6	Networks and Communication
	Disconnect of data and information sharing across organizations and primary/acute care (B)	1	Networks and Communication
	Culture of fear/risk-aversion (B)	3	Culture, Implementation Climate
	Old legacy systems, lack of interoperability (B)	3	Compatibility
	Lack of time and resources dedicated to operationalizing tools (B)	1	Available Resources
	Broad promotion and board engagement (E)	1	Networks and Communication Leadership Engagement
	Incentivize use of tool for patients and staff (E)	1	Organizational Incentives and Rewards
	Managing clinical relationships and clinical engagement (B)	4	Networks and Communication
	Board priorities can change quickly (B)	2	Relative Priority
	No place in Allied Health/nursing budget for technology (B)	1	Available Resources
Outer Setting	Different patient engagement than with traditional care system (B)	1	Patient needs and resources
	Politics and relationships get involved when choosing projects to fund (B)	1	Networks and Communication
	No framework to help prioritization process (B)	1	External Policies and incentives
	No framework for measuring and evaluating innovations (like what exists for medicines) (B)	1	External Policies and incentives
	Issues with patient data—security/privacy (B)	1	External Policies and incentives
	Patients with multiple comorbidities may need a suite of tools (B)	1	Patient needs and resources
	Competition exists amongst big DHBs (B)	1	Peer Pressure
	National priorities can change quickly (B)	1	External Policies and incentives
	Poor health literacy and non-compliance of patients (B)	1	Patient needs and resources
	Fit mHealth into accreditation, ongoing education, training, medical council guidance, etc. (E)	2	External Policies and incentives

Recommended Strategies

1. Identify and prepare champions
2. Assess for readiness and identify barriers and facilitators
3. Conduct local consensus discussions to discuss whether the chosen problem is important and the tool is appropriate
4. Inform local opinion leaders about the innovation, so that they can influence others
5. Build a coalition: recruit and cultivate relationships with partners in efforts to implement
6. Capture and share local knowledge from implementation sites on how others made it work
7. Conduct educational meetings targeted at different stakeholder groups to teach about the innovation
8. Alter incentive/allowance structures to incentivise adoption and implementation
9. Conduct local needs assessment regarding the need for the innovation
10. Create a learning collaborative of groups of providers to learn and improve implementation
11. Facilitation

Strategies contd

12. Identify early adopters

13. Promote adaptability and tailor to meet local needs

14. Develop a formal implementation blueprint to include all goals and strategies, scope of change, timeframe, milestones, and progress measures

15. Tailor strategies in order to address barriers and leverage facilitators

16. Organise clinician implementation team meetings with protected time to reflect, learn, and support each other during implementation

17. Involve executive boards

18. Recruit, designate, and train leadership for the change effort

19. Use advisory boards and workgroups

20. Conduct cyclical small tests of change

Conclusions

There are three groups of strategies:

1. Those that are outside our control

    eg. altering incentive structures for clinicians

2. Those that NIHI already uses

    eg. involve local champions, advisory boards; build a coalition of relevant local organisations; work with target audience in formative research

3. Those that NIHI could focus on in the future

    eg. engaging executive and funder levels; assessing readiness and barriers upfront; longer term implementation strategy to fit with national and regional priorities and programs

Acknowledgements

- All interviewees
- NHS Scotland for support of LF

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