Bits and Bots
Co-designing eHealth interventions for adolescent emotional wellbeing

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Why focus on online/digital approaches?
Reminds you of anyone?
experience depression and anxiety
Up to 3/4 never get any help

Psychological therapies should be the first line of treatment
Stigma
Privacy
Sensitive topics
Don’t know where and how
Talking to a stranger
Unevenly distributed resources

The demand outstrips supply
Computerised CBT seems effective (over 100 RCTs)


http://127.0.0.1:8081/plosone/article?id=info:doi/10.1371/journal.pone.0119895

Fig 2. Forest Plot.
Apps are not the be all….

Young people need

- **Love**, belonging & identity
- **Purpose** being needed, able to contribute and grow. Both now & future
- **Fun**, excitement and challenge
- **Safety**, protection from harms, internal and external resources when harmed
- **Help** when needed

- Caring staff, positive peer relationships, inclusion
- Learning! Leadership, contribution, participation,
- Safe from bullying & discrimination
- Help in School and beyond

DIGITAL TOOLS CAN BE PART OF A SOLUTION IF THEY FIT INTO A WELL RESOURCED HEALTH CARE SYSTEM
People don’t engage well with BITS in real life

Could co-design help make BITS more engaging?
Better Start- E Tipu E Rea - National Science Challenge
We scoped, co-designed, sprinted and piloted

- (4 focus groups, 1 hui, 1 fono, school interview, online survey)
- Schools, youth groups, whānau - focus on Māori and Pacific young people
Young people had a reasonable wish list
We scoped, co-designed, **sprinted** and piloted

- Sprints – iteration from paper to software
- 15 rapid co-design sessions in two high schools
- 7 in-depth workshops
- Mostly Māori and Pacific youth
- Workshopping of visuals, metaphors, overarching theme + user testing

We iterated from paper to an MVP

From paper to…

1st mock up

2nd mock up

Final version
We created a modular MVP

Remind Me - gratitude journal

Relax Me – mindfulness

Rewire Me – think-feel-do (mini-game)

We gamified and ‘storyfied’ it

Overarching story
Daily instalments
3 weeks of content

Companion character
Encouragement
Feedback

Inspirational posters
Whakatauki

Gamification
Rewards for daily use
Badges
Streaks
1) 30 talk out-loud interviews

2) Pilot with intermediate school teens
3) Pilot with high school teens

We decided to make changes for Spiral 2

- **Simplify things**
- More modules (but not too many)
- Improve the ‘metagame’ –more humour, environmental storytelling’
- Keep some gamification (badges, points/$, sense of levelling up)
- Focus on psychoeducation (rather than daily habit building)
- Ensure better incorporation of Whare Tapa Wha in the overall design
- Target younger adolescents (Year 8/Year 9)
- More customisation and choice (e.g. avatar)
- Android, iOS, Chrome books, tablets
Spiral 2 app (nearly ready)

Draft menu

Toolbox (Pou)  Interpersonal Skills (Kea)  F-T-D & Cognitive Distortions (Ruru)  Gratitude Diary (Piwhakā)  Activity Scheduling (Piwhakā)  Relaxation (Tohora)  Problem Solving (Wheke)  Volcano (Black Dog)

Wellbeing App: ‘The Quest - Te Whitianga’
Next steps

- **“Rapid RCT”** (Jan to June 2019)
  - n=100 (50% Maori and Pacifica) adolescents 11-16 year old
  - Help seeking or identified as needing extra support
  - App vs Attention Control (control get App after 4 weeks)
  - Multi-site (schools, youth one stop shops, health organisations)
  - Approaching ethics for approval to do a fully ONLINE study (including consent)

**Referral and General Enrolment**

Young person (YP) is deemed a suitable candidate for the study based on clinical presentation.

YP is verbally invited to consider the study and is given link or URL for webpage ('Get Started with HABITs') to learn about the study.

YP is interested in participating in the study.

- **YES**
  - YP accesses HABITs User portal and is asked to create a user account.
  - YP provides electronic consent.

**Baseline & Eligibility Screening**

1) Demographics & history
2) Well-being (WHO-5 & ONS4)
3) PHQ-A & GAD-7 (*screening)

*For screening algorithm, see Fig 2

**PHQ-A & GAD-7 <5**

(*Minimal symptoms*)

**Engagement & Acceptability**

Open trial

After 4 weeks:
1) Well-being
2) App rating scale
3) Usage data

After 8 weeks:
1) Well-being
2) App rating scale
3) Usage data

**Primary RCT trial**

INTERVENTION (n=50)

After 4 weeks:
1) PHQ-A + GAD-7
2) Well-being
3) App rating scale
4) Usage data

After 8 weeks:
1) PHQ-A + GAD-7
2) Well-being
3) App rating scale
4) Usage data

INFORMATION CONTROL (n=50)

After 4 weeks:
1) PHQ-A + GAD-7
2) Well-being
3) App rating scale
4) Usage data

After 8 weeks:
1) PHQ-A + GAD-7
2) Well-being
3) App rating scale
4) Usage data

**NO**

- YP excluded if they do not provide electronic consent.
- YP receives a thank you message and exits website.

**Invited to try the app.**

Receive link to app

Randomisation (1:1)

**PHQ-A (5-19) &/or GAD-7 (5-14)**

(*Mild to moderate*)

Electronic version of participant information sheet is displayed on the screen. YP is asked to provide electronic consent.

**Primary RCT designed to assess efficacy in those with mild to moderate symptoms of depression or anxiety at baseline**

**Parallel open Acceptability and Engagement trial for those without symptoms and those with high scores (who will be referred for extra help)**
Meanwhile....

ChatBots
the new Apps

2nd Wellbeing BIT: ChatBot

Headstrong

Get a personal trainer for your mind.

Available to chat 24/7 on Facebook Messenger to help you have better relationships and lift your mood.
Headstrong: A sneak peak

Next steps – Engagement trial early 2019 to test ‘stickiness’
What we learned along the way

- Co-design is resource & time intensive
- Co-design can give you a ‘whip-lash’
- Co-design may NOT give you the best answer
- Young people are a discerning & media savvy audience
- Make some (critical) decisions yourself
- Work closely with a software developer
- Hedge your bets
- Prepare to fail (and if so, do it early)
- Keep iterating
- Keep it simple

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