



BLACK DOG INSTITUTE

The extension of iBobbly: an app to reduce
suicidality among young Aboriginal and
Torres Strait Islander people

Final report for the New South Wales Mental Health
Commission

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ORGANISATIONAL INFORMATION

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The Black Dog Institute, founded in 2002, is internationally recognised as a pioneer in the diagnosis, early intervention, prevention, and treatment of mood and related disorders. The Institute is also an innovator in the development and delivery of e-health technologies and is at the forefront of suicide prevention research. The National Health and Medical Research Council Centre for Research Excellence in Suicide Prevention is co-located within the Institute. As an independent, not-for-profit company, limited by guarantee, the Black Dog Institute is overseen by a distinguished Board with members drawn from many walks of life.

The Black Dog Institute's mission is to improve the lives of people impacted by mental illness. We do this through a unique approach combining high quality research with clinical expertise and education programs. Research translation is a key priority. Discoveries made by our internationally-recognised researchers are translated into accessible, evidence-based clinical practices. Our research underpins our accredited education programs, which we deliver to health professionals, workplaces, schools, and communities across Australia. We have strong collaborative partnerships with Australian and international universities, hospitals, other non-profit organisations, the private sector, and state and federal government.

Further information on the Black Dog Institute and the scope of programs and activities is available from our website at <http://www.blackdoginstitute.org.au/>

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Background

While suicide rates in the general population have fallen over the past 20 years, they continue to rise amongst the Aboriginal and Torres Strait Islander community, despite many policies, programs, and funding initiatives. A handful of therapies have been found effective in reducing suicidal thoughts. However, they have not been trialed in Aboriginal communities. Young people who are most at-risk may be disconnected from formal education, work, culture, family, and community. Their disconnection makes them difficult to reach via conventional means. Around 10% of all Aboriginal people who die by suicide are likely to have sought assistance in the three months before their suicide, so increasing access to effective help is essential.

An app which uses evidence-based and culturally suitable content represents a feasible way to reach young people who have very low levels of help-seeking. Barriers to help-seeking include: lack of anonymity, especially where individuals are part of a closely interwoven community and health workers are known to the help-seeking individual; shame, stigma, and the need to maintain esteem within the community; cost; and service availability and suitability². With the rise in smart phone and tablet use in Indigenous communities, apps are a viable means to deliver interventions in hard-to-reach communities. Web-based and self-help interventions have been found to reduce depression, anxiety, and suicide ideation, and may offer a solution to problems of implementation⁷⁻⁹.

Suicidal ideation is a precursor to a suicide attempt³, thus, reducing suicidal ideation is an essential part of reducing suicide attempts. Although suicide research is scarce in Indigenous communities, in communities where it has been investigated, suicidal ideation has been reduced through several methods including Cognitive Behaviour Therapy (CBT)⁴, Mindfulness based CBT (MCBT)⁵, and Dialectical Behaviour Therapy (DBT)⁶. Often however, suicide interventions are offered only once a person has already made an attempt. Intervening prior to an attempt is a superior strategy, given that intervention may prevent the escalation of the episode, or prevent more medically serious attempts.

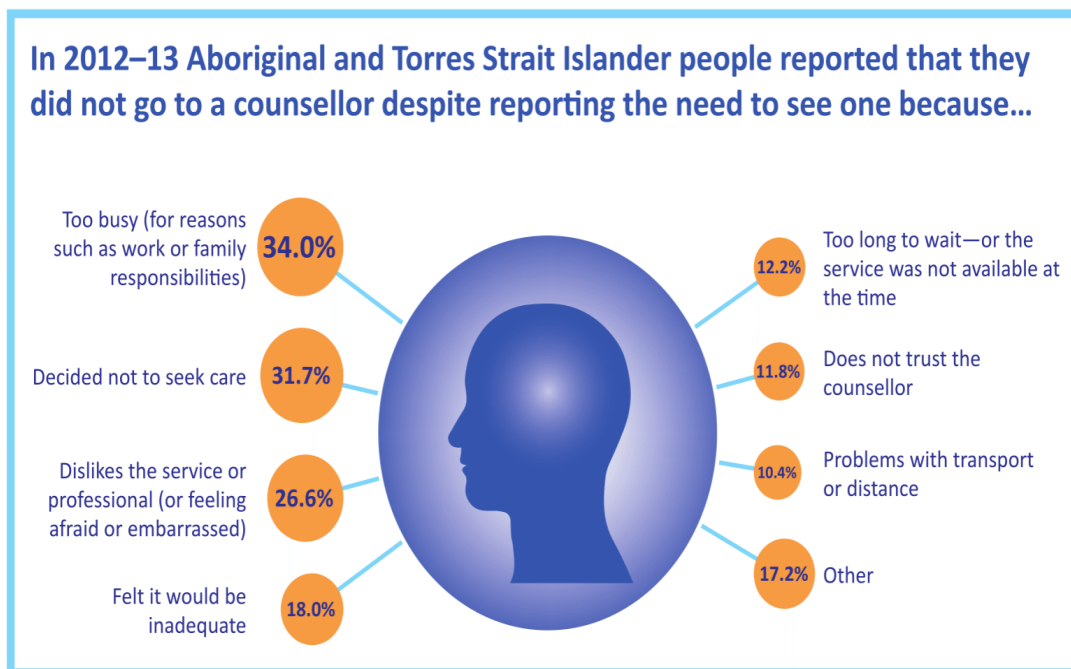
The suicide prevention app, iBobbly, represents the first intervention within the Indigenous Australian population which uses a randomised controlled trial (RCT) to test effectiveness. It contains trans-diagnostic content from the most recent iterations of cognitive behavioural therapy: Acceptance and Commitment Therapy¹⁰⁻¹¹, MBCT⁵, and DBT¹². The app is designed to be engaging and interactive whilst delivering an evidence based therapy. In particular, once downloaded, iBobbly will be available 24/7, even without internet connection.

iBobbly was developed for use by young Aboriginal individuals aged 16-35 who are currently experiencing mental distress or suicidal ideation. A pilot version of iBobbly was tested in the Kimberley with favourable outcomes. Based on the feedback from the pilot and other consultations across Australia, a new version is under development. Several Indigenous organisations around Australia have been instrumental in providing input for this version of the app.

Help-seeking, young people, and technology

Help-seeking prior to a suicide attempt is extremely low amongst Aboriginal and Torres Strait Islander people, with as few as one in 10 people seeking help before a suicide attempt. Some of the barriers to help-seeking are shown in Figure 1. This was, in part, the motivation behind developing iBobbly. If young people are not accessing help for the reasons shown below, an app may be one way to reach them. The feedback received through the pilot indicates that this is feasible. Given that young people are already using technology, we see this as an opportunity to harness that technology and put it to good use. In support of this, in our pilot study, this was the first time that 84% of participants had sought help for psychological distress or suicidality. Some qualitative feedback from the pilot study was that the app gave young people the language to talk about their feelings, and that this would make it easier for them to speak with a counsellor or GP.

Figure 1: Barriers to help-seeking



Sources: National Aboriginal and Torres Strait Islander Health Survey 2012–13, Prisoners in Australia, 2012, Australian Bureau of Statistics (unpublished)

iBobbly is not designed as a crisis tool and this is made clear in the introduction to the app. The help page includes 24/7 services such as Lifeline and Kids Help Line. If users enter their postcode, it will also generate a list of local services, such as Aboriginal Medical Services and Headspace services. Although our community consultations indicated that young people are unlikely to use triple zero, we have elected to include it on the help page as a reminder to users that this is the best number to call to receive urgent help.

Overview of the consultation process

Consultation and engagement with Aboriginal and Torres Strait Islander communities has been paramount in the development and extension of the iBobbly app and a participatory research model has been employed within this project. The most recent version of iBobbly has been developed with input from several regions Australia wide including: Darwin and surrounds (NT), Darling Downs (QLD),

Northern Rivers (NSW), Hunter New England (NSW), Broome and surrounds (WA), and Sydney (NSW).

A research officer within each of these regions was employed to conduct focus groups, workshops, and community events whereby consultation occurred and feedback was obtained. In many of these regions, the research officer was of Aboriginal or Torres Strait Islander background and thus had a strong understanding of the cultural factors necessitating consideration throughout the research process.

An iterative approach was used to incorporate feedback regarding the app. As each round of feedback was received from each region, it was incorporated into the app and given back to the community for re-evaluation. The process was then repeated with each community providing feedback that was incorporated into the app, which then went out to the community once again. This process continued until there were no more changes to be incorporated from community members and the majority were satisfied with the end product.

Parties to the consultation process

The parties that were involved within the consultation and feedback process are listed below categorised by region.

National

Consultations were conducted with 18-25 year olds from the Young and Well Cooperative Research Centre (YAW-CRC) First Peoples Youth Council. A tablet with the original iBobbly was sent to each of the members, who were asked to take it out to their peers, show them the content, and to provide feedback to us both online and during a teleconference. This feedback was used in the preliminary redesign phase of this new version of iBobbly.

New South Wales

Consultation with communities in the Northern Rivers took place for the original iBobbly app. Learning circles took place with a number of Aboriginal health, mental health, community, and youth services across the Northern Rivers, and included health professionals as well as community members. The community learning circles comprised mainly 18-24 year olds. Feedback from this process was collated and became integral to the redesign of iBobbly. The recent redevelopment phase of iBobbly has seen us consult with additional NSW communities including:

- Newcastle/Hunter through the Awabakal Aboriginal Medical Service and the Mindaribba Local Aboriginal Lands Council.
- We have had meetings with the La Perouse community through the Aboriginal Medical Service. This relationship is relatively new and we continue to work on strengthening our links with this community. Overall, the feedback on the concept and content of iBobbly has been positive.

The New South Wales Aboriginal Land Council and the Aboriginal Health and Medical Research Council are aware of iBobbly and have offered assistance in rolling it out once we're ready to release it.

Northern Territory

Our iBobbly coordinator in the NT, Ash Dargan, has been instrumental in gaining the support of communities and promoting the potential use of the iBobbly app within the NT. Communities involved in the consultation process include Larrakia Nation Aboriginal Corporation members, Yilli Rreung, Bagot, One Mile Dam, Tiwi Island, Minmarama, Kalaluk, and Knuckey Lagoon community.

The establishment and formalisation of project partnerships was conducted through a network of personnel which included key social and emotional wellbeing (SEWB) project managers, NGO's, Indigenous counselling services, and Government Indigenous Engagement Officers (IEO's) operating throughout the Top End. Programs and services within this network include:

- Danila Dilba
- Top End Association for Mental Health (TEAMhealth)
- Darwin Indigenous Aboriginal Women's Shelter (DIAWS)
- DIAWS Indigenous Men's Service
- Larrakia Nation Aboriginal Corporation
- The Aboriginal and Torres Strait Islander Healing Foundation
- Headspace

Consultations with other communities and organisations in the NT include:

- Red Cross in the Katherine region
- Nauiyu community
- Daly River region including feedback from Miriam Rose, traditional elders, and the St Francis Xavier School
- Aboriginal Medical Services Alliance Northern Territory (AMSANT)
- Department of Education

Queensland

Consultations have been conducted with several organisations in the Darling Downs region, including:

- Carbal Medical Centre
- Headspace Rhealth
- Lifeline Toowoomba
- Mental Illness Fellowship QLD
- Toowoomba Clubhouse
- Barambah Regional Medical Service
- Indigenous youth mobility program

Memorandums of Understanding have been drawn up with these organisations and many will assist with the recruitment of participants for the national trial. These organisations are supportive of the project and have expressed a need to have more tools such as iBobbly within their suicide prevention and mental health offering.

Several workshops and focus groups were conducted with the following organisations who provided feedback on structure and content of the iBobbly app:

- University of Southern Queensland: College for Indigenous Studies, Education and Research
- Goolburri Health
- Darling Downs Hospital and Health Service Indigenous Health Worker group

Western Australia

Members of the Kimberley community have been engaged in the design and development of iBobbly since its inception. Much of this engagement has been done with and through the Alive & Kicking Goals! (AKG) peer educators and volunteers, with whom we have a longstanding relationship. AKG is a community controlled, grass roots organisation with well-established community relationships. AKG

volunteers and peer educators contributed to the original design both directly and by running yarning circles, and sourcing and briefing graphic artists, recording artists (through Goolarri Media), and animators. This process has continued through the development of the second version. Below is a list of some of the organisations involved in the design and piloting of iBobbly.

- Mental Health Students, Wirriya Liyan Indigenous Counselling Centre Broome, WA
- Professionals WA Mental Health service, Fitzroy Crossing, WA
- Professionals; Mens Shed, Fitzroy Crossing, WA
- Aboriginal Professionals Nindilingarri Cultural Health centre, Fitzroy Crossing, WA
- Aboriginal Professionals; FASD outreach centre, Fitzroy Crossing, WA
- Aboriginal Professionals; FASD health centre, Fitzroy Crossing, WA
- Marniwarantikura Womens Resource Centre, Fitzroy Crossing, WA
- Marniwarantikura Womens Refuge, Fitzroy Crossing, WA
- Management Professionals (Aboriginal and non), Kimberley Aboriginal Mental Health Planning Forum (KAMHPF)
- Aboriginal Professionals, Mental Health professionals (Kinway/Anglicare/Standby), Broome, WA
- Aboriginal Professionals, Mental Health professionals (Boab Health Services), Broome, WA
- Emergency Staff; Broome Regional Hospital (ED nurses), Broome, WA
- Aboriginal Professionals, Mental Health professionals, Headspace Kimberley, Broome, WA
- Aboriginal Professionals, Mental Health professionals. Aboriginal Mental Health First Aid trainers in Broome
- Academic Community, NHMRC documentation reviews on Aboriginal and Torres Strait Islander research; Broome WA; Values and Ethics
- Aboriginal Professionals, Mental Health professionals (Kinway/Anglicare/Standby), Derby, WA
- Professionals, Broome Mental Health Inpatient Unit
- Aboriginal Professionals, Kimberley Aboriginal Medical Services Council (KAMSC), Broome, WA
- KAMSC Aboriginal Health Trainees
- Mental Health Students, Wirriya Liyan Indigenous Counselling Centre Broome (follow up), WA
- Aboriginal Professionals, Garnduwa, Fitzroy Crossing, WA

Overview of the design process

Requested changes

Following extensive consultations with communities in relation to the original version of iBobbly, a list of required amendments and changes to the app was collated and a content analysis was performed on all workshop transcripts in order to gather common themes for requested changes. Several common themes emerged which included:

- Increased interactivity and engagement through additional video content, use of brighter colours, and inclusion of more graphics
- Improved instructions for navigating through the app and details for how to use it
- Guidelines on how to complete each activity
- The ability to track progress over time and review any changes

- The ability to nominate trusted individuals to call when help is needed
- Help services that are tailored to where the person lives
- Increased interaction with the app by allowing users to list their goals directly into the app and giving them the ability to review them
- Ability to record positive feelings with an increased focus on wellbeing activities and maintenance

This feedback was utilised in the creation of a design document used to inform potential app developers of the requirements and aims of the new app. A Request for Tender was issued to several companies who specialise in app development and the most suitable candidate was selected. Learning Plan, a company who specialises in applying learning strategies to innovative solutions, was selected to develop the app based on their extensive experience and their understanding of touch technology principles.

Structure and flow of the app

Learning Plan assimilated the feedback from the required changes and created a conceptual design showing the new workflow through the app. Based on the feedback, the app was reorganised into three main sections:

- A self-assessment section that allowed users to track their mood and review changes over time
- A teaching section which helps users become more aware of their thoughts and feelings and provides tools for managing them
- A diary section that guides users to create their own action plans and provides tools to monitor their progress

A large portion of the content and activities from the old version of iBobbly were also incorporated into the new version. Participants indicated that many of the metaphors and activities from the old version were beneficial to them and thus were deemed suitable for inclusion into the revised version.

The modified app framework was distributed to each of the communities involved in the trial and feedback was garnered. Community members indicated that the structure was suitable and the sequential flow of screens within each of the three sections was then created. Once again community members gave feedback and changes were made where appropriate. This iterative process continued until the community was satisfied that the structure and activities of the app met their needs and no further changes were required.

Text and wording

Since the original version of iBobbly was designed by and for a Kimberley population, it contained words and phrases that were specific to the Kimberley region. In extending the reach of the new app to other Australian communities outside of the Kimberley, the app needed to encompass a common Indigenous language. This would increase the likelihood that young Indigenous people Australia wide could understand and connect with the language in the app.

In order to arrive at a common Indigenous language that could be understood by most end users, each region was asked to review the text in the app and change any sections to better suit an Australia wide audience.

It was also understood that many of the rural and remote communities would have phrases that differ from the common ones and for these communities, a region specific app version could be produced. This would ensure that the wording, graphics, voice overs, and video elements could be created to better meet

their community dialect. The main app has been created so that changes can occur to the text, videos, images, and voice overs.

Graphics

An Indigenous creative agency, Gilimbaa, was engaged to supplement the graphics of the app. Where appropriate, several elements from the original version of iBobbly were used and new elements were created as necessary. A design document was created which included the main findings from community consultations detailing required graphical changes. After reviewing the design document, Gilimbaa facilitated a meeting to gather further information about the app and its main aims. From here, they were able to present us with two design samples that matched our initial requirements. In order to select the design that resonated best with community members the designs were circulated and a voting forum was held to ascertain the more suitable design suite. The majority of the members preferred one of the designs over the other and this was selected as the suite of images to expand upon. Once all design elements were generated, they were passed onto the developers for inclusion into the app.

Videos

Many individuals found the videos in the original iBobbly to be engaging and beneficial and requested a greater number of videos to be incorporated into the new app. They identified that many of the metaphors used throughout the original iBobbly would work well modified for video content. A Sydney based Indigenous creative digital agency, 33 Creative, was selected to produce the videos. A design meeting ensured that they understood the function, requirements, and aims of the videos within the app.

Several metaphors were selected to be converted to videos and scripts for each were created. These were circulated to the regions and feedback was gathered detailing any required changes to the wording. Once finalised, the scripts were passed onto the producers and animation guides created for each video. The animation guides detailed the potential graphics and scenes that would accompany each video. These were once again circulated to communities and feedback was passed onto the producers. Once the animation guides were finalised, a set of sample videos were produced and once again circulated for feedback from the community. The feedback was overwhelmingly positive and the production company continued with the production of the full suite of videos. Once finalised, these were passed onto the developers for incorporation into the app.

Voice overs

Community consultations from the first version of iBobbly revealed that the voice overs which accompanied each section of text were beneficial for many people. In particular, community members appreciated the option of choosing a male or female voice over to better personalise their experience of the app. This feature was once again incorporated into the app with Indigenous voices that would suit a more diverse Australian audience. When all text elements were agreed upon and finalised within the app, each segment of text was recorded by both a male and female young Indigenous voice talent and the audio was incorporated into the app by the developers. During the setup process, users have the option to select either a male or female narrator that will guide them throughout the app. The option to turn off the voice narration is available on all screens through the simple tap of a button.

Feedback on the draft version of the app

Once the text was finalised and all elements incorporated into the app including voice over, graphics, and videos, the app was distributed to all communities for a final review and feedback process. The feedback from communities was overwhelmingly positive with minimal feedback and changes required. Several

community groups had no requested changes or modifications and were very happy with the app as it stood.

Key messages

A handful of consistent messages have come through from our consultation process.

1. The idea of iBobbly and the content of iBobbly have been overwhelmingly well received by our target group. Feedback from our target group indicates that it is engaging, easy to use, and helpful. This has been a consistent finding for the three New South Wales regions with whom we've had discussions or a collaborative relationship.
2. Clinicians have also been largely supportive, with many indicating that they often see a young person only once, and would be much happier to send them away with iBobbly than to send them away with nothing.
3. iBobbly may have implications beyond its initial clinical outcomes. One pilot participant indicated that using iBobbly had given him the 'language' to speak with someone about his thoughts and feelings, which he had previously been unable to express. This may have important implications for further help-seeking.
4. Collaborative partnerships are key. There is support for iBobbly amongst communities who have been involved in its development. This also appears to be helpful when iBobbly is introduced to other communities who were not involved: most have been willing to engage with it knowing that it was developed collaboratively with other communities.

Implications for change

In gathering feedback from community members about the first iBobbly app, it was clear that they found great value within the app itself. However, equally as evident was the necessity for the app to change and expand in response to the end user needs. In order for the app to meet its end goal of helping to reduce self-harm and suicide in Indigenous communities, the requested changes needed to be embedded within a revised version of the app.

It is hoped that the incorporated changes will benefit the end users in several ways including:

- Greater engagement with the material through visual media
- Increased retention of key concepts through repeated presentations
- Ease of use through guided narration and clear instructions
- Stronger connection with the app through customisable versions for different communities
- Clearer monitoring through progress checks and feedback

As this project is one of the first forays into e-mental health for Indigenous communities, feedback on the acceptability of the app and the use of the technological devices was of paramount importance. The app is a new and novel way of delivering mental health interventions in communities and departs from the traditional modes of face to face delivery. Whilst not a complete solution to suicide prevention within Indigenous communities, the acceptability of the app has the potential to change delivery of mental health care, particularly for those remote communities who may not have consistent access to mental health professionals on the ground. Indeed, one of the future uses of the app could be as an adjunct to

treatment for those individuals who may only have the opportunity to see mental health professionals on an ad hoc basis. The randomised controlled trial will help to further detail what impact the app has on mental health in the wider community.

Changes to app functionality and content

A majority of the features that were present within the original app have also been incorporated into the new app with several enhancements based on community feedback. A list of the notable enhancements is given below.

- Guidance on how to use the app is provided as soon as the person first logs in.
- A clearer navigational structure.
- When the voice over is activated, the app will automatically journey with the user from one screen to the next with minimal input required from the user.
- The self-assessment section includes more questions and allows users to see their responses to the last assessment that they completed.
- Users are able to see a graph of their mood based on answers to their self-assessment questions.
- Users are able to track their mood over several sessions.
- The number of videos has increased fourfold.
- The help function has been more personalised so that users can enter in their postcode and see a list of services available in their location.
- Users are able to nominate up to 5 individuals whom they can contact in times of difficulty and input their details into the app. These contacts will be amongst the first to be displayed when the help screen is accessed.
- There are more graphics and greater use of brighter colours.
- After being given the suggested modules to work through the app, users are free to navigate through the app as they see fit. This allows for greater autonomy and control over their experience.
- The story element and the experience of journeying through the app has been increased through greater use of explanatory text and audio.
- Answer options have been streamlined and are now presented simultaneously on the screen giving users an overview of all options rather than scrolling through each one sequentially.
- Greater use of graphical elements to provide psychoeducation.
- Increased content to cater for those individuals who want a more in-depth experience and would like to engage in additional activities.
- Greater feedback to the user based on their input and answer selection.
- A summary section at the end of the main learning modules to reiterate the main content of that segment.
- Users have the ability to input their answers and reflections directly into the app and review this.
- Users are able to create a wellness action plan and check their progress periodically to see how they are going.
- Increased number of activities on goal setting and what constitutes good goals.
- Activities to overcome barriers to goal setting including possible solutions.
- A summary section which outlines the main take home points from each of the learning modules.
- Inclusion of wellbeing elements.

Barriers encountered and strategies to overcome them

The key barrier to keeping to our project timelines has been getting timely feedback from the communities. To some extent, we addressed this by getting as much feedback as we could very early in the project, prior to commencing programming. It has nevertheless resulted in minor delays as we sought feedback on the final version.

Progress towards the inclusion of NSW communities in the trial and the rollout

We have a Memorandum of Understanding in place with the HNE LHD for the national trial and are in discussions with the La Perouse and Northern Rivers communities about their participation as rollout sites. Both regions have been advised that iBobbly is now complete and ready for a limited release in their area, through local health services. It will be made available to services via a password-accessible online link. We have spoken with the AH&MRC social and emotional wellbeing team about working with them for a wider rollout, once the trial is well underway.

Differential impacts on sub-populations

Feedback from the pilot suggests that iBobbly may attract those who don't normally seek help. Eighty four per cent of trial participants had never sought help for psychological distress or suicidality before. Women were over-represented in the pilot so to some extent, the uptake is likely to reflect broad community help-seeking patterns.

One issue that will require ongoing attention is its suitability for a wide range of communities. The extent to which it is acceptable across urban, regional, remote and very remote settings is yet to be tested. On the one hand, we have attempted to design it so that it is largely suitable for populations with lower English literacy and so that it is possible to have bilingual or regional-specific versions. On the other, developing and maintaining several versions of the app will have resource implications.

There are issues regarding accessibility of the technology, with some communities having much higher smart device penetration than others. Overall though, Indigenous communities have around 20% higher social media use than the non-Indigenous community, and their uptake of technology is quite rapid.

Measurement and monitoring

The national trial will evaluate the efficacy of iBobbly via a randomised controlled trial. Participants will be followed up for two years to determine the longevity of any benefits. Follow-up will involve asking participants to complete the questionnaires which were completed at baseline. The primary aim of the follow-up is to determine the longevity of any effects, such as reductions in suicidal thinking and behaviours, depression, and psychological distress, and changes in help-seeking. It is possible that a person may be identified as being at risk during these assessments. In this case, research staff will apply the ASIST model to help anyone who is identified as being at risk into the appropriate health service. We will also establish a national registry of health services using iBobbly.