



Study protocol: the Interplay Wellbeing Framework and methodology to assess wellbeing in Aboriginal and Torres Strait Islander people in remote Australia

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List of abbreviations

ACR	Aboriginal Community Researcher
ASGC	Australian Standard Geographical Classification
CBPR	Community-based participatory research
COAG	Council of Australian Governments
HREC	Human Research Ethics Committee
LSIC	Longitudinal Study of Indigenous Children
NATSISS	National Aboriginal and Torres Strait Islander Social Survey
PMC	Department of the Prime Minister and Cabinet
WAACHS	West Australian Aboriginal Child Health Survey

Executive summary

Quality of life (e.g. wellbeing) can be severely affected for cultural or social minority groups when available mainstream services are incongruent to their needs. Governments can struggle to engage these populations in empowering ways towards the delivery of appropriate services and consequent wellbeing gains. This research project aims to understand the interplay between key influences on wellbeing towards driving effective policy and service delivery and so has developed a framework and set of research tools to allow both government (top-down) and community (ground-up) input and partnerships. This involvement and empowerment of Aboriginal and Torres Strait Islander people in solutions is part of the Interplay Wellbeing Framework, which offers equal respect and representation across groups. The Framework aims to represent cultural and community values objectively to understand their impact on wellbeing.

A collaborative and capacity development shared-space model was used to bring together partners in science, community and government to develop the Framework. Being both ground-up and top-down, the shared-space model engaged end users as contributors to the project.

The Interplay Wellbeing Framework and methodology serve as tools to map, investigate and assess the interaction between culture, community, empowerment, education, employment, health and wellbeing in Aboriginal and Torres Strait Islander communities in remote Australia. Developed through a combination of robust science and community development, and validated in this context, the Interplay Wellbeing Framework can be used for engagement, planning, evaluation, communication, decision-making and for working in partnerships. It can also be tailored for specific applications in broad-reaching areas. Expansion of this research offers cumulative value for the wellbeing of Aboriginal and Torres Strait Islander people in remote Australia.

The rationale, process and development of research tools are described here. Data are currently being collected against the Framework in a prospective cohort design.

1. Introduction

1.1 Background

A preference to prioritise wellbeing over economic outcomes as markers of societal progress is acknowledged globally (OECD 2013). Wellbeing here is synonymous with quality of life, and comparable to ‘liveability’, representing a holistic concept that is used to understand, compare, monitor and modify the status of people in their environment. While both represent broad-reaching and holistic concepts, the term liveability is more often used in relation to people’s interaction with infrastructure and the environment, whereas wellbeing is generally used in personal and population health contexts (Cairney & Race 2014). Wellbeing can be subjective, relating to how a person feels about their life, or objective, based on indicators of current life status across the various areas of importance in their life. When used by government bodies and researchers to monitor progress and guide decision-making, objective wellbeing is generally represented in a framework of underpinning themes considered most important for the context and purpose. Challenges arise when both the ‘top down’ and ‘one size fits all’ nature of national wellbeing frameworks can neglect the differing needs of minority and culturally diverse groups (Nguyen & Cairney 2013). This has been partially addressed for Aboriginal and Torres Strait Islander people in Australia – who continue to rate poorly on mainstream western measures of health and education outcomes despite substantial intervention – through tailored government health and wellbeing frameworks (ABS 2011, AHMAC 2015).

While the holistic nature of wellbeing frameworks aligns with Aboriginal and Torres Strait Islander worldviews on health and wellbeing, as has been written about for more than 25 years (NAHSWP 1989), existing frameworks are yet to incorporate genuine empowerment and community development components and adequately address cultural diversity (Nguyen & Cairney 2013). For example, the lifestyles and needs of people living in remote communities differ greatly from those of their urban counterparts, and this sector of the population needs to be considered differently (Nguyen & Cairney 2013). In remote communities where the current research is focused, Aboriginal and Torres Strait Islander languages dominate, and English literacy and numeracy skills vary greatly. Familiarity and use of western worldviews can also be low in remote places where peoples’ lives are predominantly governed by Aboriginal and Torres Strait Islander cultural worldviews and languages (Nguyen & Cairney 2013). Effective programs and services should ideally accommodate the dominance of cultural worldview thinking in remote places.

The major challenge herein is for the ownership and underpinning detail (i.e. indicators) of wellbeing frameworks to maintain integrity of worldviews across culture, government and science – whose partnership and collaboration are necessary to achieve genuine change. Bridging worldviews with such vast differences in conceptual thinking and ways of working represents a substantial, but not impossible challenge. Transformative progress demands replacing the status quo for novel, inclusive and more empowering approaches.

1.2 The context

Developed through a ‘ground up’ process by community groups in Central Australia, Ninti One champions participatory action research and community development via an Aboriginal Community Researcher (ACR) employment program (Ninti One 2015a). From 2010 to 2017, the Australian Government has funded Ninti One to oversee the Cooperative Research Centre for Remote Economic Participation (CRC-

REP). With over 50 partners across government, community and service delivery, the CRC-REP aims to stimulate social and economic activity in remote Australia through community development, research and innovation (CRC-REP 2015a). An objective of the CRC-REP is to contribute to the Australian Government's most significant national policy towards reducing the socio-economic inequality between Aboriginal and Torres Strait Islander people and other Australians: the Closing the Gap reform agenda (COAG 2009). The CRC-REP is therefore undertaking a prospective cohort study of the interrelationships or 'interplay' between factors aligning with some of the building blocks of Closing the Gap policies – namely education, employment, health and wellbeing in remote Aboriginal communities (the Interplay project) (CRC-REP 2015b). The Interplay project recognises that a unique set of cultural and social factors are relevant to Aboriginal and Torres Strait Islander people living in remote Australia that are not easily represented in existing western models of government service delivery. The Interplay project also addresses deficiencies in the evidence currently available to inform policy decisions.

With existing frameworks, tools and even methods considered inadequate to understand wellbeing in this context, the project undertook an extensive development phase described here, whereby end users (including community and government) were embedded in the research from the onset. This working paper describes the consequent 'shared space' model of community, government and researchers working collaboratively (Abbott & Cairney 2014), how it was applied to develop appropriate and novel research methods and tools, and how these will be implemented in a prospective cohort design.

In relation to existing national models of Aboriginal and Torres Strait Islander health and wellbeing, the novel contribution of the Interplay Wellbeing Framework is through:

1. a specific focus on remote communities
2. the development and validation of new community indicators, particularly to represent the aspects of culture and empowerment of most value to community members (such as fostering local languages and 'two way' learning)
3. taking a whole-of-system approach (rather than focusing on health and education separately for example)
4. the focus on interrelationships
5. assessing the suitability of culturally based and community-derived indicators in relation to standard government indicators to understand and promote wellbeing.

1.3 Key research questions

This project was set up to establish an evidence base that will provide policymakers and business with objective measures of the complex interplay between education, employment, health and wellbeing. The key questions being addressed are:

1. What are the relationships between health and wellbeing outcomes and education and employment for individuals and communities living in remote Australia?
2. How effective are targeted interventions in this field?
3. How can policy and practice be better informed by this knowledge to maximise desired health and wellbeing outcomes?

2. Research approach

2.1 Research overview

Figure 1 presents a flow diagram of the Interplay project methodology. A participatory action approach (McIntyre 2008) was taken with this multidisciplinary project whereby end users were embedded in the project from its onset (shown as ‘inputs’ in Figure 1). Mixed methods were applied, with qualitative methods informing the development of research tools (shown as ‘outputs’ in Figure 1) that were then used to collect both quantitative and qualitative data based on the study protocol represented as the ‘implementation phase’ in Figure 1. Qualitative strategies will be used to interpret the data and conduct research translation activities (‘transfer phase’ in Figure 1).

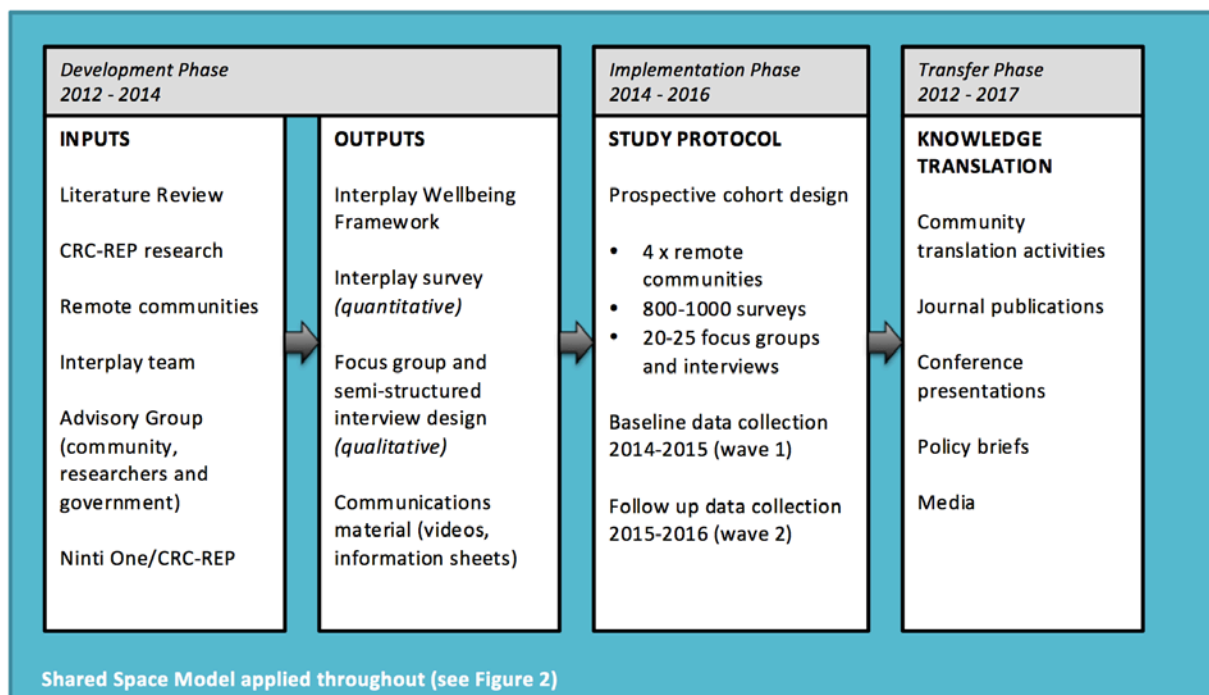


Figure 1: Interplay project methodology flow diagram

An extensive development phase aimed to honour community development and ownership of the research and develop appropriate methods and tools that genuinely represent wellbeing for Aboriginal and Torres Strait Islander people in remote Australia. This approach was also informed by Michael LaFlamme’s *Learning Journeys: seven steps to stronger remote communities*, where the right people are identified at the community level to engage in a two-way learning process with outsiders towards achieving change through building empowerment and capacity in remote communities (LaFlamme 2011). As summarised below and outlined in Figure 1, this working paper describes the development phase of the research in detail before outlining the resultant Study Protocol.

- The Development Phase (2012–14) comprised distinct inputs and outputs (see Figure 1). Inputs included a comprehensive literature review, synthesis of outcomes across companion CRC-REP projects and a widespread community consultation process conducted over three years. These inputs were directed towards the development of outputs, including the Interplay Wellbeing Framework and research tools. Research tools included the Interplay survey to collect quantitative data and the focus groups/semi-structured interviews to collect qualitative data.

- The Study Protocol (2014–16) describes a prospective cohort design, the implementation of which is currently underway and will be reported separately.

Human resources described under ‘inputs’ in Figure 1 contribute through all phases of the research and play key roles in the knowledge translation process as described below. Similarly, transfer activities outlined in Figure 1 continue throughout the project life cycle.

Both qualitative and quantitative data will be triangulated to answer both the first and second research questions. The third research question will be addressed through an evaluation of the knowledge translation process to be conducted collaboratively with all partners, including government. These are described in detail below.

2.2 Knowledge translation

End users from community, government, industry and academia were embedded in the project from its beginning through their role on the project Advisory Group, as team members, partners and participants. They contributed to the research design, implementation and transfer as shown in Figure 1. Aboriginal and Torres Strait Islander people have ownership over the Interplay project research at various levels. Both the management and Advisory Groups comprise approximately 50% Aboriginal and Torres Strait Islander representation, and 40 of the 43 team members (mostly field researchers) (93%) are Aboriginal. At project commencement, a detailed ‘Output to Usage to Impact’ Plan was drawn up to identify any opportunities from project outputs for commercial products and services and/or knowledge for business, community or policy. Where opportunities existed, knowledge translation pathways were then mapped and outlined in a detailed project communications plan. Outputs include academic publications, CRC-REP reports, fact sheets/policy briefs, presentations, conferences, flipbooks, data visualisation and video. Outputs are specifically tailored to the needs of end users.

2.3 The ‘shared space’ model of working

A collaborative and capacity development model of working was developed, where all research was conducted and communicated within the shared space between the project’s three core partner areas of community, science and government (Figure 2). This approach is unique in that it is both ground-up (or ‘grass roots’) and top-down and ensures strong foundations in science, community development and policy impact (see Abbott & Cairney 2014).

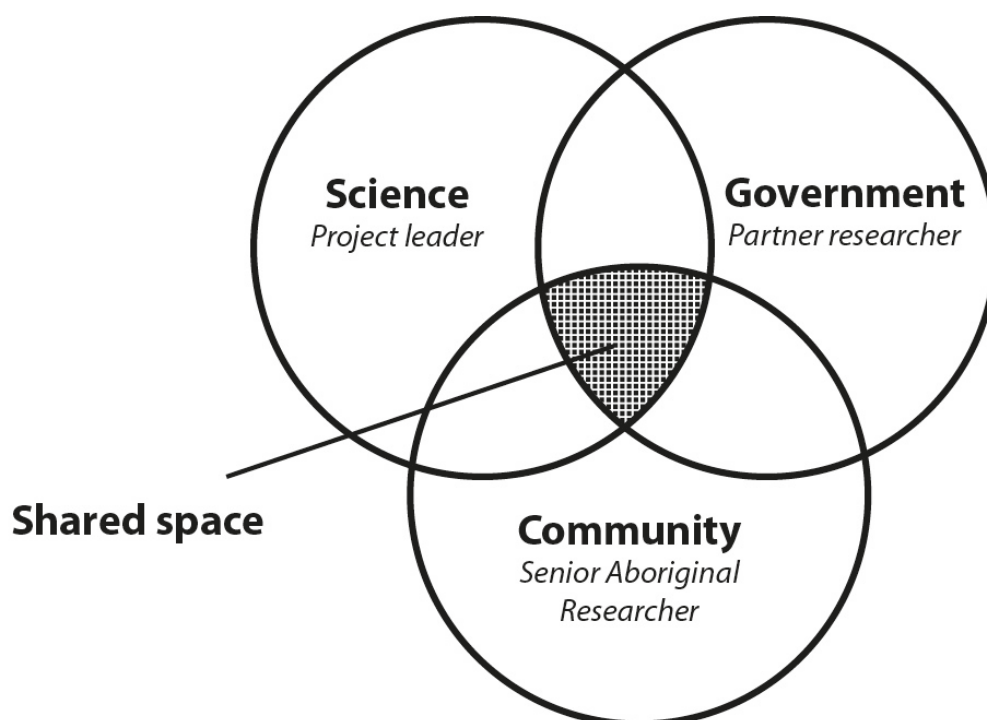


Figure 2: The shared-space model of working

Importantly, each group is represented within the research team (and as co-authors on this working paper). The project leader (SC) brings the scientific rigor to the project; the Senior Aboriginal Researcher (TA) represents the broader Aboriginal community interests; and a further team member (JY) from the Australian Government functions as a policy advisor. Each person on the team brings networks and expertise from their corresponding fields. While these partnerships are not unusual in research projects, they generally operate with the research conducted largely by the scientist who draws on representatives from community and government as advisors through community consultation and advisory groups. For the Interplay project, members from each group function as active core team members through regular correspondence and meetings. For example, the Australian Government's Department of the Prime Minister and Cabinet contributes one of their staff members (JY) to work as an active team member on the Interplay project for 40% of her time. Through employment with the host of the current research, Ninti One, both the scientist (SC) and community researcher (TA) are employed to actively and regularly collaborate on this research project. Both TA and JY are Aboriginal people. This way, members from each group in the shared-space model contribute to decision-making and other active, regular processes for the Interplay project.

A key element of the shared-space model is the local employment of Aboriginal researchers in each study site through the Ninti One Aboriginal Community Researcher (ACR) Program. As part of this approach, 38 ACRs have now been recruited, trained and employed to contribute to research design and data collection. Additional capacity development has also been provided within the team through the completion of one doctorate, one diploma and two certificate training qualifications, and a further postgraduate research student is underway.

The model is paying off on the ground in remote Australia, with enthusiasm and empowerment from communities and ACRs about being involved in the thinking and planning, as well as the doing parts of the project. It also has support from the Australian Government because it meets their aspiration to get more of their Aboriginal staff members involved in such research.

In the shared-space model, all project resources – including knowledge, tools and communications – are focused towards the shared space between science, community and government (see Abbott & Cairney 2014). This approach ensures the project is already connected with potential users, who are not just end users but contributors. Their involvement and ownership in the process will further optimise utility and impact.

2.4 Ethics

Ethical clearances for this national study were obtained separately from the relevant Human Research Ethics Committees (HRECs) from each state and territory where participating communities are located. Ethical clearance for the development phase (Cairney & Abbott 2014) was obtained initially, followed by a more detailed clearance process for the collection of baseline and follow-up data. For the development phase, ethical approval was received from the Central Australian Human Research Ethics Committee (CAHREC) and Flinders University in South Australia (Cairney & Abbott 2014). For the prospective cohort data collection, ethical approval was received from the HREC of the Northern Territory Department of Health and Menzies School of Health Research and the Western Australian Aboriginal Health Ethics Committee. Additional approvals and support were received from local health and education boards, government data-linkage services, land councils and local partner organisations. Research conduct was consistent with the *Ninti One Protocol for Aboriginal and Torres Strait Islander Knowledge and Intellectual Property* (Ninti One 2015b).

3. Development phase: Inputs

A comprehensive literature review was undertaken to inform the project, and its publication was included in Australian Policy Online's ten most downloaded research publications about Aboriginal and Torres Strait Islander issues for 2013 (Nguyen and Cairney 2013). Recommendations for the project from the review were:

1. the genuine involvement of Aboriginal and Torres Strait Islander people in all stages of the research and their perspectives represented
2. taking a strengths-based approach
3. focusing on interrelationships
4. building into the Framework: culture, kinship, land and spirituality; control and empowerment; healthy, safe and inclusive communities and resilience
5. taking broader and more flexible definitions of education, employment and health.

These recommendations were all implemented in the project's design and methodology. As described in this working paper, Aboriginal people and their perspectives are integrated as per Recommendation 1. A strengths-based approach is prioritised at every level of the research, from the Framework to the wording of each survey question and in the design of the focus groups, as per Recommendation 2. Further, Recommendations 3, 4 and 5 are built into the research tools as outlined below.

3.1 Input from other CRC-REP projects

The Interplay project is one of 12 projects in the CRC-REP, with all relevant to wellbeing (CRC-REP 2015a, 2015b). These projects focus on remote education systems, pathways to employment, population

mobility, community value from mining, climate and energy adaptation and enterprise development across art, tourism, cultural enterprise, precision pastoralism and plant business.

In a ‘whole of system’ approach with a strong basis in participatory action research, a process was therefore undertaken to synthesise knowledge drawn from other relevant CRC-REP projects (see Cairney & Abbott 2014 for full report). Aims were to inform the design of the Interplay Wellbeing Framework and therefore improve its sensitivity and ability to evaluate the impact of CRC-REP activity and other relevant programs and policies (Figure 3).

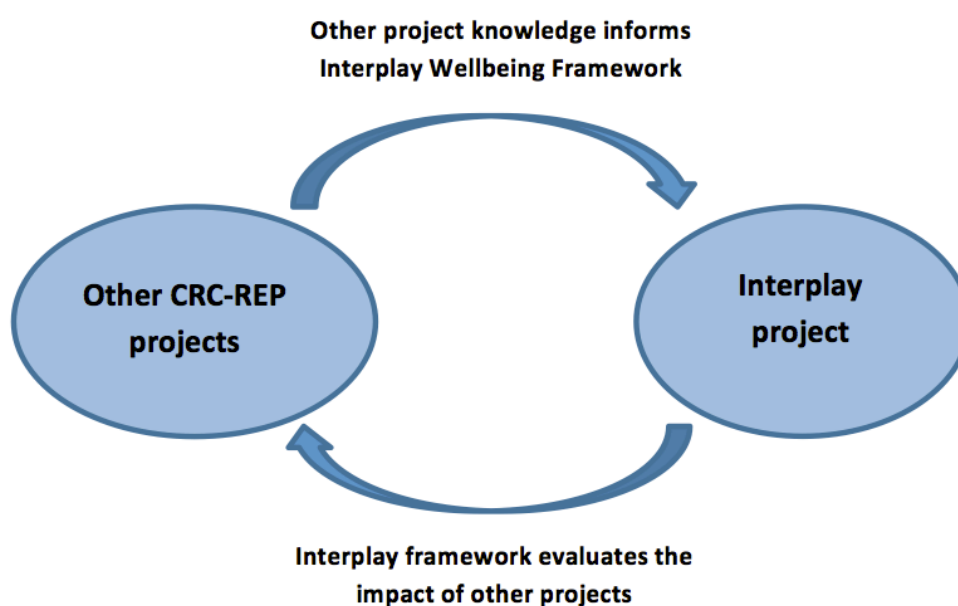


Figure 3: The relationship between the Interplay project and other CRC-REP projects, with all related to wellbeing

Semi-structured interviews were conducted with 11 research leaders from each CRC-REP project to identify the role of wellbeing in each research area, and these are reported in detail elsewhere (Cairney & Abbott 2014). At the time of the interviews, each project was approximately two years in to a six-year project timeline. Each CRC-REP project had begun to produce reports and publications, including literature reviews, that were reviewed by the primary research team to identify links with wellbeing. This content was also used as a basis for each interview. Guiding questions for the interviews focused on the drivers and impacts for wellbeing in each field of research.

Community engagement across these other CRC-REP projects had included the employment of more than 60 ACRs (in addition to those employed on the Interplay project) and engagement with over 100 remote and very remote communities (with remoteness based on the Australian Standard Geographical Classification [ASGC] categories used by the Australian Bureau of Statistics [ABS]). This strategy recognised that each research project had begun to generate specialist contemporary knowledge through conducting literature reviews and preliminary qualitative and, in some cases, quantitative data collection. This knowledge was then used to inform the Interplay Wellbeing Framework, providing an efficient method of incorporating the latest knowledge across multiple areas of expertise and reducing duplication. It also ensured the Framework aligned conceptually with other CRC-REP research and provided

sustainability and validation to communities that the knowledge they develop is converted into research tools aimed at delivering practical solutions to issues they had identified.

The process of synthesising knowledge across CRC-REP projects identified recurrent themes that occurred across projects. Recommendations were to build these themes into the Interplay Wellbeing Framework, including:

- empowerment, culture, pathways (through teaching, learning and livelihoods)
- ‘learning beyond education’, which relates to the learning that people access outside of formal education settings
- ‘livelihoods beyond jobs’, which relates to the cultural or family responsibilities that people must undertake outside of formal (paid) roles.

A further recommendation was made to include questions about both mobility and environment that are important to wellbeing in remote areas.

3.2 Input from the community (ground-up)

A widespread community and stakeholder consultation was also undertaken with Aboriginal and Torres Strait Islander people from remote areas, to represent their values and priorities in the Interplay Wellbeing Framework. This engagement is reported in detail elsewhere (Cairney & Abbott 2014a) and involved four formal workshops and meetings held over four community visits and attended by approximately 35 community members. In addition, 21 ACRs from three communities were employed and attended workshops in Alice Springs with senior Aboriginal researchers to develop the Framework and methods. Participants ranged from young adult researchers to community leaders and respected elders. They were recruited through the community organisations hosting the research in each location and were brought together for two separate workshops to address the following questions:

1. What do the concepts of education, employment, health and wellbeing mean to Aboriginal people?
2. How do they interrelate (interplay) and play out (in scenarios)?

Detailed findings of this process are published elsewhere (Cairney & Abbott 2014a). They provide cross-validation in reflecting the same outcomes of both the literature review and synthesis of the CRC-REP projects outlined above.

Themes of culture and empowerment emerged consistently as foundational to every aspect of wellbeing discussed. Culture – experienced as connection to country, kinship, language, law and spirituality – was seen to govern everything Aboriginal people do. Experiences of power inequality underpinned almost every scenario discussed and, as a result, the majority of people felt a lack of empowerment. People talked about the various ways that culture and empowerment interplay with education, employment and health and the challenges faced every day in balancing cultural responsibilities with those demanded by education and work.

Participants emphasised that in remote communities, much valued teaching and learning happens in relation to culture outside of formal schooling. Similarly, many people have responsibilities to family, community and the land that continue irrespective of any engagement in paid employment. The recurring themes of ‘learning beyond education’ and ‘livelihoods beyond jobs’ are important to re-iterate. Again,

Aboriginal and Torres Strait Islander people take a more holistic view of health than mainstream societies, and in this context a focus on ‘social and emotional wellbeing’ is preferred. This necessitated adopting broader definitions of education, employment and health. The need was acknowledged for flexible practices that facilitate empowerment and that acknowledge, respect and accommodate cultural and family obligations. Strong interplay occurred across all themes, whereby descriptions within each theme had relationships with other themes. These themes are therefore interconnected rather than distinct entities, emphasising the holistic and interrelated nature of wellbeing in remote Aboriginal and Torres Strait Islander communities.

This process showed that culture and its expression through relationships with land and family are fundamental to wellbeing, together with empowerment at individual and community levels. It suggested that to achieve successful outcomes across education, employment, health and wellbeing for Aboriginal and Torres Strait Islander people in remote Australia, government and industry must acknowledge and respect the intrinsic interconnectedness between these key themes and provide opportunities for empowerment, two-way learning, equal respect and flexibility across education, employment and health. Although these themes played out in slightly different ways in different groups, they were consistent across all communities involved.

4. Development phase: Outputs (research tools)

Information from the inputs described above and outlined in Figure 1 informed the development of the outputs, including the Interplay Wellbeing Framework, its underlying indicators and associated research tools. Research tools included a quantitative survey and focus groups and semi-structured interviews to collect companion qualitative data. The research methodology involves using these tools to collect data against the Framework in different communities, as well as at the same communities at different points in time, to answer the key research questions and understand what makes this system change over time.

4.1 Interplay Wellbeing Framework

The development phase revealed that education, employment, health and wellbeing could not be considered independently from culture, community and empowerment. These areas were therefore represented with equal value in the Framework. The Interplay Wellbeing Framework consists of six domains (culture, community, empowerment, education, employment and health), interconnected through an overarching concept of wellbeing, as represented in Figure 4. These domains represent the areas most important to people on the ground in remote communities. Culture was further defined in terms of the sub-domains of language, kinship, law, ceremony and land based on the Warlpiri-designed Ngurra-kurlu model (Pawu-Kurlpurlurnu et al. 2008, Jampijinpa 2008). The key domains identified at the onset of the project that represent government policy priorities (education, employment, health and wellbeing) are represented in blue in the Interplay Wellbeing Framework. Domains identified later as priorities by the community (culture, empowerment and community) are represented in yellow. With the assumption that all domains interrelate, the position of each domain in the framework is random.



Figure 4: The Interplay Wellbeing Framework

Moreover, the core domains of the Interplay Wellbeing Framework (culture, empowerment, community, education, employment, health and wellbeing) map closely to the building blocks identified by the Australian Government's Closing the Gap agenda (COAG 2009).

4.2 Indicators

The development phase was used to define areas of importance under each domain and to describe how they played out in people's lives. Data sources were then reviewed to identify appropriate indicators to best define and measure these real world scenarios. The data sources considered at both individual and community levels are outlined in Table 1.

Table 1: Potential data sources

	Primary	Secondary
Quantitative	Survey, biomarkers (human tissue), anthropometric	Linked health and education data, other government data (e.g. ABS)
Qualitative	Focus groups, interviews, photos, audio and video	Published and grey literature (i.e. organisational reports, program evaluations and reviews)

4.2.1 Quantitative

A cost-benefit analysis was conducted to consider the potential utility for each of the quantitative data sources outlined in Table 1. Human specimens (biomarkers) can provide high quality objective data but were considered too invasive and costly for this research. Anthropometric data was also dismissed due to issues with data consistency and training required. The survey was considered to be the key source of primary quantitative information due to its ability to be tailored for our application. The main limitations of the survey are potential inaccuracies of self-reporting and with multiple administrators.

Secondary data such as participant health and education records will validate and strengthen the impact of the primary (survey) data. Potential secondary data sources were reviewed and considered. Data custodians differ across states and territories in Australia, with each involving their own (lengthy) data access and clearance processes. Government funded data-linkage processes have recently been established although are not commonly used for research like this to date. Data from non-government data custodians such as private schools and community-controlled health centres do not feed through government data-linkage programs, and separate clearance processes are necessary.

4.2.2 Qualitative

Focus groups and semi-structured interviews were considered the main source of primary qualitative data and were designed accordingly as described below. Multimedia such as photos and videos are also used as important qualitative data sources for working across culturally and geographically diverse locations. ACRs employed on the project received training in using the computer tablets for photography, in order to collect multimedia data for analysis alongside other data sources, and for use with engagement and communication. A photo-story video was created early in the process to communicate information about the project to potential participants and employers, describing research goals (Cairney & Abbott 2014b) and the Interplay Wellbeing Framework (Cairney & Abbott 2014c).

For each participating community, a community-specific situation analysis was conducted to compile secondary quantitative and qualitative data relevant to project goals from a range of publicly available sources, including grey literature, organisational reports, program evaluations, demographic data and community resources.

4.3 Survey

The Interplay survey was designed to collect locally relevant, contextual, quantitative data to represent each domain and its underpinning sub-domains from the Interplay Wellbeing Framework. A rigorous process was undertaken to develop a survey with cultural and scientific validity. Firstly, a comprehensive review was undertaken of all surveys related to wellbeing or any of its subcomponents that have previously been developed and validated (both scientifically and culturally) for use with Aboriginal and Torres Strait Islander people. Secondly, all questions and strategies used in comparable research were reviewed, including the Longitudinal Study of Indigenous Children (LSIC), the West Australian Aboriginal Child Health Survey (WAACHS), the National Aboriginal and Torres Strait Islander Social Survey (NATSISS) and Strong Start Bright Future. Outcomes from these processes were reviewed in a workshop with ACRs from four remote communities who worked with the research team to draft a tailored survey based on the Interplay Wellbeing Framework. The survey questions reflect in-depth discussions between ACRs, with their knowledge of everyday scenarios faced by people in remote communities, and scientists, with their knowledge about how to represent these scenarios in statistically sound survey questions. Considerable time was afforded to these discussions, with much emphasis on the wording of every single question to ensure that its meaning held true, both in the cross-cultural setting, when translated into local languages, and in different communities nationally. After several waves of reviewing and refining the survey with ACRs and other team members, it was pilot-tested in two remote communities and considered field ready. The final survey was administered on computer tablets by local ACRs and took approximately 30–40 minutes to complete.

4.4 Situation analysis

During initial consultations, community members reported feeling that researchers and government always take their information but nothing seems to come back. Different groups of researchers seem to keep coming along asking the same questions but they do not seem to cross-reference with each other or with previous work, and communities do not see results (Cairney & Abbott 2014a).

To minimise the reporting burden on respondents by reducing the volume of primary data collected, relevant and published community-level information was compiled in a situation analysis for each participating community. Information covered health, education, employment, service delivery and key government policies. The situation analysis provided a detailed understanding of the critical issues and challenges affecting the community of interest and highlighted issues worthy of further investigation of relevance to the Interplay project goals. The situation analysis reports were used to inform researchers about local issues prior to data collection, as a basis to generate discussion with research participants during focus groups and other engagement and data collection activities, and will be included in the reporting process as part of transfer activities.

4.5 Focus groups and semi-structured interviews

Focus groups and semi-structured interviews were designed to capture qualitative information from community members about the impact of local programs and services in relation to the Interplay Wellbeing Framework. Focus groups were designed using a community-based participatory research (CBPR) approach in consultation with local ACRs and key research partners. Recognising the unique strengths of each contributor, the CBPR approach starts with a topic of importance to the community, then brings together knowledge and action to achieve positive change (Viswanathan et al. 2004, Minkler &

Wallerstein 2008). This flexible and exploratory process aimed to elucidate perspectives known only at the community level.

This process enabled communities to identify local priorities, data sources and specific topics of interest, allowing the Interplay Wellbeing Framework to be tailored for each community, while retaining its core structure and therefore supporting its national focus.

The research team worked with community groups to identify the main programs or services that worked well and what communities wanted to get out of the research. Potential topics of focus were canvassed to capture impacts, outcomes and experiences across the Interplay domains.

In line with the Interplay project's mandate to focus on strengths and empowering communities, each of the four participating communities identified key focus areas governing their interest to be involved in the research. These included:

1. empowerment, two-way learning and homeland services
2. impacts of native title rights and related Caring for Our Country (land management) programs
3. providing resilient, empowered and sustainable health and wellbeing services to mobile populations
4. achieving partnerships where governments listen to, respect and accommodate the views of community leaders.

Focus groups addressed the general question of 'What works well and why?' In addition, semi-structured interviews were held by phone where identified key informants were unable to attend a focus group.

5. Implementation phase: Study protocol

5.1 Sampling – community selection

We approached sampling as if taking a representative sample, and then scaled back based on the limitations of project resources. Our reasoning was to increase the chances of creating a representative sample at a later date, should further funding be provided, and to increase representation and power in the research output. Because our research focused on wellbeing for individuals through their interplay with support services at family and community levels, and thus community wellbeing, we sampled at the community rather than individual level. Our sampling framework was therefore similar to the community sample framework adopted by the NATSISS. The sample was stratified by geographical distribution and community size.

This research was designed to produce reliable estimates of wellbeing indicators for Aboriginal and Torres Strait Islander people focused in remote and very remote areas, based on the ASGC categories used by the ABS (ABS 2012). There are 838 discrete Aboriginal and Torres Strait Islander communities in remote and very remote Australia.

To be confident that the study sample represented the major geographical areas, language groups and community sizes across remote Australia – a representative sample – at least 30 communities would need to participate in the research. The Advisory Group and team members selected an optimal balance between a representative sample and a case-study approach – essentially a balance between breadth and depth – that was possible within the project budget. Priority was given to focusing on conducting more in-depth consultation with fewer communities in order to gain a deeper understanding of their strengths, issues and

challenges. This suggests a more case-study approach, enabling specific interventions current in each community to be evaluated with respect to local cultural and contextual information collected qualitatively as part of the community-level data collection. This approach also acknowledges the cautioning by Aboriginal groups against generalising findings from one Aboriginal and Torres Strait Islander community to another (Orr et al. 2009, AIATSIS 2012). This approach will strengthen the novelty, robustness and potential impact of the Framework, consequently extending its potential for use in other sites or applications.

The Interplay project has therefore prioritised a comprehensive process of building knowledge, relationships and tools to optimise the research quality, integrity, impact and longevity of the Framework – with cumulative value if expanded beyond the life of the CRC-REP.

Community selection was based on a combination of representing cultural and geographic diversity, established relationships with partner organisations within communities, and community self-selection whereby the research aligned with community-identified needs. The Interplay project was initially promoted through more than 50 partner organisations involved in the CRC-REP, which subsequently filtered through to the extensive network of remote community organisations and members where those partners have relationships. Several community groups then approached the research team expressing their interest to be involved. This process established a strong sense of ownership and empowerment for the community groups, who therefore initiated the research in their communities and are heavily involved in its development. Engagement began with eight remote communities across Northern Territory, Western Australia and South Australia who contributed to research development (Cairney & Abbott 2014a) and was later consolidated with four communities that participated in the research.

5.2 Research design

The Interplay project uses a prospective cohort design focusing on longitudinal analysis of:

1. primary data from individual surveys and community-level focus groups
2. secondary data, including health and education records, situation analyses and detailed case studies to assess changes in health and wellbeing, education and employment.

This information will be used to identify the critical intervention points that can guide the development of targeted interventions that maximise health and wellbeing outcomes. While the project has the potential to unfold as a life-course study, it is important to ensure that meaningful outcomes are delivered within the current funded project life-span to mid-2017. An age range of 15–34 years was therefore selected for the survey cohort, which was considered closest to when individuals undergo the life-course transition from education through to employment. The Interplay project methods are designed such that the research can potentially expand as a long-term, longitudinal and nationally representative study. The research described here can be treated as a preliminary study, with further rollout offering potential cumulative value for the wellbeing of Aboriginal and Torres Strait Islander people in remote Australia.

Data collection is occurring in two waves as shown in Figure 1; baseline data (wave 1) was collected by June 2015 and the follow-up data (wave 2) will be collected from the same communities and individuals by June 2016. Baseline data includes the completion of approximately 800–1000 individual surveys (age range 15–34 years) and 20 focus groups from four participating communities across the Northern Territory and Western Australia.

5.3 Data analysis

The main domains (i.e. latent traits) are culture, community, empowerment, education, employment and health. Each domain will be scored based on indicators derived from the survey items and secondary data relevant to the domain. Multigroup confirmatory factor analysis will be used to test invariance of the underlying measurement structures across locations. Latent predictors of wellbeing will be examined using structural equation modelling to address the first research question (What are the relationships between health and wellbeing outcomes and education and employment for individuals and communities living in remote Australia?).

Multivariate regression analysis will also be used to address the second research question as a sensitivity analysis (i.e. How effective are targeted interventions in this field?) by identifying the key factors at social, cultural, community and policy levels that have the strongest impact on health and wellbeing outcomes. Impacts on community- and individual-level wellbeing will be assessed for specific interventions and programs implemented over the course of the project, supplemented with qualitative data. As such, each community will be treated as a case study for this part of the analysis. Analysis will be conducted for research question 2 separately for each community.

To address research question 3 (How can policy and practice be better informed by this knowledge to maximise desired health and wellbeing outcomes?), the knowledge translation process will be evaluated collaboratively by the three partner groups represented in the shared-space model (community, science and government). Qualitative data that address the question of ‘What works well and why?’ will inform this evaluation.

6. Summary

Project outputs include the Interplay Wellbeing Framework and its data collection tools that together provide a powerful tool to inform and objectively measure the impact of a range of policies and programs. In addition, new measures of the interplay between education, employment, health and wellbeing, including key influences such as culture and empowerment, are being established. These will be described in detail in later publications arising from the Interplay research project.

The Interplay Wellbeing Framework and tools have been developed through a combination of robust science and community development and validated in this context. Once they are established through subsequent research output, they can be used for engagement, planning, evaluation, communication, decision-making and for working in partnerships. They can also be tailored for specific applications in broad-reaching areas, such as to focus on pathways from education to employment, or the impacts of smoking tobacco on health. A design strength of the Interplay Wellbeing Framework is that because it is so comprehensive, it can be re-oriented to focus on any particular area represented within it. Due to its holistic nature, and combination of objective measures (quantitative) and thematic or storytelling data (qualitative), the Interplay Wellbeing Framework and data collection tools can be used to monitor and map progress in any of its underpinning areas such as education, employment, health and wellbeing. The ability of the Interplay Wellbeing Framework to understand interrelationships and also to measure concepts such as culture and empowerment are integral to its novelty, cultural relevance and impact.

Political decisions about issues that affect remote Aboriginal and Torres Strait Islander communities have long been largely top-down and fail to provide a voice for the culture and communities directly affected. Involvement and empowerment of Aboriginal and Torres Strait Islander people in the solutions has not

been achieved and policy has consequently been largely historically inappropriate for Aboriginal people, doing little to improve their wellbeing.

Objective measures have been developed and validated to represent factors that community identify as being important to wellbeing, but are traditionally difficult to measure and therefore justify (e.g. culture). Communities have always attempted to promote the value of culture for wellbeing to governments, but without objective measures of its impact – particularly on health and wellbeing – governments often fail to see the value and fail to provide support to strengthen culture and connection to country, which would work towards improving wellbeing.

The knowledge base established in the Interplay project identifies areas that are strong and those that require investment to improve wellbeing. Importantly, it provides a measure of factors such as culture, connection to country and use of language and show how they impact wellbeing. This has yet to be achieved in Australia and consequently their value has yet to be recognised by political decision-makers.

This research has the potential to:

- improve the quality of services for Aboriginal and Torres Strait Islander people through an established evidence base to inform government policy and community initiatives
- improve health and wellbeing through the delivery of more valued, relevant and linked education and employment opportunities
- empower Aboriginal and Torres Strait Islander people to be more actively involved in decisions, programs and reporting of objective measures to policy
- save costs for government in healthcare, education and service delivery.

Knowledge from the Interplay project provides an example of how communities can be consulted, empowered and involved in solutions through working together with scientists and government. The project has worked at the ground level to identify what is important to communities, then it has developed objective measures to show their value and impact on wellbeing.

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