

**Lowitja Institute - Social Impact  
Assessment**

Final Report  
August 2020

# Contents

List of acronyms	i
Executive summary	ii
Background	ii
Approach	ii
The Institute's progress with capturing impact	iii
Key impact findings	iii
Journey so far	vi
1 Background	9
1.1 Purpose and scope	10
1.2 Overview of this report	10
1.3 About Lowitja Institute	10
1.4 Commitment to high impact research	13
2 Methodology	20
2.1 Scope and period of analysis	21
2.2 Conceptual framework guiding the impact analysis	21
2.3 Research methods	26
2.4 Monetisation of impacts	28
3 Impact findings	29
3.1 Section overview and key findings	30
3.2 Costs of activities funded	33
3.3 Impact: Advancing knowledge	36
3.4 Impact: Capability building	45
3.5 Impact: Informing decision-making	55
3.6 Impact: Health	61
3.7 Impact: Economic, social, and environmental	73
4 Journey so far	79
4.1 Section overview	80
4.2 Lessons for Lowitja Institute	80
4.3 Lessons for broader research policy and practice	89
4.4 Recommendations	91
Appendices	93
Limitation of our work	99
General use restriction	99

# Charts

Chart 3.1 The Institute total expenditure, 2010-19 (\$FY19 inflation adjusted)	35
Chart 3.2 The Institute's expenditure breakdown by activity, 2015-19	35
Chart 3.3 Number of peer review manuscripts and total published material, 2010-19.	37
Chart 3.4 Top 10 administering institutions by the frequency of projects supported by the Institute research, 2010-19	42
Chart 3.5 The nature of Aboriginal and Torres Strait Islander leadership and empowerment in the LICRC and CRCATSIH's projects, 2010-14 and 2014-19	44
Chart 3.6 Aboriginal and Torres Strait Islander HDR candidate commencements, 2010-18	46
Chart 3.7 Degree types funded through the LICRC and CRCATSIH (2010-19)	46
Chart 3.8 Number of students funded between 2010 and 2019 by commencement period	46
Chart 3.9 Median weekly income, by highest level of educational attainment, 2016	48
Chart 3.10 Aboriginal and Torres Strait Islander academic staff, 2009-18	52
Chart 3.11 Average life expectancy for Aboriginal and Torres Strait Islander peoples and non-Indigenous male and female, 2005-07 and 2015-17	63

# Tables

Table i Recommendations for Lowitja Institute	vi
Table 1.1 Summary of key principles guiding ethical research relating to Indigenous populations	14
Table 3.1 Number of the Institute's research projects and total research funding 2010-19, (\$FY19 inflation adjusted)	33
Table 3.2 Annual research expenditure towards Aboriginal and Torres Strait Islander Health, 2014-19	34
Table 3.3 Top 10 articles attributed to the Institute and former CRCs by the number of citations	38
Table 3.4 The LICRC and the Institute's contribution to public health guidelines and policy documents, 2018-19	57
Table 3.5 Closing the Gap targets under Health outcomes over the last decade	62
Table 3.6 Estimates of value of health gains attributable to the LICRC and CRCATSIH's activity between 2010 and 2019 with sensitivity testing on two assumptions.	68
Table 4.1 Assessment of data availability and feasibility of measuring the Input components of Lowitja Institute KT and Research Impact Measures	83
Table 4.2 Recommendations for Lowitja Institute	91
Table A.1 Proposal Lowitja Institute Knowledge Translation (KT) and Research Impact Logic Model	94
Table B.1 List of projects sampled for the documentation review.	97
Table C.1 Reconciliation table against total research projects commissioned by Lowitja Institute between online database and the LICRC exit reports	98

# Figures

Figure i Methodological approaches used in this analysis	iii
Figure 1.1 Timeline of CRCs and the Institute and changes to their priority research areas	12
Figure 1.2 Mapping of alignment between Lowitja Institute's strategic plan and ARC Engagement and Impact Assessment criteria	17
Figure 2.1 Revised Impact Logic Model	22
Figure 2.2 Conceptual framework adopted for the purposes of this analysis.	25
Figure 2.3 Research methods used in the analysis	26
Figure 2.4 Overview of identification, screening and sampling process	27
Figure 3.1 Mapping of the report sections to the conceptual framework.	30
Figure 3.2 Key impact areas identified under the 'Advancing knowledge' impact category	36
Figure 3.3 The Institute's partners and associated agencies, 2010-19	42
Figure 3.4 Key impact areas identified under the 'capability building' impact category	45
Figure 3.5 Key impact areas identified under the 'Informing decision-making' impact category	55
Figure 3.6 Key impact areas identified under the 'Health impact' category	61
Figure 3.7 Age-specific prevalence of leading long-term health conditions in Aboriginal and Torres Strait Islander population, 2012-13	64
Figure 3.8 Conceptual logic of monetising Lowitja Institute's impact on health outcomes	66
Figure 3.9 Key impact areas identified under the 'Economic, social and environmental' impact category	73

# List of acronyms

ACCHS	Aboriginal Community Controlled Health Service
CAHS	Canadian Academy of Health Sciences
CGE	Computable General Equilibrium
CoP	Community of Practice
CRC	Cooperative Research Centre
CRCAH	Cooperative Research Centre for Aboriginal Health
CRCATH	Cooperative Research Centre for Aboriginal and Tropical Health
CRCATSIH	Cooperative Research Centre for Aboriginal and Torres Strait Islander Health
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DALY	Disability Adjusted Life Years
DHHS	Department of Health and Human Services
FAIT	Framework to Assess the Impact from Translational health research
FTE	Full-Time Equivalent
GDP	Gross Domestic Product
HDR	Higher Degree Research
IRR	Internal Rate of Return
KT	Knowledge Translation
LEAD	Localities Embracing and Accepting Diversity
LICRC	Lowitja Institute Aboriginal and Torres Strait Islander Health CRC
NACCHO	National Aboriginal Community Controlled Health Organisation
NATSIHP	National Aboriginal & Torres Strait Islander Health Plan
NDIS	National Disability Insurance Scheme
NFD	Not further defined
NGO	Non-Government Organisations
NHFL	National Health Leadership Forum
NISA	National Innovation and Science Agenda
NPDC	National Perinatal Data Collection
NPV	Net Present Value
NT	Northern Territory
R&D	Research and development
SROI	Social Return on Investment
TAFE	Technical and further education
VSLY	Value of a Statistical Life Year
WTP	Willingness To Pay
YLD	Years Lost due to Disability
YLL	Years of Life Lost

# Executive summary

## Background

Lowitja Institute (the Institute) is an Aboriginal and Torres Strait Islander organisation working for the health and wellbeing of Australia's First Peoples through research, knowledge translation and by supporting Aboriginal and Torres Strait Islander health researchers.

Deloitte Access Economics was engaged by the Institute<sup>1</sup> to assess its economic and social impact. The scope of the impact assessment included the Lowitja Institute Aboriginal and Torres Strait Islander Health Co-operative Research Centres (the LICRC), as well as the former Co-operative Research Centres (CRCs) since 1997.

There were three objectives of the analysis:

1. **The Institute's progress with capturing impact:** to test the Institute's 'Knowledge Translation and Research Impact Logic Model' and to understand the efficacy of measuring progress against identified Impact Measures
2. **Impact analysis:** to undertake the economic and social impact analysis of the LICRC and former CRCs over the last two decades (i.e. 1997-2019 inclusive)
3. **Journey so far:** to capture the lessons learned through this process and understand how measurement of impact can be approached in the future.

Due to limited quality and availability of data, this report, and in particular the impact analysis, focuses primarily on the last two CRCs (the LICRC and CRCATSIH) (that is the years between 2010 and June 2019 inclusive). However, recognising that the impact of the more recent activity builds on the work and legacy of the preceding CRCs, the report will acknowledge the achievements in the earlier years whenever possible.

## Approach

This study explored a diverse set of impacts extending beyond the economic contribution in monetary terms.

The conceptual framework adopted for the purposes of this analysis was based on Lowitja Institute Knowledge Translation (KT) and Research Impact Logic Model and extended by applying the categorisation of impacts in the Canadian Academy of Health Sciences (CAHS) Framework. The resulting framework organised impacts under the following categories:

- **Advancing knowledge** about health topics related to Aboriginal and Torres Strait Islander peoples
- **Building capability** of Aboriginal and Torres Strait Islander health researchers
- **Informing decision-making** at a policy-, organisational-, and community-level through empowering Aboriginal and Torres Strait Islander communities' voice and through developing new frameworks, guidelines and programs
- Contributing to **better health outcomes** of Aboriginal and Torres Strait Islander peoples through better prevention and health service provision
- Contributing to **better economic, social and environmental outcomes** of Aboriginal and Torres Strait Islander peoples through increased awareness about the social determinants of health, culturally safe spaces and preservation of the environment.

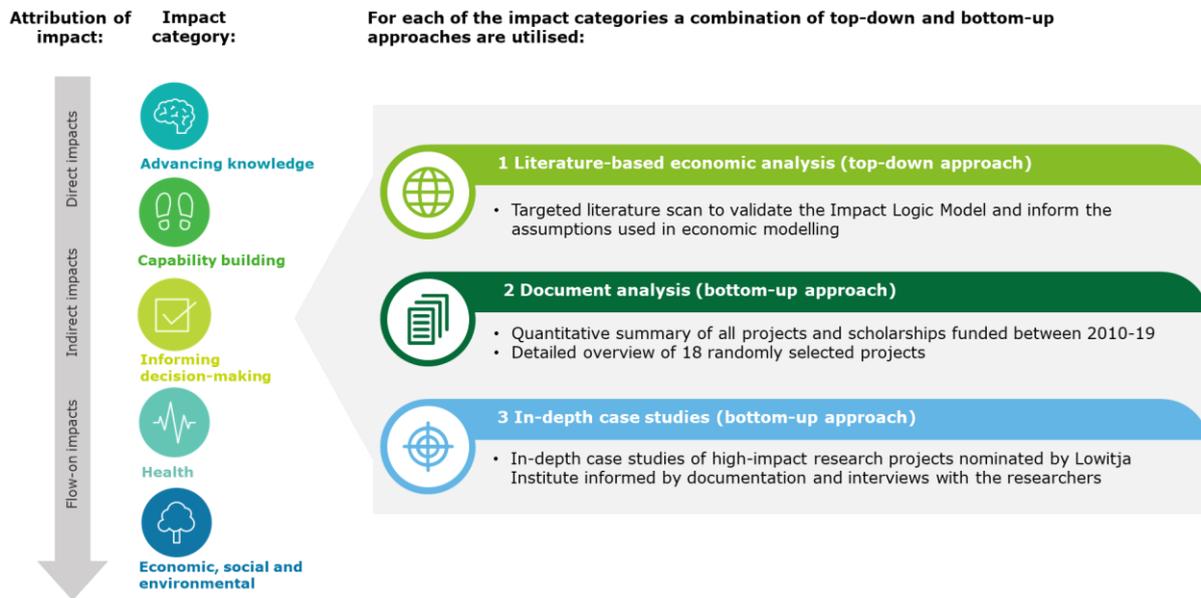
A multi-method approach was used to explore the breadth and scale of the impacts, as well as develop an in-depth understanding how the diverse impacts are achieved. This included a targeted

---

<sup>1</sup> Where the report references to Lowitja Institute ('the Institute'), this refers to the National Institute for Aboriginal and Torres Strait Islander Health Research Limited (NIATSIHR Ltd) - a limited liability not-for-profit company trading as the Lowitja Institute, distinct from CRCs it hosted and managed.

literature review to inform the economic analysis of impacts, documentation review and in-depth case studies (see Figure i).

Figure i Methodological approaches used in this analysis



## The Institute’s progress with capturing impact

The Institute has recently developed ‘Knowledge Translation and Research Impact Measures’ (the Impact Measures) to better understand how its research is producing social and economic return. These Measures have been packaged in a program logic model and includes mapping how priorities, inputs and activities result in relevant outputs which lead to short-term and mid-term outcomes. The Impact Logic also lists example indicators that could be used to monitor progress against the outcomes.

The Impact Measures was an important first step in understanding, at a high level, how outcomes and impacts are expected to be achieved. However, for the purposes of impact measurement further detail and considerations are required, including (but not limited to):

- Clearer articulation of purpose and scope of the Impact Logic to understand the level of granularity required
- Further details on causal pathways between outputs and impacts, as well as assumptions and contextual factors that may influence those pathways
- Improvements in data availability and quality held by the Institute.

## Key impact findings

It is important to recognise that while impacts have been quantified where possible, many of the Institute’s important contributions, such as empowering the Aboriginal and Torres Strait Islander voice in academia, cannot be quantified with the available data. Equally, there are limited, if any, established methodologies available which enable the retrospective quantification of investment in research in a way that is broadly accepted, and this is certainly the case in relation to Aboriginal and Torres Strait Islander people research areas.

In addition, the contribution of the Institute’s more recent research projects would be expected to grow overtime, alongside the evidence base which may be used to demonstrate the value of the Institute to Australian society.

## Costs



The LICRC and CRCATSIH supported a total of **148 health research projects** across the two cooperative research centres (CRCs) between 2010 and 2019, with a **total CRC expenditure of \$26.5 million**. The total real expenditure of Lowitja Institute between 2010 and 2019 was \$55.6

million (\$FY19 inflation adjusted, inclusive of CRC expenditure). On average **69 per cent of the Institute's spending contributes directly to research activities** (including Knowledge Translation activities).

The Institute's work is estimated to represent approximately **0.1 per cent of the total spending on health research in Australia**, and the LICRC represents approximately **5.4 per cent of the total spending on Aboriginal and Torres Strait Islander-specific health research**.<sup>2</sup>

### Advancing knowledge



In 2014-19, of the 41 projects supported by the LICRC, **approximately a quarter of these research project investigators received further grants** from the National Health and Medical Research Council (NHMRC) and the Australia Research Council (ARC).

With **70 peer-reviewed articles** and **over 130 other materials** including reports, factsheets and videos published, the Institute generates a significant volume of new knowledge that is inclusive of Aboriginal and Torres Strait Islander perspectives.

By bringing different research partners together in collaborative projects and co-authored publications, Lowitja Institute acts as a professional community for health researchers involved in topics related to Aboriginal and Torres Strait Islander health and wellbeing. Across the two CRC periods, the **University of Melbourne, Flinders University** and **the Menzies School of Health Research** were the top three administering institutions of projects supported by the LICRC and CRCATSIH.

### Capability building



One of the key priorities of Lowitja Institute is to support the next generation of Aboriginal and Torres Strait Islander health and wellbeing researchers. Since 2010, the LICRC and CRCATSIH has **funded 28 scholarships** for Masters and Doctoral degrees, and **co-funded further 11 scholarships**. **Of the 28 scholars, 19 identified as Aboriginal and/or Torres Strait Islander**. The total value of the **lifetime earnings premium** accrued by all individuals who received the scholarship is estimated at **\$1.5 million**. This reflects the additional lifetime earnings these individuals could on average expect as a result of obtaining their postgraduate degrees. Based on past Deloitte Access Economics research, additional public benefits (e.g. through increases to government revenue, wages and greater levels of employment) are generated through investments in higher education. These **public benefits to the Australian economy** generated as a result of the postgraduate degrees supported by the LICRC and CRCATSIH are estimated at a further **\$1.4 million**.

Lowitja Institute has a particular focus on empowering Aboriginal and Torres Strait Islander health researchers to participate in health research and academia. **All of the 41 projects funded** by the LICRC between 2014 and 2019 **featured Aboriginal and/or Torres Strait Islander researchers and staff**.

Between 2014 and 2019, **68 per cent of projects supported by the LICRC were led by Aboriginal and Torres Strait Islander researchers**. By comparison, while 546 National Health and Medical Research Council (NHMRC) projects investigated Aboriginal and Torres Strait Islander peoples' health issues, only 50 research grants were allocated to projects led by an Aboriginal and/or Torres Strait Islander researcher between 2010 and 2016 (that is, less than 10 per cent).

### Informing decision-making



Lowitja Institute's work **shapes Aboriginal and Torres Strait Islander health policy decision-making** through contributing to the public discourse on health issues, such as through public advocacy and lectures. For example, findings from one pilot study of an adult literacy campaign were

---

<sup>2</sup> There is some uncertainty with regards to estimating the total spending on Aboriginal and Torres Strait Islander research in Australia. This estimate was based on the total ARC and NHMRC Aboriginal and Torres Strait Islander-health related research expenditure between 2015 and 2019 (\$288.5 M) compared to Lowitja Institute's total research funding between 2015 and 2019 (\$16.4 M). As there may be other organisations in Australia funding Aboriginal and Torres Strait Islander-health related research, 5.4 per cent is likely to be an overestimate.

Commercial-in-confidence

later used in negotiations with the Commonwealth and state governments for funding to support the delivery of the program at two more sites, in addition to the original campaign.

Projects commissioned by the LICRC and CRCATSIH **utilise community engagement as an input to all stages of the research process** — from collaborative planning and design of research methods, to project governance, and reporting results back to communities. Many projects supported by the LICRC and CRCATSIH are also designed and implemented in partnership with Aboriginal Community Control Health Service (ACCHS). Projects supported by the LICRC and CRCATSIH **resulted in the creation of new representative and community healthcare networks**, such as the first known Torres Strait Islander Researchers' Community of Practice (CoP) and knowledge mobilisation network.

### Health impacts



Over time, the Institute has moved away from biomedical research and opted for projects centred on social and emotional wellbeing and understanding the social and cultural determinants of health. Of the 148 research projects that the LICRC and CRCATSIH has commissioned, **28 per cent of projects relate to research on social determinants of health**. Other major topics addressed by Institute include health conditions, such as lung cancer and renal disease, and family and community health, including women's and early childhood health.

Projects funded by the LICRC and CRCATSIH have also addressed the issues of access to and quality of health service provision for Aboriginal and Torres Strait Islander peoples in Australia, including (but not limited to):

- Identifying strategies to address workforce challenges faced by Aboriginal and Torres Strait Islander primary care services such as staffing levels, retention and turnover
- Recommendations for better acceptance of the National Disability Insurance Scheme by Aboriginal and Torres Strait Islander peoples living with disabilities and their families
- Improving cultural sensitivity in acute health care institutions.

Lowitja Institute's exact contribution to improved health for Aboriginal and Torres Strait Islander peoples is difficult to isolate from a number of other factors that influence health outcomes (e.g. improved economic conditions, education, or improvements in health services provision). However, a proposed estimate suggests that the total value of impact on health attributable to the Institute's activity between 2010 and 2019 is likely to amount to **\$49.9 million** (with sensitivity analysis providing a range between \$29.9 million and \$69.8 million).<sup>3</sup> This result should be considered in the context of significant methodological limitations, including fundamental difficulties with establishing attribution.

### Economic, social and environmental impacts



**Social and physical environmental factors can explain up to 34 per cent of the health outcome disparity** between Aboriginal and Torres Strait Islander and non-Indigenous Australians according to the Institute's recent report 'Close the Gap' (2020).

Projects commissioned by the LICRC and CRCATSIH contribute to **building long-standing relationships between the communities and government services** such as the National Disability Insurance Scheme (NDIS).

Lowitja Institute has been involved in projects which have sought to **increase the cultural safety and understanding** of Aboriginal and Torres Strait Islander culture in health service delivery. However, the impact of those projects often extended beyond healthcare and influenced approaches to service provision in education, housing, and justice.

---

<sup>3</sup> The estimate was based on the total value of increases in life expectancy of Aboriginal and Torres Strait Islander people and associated Disability-Adjusted Life Years. This was monetised using the Value of Statistical Life Year. The total value of the improvements was then attributed to Lowitja Institute.

## Journey so far

This study has gone some way in demonstrating the impact of the LICRC and former CRCs to the economy and broader society. However, this analysis has also revealed that many of the CRCs' important contributions, such as empowering Aboriginal and Torres Strait Islander voices in academia, cannot be sufficiently quantified with the available data. In general, methodologies quantifying investment in health research require further exploration, a factor which also limits the possible analysis for this current study.

The principle of '**valuing what matters**' is particularly important in the context of Aboriginal and Torres Strait Islander communities who have a different conception of social value to the dominant Western narratives, particularly when applying classic neoliberal economic frameworks. This potentially highlights a shortfall in those frameworks, more so than anything else.

One example of where the established frameworks fail to capture what matters in this context is the use of citation metrics. Citation metrics are known to be an imperfect measure of research impact due to issues of self-citation and bias towards well-established fields of research and against newer and more experimental papers. However, the use of citation metrics in the context of the research supported by the Institute revealed a significant underrepresentation of Aboriginal and Torres Strait Islander researchers.

It also became clear that the economic tools available to monetise impacts do not sufficiently capture the unique value of the Institute. This is in part owing to the lack of data available to enable this analysis. The Institute could improve upon this by enabling more robust evaluation through more mature and formalised data capture and improved reporting, including consideration of impact measures.

Although the value of private and public benefits of scholarships and health outcome improvements is relatively high, it does not encompass Lowitja Institute's impact in its entirety or what is at the heart of the Institute's mission, including (but not limited to) the value of:

- A partnership with Lowitja Institute and the resulting change in mindset for all stakeholders
- Research authenticity for Aboriginal and Torres Strait Islander people
- Recognition of Aboriginal and Torres Strait Islander peoples' input, voice and opinion in policy and decision-making.

These impacts do not necessarily lend themselves to measurement or quantification. Equally, to not recognise them may limit our understanding of the Institute's impact. Consequently, this report marks an attempt to resolve some of these challenges at this time, while providing constructive suggestions for both Lowitja Institute and other stakeholders with complementary objectives.

The following recommendations are made and are shown below (Table i):

Table i Recommendations for Lowitja Institute

Theme	Recommendation	Dependencies
KT and Research Impact Logic Model	<i>Short-term (&lt;6 months):</i>	
	1.a. Define key strategic objectives for the use of the KT and Research Impact Logic Model within Lowitja Institute. These objectives should guide the scope and level of granularity required for monitoring and evaluation of research impact.	-
	1.b. Prioritise a sub-set of Impact Measures for systematic data collection to balance the need for evidence with a potential administrative burden of reporting for researchers. This sub-set of	1.a.

---

	<p>priority Impact Measures should be based on the feasibility of data collection, ethical considerations, as well as strategic priority of the Institute.</p> <p><i>Medium term (6 – 18 months):</i></p> <p>1.c. Develop a library of Impact Measures which extends on the current list of Impact Measures to include: variable definitions, indicator of data availability, level of priority (see recommendation 1b), and guidance to users on how to source the required data. Such library would serve as the main reference source for users. A dedicated owner may be required to maintain the library and update information.</p> <p>1.d. Drawing on the findings of this report, expand on the KT and Research Impact Logic Model to include a clearer articulation of casual pathways, as well as underlying assumptions.</p>	<p>1.b.</p> <p>1.a.</p>
Information collection	<p><i>Short-term (&lt;6 months):</i></p> <p>2.a. Review how the internal reporting frameworks (e.g. KT plan, research activity reports, exit reports) align to the KT and Research Impact Logic Model and whether priority Impact Measures are captured systematically (i.e. in a standardised way, reported consistently across all research activity).</p> <p>2.b. Continue placing emphasis on the importance of exit reports as ‘the source of truth’ about inputs, activities and outputs from research projects, including working with researchers to describe how the information will be used and why this is important.</p> <p>2.c. Institute methods to capture research impact beyond the project timeframes by incentivising researchers to report back on new publications and research impacts (e.g. 3 years after project completion). This could be achieved through a short survey collecting standardised inputs (e.g. links to publications, presentations to public audiences, consultations to government and community initiatives) and/or post-research qualitative interviews at an agreed period (e.g. 6 months follow-up interview).</p> <p>2.d. Consider adding ‘financial information’ section in the exit reports to enable consistent reporting of financial information on project expenditure against key research activities. This section may be pre-populated by the finance team to reduce administrative burden placed on researchers.</p>	<p>1.a.</p> <p>-</p> <p>-</p> <p>2.b.</p>
Internal information management infrastructure	<p><i>Medium-term (6 - 18 months)</i></p> <p>3.a. Consider developing a detailed project topic classification framework which could be used to categorise past CRC projects and future research activity. Lowitja Institute may utilise its current research categories (used on Lowitja Institute website) for this purpose. This would enable a more detailed impact assessment tailored to specific research areas (e.g. maternal health).</p> <p><i>Long-term (18+ months)</i></p>	<p>-</p>

---

---

	<p>3.b. Develop an approach to store, manage and report information at an organisational-level which cascades down to funding portfolio-level and project-level. This may build on the Institute’s portal (currently under development) and other existing databases (e.g. catalogue of projects on the Institute’s website). This may be in a form of a database of key research activity including (but is not limited to): projects commissioned by the LICRC and former CRCs to date, publications and policy submissions developed by Lowitja Institute, scholarships. Such database would ideally be linked to a portfolio/project management system and update on an ongoing basis as new information is uploaded to the system (e.g. with submission of KT plans and research activity reports).</p>	-
--	--	---

---

<p>Broader ecosystem collaboration and leadership</p>	<p><i>Long-term (18+ months):</i></p> <p>4.a. Play a leading role in addressing data gaps with respect to Aboriginal and Torres Strait Islander peoples’ outcomes by guiding community research partners to collect prospective data which would enable future articulation of research impact.</p> <p>4.b. Continue advocating for a broader recognition of what ‘high-impact’ health research looks like for Aboriginal and Torres Strait Islander communities. Identify potential biases in mainstream approaches to measuring research impact and guide research community on next steps with respect to avoiding such biases in the future.</p> <p>4.c. Collaborate with other funding bodies and research partners to ensure alignment in approaches to collecting, classifying and reporting information on research impact to allow for comparability and to reduce unnecessary duplication of efforts for researchers.</p>	<p>-</p> <p>-</p> <p>4.a.</p>
---	---	-------------------------------

---

# 1 Background



## 1.1 Purpose and scope

Deloitte Access Economics was engaged by Lowitja Institute (the Institute)<sup>4</sup> to assess the economic and social impact of the Lowitja Institute Aboriginal and Torres Strait Islander Health Co-operative Research Centres (the LICRC), and former CRCs over the last two decades (1997-2019).

There were three objectives of the analysis:

1. **The Institute's progress with capturing impact:** to test the Institute's 'Knowledge Translation and Research Impact Logic Model' and to understand the efficacy of measuring progress against identified Impact Measures
2. **Impact analysis:** to undertake the economic and social impact analysis of the LICRC and former CRCs over the last two decades (i.e. 1997-2019 inclusive)
3. **Journey so far:** to capture the lessons learned through this process and understand how measurement of impact can be approached in the future.

## 1.2 Overview of this report

The remainder of this report is structured as follows:

- Section 1 (this section) provides further detail on the Institute, the CRCs in scope of this research, and approaches to research in Aboriginal and Torres Strait Islander health
- Section 2 outlines different approaches to measuring the impact of research, and explains the conceptual framework and the methodology adopted in this study
- Section 3 outlines the results from the analysis on each of the key categories of impact
- Section 4 discusses the implications from the analysis and where extensions on the current analytical framework are advisable.

## 1.3 About Lowitja Institute

### 1.3.1 Organisational overview

Lowitja Institute is a national institute for Aboriginal and Torres Strait Islander health research. Its work encompasses all areas that contribute to the health and wellbeing of Aboriginal and Torres Strait Islander peoples, including the social and cultural determinants of health and wellbeing.

The value and priorities of the Institute are best summarised from their 2015-18 strategic plan:

*A significant responsibility rests with Lowitja Institute to provide leadership on work that will result in improvements to the health and wellbeing of Aboriginal and Torres Strait Islander peoples. To achieve this, Lowitja Institute will embrace those who likewise share a firm commitment in valuing the health and wellbeing of Aboriginal and Torres Strait Islander peoples. (...) The work of Lowitja Institute will be ambitious, rigorous and culturally safe. We will directly contribute towards our people achieving their greatest potential.<sup>5</sup>*

In alignment with the focus of the strategic plan, the Institute attracts the next generations of Aboriginal and Torres Strait Islander researchers, and coaches them to become the next leaders in Aboriginal and Torres Strait Islander health and wellbeing. As the national leader in Aboriginal and Torres Strait Islander research, and with its extensive history of valuing the lives of their peoples, the Institute establishes itself as a research organisation following the best practice approaches in research, tailored to the needs of their communities.

The Institute's vision to be a "trusted research institute that values Aboriginal and Torres Strait Islander people's health and wellbeing" began long before the first CRC was established in 1997.<sup>6</sup>

---

<sup>4</sup> Where the report references to Lowitja Institute ('the Institute'), this refers to the National Institute for Aboriginal and Torres Strait Islander Health Research Limited (NIATSIHR Ltd) - a limited liability not-for-profit company trading as the Lowitja Institute, distinct from CRCs it hosted and managed.

<sup>5</sup> Lowitja Institute, *Annual Report 2015* < <https://www.lowitja.org.au/content/Document/PDF/Lowitja-Institute-Annual-Report-2015-website.pdf>>.

<sup>6</sup> Lowitja Institute, *Strategic Plan 2019-2023* (2020) Lowitja Institute < <https://www.lowitja.org.au/page/about-us/strategic-plan-2015-18>>.

Commercial-in-confidence

For decades there were calls by Aboriginal and Torres Strait Islander people for paramount change to address the health needs and health delivery of this community. Prior to the establishment of the first CRC, research and its findings on the health disparity of Aboriginal and Torres Strait Islander peoples was mainly descriptive and often led by non-Indigenous people. There was an immediate need to change this and move towards a model of research that is Aboriginal and Torres Strait Islander-led and which serves the priorities of the Aboriginal and Torres Strait Islander people.

By 1996, a consortium of organisations agreed to establish the first CRC for Aboriginal and Tropical Health (CRCATH), dedicated towards addressing the health needs of Aboriginal and Torres Strait Islander people.<sup>7</sup> The collective organisations and agencies of the CRC recognised its potential to work together to achieve greater research output and provide direct and indirect benefits to Aboriginal and Torres Strait Islander communities. In July 1997, the CRCATH began its operations to serve the Aboriginal and Torres Strait Islander people, led by Aboriginal and Torres Strait Islander researchers and leaders.

Since then, the CRC has undergone several iterations over the last two decades to what is now known as the Institute (see Figure 1.1)<sup>8</sup>. The evolution of the Institute is built upon the work and key priority areas from the:

- CRC for Aboriginal and Tropical health (CRCATH, 1997-2003)
- CRC for Aboriginal Health (CRAH, 2003-09)
- CRC for Aboriginal and Torres Strait Islander Health (CRCATSIH, 2010-14)
- The Lowitja Institute for Aboriginal and Torres Strait Islander Health Research CRC (the LICRC, 2014-19).

Since the completion of the LICRC, the Institute has not hosted or managed a CRC.

Funding from the Australian Government's CRC Program supported these 'public good' CRCs, which aimed to apply research results in policies and programs to produce social benefits.<sup>9</sup>

The success of the CRCs enabled the Institute to develop long-term partnerships between researchers and organisations and contributed to the growing body of evidence in Aboriginal and Torres Strait Islander health and medicine. Such contributions have led to translating research findings into practice, by improving the quality of and access to Aboriginal and Torres Strait Islander health care.

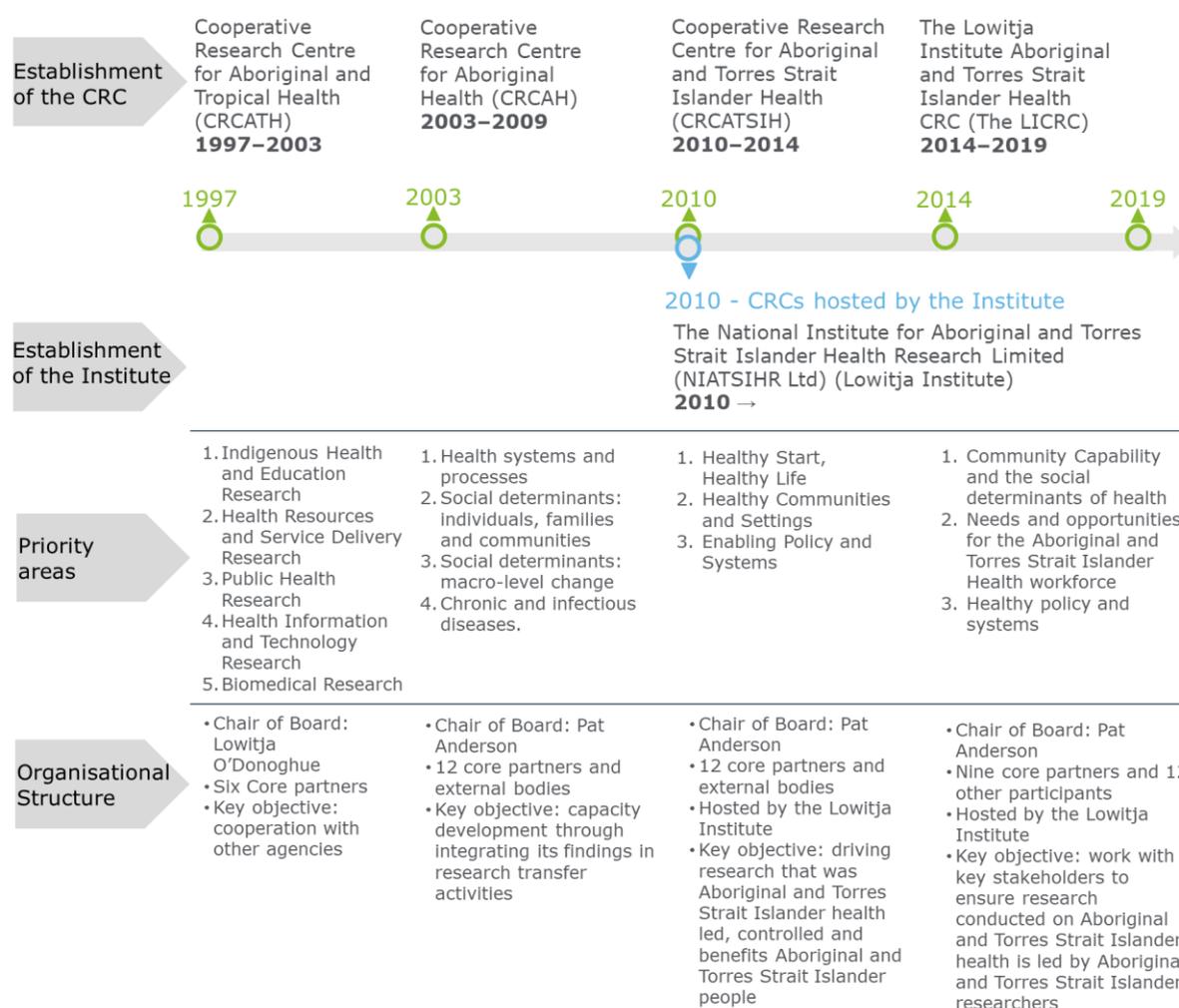
---

<sup>7</sup> Lowitja Institute, *CRC for Aboriginal and Tropical Health* (2020) Lowitja Institute <<https://www.lowitja.org.au/page/about-us/our-history/the-crc-for-aboriginal-and-tropical-health>>.

<sup>8</sup> Lowitja Institute, *Our History* (2020) Lowitja Institute <<https://www.lowitja.org.au/page/about-us/our-history>>.

<sup>9</sup> Johanna Monk et al, 'Setting and meeting priorities in Indigenous health research in Australia and its application in the Cooperative Research Centre for Aboriginal Health (2009) 7(25) *Health Research Policy & Systems* 1.

Figure 1.1 Timeline of CRCs and the Institute and changes to their priority research areas



Source: Deloitte Access Economics (2020)

The Institute was officially established in January 2010, as a limited liability company registered as both an income tax-exempt charity and a public benevolent institution.<sup>10</sup> From 2010 CRCs were hosted by the Institute. The key principles of the Institute included:

1. Beneficence – to act for the benefit of Aboriginal and Torres Strait Islander people in the conduct of our research
2. Leadership by Aboriginal and Torres Strait Islander people
3. Engagement of research end users (Aboriginal and Torres Strait Islander organisations and communities, policymakers, other potential research users)
4. Development of the Aboriginal and Torres Strait Islander research workforce, and
5. Measurement of impact in improving Aboriginal and Torres Strait Islander peoples’ health.

### 1.3.2 Evolution of the research focus

While the focus of the CRC-supported research has always been the health needs of Aboriginal and Torres Strait Islander peoples, each CRC research program was designed collaboratively with the core partners and external bodies, and the research themes have evolved to match this process.

At the inception of the CRCs, CRCATH dedicated its research programs to the improvement of Aboriginal health and the health of people living in tropical Australia, centred on a multi-disciplinary

<sup>10</sup> Lowitja Institute, *About Us* (2020) Lowitja Institute <<https://www.lowitja.org.au/page/about-us>>.

and inter-cultural perspective. This meant that projects under the priority areas (see Figure 1.1) would draw upon the understanding, values and priorities of Aboriginal people in defining the causes of their poor health. CRCAH continued to develop the research areas and over its six-year history, focussed on all facets of 'Aboriginal health' which included the complexities, relationships and all dimensions that may impact the health outcomes of Aboriginal and Torres Strait Islander people. This is reflected in the key priority research areas of CRCAH, which included both macro-level and micro-level social determinants of health.

In order to ensure the subsequent CRCs retain focus and optimise activity, CRCATSIH established three new research programs. Building upon the work of its predecessors, CRCATSIH focused on knowledge translation and translation into practice.<sup>11</sup>

The LICRC commenced in 2014 and received funding from the Australian Government, through the CRC Program, until June 2019.<sup>12</sup> The LICRC continued to work with key stakeholders and held roundtables and workshops to identify the three research programs at the core of the LICRC.<sup>13</sup>

## 1.4 Commitment to high impact research

Facing constrained budgets and a high reliance on public investment, many health research institutions are increasingly interested in assessing the impacts generated by investment in health and medical research.<sup>14</sup> Research impact is commonly defined as the range of health, economic, social and cultural benefits generated by a piece of research, in addition to its contribution to the academic knowledge base.<sup>15</sup>

The Australian Research Council has defined research impact as "the demonstrable contribution that research makes to the economy, society, culture, national security, public policy or services, health, the environment, or quality of life, beyond contributions to academia".<sup>16</sup>

The Institute has drawn on a variety of sources, including the ARC, Canadian Institute of Health Research, and the work of experts in the field such as Dr David Phipps and Dr Janet Smylie to develop a definition of knowledge translation and research impact that specifically reflects the Aboriginal and Torres Strait Islander health context which is "the complex series of interactions between knowledge holders, knowledge producers and knowledge users, with the goal of research impact, which we define as positive and sustainable long-term benefit for Aboriginal and Torres Strait Islander peoples, beyond the realms of academia".<sup>17</sup>

### 1.4.1 Frameworks for ethical high-impact research involving Aboriginal and/or Torres Strait Islander peoples

Research involving Aboriginal and Torres Strait Islander peoples has historically been criticised as inherently biased and disempowering.<sup>18</sup> This largely has been attributed to the fact that research has been led by non-Indigenous researchers, and the existence of a strong bias towards the

<sup>11</sup> Lowitja Institute, *CRC for Aboriginal and Torres Strait Islander Health* (2020) Lowitja Institute < <https://www.lowitja.org.au/page/about-us/our-history/cooperative-research-centre-for-aboriginal-and-torres-strait-islander-health>>.

<sup>12</sup> Lowitja Institute, *Lowitja Institute CRC* (2020) Lowitja Institute < <https://www.lowitja.org.au/page/about-us/lowitja-institute-crc>>.

<sup>13</sup> Lowitja Institute, *Lowitja Institute CRC* (2020) Lowitja Institute < <https://www.lowitja.org.au/page/about-us/lowitja-institute-crc>>.

<sup>14</sup> Simon Deeming et al, 'Measuring research impact in medical research institutes: a qualitative study of the attitudes and opinions of Australian medical research institutes towards research impact assessment frameworks' (2018) 16 *Health Research Policy & Systems* 28; Alan Bernstein et al, 'A framework to measure the impact of investments in health research' *OECD Blue Sky II Forum* (25 September 2006) <<https://www.oecd.org/sti/inno/37450246.pdf>>.

<sup>15</sup> Trisha Greenhalgh et al, 'Research impact: a narrative review' (2016) 14 *BMC Medicine* 78.

<sup>16</sup> Australian Research Council, *Research Impact Principles and Framework* (27 March 2019) <<https://www.arc.gov.au/policies-strategies/strategy/research-impact-principles-framework>>.

<sup>17</sup> Lowitja Institute, *Knowledge Translation* (2020) < <https://www.lowitja.org.au/page/research/knowledge-translation>>.

<sup>18</sup> Cooperative Research Centre for Aboriginal and Tropical Health, *Indigenous Research Reform Agenda: Positioning the Cooperative Research Centre for Aboriginal and Tropical Health* (2002)

incentives of the colonising society.<sup>19</sup> Aboriginal and Torres Strait Islander people have also criticised the poor translation of research findings to social change or benefits.<sup>20</sup> Some of the key criticisms include:

- a) A large amount of descriptive research that has documented the disadvantages faced by Aboriginal and Torres Strait Islander people with minimal change to improving health outcomes
- b) Research has not been culturally safe or sensitive towards Aboriginal and Torres Strait Islander people
- c) Research has objectivised Aboriginal and Torres Strait Islander peoples as 'subjects' of the study, highlighting the exploitative history of colonisation
- d) Aboriginal and Torres Strait Islander research has been designed to serve the priorities of the researcher, academia and/or politics.

In recognition of this, understanding and recognition of these shortcomings in the researcher and academic community has been increasing. This has led to increased appreciation and adoption of best practice principles when conducting research on Aboriginal and Torres Strait Islander peoples and/or on their health in Australia and internationally.

Table 1.1 illustrates key themes that have emerged locally and internationally within respect to these guidelines.

Table 1.1 Summary of key principles guiding ethical research relating to Indigenous populations

Country	Key principles of ethical research
<b>Australia</b>	<p>The ethical conduct in research with Aboriginal and Torres Strait Islander peoples and communities in Australia includes a set of principles/values to ensure research is safe, respectful, responsible, high quality, and of benefit to Aboriginal and Torres Strait Islander peoples and communities. The values are present through time – past, present and future. Given the diversity of Aboriginal and Torres Strait Islander traditions and cultures, how the principles are expressed in research is dependent on the context of the research.</p> <ul style="list-style-type: none"> <li>• Research institutions and funding bodies need to support locally driven research and set national priorities for research that incorporate Indigenous perspectives or supports Indigenous led, control and direction</li> <li>• Research must be reviewed by a registered Human Research Ethics Committee (HREC) and follow ethical frameworks and guidelines</li> <li>• Values and principles for ethical conduct in Aboriginal and Torres Strait Islander health research include: <ul style="list-style-type: none"> <li>– Reciprocity</li> <li>– Respect</li> <li>– Equality</li> <li>– Responsibility</li> <li>– Survival and protection</li> <li>– Spirit and integrity.</li> </ul> </li> </ul> <p>The Productivity Commission, the Australian Government's independent research and advisory body on economic, social and environmental issues affecting the welfare of Australians, has developed an evaluation strategy on policies and programs affecting Aboriginal and Torres Strait Islander people. The objective of the Indigenous Evaluation</p>

<sup>19</sup> Davis Thomas et al, 'A brief history of aboriginal and Torres strait islander health research, 1914–2013' (2014) 201(1) *Medical Journal of Australia* S10

<sup>20</sup> Ian Anderson et al, 'Aboriginal Primary health Care in Victoria: Issues for Policy and Planning. VicHealth Koori Health Research Unit' VicHealth Koori Health Research Unit, Discussion paper no.1, 2001

---

Strategy is to improve policy making and outcomes for policies and programs affecting Aboriginal and Torres Strait Islander people. The Strategy includes the following:

- Developing a principles-based evaluation framework which provides guidance on planning, administering and responding to evaluations, and includes the role of Aboriginal and/or Torres Strait Islander peoples in the evaluation process
  - Identify Aboriginal and/or Torres Strait Islander people's evaluation priorities for the Australian Government
  - Identify the processes and characteristics required to promote the use and success of the Indigenous Evaluation Strategy such as creating capacity and capability of evaluative skills within agencies.
- 

#### **Canada**

Ethical conduct for research involving Indigenous peoples in Canada is set out in Chapter 9 of the Tri-Council Policy Statement (TCPS 2018). 22 articles provide a framework for ethical conduct, noting that the policy also recognises the diversity within and among First Nations, Inuit and Métis communities, and the ongoing development of community codes of research practice by these communities. These include (but are not limited to):

- Respect for First Nations, Inuit and Métis Governing Authorities
  - Engagement with Organizations and Communities of Interest
  - Complex Authority Structures
  - Recognizing Diverse Interests within Communities
  - Critical Inquiry
  - Institutional Research Ethics Review Required
  - Requirement to Advise the Research Ethics Board on a Plan for Community Engagement
  - Collection of Human Biological Materials Involving First Nations, Inuit and/or Métis peoples.
- 

#### **New Zealand**

The Māori ethics frameworks includes guidelines which recognise the broad range of ethical issues within the context of health research. The principles are drawn from a variety of sources including tikanga Māori (Māori protocols and practices), understandings from the Treaty of Waitangi (principles of partnership, participation and protection), indigenous values and Western ethical principles.

- Māori (Indigenous population) ethical framework:
    - Whakapapa (relationships): quality of relationships and the structures or processes that have been established to support these relationships
    - Tika (research design): validity of the research
    - Manaakitanga (cultural and social responsibility): cultural and social responsibility and respect for persons
    - Mana (justice and equity): importance of recognising spiritual integrity, Maori philosophy.
- 

Source: For Australia: Indigenous Justice Clearinghouse: Conducting research with Indigenous people and communities, NHMRC Ethical guidelines for research with Aboriginal and Torres Strait Islander peoples, AIATSIS Guidelines for Ethical Research in Australian Indigenous Studies, Australian Government Indigenous Evaluation Strategy: Productivity Commissions Issues Paper June 2019; For Canada: TCPS 2 – Chapter 9 Research Involving the First Nations, Inuit and Métis people of Canada; For New Zealand: Te Ara Tika Guidelines for Māori research ethics: A framework for researchers and ethics committee members.

#### **1.4.2 Alignment of best practice guidelines in Australia and Lowitja Institute's Impact Logic**

In 2015, as part of its National Innovation and Science Agenda (NISA), the Australian Research Council (ARC) developed an Engagement and Impact (EI) assessment.<sup>21</sup> The key objective of the EI assessment is to examine how funding investment in universities translate into economic, environmental, social, cultural and other tangible benefits beyond academia, and identify the processes and infrastructure required to achieve research engagement. According to the ARC, high

---

<sup>21</sup> Australian Government, Engagement and Impact Assessment (2020) Australian Government Australian Research Council <<https://www.arc.gov.au/engagement-and-impact-assessment>>.

Commercial-in-confidence

impact research is defined as having made a highly significant contribution beyond academia and a clear link between research and its impact can be demonstrated.<sup>22</sup>

The ARC defines high approach to impact as mechanisms that encourage translation of research into highly effective and well-integrated impacts beyond academia.<sup>23</sup> Key themes present in studies rated for high approach to impact include:

- Research is led, governed, owned and driven by the community, and led by Aboriginal and Torres Strait Islander people
- Trust that is built from long-standing partnerships
- Transparent communication across a spectrum of stakeholders including Aboriginal and Torres Strait Islander people or groups, non-government organisations (NGOs) and governments, and the correct communication media is used to engage the stakeholder
- Provide infrastructure, institutional investment and support.

In 2017, the Institute co-hosted the 6<sup>th</sup> NHMRC Research Translation Symposium, demonstrating their continuing commitment to collaboration.<sup>24</sup> The Aboriginal and Torres Strait Islander-led Symposium reflects the importance of ethical Aboriginal and Torres Strait Islander research and Aboriginal and Torres Strait Islander knowledge translation are essential factors to Aboriginal and Torres Strait Islander self-determination.

Although the EI assessment was conducted by ARC, the key learnings and themes outlined are also reflected in the NHMRC strategic framework for improving Aboriginal and Torres Strait Islander health through research.<sup>25</sup> In particular, the NHMRC strategic framework (2018) is focused on strengthening the Aboriginal and Torres Strait Islander research workforce, engaging with Aboriginal and Torres Strait Islander communities and supporting research in high priority areas.

These three priority areas are commonly mentioned in Lowitja Institute strategic plan (2019-23), NHMRC strategic framework, and the ARC EI assessment. The overlap between Lowitja Institute strategic plan and the ARC guidelines of high impact and high approach to impact (see Figure 1.2) indicates the Institute's commitment to produce high impact and beneficial studies to Aboriginal and Torres Strait Islander peoples and their communities.

---

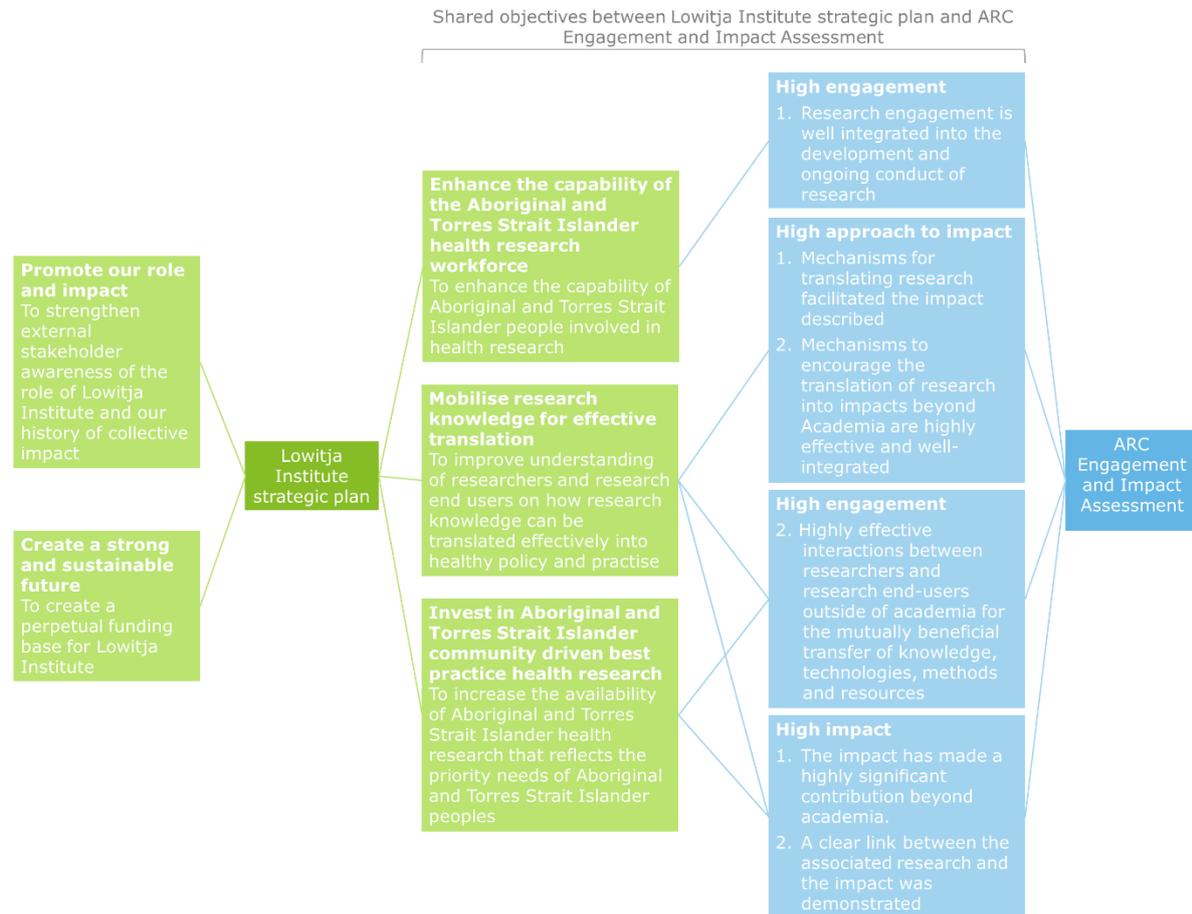
<sup>22</sup> Australian Research Council, *Engagement and Impact Assessment 2018-10 National Report* (2020) <<https://dataportal.arc.gov.au/EI/NationalReport/2018/pages/content/report-information/>>.

<sup>23</sup> Australian Research Council, *Engagement and Impact Assessment 2018-10 National Report* (2020) <<https://dataportal.arc.gov.au/EI/NationalReport/2018/pages/content/report-information/>>.

<sup>24</sup> NHMRC, *Communique – 6<sup>th</sup> Annual Symposium on Research Translation* (2020) National Health and Medical Research Council <<https://www.nhmrc.gov.au/about-us/news-centre/communique-6th-annual-symposium-research-translation>>.

<sup>25</sup> National Health and Medical Research, *Road Map 3: A strategic framework for improving Aboriginal and Torres Strait Islander health through research*, (2018) <<https://www.nhmrc.gov.au/sites/default/files/documents/attachments/road-map-3-strategic-framework.pdf>>.

Figure 1.2 Mapping of alignment between Lowitja Institute’s strategic plan and ARC Engagement and Impact Assessment criteria



Source: Deloitte Access Economics (2020), ARC Engagement and Impact Assessment 2018-19 National Report (2020) and Lowitja Institute Strategic Plan (2020).

### 1.4.3 Established approaches for measuring research impact

A range of approaches exist for quantifying research impact, each differing in the extent to which they incorporate, and attempt to measure, other research impacts.

Conventionally, research impact has been quantified by reference to bibliometric indicators such as journal rankings and citation analysis.<sup>26</sup> Some modern bibliometric analyses also measure the extent to which research output is adopted outside of academia, by reference to the number of times a publication is ‘tweeted about, liked, shared, bookmarked, viewed, downloaded, mentioned, reviewed, or discussed.’<sup>27</sup>

As the definition of research impact has broadened, so have the approaches adopted for measuring it. For example, patent-based approaches can measure the extent to which research directly results in the production of new knowledge.<sup>28</sup> Similarly, research may be correlated with impacts on the economic performance of a company, institute or country, which can be measured by reference to

<sup>26</sup> R Johnston, ‘Research impact quantification’ (1995) 34 *Scientometrics* 415.

<sup>27</sup> Pat Loria, ‘Altmetrics and open access: a measure of public interest’ *Australian Open Access Strategy Group* (2013) <<https://aoasg.org.au/altmetrics-and-open-access-a-measure-of-public-interest/>>.

<sup>28</sup> R Johnston, ‘Research impact quantification’ (1995) 34 *Scientometrics* 415.

Commercial-in-confidence

profit or productivity.<sup>29</sup> Cost-benefit analyses can also be used to calculate the return on investment associated with research, including social rates on return.<sup>30</sup>

However, these approaches have been criticised for failing to account for the complex ways in which research leads to non-academic impacts, economic or otherwise.<sup>31</sup>

Instead, another approach which some have adopted for modelling health research impact is the use of research impact assessment frameworks.<sup>32</sup> These frameworks commonly use a logic model (or a theory of change framework) to map the inputs and outputs involved at different stages of research.<sup>33</sup> This can help to create a more rigorous taxonomy of the impacts created by different research activities, across different stakeholders, and over immediate or indirect processes. For example, one of the most widely used assessment frameworks for measuring health research impact is the Payback Framework.<sup>34</sup> This approach relies upon a logic model to map seven identified stages of research — from issue identification to input collection, research process, output creation, policy-making, adoption, and outcome delivery — across five impact categories, including benefits to knowledge, future research, policy, health and the health system, and broader economic benefits.

#### 1.4.4 Issues in quantifying research impact

Once an appropriate model for quantifying research impact is identified, the process of measuring research impact can be complicated by a range of factors.

One such issue is the treatment of **time lags** — or the time taken between the publication of a piece of research, and its translation into health improvements. Findings in health research tend to be cumulative, accruing gradually over time before adoption by policy makers or commercialisation by industry. For example, publications in the field of biomedical research face an estimated average time lag of 17 years between initial publication and the realisation of associated health interventions.<sup>35</sup>

Similarly, the value of a particular research publication can be hard to **isolate**. Almost all research builds on earlier research that preceded it, making isolation of the impacts challenging. Whether progress in one area of research will result in an economic impact may be dependent on the progress in a related area of research. For example, a piece of medical research may not be able to progress without parallel advances in manufacturing technology. Equally, the successful transfer and application of research into the economy is often dependent on numerous and complex economic, social, and political factors.

Issues of **attribution** also create difficulties in identifying the share of public health benefits which can be linked to a particular piece of research, or a particular researcher. Research projects are often a collaborative effort between a number of institutions, industries, and government bodies, with varying shares of contribution.

Further, linkages between research and improvements in health outcomes are often not linear, meaning that the value of research may **change over time** as advances are made in competing or complementary research.<sup>36</sup> Some portion of health research may simply not translate into any

---

<sup>29</sup> See, eg, Deloitte Access Economics, *Estimating the public and private benefits of higher education* (report commissioned by the Department of Education and Training, 2016) <[https://docs.education.gov.au/system/files/doc/other/dae-det\\_benefits\\_of\\_higher\\_education\\_final\\_report.pdf](https://docs.education.gov.au/system/files/doc/other/dae-det_benefits_of_higher_education_final_report.pdf)>.

<sup>30</sup> R Johnston, 'Research impact quantification' (1995) 34 *Scientometrics* 415.

<sup>31</sup> *Ibid.*

<sup>32</sup> S Deeming et al, 'Measuring research impact in Australia's medical research institutes: a scoping literature review of the objectives for and an assessment of the capabilities of research impact assessment frameworks' (2017) 15(22) *Health Research Policy and Systems* 1.

<sup>33</sup> *Ibid.*

<sup>34</sup> M Buxton and S Hanney, 'How can payback from health services research be assessed?' (1996) 1(1) *Journal of Health Services Research Policy* 35.

<sup>35</sup> Stephen R Hanney et al, 'How long does biomedical research take? Studying the time taken between biomedical and health research and its translation into products, policy and practice' (2015) 13 *Health Research Policy & Systems* 1.

<sup>36</sup> Trisha Greenhalgh et al, 'Research impact: a narrative review' (2016) 14 *BMC Medicine* 78.

Commercial-in-confidence

impacts for health delivery or human health at its time of publication, or may even be **negative**.<sup>37</sup> This can reduce the robustness of simplifying assumptions which are often required to identify the health improvements which can be attributed to a specific piece of research.

More fundamentally, there is a lack of consensus as to the nature and definition of health research impacts. In a recent survey of medical research institutes in Australia, Deeming et al (2018) found that few could provide a formally referenced definition of research impact, research translation or knowledge translation.<sup>38</sup>

---

<sup>37</sup> See, eg, Ramanathan et al, 'Encouraging translation and assessing impact of the Centre for Research Excellence in Integrated Quality Improvement: rationale and protocol for a research impact assessment' (2017) 7 *BMJ Open* 1.

<sup>38</sup> Simon Deeming et al, 'Measuring research impact in medical research institutes: a qualitative study of the attitudes and opinions of Australian medical research institutes towards research impact assessment frameworks' (2018) 16 *Health Research Policy & Systems* 28, 34.

# 2 Methodology



## 2.1 Scope and period of analysis

There are a number of ways in which the economic contribution of the LICRC and former CRCs may be quantified and assessed. Measurement of research value in this context is challenging as research impacts are inherently dispersed. For the purposes of this analysis a conceptual framework was first developed to articulate how various impacts are expected to be achieved from research activity. Then, a mixed-methods approach was employed to understand the nature and magnitude of these impacts.

The analysis is retrospective in nature, focusing on the LICRC and former CRC's inputs, activities and outputs that occurred in the past.

The initial project scope was to determine the impact of the LICRC and former CRCs from 1997 onwards. However, due to the availability of the data, this report focuses primarily on the last two CRCs (the LICRC and CRCATSIH) (that is the years between 2010 and 2019 inclusive). Recognising that the impact of the recent CRCs builds on the work and legacy of the preceding CRCs, the report will acknowledge the achievements in the earlier years whenever possible.

The remainder of this section summarises how the project methodology was developed, outlining:

- The conceptual framework guiding this study
- Research methods
- Approaches to monetisation of selected impacts.

## 2.2 Conceptual framework guiding the impact analysis

### 2.2.1 Lowitja Institute KT and Research Impact Logic Model

The starting point for the development of the conceptual framework was the Lowitja Institute KT and Research Impact Logic Model (Impact Logic Model) (see Appendix A). The Impact Logic Model outlines the Institute's priorities, and describes how its inputs, activities and outputs translate to outcomes and impact. It also lists examples of potential indicators (the Impact Measures) which could capture the Institute's progress in achieving impact.

The Impact Measures were developed from the Lowitja Institute Aboriginal and Torres Strait Islander Child Health Impact Study in 2018 which reviewed over 20-years of the LICRC and former CRC's child health research projects and assessed the impacts of projects conducted between 2000 and 2018. The project initially drew on the ARC's Research Impact Pathway Table<sup>39</sup>; however, several limitations were identified, including the absence of measures to reflect best practice in Aboriginal and Torres Strait Islander health research. As such, the project team developed modified measures which incorporated Aboriginal and Torres Strait Islander health research principles drawing on several resources. The Impact Measures were reviewed by Lowitja Institute's Research Advisory Committee and other stakeholders and underwent several iterations based on the feedback received.

### 2.2.2 Revisions made to the Lowitja Institute KT and Research Impact Logic Model

For the purposes of establishing clearer causal links, the original Impact Logic Model re-organised to make distinctions between the different types of activity:

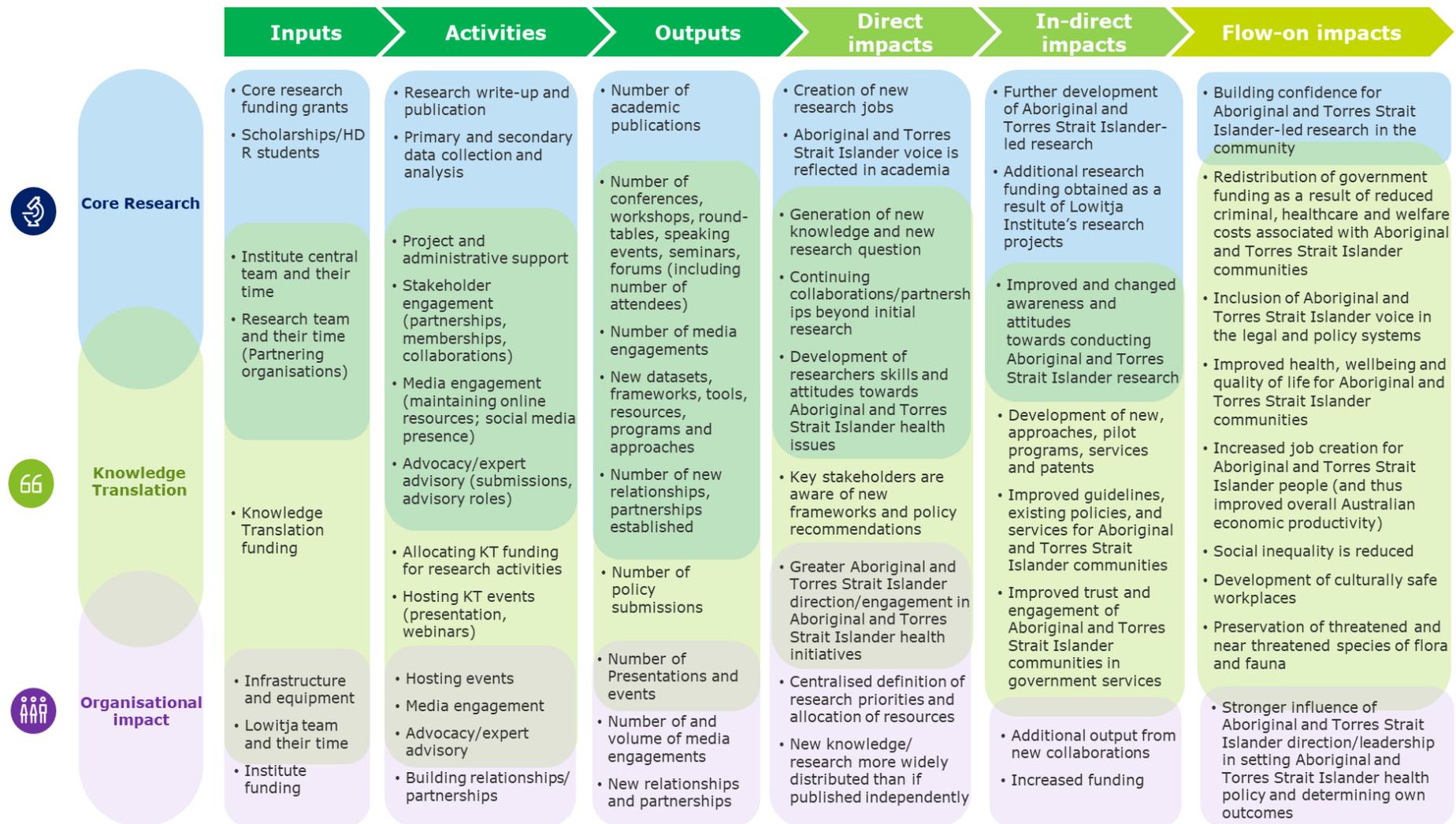
- Core research
- Knowledge translation
- Organisational impact.

The revised Impact Logic Model Measures are presented in Figure 2.1.

---

<sup>39</sup> Australian Research Council. 2019. *Research Impact Principles and Framework*. Retrieved from: <https://www.arc.gov.au/policies-strategies/strategy/research-impact-principles-framework> [Accessed 16/07/2020]

Figure 2.1 Revised Impact Logic Model



Source: Deloitte Access Economics (2008) based on Lowitja Institute (see Appendix A)

Commercial-in-confidence

Timeframes over which impact is achieved vary a lot depending on the nature of a project. Rather than using categories based on time (i.e. short-term (<12 months), mid-term (1-5 years) and long term (>5 years)), impacts were grouped in the following way:

- Direct impacts – changes in awareness of producers (e.g. researchers) and consumers (e.g. healthcare providers) of the Institute's research output. These changes tend to be of more academic nature
- Indirect impacts – changes in behaviours and decision-making resulting from the increased awareness
- Flow-on impacts – changes in social and economic outcomes of Aboriginal and Torres Strait Islander peoples as a result of changes in behaviours and decision-making.

It should be noted that majority of projects in the scope of this analysis were not able to utilise the Impact Logic Model in their reporting, as it has been developed relatively recently. As such, full assessments of projects' overall costs and benefits against the Impact Logic were not available.

### 2.2.3 Canadian Academy of Health Sciences Framework

Additional categorisation was required to organise the analysis of research impacts associated with the Institute. This study adopted the impact categories based on the Canadian Academy of Health Sciences Framework CAHS Framework – the most widely used adaption of the Payback Framework.<sup>40</sup>

The five categories of impact incorporated in the CAHS Framework, and assessed in this study, include:

- Advancing knowledge (research quality, activity, outreach and structure)
- Capacity-building (developing researchers and research infrastructure)
- Informing decision-making (decisions about health and healthcare)
- Health impacts (health status and determinants of health)
- Economic and social benefits (commercialisation, cultural outcomes and socioeconomic implications).<sup>41</sup>

This represents a hybrid approach similar to that taken by models such as the Framework to Assess the Impact from Translational health research (FAIT).<sup>42</sup>

### 2.2.4 Adopted conceptual framework

The resulting conceptual framework (see Figure 2.2) adopted for the purposes of this analysis was based on the Impact Logic Model and extended by applying the categorisation of impacts in the CAHS Framework. The framework was further tested and validated throughout the analysis of qualitative data.

The five categories of impact as defined by the CAHS Framework remain the same. However, the detailed impacts listed under each category were tailored to how the Institute as an organisation meets its objectives, and how it works with its stakeholders.

In addition, there are seven key principles that underpin the methodology, based on principles typically used for similar analyses:<sup>43</sup>

1. **Involve stakeholders:** Deloitte Access Economics worked in a close partnership with the Institute and consulted stakeholders where appropriate.

---

<sup>40</sup> Trisha Greenhalgh et al, 'Research impact: a narrative review' (2016) 14 *BMC Medicine* 78.

<sup>41</sup> Canadian Academy of Health Sciences, *Making an impact: a preferred framework and indicators to measure returns on investment in health research* (January 2009) <[https://www.caahs-acss.ca/wp-content/uploads/2011/09/ROI\\_FullReport.pdf](https://www.caahs-acss.ca/wp-content/uploads/2011/09/ROI_FullReport.pdf)>.

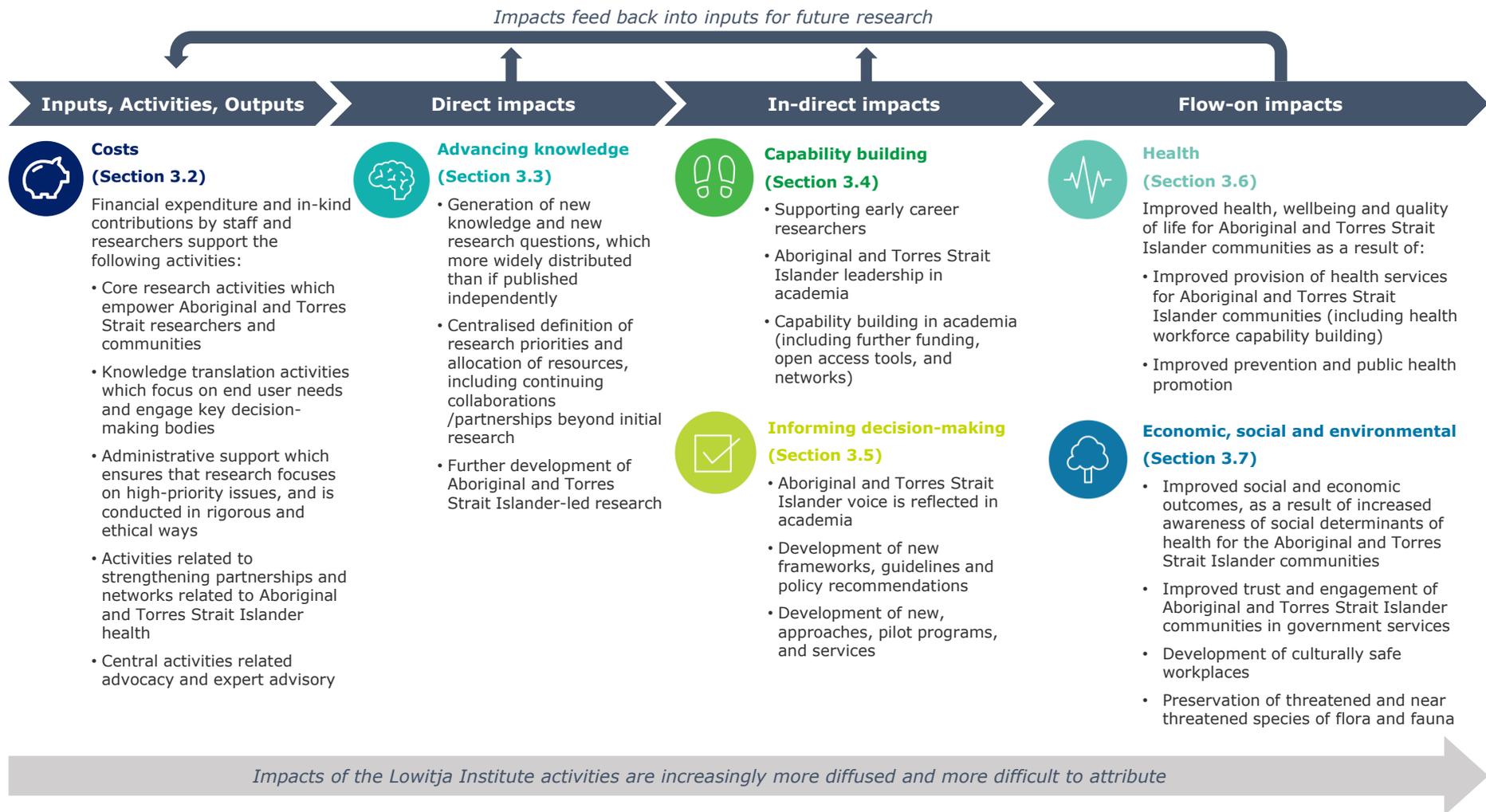
<sup>42</sup> Andrew Searles et al, 'An approach to measuring and encouraging research translation and research impact' (2016) 14 *Health Research Policy and Systems* 60.

<sup>43</sup> Social Value UK (2015) *The Guide to Social Return on Investment* <<http://www.socialvalueuk.org/app/uploads/2016/03/The%20Guide%20to%20Social%20Return%20on%20Investment%202015.pdf>>.

Commercial-in-confidence

2. **Understand what changes:** The measurement of impact was underpinned by careful considerations of the attribution of impact.
3. **Value the things that matter:** The methodology focused on the issues that are central to the Institute's mission.
4. **Only include what is material:** Judgements about what is material were agreed with the Institute and documented.
5. **Do not over-claim:** The analysis will present the conservative view of what the value of the Institute's impact might be.
6. **Be transparent:** all underlying assumptions and calculations will be clearly documented to ensure that stakeholders have full transparency on the approach.
7. **Verify the result:** As much as possible, different data sources will be triangulated to verify the results and ensure rigour.

Figure 2.2 Conceptual framework adopted for the purposes of this analysis.



## 2.3 Research methods

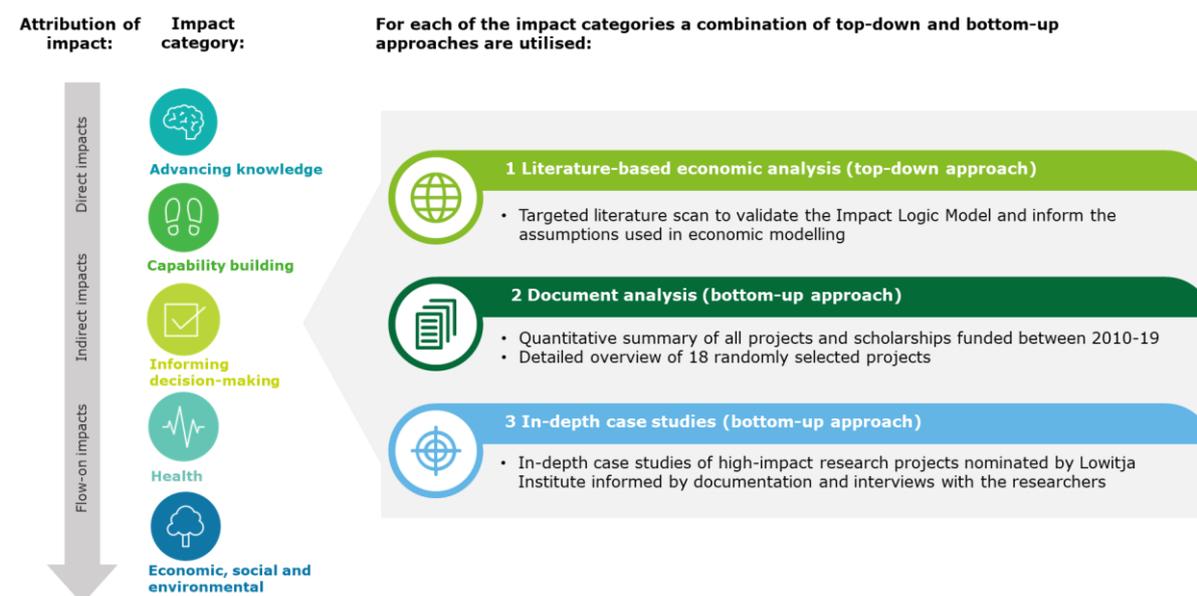
### 2.3.1 Impact analysis

Traditional assessments of research impact which rely primarily on economic metrics and financial proxies fail to capture many important impacts that are at the heart of the Institute’s mission, such as reflecting the voice of the Aboriginal and Torres Strait Islander communities in research. As such, this study employed a multi-method approach to capture the breadth and scale of the impacts, as well as to develop an in-depth understanding of how the diverse impacts are achieved.

As illustrated in Figure 2.3, the analysis is organised around the five impact areas and draws on:

- Evidence obtained through a targeted literature review which validates the Impact Logic and informs assumptions used in the estimations of impact
- Analysis of documentation, obtained through the LICRC annual reports, an online Sharepoint database, and CRC exit reports, available on the CRC funded projects, including:
  - A quantitative summary of all projects commissioned between 2010-19
  - A quantitative summary of all scholarships awarded between 2010-19
  - A document analysis of 18 randomly selected projects funded through the last two CRCs (between 2010-19)
- In-depth case studies of a purposefully selected sample of high-impact projects, including:
  - A detailed analysis of the documentation available about the nominated project
  - A consultation with the lead researcher to validate the case study.

Figure 2.3 Research methods used in the analysis



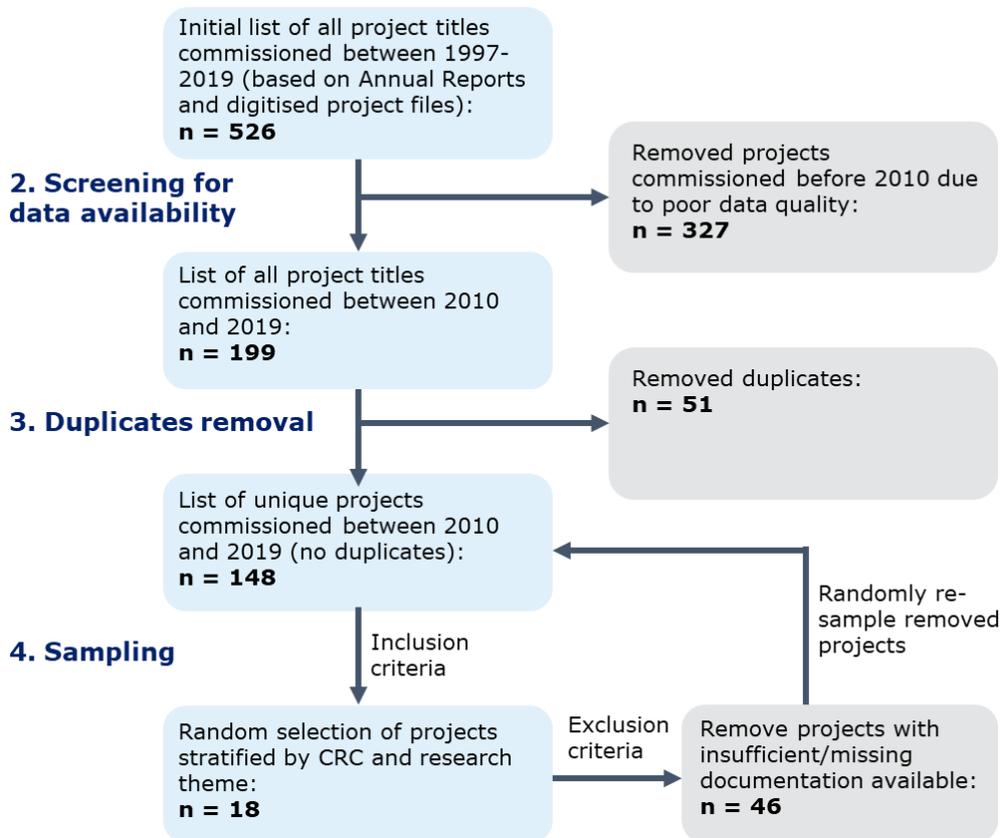
### 2.3.2 Sampling approach for the document analysis

The purpose of the document analysis of a random sample of CRC-funded projects was to obtain a representative overview of the types of impacts resulting from the LICRC and former CRC’s research.

The initial identification of all projects supported by the LICRC and the former CRCs was based on CRC Annual Reports and digitised project files. Over 526 project titles were identified (this is not equal to the number of unique projects as it includes duplicates and in-kind projects). Due to availability of documentation, only the last two CRCs were included in the analysis period. After removing duplicates, 148 unique projects were identified between 2010 and 2019.

Figure 2.4 Overview of identification, screening and sampling process

### 1. Identification



Note: The exact number of projects reported in this Figure may vary from the totals presented in Annual Reports.

Source: Deloitte Access Economics (2020).

The sample of projects selected comprised a total of 18 CRC-funded projects stratified by the topic of the research. It therefore represents over 12 per cent of all projects supported by the Institute between 2010 and 2019. The following inclusion and exclusion criteria were used to arrive to final 18 projects for the document review:

#### Inclusion criteria:

- CRCATSIH 2010-14 - nine projects selected stratified by the following research topic category (three projects selected from each):
  - Informing decision-making
  - Health
  - Economic, social and environment.
- The LICRC 2014-19 - nine projects selected stratified by the following research topic category (three projects selected from each):
  - Informing decision-making
  - Health
  - Economic, social and environment.

#### Exclusion criteria:

Commercial-in-confidence

Randomly selected projects were excluded and re-sampled if a project documentation was missing or insufficient (missing key financial information and/or documents which include researcher's description of impact). The resulting sample is listed in Appendix B.

- CRCATSIH 2010-14
  - 45 projects excluded in the process of selection
    - 35 excluded due to missing documentation
    - 10 excluded due to insufficient documentation.

A high number of projects with missing documentation was partially driven by one CRC theme 'Healthy Start, Healthy Life' being excluded from the assessment due to poor data quality (24 projects).

- LICRC 2014-19
  - 1 project excluded in the process of selection due to missing documentation.

The random sample of the research projects represents six per cent of CRCATSIH expenditure, and approximately 10 per cent of the LICRC expenditure.

## 2.4 Monetisation of impacts

Following careful consideration and research, it was determined that the monetisation of impacts in this study would be limited to two valuation models which consider the financial value of the:

- Market benefits from the LICRC and CRCATSIH's scholarships awarded to post-graduate students, and
- Health impacts as a result of the Institute's research activity.

### 2.4.1 Private and public returns to education

In understanding value of social return of higher education, the first measure is the wage premium for those with a post-graduate qualification in health (other than medical). This measure of wage gains is relative to those who enter the labour market with a bachelor qualification.

Wages vary over an individual's career, so net present value (NPV) calculations are used to represent a series of wages over time in a single figure. In addition, building on past Deloitte Access Economics work<sup>44</sup>, public benefits to the Australian economy are also estimated. Further considerations and specific assumptions are covered in Section 3.4.2.

### 2.4.2 Attribution of improvements in health outcomes to research

Building on past work conducted by Access Economics (2003), this study estimated the value of increased health gains for Aboriginal and Torres Strait Islander peoples and placed a dollar value on these gains using the concept of the value of a statistical life (VSL). Only a proportion of these gains could be attributed to the LICRC and former CRCs-funded research, so the analysis depended critically on three parameters, including the proportion of gains attributable to:

- Health research rather than other factors, such as improvements in environmental factors (for example, education) or health service provision
- Australian health research rather than health research from overseas
- The LICRC and CRCATSIH research as opposed to Australian health research.

It is noted that there is no consensus in literature on the appropriate approach to attribution in such top-down analysis. While the proposed method follows established conceptual models, the measurement of value in this context remains challenging and is premised on assumptions which are explored further in Section 3.6.2.

---

<sup>44</sup> Deloitte Access Economics, *Estimating the public and private benefits of higher education* (2017)  
<<https://docs.education.gov.au/documents/estimating-public-and-private-benefits-higher-education>>

# 3 Impact findings



### 3.1 Section overview and key findings

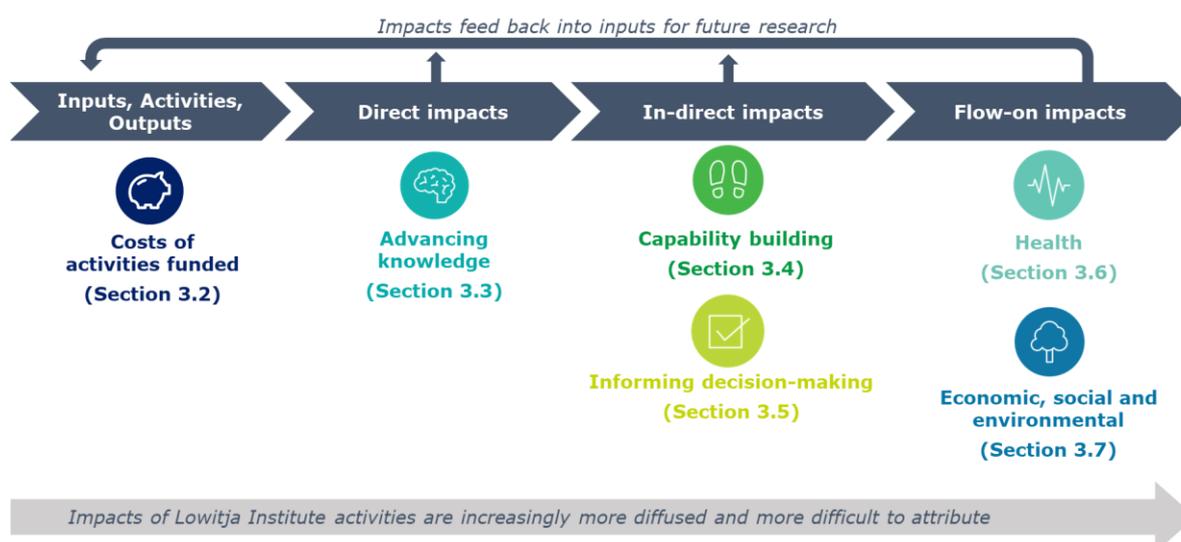
This section relates to the second objective of the analysis, that is:

**Objective 2. Impact analysis:** to undertake the economic and social impact analysis of the LICRC and former CRCs over the last two decades (i.e. 1997-2019 inclusive)

Due to limited quality and availability of data, this report, and in particular the impact analysis, focuses primarily on the last two CRCs (the LICRC and CRCATSIH) (that is the years between 2010 and June 2019 inclusive). However, recognising that the impact of the more recent activity builds on the work and legacy of the preceding CRCs, the report will acknowledge the achievements in the earlier years whenever possible.

The section presents findings the impact analysis, drawing on the literature, documentation review and in-depth case studies. The findings are organised by the impact categories outlined in Figure 3.1.

Figure 3.1 Mapping of the report sections to the conceptual framework.



Source: Deloitte Access Economics (2020)

#### Key findings:

##### *Costs of activities funded*

- The LICRC and CRCATSIH supported 148 health research projects from 2010 to 2019.
- The Institute represents approximately 0.1 per cent of the total spending on health research in Australia, and approximately 5.4 per cent of the total spending on Aboriginal and Torres Strait Islander-specific research.
- The Institute’s total real expenditure for the period between FY2010 and FY2019 amounted to \$55.6 million (\$FY19 inflation adjusted).
- On average 69 per cent of the Institute’s spending contributes directly to research activities (including Knowledge Translation activities).

##### *Impact: Advancing knowledge*

- The LICRC and CRCATSIH’s research projects generated new ways of thinking and addressed knowledge gaps through genuine inclusion of Aboriginal and Torres Strait Islander peoples’ perspectives, inquiry and agency.
- Between 2010 and 2019, the LICRC and CRCATSIH published 70 peer-reviewed articles, and over 130 other materials including reports, factsheets and videos.

- By bringing different research partners together in collaborative projects and co-authored publications, the Institute serves as a professional community.
- Across the two CRC periods, the University of Melbourne, Flinders University and Menzies School of Health Research were the top three administering institutions partnering with the Institute.
- In 2014-19, of the 41 projects commissioned by the LICRC, 10 research project investigators subsequently received grants from the National Health and Medical Research Council (NHMRC) and the Australia Research Council (ARC) to develop their research further.

*Impact: Capability building*

- Since 2010, the Institute funded 28 scholarships for Masters and Doctoral degrees, and co-funded additional 11 scholarships. Of the 28 scholars, 19 identified as Aboriginal and/or Torres Strait Islander.
- The lifetime earnings premium accrued by the Institute scholarship students funded between 2010 and 2019 is estimated at \$1.579 million. This results in a return on investment ratio of 0.78 meaning that for every \$1 invested by the Institute in funding health research scholarships, \$0.78 is returned in additional private earnings to Australia's health research workforce. This indicates that funding postgraduate scholarships does not generate a net financial benefit as measured by private earnings alone.
- The scholarships funded by the Institute are further estimated to return \$1.517 million in additional public benefits to Australia's economy (e.g. through taxes and increased productivity). Using these results, return on investment ratio of both public and private benefits from scholarships is 1.52 — meaning that for every \$1 invested by the Institute in funding health research scholarships, \$1.52 is returned in additional private earnings and in economic growth to Australia's economy.
- Between 2000 and 2019, 33 students supported by the Institute (one in four scholarship students) have gone on to later lead research projects funded by the Institute. This included at least eight Aboriginal and/or Torres Strait Islander scholarship students
- All of the 41 projects funded by the LICRC between 2014 and 2019 included Aboriginal and/or Torres Strait Islander researchers and staff
- Between 2014 and 2019, 68 per cent of projects supported by the LICRC were led by Aboriginal and/or Torres Strait Islander researchers. By comparison, while 546 NHMRC projects investigated Aboriginal and Torres Strait Islander health issues, only 50 were led by an Aboriginal and/or Torres Strait Islander researcher between 2010 and 2016, (representing less than 10 per cent).
- The Institute's publicly available resources, such as the Lit.Search and the EthicsHub, support individuals and organisations conducting and participating in culturally appropriate Aboriginal and Torres Strait Islander health research.
- By acting as a central body and bringing together a range of different health research institutes and universities from across Australia, the Institute may enable greater productivity in Aboriginal and Torres Strait Islander health academia.

*Impact: Informing decision-making*

- Projects commissioned by the LICRC and former CRCs utilise community engagement as an input in all stages of the research process — from collaborative planning and design of research methods, to project governance, and reporting results back to communities.
- Many projects supported by the LICRC and former CRCs are also designed and implemented in partnership with Aboriginal Community Control Health Services (ACCHS).
- The Institute contributes to the shaping of public health guidelines and policy in Australia through the publication of targeted policy documents such as policy briefs and submissions.
- The Institute also contributes to the public discourse on Aboriginal and Torres Strait Islander peoples' health policy through a range of public presentations, advocacy and

memberships in policy groups and committees. Key examples include the Closing the Gap Steering Group, and the National Health Leadership Forum.

- Projects supported by the LICRC and former CRCs resulted in the creation of new representative and community healthcare bodies, such as the first known Torres Strait Islander Researchers' Community of Practice (CoP) and knowledge mobilisation network.

#### *Impact: Health*

- Over time, the Institute has moved away from biomedical research and opted for projects centred on social and emotional wellbeing and understanding the social determinants of health. Of the 148 research projects that the Institute has commissioned, 28 per cent (n=41) projects have been mapped to the theme social determinants of health. Other major topics addressed by the Institute include health conditions, such as lung cancer and renal disease, and family and community health, including women's and early childhood health.
- The Institute's exact contribution to improved health of the Aboriginal and Torres Strait Islander peoples is difficult to isolate from a number of other factors that influence health outcomes. Moreover, there is not a single, commonly accepted method to enable retrospective attribution of health gains to non-clinical research. However, a proposed estimate suggests that the total value of impact on health attributable to the LICRC and CRCATSIH's activity between 2010 and 2019 is likely to be at least \$49.9 million (with sensitivity analysis providing a range between \$29.9 million and \$69.8 million).
- Examples of direct impact of the Institute's projects on service provision included:
  - Identifying strategies to address workforce challenges faced by Aboriginal and Torres Strait Islander primary care services such as staffing levels, retention and turnover
  - Recommendations for better acceptance of the National Disability Insurance Scheme by Aboriginal and Torres Strait Islander people living with disabilities and their families
  - Improving cultural sensitivity in acute health care institutions.
- The Institute publishes a range of material in several mediums to increase the awareness and accessibility of its research findings.

#### *Impact: Economic, social and environmental*

- Social and physical environmental factors can explain up to 34 per cent of the health outcome disparity between Aboriginal and Torres Strait Islander and non-Indigenous Australians.
- In the last 10 years, the LICRC and former CRCs' research projects have concentrated on addressing factors influencing social determinants of health such as underlying health conditions to geographic remoteness.
- Projects supported by the LICRC and former CRCs contributed to building long-standing relationships between the communities and government services such as the National Disability Insurance Scheme (NDIS).
- The LICRC and former CRCs' research projects recognise the importance of Aboriginal and Torres Strait Islander people having a strong connection to 'Country', the relationship and function between non-living and living in the environment.
- The diversity of bush resources is decreasing which has a detrimental impact on the health, wellbeing and culture of Aboriginal and Torres Strait Islander people. The Institute supports projects which educate the community about environmental issues that may impact Aboriginal and/or Torres Strait Islander peoples' way of living.
- Creating safe and culturally responsible workplaces is essential to providing care and services to Aboriginal and Torres Strait Islander peoples.
- The Institute has been involved in projects which have sought to increase the cultural safety and understanding of Aboriginal and Torres Strait Islander cultures in health service delivery.

The following sections discuss the findings in further detail.

## 3.2 Costs of activities funded

This section presents the costs of CRC programs and other activities as reported in the Institute's annual reports.

### 3.2.1 Activities funded

The Institute contributes to knowledge generation in the field of Aboriginal and Torres Strait Islander health by commissioning research activity and partnering with other researchers.

The Institute has supported a total of 148 health research projects (including in-kind projects) across the two CRCs from 2010 to 2019 (see Table 3.1).

Table 3.1 Number of the Institute's research projects and total research funding 2010-19, (\$FY19 inflation adjusted)

CRC period	Number of research projects	Research funding
CRCATSIH (2010-14)	79 CRCATSIH projects 6 in-kind projects	\$10,122,659.80
The LICRC (2014-19)	52 the LICRC projects 11-in kind projects	\$16,354,353 (inclusive of \$1,194,596 invested for knowledge translation)
<b>Total (2010-19)</b>	<b>131 CRC projects</b> <b>17 in-kind projects</b>	<b>\$26,477,012.80</b>

Source: Deloitte Access Economics using data from Lowitja Institute online database, CRC exit report 2019 and Deloitte Access Economics (2015).<sup>45</sup>

Note: The total number of research projects were extracted and collated from an online Sharepoint database. It is possible that the database does not include scanned documentation of all research projects commissioned by Lowitja Institute. A comparison between the reported number of commissioned research projects between the database and the LICRC exit reports can be found in Appendix C.

Between 2010 and 2014, CRCATSIH provided support to 85 (inclusive of six in-kind) research projects. In December 2012, CRCATSIH awarded grants with a total investment of \$1.1 million to fast-track research projects which contributed to research and capacity building. In the following CRC, the LICRC commissioned 63 (inclusive of 11 in-kind) research projects with a total value of \$16.4 million, as demonstrated in Table 3.1.

The Institute represents approximately 0.1 per cent of the total spending on health research in Australia<sup>46</sup> and the LICRC represents approximately 5.4 per cent of the total spending on Aboriginal and Torres Strait Islander-specific research.<sup>47</sup> In 2017, the NHMRC spent 6.2 per cent (\$49,744,693)

<sup>45</sup> Deloitte Access economics (DAE), *Recommendations for update of the Cooperative Research Centre for Aboriginal and Torres Strait Islander Health benefit cost ratio calculation: The Lowitja Institute* (2015).

<sup>46</sup> Based on the average annual expenditure of Lowitja Institute between 2014-19 (\$5.9 M) and an estimate of total spending on health research in Australia in FY 2017 by AIHW (\$5.8 B) < <https://www.aihw.gov.au/getmedia/91e1dc31-b09a-41a2-bf9f-8deb2a3d7485/aihw-hwe-77-25092019.pdf.aspx>>

<sup>47</sup> There is some uncertainty with regards to estimating the total spending on Aboriginal and Torres Strait Islander research in Australia. This estimate was based on the total ARC and NHMRC Aboriginal and Torres Strait Islander-health related research expenditure between 2015-19 (\$288.5 M) and the LICRC's total research funding between 2015-19 (\$16.4 M) < <https://www.nhmrc.gov.au/funding/data-research/research-funding-statistics-and-data>> < <https://www.arc.gov.au/policies-strategies/policy/aboriginal-and-torres-strait-islander-researchers>>.

Commercial-in-confidence

of medical research investment on Aboriginal and Torres Strait Islander research, exceeding their set target of spending five per cent on Aboriginal and Torres Strait Islander health.<sup>48</sup>

In the same year, the ARC awarded 1.1 per cent (\$4,634,891) of funding to Aboriginal and Torres Strait Islander researchers.<sup>49</sup> The total funding towards Aboriginal and Torres Strait Islander health from the LICRC, NHMRC and ARC broken down from 2014 to 2019 is shown in Table 3.2.

Table 3.2 Annual research expenditure towards Aboriginal and Torres Strait Islander Health, 2014-19

	<b>The LICRC</b>	<b>NHMRC</b>	<b>ARC</b>	<b>Total</b>	<b>The LICRC per cent of total</b>
<b>2015</b>	\$3.1M	\$55.8M	\$4.4M	\$63.3M	4.9%
<b>2016</b>	\$1.6M	\$51.7M	\$4.1M	\$57.4M	2.8%
<b>2017</b>	\$4.8M	\$49.6M	\$4.6M	\$59.0M	8.1%
<b>2018</b>	\$2.3M	\$50.0M	\$7.2M	\$59.5M	3.9%
<b>2019</b>	\$4.6M	\$54.4M	\$6.7M	\$65.7M	7.0%

Source: Lowitja Institute annual reports (2015-19), NHMRC Aboriginal and Torres Strait Islander Health (2020) and ARC Aboriginal and Torres Strait Islander Researchers and Research (2020).

Note: Lowitja Institute expenditure was extracted from the Institute's annual reports and include the LICRC spending. NHMRC and ARC expenditure is based on a yearly breakdown attributed to Aboriginal and Torres Islander Health. The NHMRC and ARC total expenditure may not include top-up funding towards Aboriginal and Torres Islander Health.

### 3.2.2 Organisational expenditure

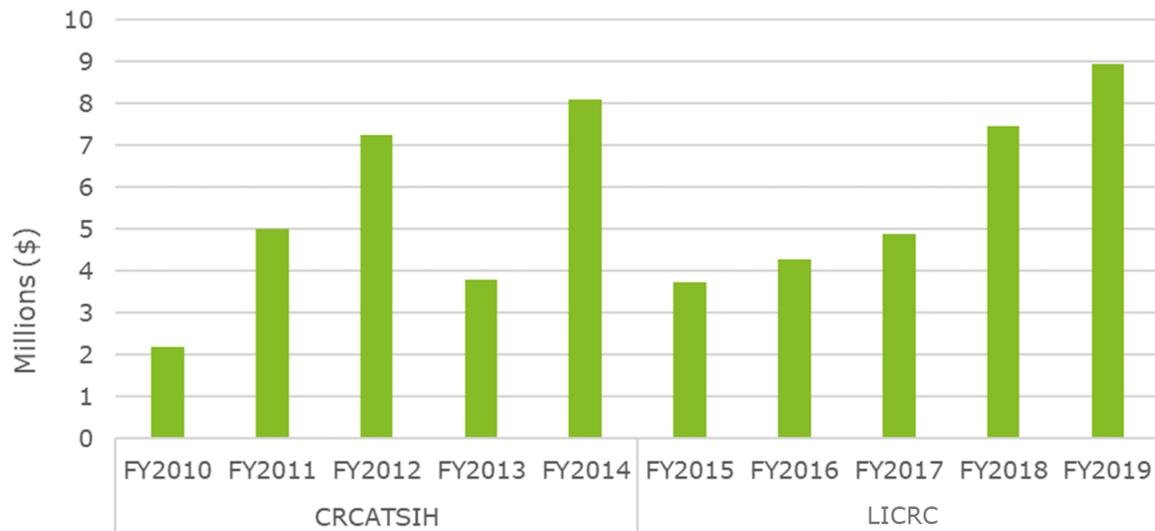
The Institute's total real expenditure for the period between FY2010 and FY2019 amounted to \$55.6 million (\$FY19 inflation adjusted). The variability in spending between years is largely driven by the CRC project expenditure typically being administered towards the end of the CRC period.

<sup>48</sup> NHMRC, *Aboriginal and Torres Strait Islander health* (2020) <[https://www.nhmrc.gov.au/health-advice/aboriginal-and-torres-strait-islander-health#:~:text=Aboriginal%20and%20Torres%20Strait%20Islander%20Health%20Research%20Snapshots,in to%20Indigenous%20Health%20\(2002\)>](https://www.nhmrc.gov.au/health-advice/aboriginal-and-torres-strait-islander-health#:~:text=Aboriginal%20and%20Torres%20Strait%20Islander%20Health%20Research%20Snapshots,in to%20Indigenous%20Health%20(2002)>).

<sup>49</sup> Australian Research Council (ARC), *Aboriginal and Torres Strait Islander Researchers and Research* (24 March 2020) <<https://www.arc.gov.au/policies-strategies/policy/aboriginal-and-torres-strait-islander-researchers>>.

Commercial-in-confidence

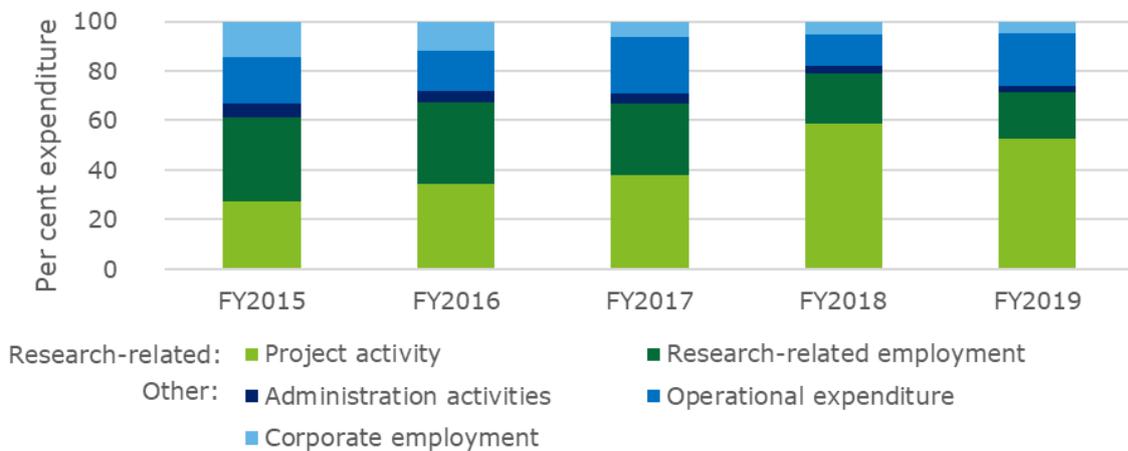
Chart 3.1 The Institute total expenditure, 2010-19 (\$FY19 inflation adjusted)



Source: Deloitte Access Economics (2020) based on Lowitja Institute annual reports.

Based on a detailed breakdown of the expenditure by activity available for the last five years, on average 69 per cent of the Institute’s spending contributes directly to research-related activities – research-related employment and project activity (which includes the LICRC funding and funding for knowledge translation activities) (see Chart 3.2).

Chart 3.2 The Institute’s expenditure breakdown by activity, 2015-19

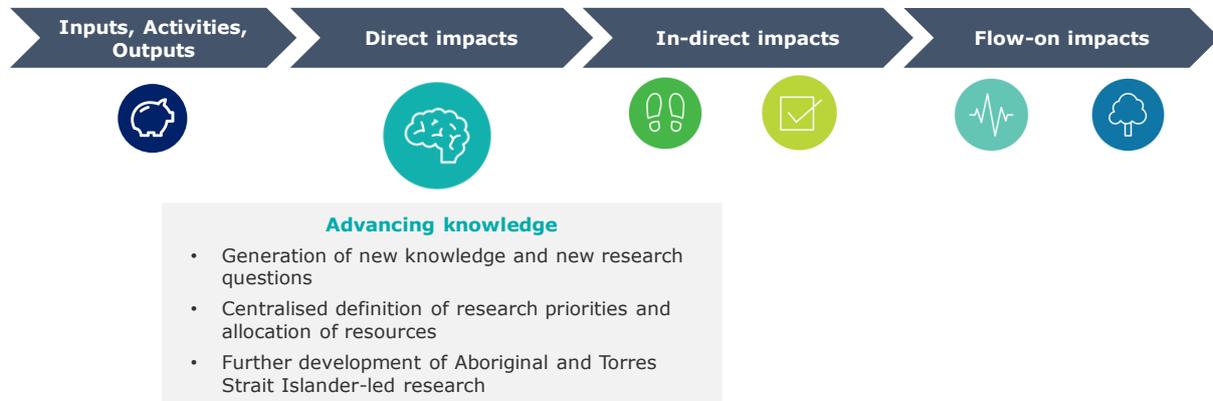


Source: Lowitja Institute annual reports.

### 3.3 Impact: Advancing knowledge

Research associated with effective knowledge translation and meaningful impact are at the centre of the Institute’s operations.

Figure 3.2 Key impact areas identified under the ‘Advancing knowledge’ impact category



Source: Deloitte Access Economics (2020)

#### 3.3.2 Generation of new knowledge and new research questions

##### Research volume

One common indicator used for assessing the magnitude of knowledge generation is the volume of research activity performed. The volume of the Institute’s research activity can be measured by the Institute’s publication counts.<sup>50</sup> Project leaders inform the Institute of their publications on a self-reporting basis.

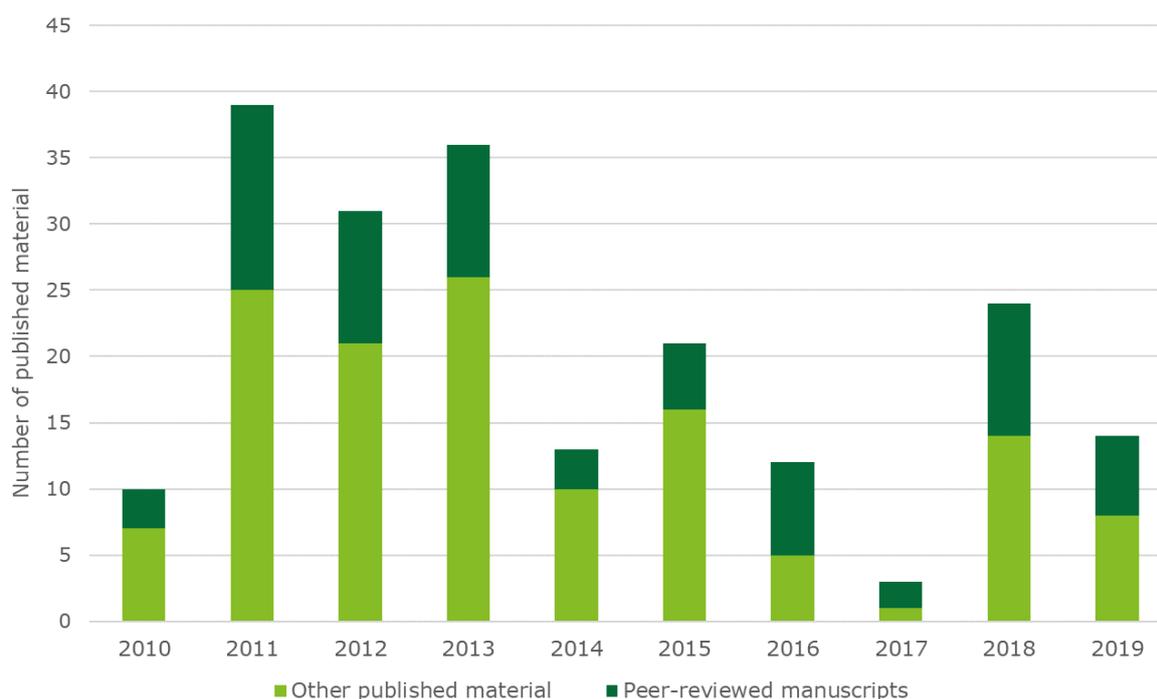
Chart 3.3 demonstrates the number of peer reviewed manuscripts compared to the total number of published materials by the Institute.<sup>51</sup> Between 2010 and 2019, the Institute published 70 peer-reviewed manuscripts, and over 130 other materials including reports, factsheets and videos. The frequencies clearly indicate that a large proportion of material are not published in peer-reviewed journals.

<sup>50</sup> Canadian Academy of Health Sciences, *Making an impact: a preferred framework and indicators to measure returns on investment in health research* (January 2009) <[https://www.caahs-acss.ca/wp-content/uploads/2011/09/ROI\\_FullReport.pdf](https://www.caahs-acss.ca/wp-content/uploads/2011/09/ROI_FullReport.pdf)>.

<sup>51</sup> Based on Lowitja Institute’s 2019 and 2014 exit reports publication list section.

Commercial-in-confidence

Chart 3.3 Number of peer review manuscripts and total published material, 2010-19.



Source: CRC exit report 2014 and CRC exit report 2019.

It is possible that not all peer-review publications that the Institute has funded has been captured in their annual reports and therefore the totals reported here may underestimate the true count. Calculating the proportion of articles published per research project, or per researcher employed, can also provide a means of assessing the volume of knowledge generation by the Institute relative to other research institutes or bodies.<sup>52</sup>

Literature suggest that peer-reviewed articles are often written in a dense manner and in a language tailored to other expert academics in the same research area.<sup>53</sup> On the contrary, researchers and organisations that partner with the Institute are explicitly encouraged to focus on giving back to the community by publishing their research findings in an accessible way. This often means making language simple and plain, or delivering findings through platforms such as video, which allows for better reach with the audience. The Institute provides dedicated KT funding to research projects which supports implementation of KT Plans to ensure tailored dissemination of research findings to end-users (often with a community-focus). This explains why a high number of published materials resulting from the LICRC and CRCATSIH projects are not peer-reviewed manuscripts.

**Citation metrics**

Another method for measuring the reach and dissemination of knowledge generated by the Institute is using citation metrics.

<sup>52</sup> S Hanney et al, 'An assessment of the impact of the NHS Health Technology Assessment Programme' (2007) 11(53) *Health Technology Assessment* 1.

<sup>53</sup> Sarah Flicker and Stephanie Nixon, 'Writing peer-reviewed articles with diverse teams: considerations for novice scholars conducting community-engaged research' 33(1) *Health Promotion International*, 152.

Table 3.3 Top 10 articles attributed to the Institute and former CRCs by the number of citations

Citations	Article Reference
489	Reményi B, Wilson N, Steer A, et al. World Heart Federation criteria for echocardiographic diagnosis of rheumatic heart disease--an evidence-based guideline. <i>Nat Rev Cardiol</i> . 2012;9(5):297-309. Published 2012 Feb 28. <a href="https://doi.org/10.1038/nrcardio.2012.7">https://doi.org/10.1038/nrcardio.2012.7</a>
398	Anderson, I., Robson, B., Connolly, M., Al-Yaman, F., Bjertness, E., King, A., ... Yap, L. (2016). Indigenous and tribal peoples' health (The Lancet–Lowitja Institute Global Collaboration): a population study. <i>The Lancet</i> . <a href="https://doi.org/10.1016/S0140-6736(16)00345-7">https://doi.org/10.1016/S0140-6736(16)00345-7</a>
206	Vos T, Carter R, Barendregt J, Mihalopoulos C, Veerman JL, Magnus A, Cobiac L, Bertram MY, Wallace AL, ACE–Prevention Team (2010). Assessing Cost-Effectiveness in Prevention (ACE–Prevention): Final Report. University of Queensland, Brisbane and Deakin University, Melbourne.
156	Nuño R, Coleman K, Bengoa R, Sauto R. Integrated care for chronic conditions: the contribution of the ICC Framework. <i>Health Policy</i> . 2012;105(1):55-64. <a href="https://doi.org/10.1016/j.healthpol.2011.10.006">https://doi.org/10.1016/j.healthpol.2011.10.006</a>
149	Baker, P., Friel, S., Kay, A., Baum, F., Strazdins, L., & Mackean, T. (2018). What Enables and Constrains the Inclusion of the Social Determinants of Health Inequities in Government Policy Agendas? A Narrative Review. <i>International journal of health policy and management</i> , 7(2), 101–111. <a href="https://doi.org/10.15171/ijhpm.2017.130">https://doi.org/10.15171/ijhpm.2017.130</a>
107	Fforde, C., Bamblett, L., Lovett, R., Gorringer, S., & Fogarty, B. (2013). Discourse, Deficit and Identity: Aboriginality, the Race Paradigm and the Language of Representation in Contemporary Australia. <i>Media International Australia</i> , 149(1), 162–173. <a href="https://doi.org/10.1177/1329878X1314900117">https://doi.org/10.1177/1329878X1314900117</a>
95	Priest, N., Paradies, Y., Stewart, P. et al. Racism and health among urban Aboriginal young people. <i>BMC Public Health</i> 11, 568 (2011). <a href="https://doi.org/10.1186/1471-2458-11-568">https://doi.org/10.1186/1471-2458-11-568</a>
87	Laycock, A. F., Walker, D., Harrison, N., & Brands, J. (2011). <i>Researching Indigenous Health: A practical guide for researchers</i> . Lowitja Institute.
83	Gibson, O., Lisy, K., Davy, C., Aromataris, E., Kite, E., Lockwood, C., Riitano, D., McBride, K., & Brown, A. (2015). Enablers and barriers to the implementation of primary health care interventions for Indigenous people with chronic diseases: a systematic review. <i>Implementation science : IS</i> , 10, 71. <a href="https://doi.org/10.1186/s13012-015-0261-x">https://doi.org/10.1186/s13012-015-0261-x</a>
77	Singleton, R. J., Valery, P. C., Morris, P., Byrnes, C. A., Grimwood, K., Redding, G., Torzillo, P. J., McCallum, G., Chikoyak, L., Moberly, C., Holman, R. C., & Chang, A. B. (2014). Indigenous children from three countries with non-cystic fibrosis chronic suppurative lung disease/bronchiectasis. <i>Pediatric pulmonology</i> , 49(2), 189–200. <a href="https://doi.org/10.1002/ppul.22763">https://doi.org/10.1002/ppul.22763</a>

Note: The list of publications was obtained from a simple search of the phrase 'Lowitja Institute' on Google Scholar (as of 21st May 2020). Google Scholar searches openly web accessible resources, collects duplicates as versions, and includes non-English citations. The list is also likely to be incomplete, as not all articles reference Lowitja Institute in their information.

The extent to which peer-reviewed citation metrics are an adequate measure of research impact for Aboriginal and Torres Strait Islander researchers warrants further attention. Researchers who are well-established with larger academic networks and higher academic 'visibility' are more likely to be frequently cited. Aboriginal and Torres Strait Islander researchers have historically been underrepresented in academia and their academic social networks are still emerging. This places them at a disadvantage when assessing their work using citations only.

Commercial-in-confidence

Using this metric as a measure of reach and disseminating of knowledge is biased towards a 'closed' system of researchers with a high count of peer-reviewed manuscripts. It is important to keep in mind these limitations in particular in the context of the Institute's explicit focus on KT which "minimises power dynamics and privileges Aboriginal and Torres Strait Islander perspectives".<sup>54</sup> The Institute and its research partners accomplish significant amount of work outside of a peer review publications (e.g. through community-based research outputs) which is not reflected in traditional citation metrics.

### Addressing knowledge gaps

The Institute's knowledge generation is achieved through partnerships with other organisations and community collaboration to achieve projects that make a difference to Aboriginal and Torres Strait Islander health literature. Importantly, the Institute is run by and for Aboriginal and Torres Strait Islander people, and focuses on capturing perspectives of underrepresented and marginalised communities. The LICRC and former CRCs supported projects in their early stages of development (e.g. as a proof of concept) which often would not otherwise qualify for more traditional research grants.

The Institute has contributed to addressing knowledge gaps through selecting projects which synthesise current knowledge on a topic and highlight best practice with respect to conducting authentic research with and about Aboriginal and Torres Strait Islander peoples.

The Institute's role in advancing knowledge was highlighted in a large systematic review conducted in 2017 to determine how researchers report the impact of their research for Aboriginal and Torres Strait Islander people.<sup>55</sup> The Institute worked with all 21 institutions included in the review, some of which include Closing the Gap Clearinghouse, James Cook University, Monash University and Menzies School of Health Research. Of the 55 journal articles identified by the authors as having mentioned a health-related process such as determinant of health or health promotion, five per cent (n=3) of these were supported by the Institute. This figure aligns closely with the 5.4 per cent finding of the Institute's total spending on Aboriginal and Torres Strait Islander-specific health research.

The *Funding, accountability and results for Aboriginal health services – closing the policy/implementation gap?* project, assessed as part of documentation analysis, is an example of how a review of existing studies can generate new knowledge. The project reviewed previous reforms to primary health care delivery in Aboriginal communities in the Northern Territory (NT) and Queensland. The aim of the project was to identify the underlying barriers and enablers of better policies and programs. The project produced a set of recommendations and enablers of better policies, programs and included recommendations regarding how to effectively implement health policies and programs. Although the project itself did not produce new health knowledge, it did produce valuable insights into health policy by consolidating existing knowledge in a new way, to bridge the gap between policy and implementation.

Another project supported by the LICRC (also part of the documentation analysis) was *Meriba buay - ngalpan wakaythoemamay (We come together to share our thinking): Evaluating a community of practice for Torres Strait Islander health and wellbeing*, the first project to establish a Torres Strait Islander Research CoP. The aim of the project was to enhance social capital through mobilisation of knowledge and resilience initiatives and strategies to address natural environmental concerns relating to Torres Strait Islander people. As a result of the project, a framework was developed to outline both 'what to evaluate' and 'how to evaluate' when facing the threats of climate change. The publication as a result of this project's findings has been mentioned 16 times on Twitter.

The case study presented below provides a detailed example of how the research supported by the Institute contributes to advancing the narrative on often neglected areas of mainstream policy and research.

---

<sup>54</sup> Lowitja Institute, *Knowledge translation* (accessed 27/07/2020) <<https://www.lowitja.org.au/page/research/knowledge-translation>>

<sup>55</sup> Kinchin et al, 'Does Indigenous health research have impact? A systematic review of reviews' (2017) 16(52) *International Journal for Equity in Health* 1.

## Case study: Addressing intersectional issues of Aboriginal and Torres Strait Islander people with disability

**Project:** Wellbeing through cultural participation: An affirmative strategy for the inclusion of Aboriginal and Torres Strait Islander people with a disability

**Project lead consulted:** Dr Scott Avery

### *Knowledge gap*

Aboriginal and Torres Strait Islander peoples experience disability at twice the rate of the Australian non-Indigenous population.<sup>56</sup> Furthermore, Aboriginal and Torres Strait Islander peoples living with disability have increased likelihood of experiencing inequality in their health and social outcomes compared to all other Aboriginal and Torres Strait islanders groups, or the population of people with disability. This intersection between two marginalised groups, identifying as Aboriginal and/or Torres Strait Islander and living with a disability requires a tailored approach towards health (and non-health) service delivery affecting the health and wellbeing of Aboriginal and Torres Strait Islander people with disability, which is often neglected in research and policy planning.

Dr Scott Avery, who focuses on Aboriginal and Torres Strait Islander health and is also profoundly deaf, recognised this research gap. In 2014, Dr Avery commenced a Doctorate of Applied Public Health at UNSW investigating Indigenous constructions of disability, which was later turned into a PhD. Scott was awarded a Lowitja Research support scholarship, which helped established his research:

*Lowitja [Institute], when I first talked about my PhD, were probably the first one to back it and provided me with a research support scholarship which allowed me to connect with internationally renowned disability scholars.*

The findings from this research been published in the book 'Culture is Inclusion: A narrative of Aboriginal and Torres Strait Islander people with disability'<sup>57</sup> and has attracted the attention of government bodies including the Royal Commission.

### *Approach*

The research was supported by the Lowitja Institute through a further grant for the research project entitled "Wellbeing through cultural participation: An affirmative strategy for the inclusion of Aboriginal and Torres Strait Islander people with disability". The funding enabled continuity in Dr Avery's original disability research, responding to financing gaps for this area of research among the mainstream funding bodies. The support from the CRC and Prof Leanne Dowse and A/Prof Angela Dew, fellow UNSW researchers in intellectual disability, provided him with the support to maintain momentum this area of research.

By combining traditional research methods and the concept of 'yarning' (dialogue circle), Dr Avery and his colleagues published personal accounts of Aboriginal and Torres Strait Islander people with disability, and highlighted the social inequality and injustices faced by these people. Equally important, the findings of Scott's research emphasises the resilient people who defy their experiences by embracing their traditional culture of an inclusive society.

### *Impact*

This research contributes to knowledge by generating one of the first findings which detail the perspectives of Aboriginal and Torres Strait Islander peoples with disabilities. Work that had previously not been funded nor had attention, has been used to advance the agenda surrounding intersectionality, that is, addressing the marginalised groups (those with disabilities) within a marginalised population (Aboriginal and Torres Strait Islander people). As highlighted by Dr Avery, further work is required to integrate this knowledge into service

---

<sup>56</sup> Australian Bureau of Statistics (ABS), *National Aboriginal and Torres Strait Islander Social Survey*.

<sup>57</sup> Avery S, *Culture is Inclusion: A narrative of Aboriginal and Torres Strait Islander people with disability* (First Peoples Disability Network (FPDN), Edition 1, 2018).

models, but gaining traction from government bodies is the first step forward. Lowitja Institute's reputation played an important role in providing recognition and status to Dr Avery's project in the academic world.

More broadly, Lowitja Institute had a significant impact on Dr Avery's life outside of his professional career. The intangible supports provided to him and First Peoples Disability Network through mentorship and networks enabled research authenticity coming from the Aboriginal and Torres Strait Islander community and the disability community.

*You feel like a part of the community. That's why I spend a lot of energy promoting Lowitja [Institute]. You do feel like you have a sense of belonging – and it is stuff you cannot put dollar and cents to it.*

The research scholarship that Dr Avery received from Lowitja Institute has also opened doors to research opportunities that without this initial funding, may not have been accessible to him. Dr Avery is now on the Lowitja Institute Research Advisory Committee and has a strong focus on supporting next generations of researchers:

*I like to think that the emphasis shifts from supporting me to the supporting the next generation of Aboriginal and Torres Strait Islander disability. I've benefited and it gave me a chance to open up more opportunities for research. The next generation of researchers is where it is at.*

### 3.3.3 Centralised definition of research priorities and allocation of resources

Another indicator for assessing knowledge generation is the outreach and structure of the research body.<sup>58</sup> Outreach refers to how other researchers interact with the Institute's research, whether through collaborating to conduct the research, or by later using it in other research. This can be measured by assessing the proportion of research which is co-authored with other research partners (see Chart 3.4).<sup>59</sup>

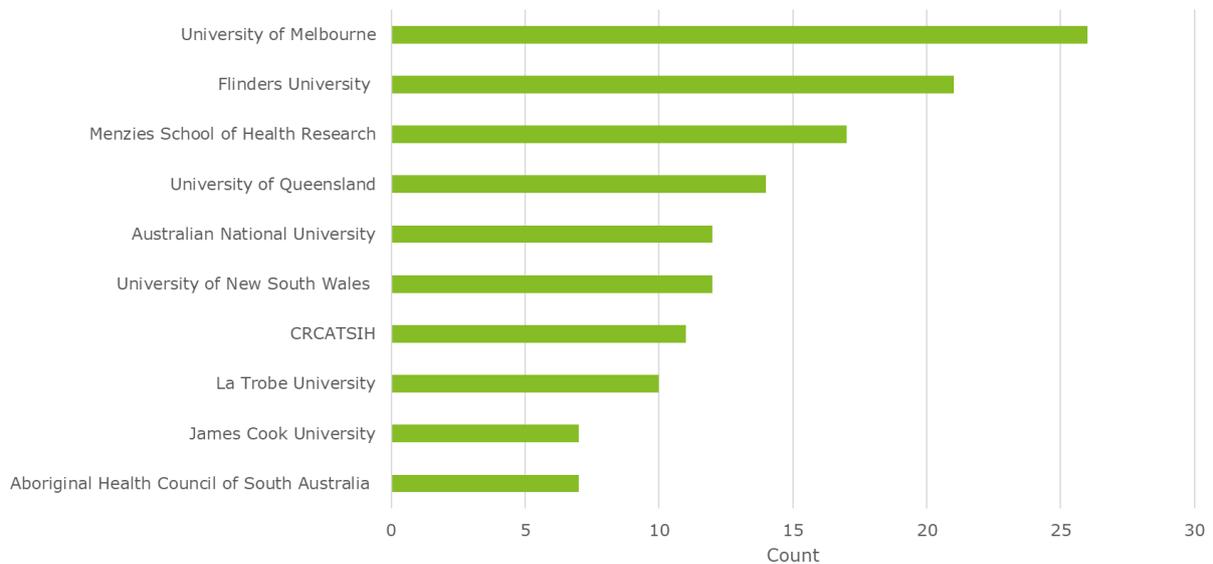
---

<sup>58</sup> Canadian Academy of Health Sciences, *Making an impact: a preferred framework and indicators to measure returns on investment in health research* (January 2009) <[https://www.caahs-acss.ca/wp-content/uploads/2011/09/ROI\\_FullReport.pdf](https://www.caahs-acss.ca/wp-content/uploads/2011/09/ROI_FullReport.pdf)>.

<sup>59</sup> Canadian Academy of Health Sciences, *Making an impact: a preferred framework and indicators to measure returns on investment in health research* (January 2009) <[https://www.caahs-acss.ca/wp-content/uploads/2011/09/ROI\\_FullReport.pdf](https://www.caahs-acss.ca/wp-content/uploads/2011/09/ROI_FullReport.pdf)>.

Commercial-in-confidence

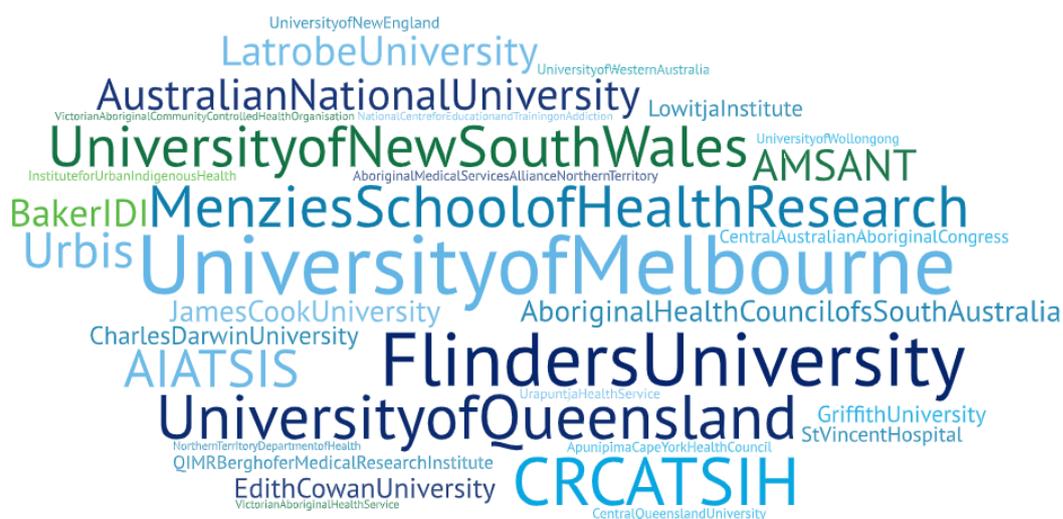
Chart 3.4 Top 10 administering institutions by the frequency of projects supported by the Institute research, 2010-19



A large proportion of publications commissioned by the Institute are co-authored with other research partners nationally and internationally, and across different fields of research. Some of these partnerships and collaborations may continue after the initial project, leading to a stream of continued knowledge generation. Across the LICRC and CRCATSIH, the Institute has engaged with a wide range of research partners, as demonstrated in Figure 3.3 and Chart 3.4.<sup>60</sup> This includes a range of universities nationally, such as the Australian National University, University of Melbourne, Charles Darwin University, Flinders University, and Edith Cowan University.

Successful translation of research findings to policy and practice are possible due the Institute’s ongoing partnership with non-academic organisations. Examples of such organisations who are responsible for policy setting and directly influence the community include the Victorian Department of Health and Human Services (DHHS) and Katherine West Health Board.

Figure 3.3 The Institute’s partners and associated agencies, 2010-19



Source: Deloitte Access Economics using data from Lowitja Institute project database.

<sup>60</sup> Based on Deloitte Access Economics project database for Lowitja Institute research projects.

Commercial-in-confidence

While it is difficult to monetise the value of these collaborations and partnerships, there is some evidence to suggest that the act of collaborating with different researchers from an otherwise niche field can create additional value. In their analysis of private and social rates of return on research and development expenditure by private technology firms in the United States, Bloom, Shankerman and Van Reenen (2013) found that smaller firms generate lower social returns to research, because they tend to operate in technological 'niches'.<sup>61</sup> By bringing different research partners together in collaborative projects and co-authored publications, the Institute is likely helping other health researchers avoid such niches and increasing the social rate of return on health research expenditure.

An example of how collaborations supported by the Institute generate additional value is a project funded between the University of Melbourne and University of Queensland.<sup>62</sup> The aim of the project was to create and evaluate a range of newly specialised Aboriginal and Torres Strait Islander health postgraduate courses and involved extensive consultation with industry and community stakeholders in designing the curriculum of the course. The collaborators identified that it would be far less efficient for each university to have done this individually, and it was the efforts of the two universities which resulted in the successful of the new courses.

Furthermore, the Institute's role as a key research partner contributes to mapping out the key research needs and setting priorities. Research projects were aligned to the following six research themes:

1. Cultural and social determinants
2. Health services and workforce
3. Science and health conditions
4. Family and community health
5. Health policy and systems
6. International research.

The importance of central/institutional support is further illustrated in a case study of the development and implementation of culturally appropriate evaluation protocols for Aboriginal health promotion programs.<sup>63</sup> The research investigators highlight that the main strategy for ensuring the uptake of their research outputs was the ongoing engagement of senior representatives at partner organisations.

### **3.3.4 Further development of Aboriginal and Torres Strait Islander-led research**

Over the last century, Aboriginal and Torres Strait Islander peoples have gradually reclaimed research about their communities and contributed to the development of alternative approaches to undertaking research tailored to their needs. This emphasises the importance of Aboriginal and Torres Strait Islander empowerment in research, and ensures research is sensitive to the values, identity and history of the Aboriginal and Torres Strait Islander peoples.<sup>64</sup>

The development of Aboriginal and Torres Strait Islander-led research is also evident in the project documentation reviewed as part of this analysis. Of the 18 projects in the sample, all involved some form of Aboriginal and Torres Strait Islander leadership and/or engagement. The nature of the types of engagement is outlined in Chart 3.5.

---

<sup>61</sup> Nicholas Bloom et al, 'Identifying Technology Spillovers and Product Market Rivalry' (2013) 81(4) *Econometrica* 1347.

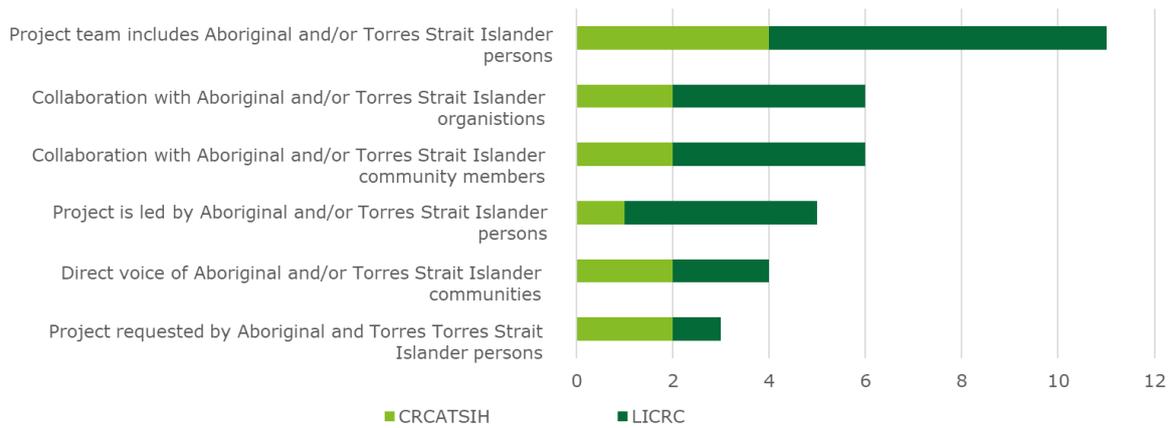
<sup>62</sup> Lowitja Institute, *Collaboration supporting a nationally accessible MPH specialisation in Indigenous health* (2020) < <https://www.lowitja.org.au/page/research/research-categories/health-services-and-workforce/workforce/completed-projects/collaboration-supporting-a-nationally-accessible-mph-specialisation-in-indigenous-health>>.

<sup>63</sup> Lowitja Institute, *Integrated model for Aboriginal health promotion and its evaluation* (2020) < <https://www.lowitja.org.au/page/research/research-categories/cultural-and-social-determinants/social-determinants-of-health/completed-projects/integrated-model-for-aboriginal-health-promotion-and-its-evaluation>>.

<sup>64</sup> David Thomas, Roxanne Bainbridge, Komla Tsey, 'Changing discourses in Aboriginal and Torres Strait Islander research, 1914-2014' 201(S1) *The Medical Journal of Australia*, S15.

Commercial-in-confidence

Chart 3.5 The nature of Aboriginal and Torres Strait Islander leadership and empowerment in the LICRC and CRCATSIH’s projects, 2010-14 and 2014-19



Source: Deloitte Access Economics using data from document review spreadsheet (n=18)

Finally, the support from the LICRC and CRCATSIH is often focused on strengthening and supporting early stage research ideas that may not otherwise obtain funding from other funding bodies. In 2014-19, of the 41 projects commissioned by the LICRC, 10 research project investigators received grants from the NHMRC and the ARC due to the research also being supported by the Institute. This number relied on researchers’ self-reporting and may therefore be an under-estimate of the actual grant funding generated from the LICRC investments in early-stage projects. The Institute’s role as a ‘seed funder’ is crucial in this space as it enables new, innovative projects in under-researched areas to launch and enhances their success in securing competitive mainstream awards.

### 3.4 Impact: Capability building

The LICRC and CRCATSIH also contributed to the development of research workforce and infrastructure of research project teams, helping to build capacity in Australia’s broader Aboriginal and Torres Strait Islander health research industry.

Figure 3.4 Key impact areas identified under the ‘capability building’ impact category



Source: Deloitte Access Economics (2020)

#### 3.4.2 Supporting early career researchers

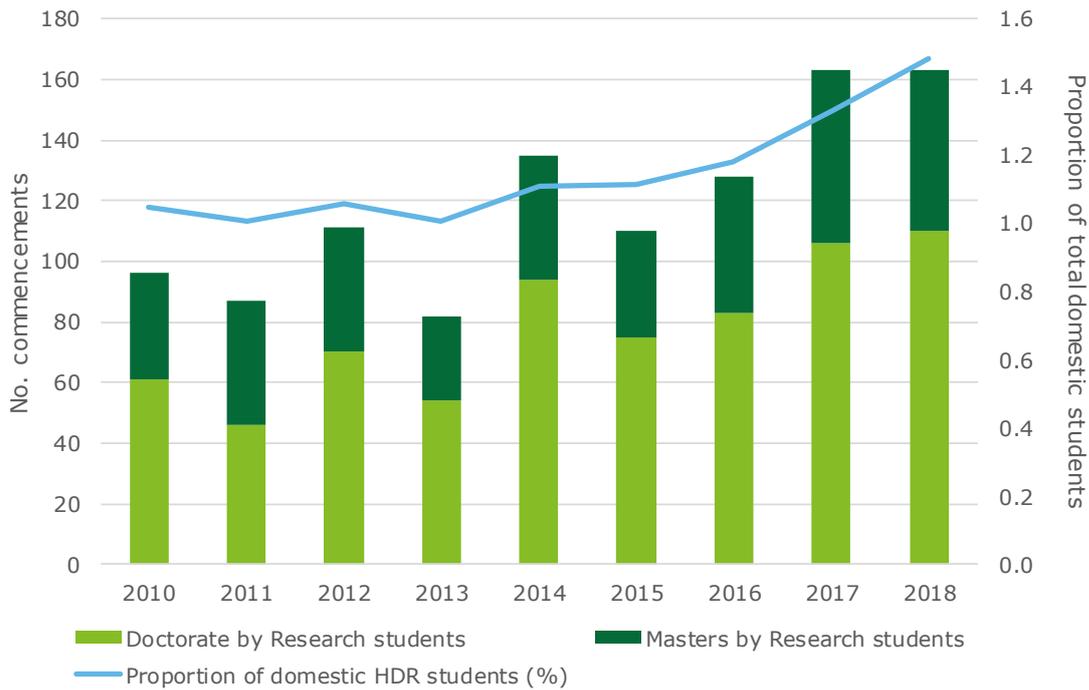
One of the key priorities of the LICRC and CRCATSIH was to support the next generation of Aboriginal and Torres Strait Islander health researchers. Despite making up approximately 2.8 per cent of the broader population, Aboriginal and Torres Strait Islander academics represented only 1.2 per cent of Australia’s academic workforce in 2018.<sup>65</sup> Similarly, Aboriginal and Torres Strait Islander students make up only 1.5 per cent of higher degree research (HDR) commencements,<sup>66</sup> and 0.66 per cent of domestic HDR completions (Chart 3.6).<sup>67</sup>

<sup>65</sup> Department of Education, Skills and Employment, *2018 Staff indigenous* (29 November 2018) <<https://docs.education.gov.au/node/51706>>.

<sup>66</sup> Department of Education, *2018 Section 6: Indigenous students* (28 October 2019) <<https://docs.education.gov.au/node/53020>>.

<sup>67</sup> Australian Research Council, *Evaluation of ARC support for Indigenous researchers and Indigenous research: ARC response* (June 2018) <<https://www.arc.gov.au/policies-strategies/policy/aboriginal-and-torres-strait-islander-researchers/evaluation-arc-support-indigenous-researchers-and-indigenous-research-arc-response-june-2018>>.

Chart 3.6 Aboriginal and Torres Strait Islander HDR candidate commencements, 2010-18



Source: Department of Education (2019)<sup>68</sup>

The LICRC and CRCATSIH’s scholarship program supported a number of Aboriginal and Torres Strait Islander students in obtaining higher education qualifications over the last decade. Since 2010, the LICRC and CRCATSIH funded 28 scholarships for Masters and Doctoral degrees, and co-funded additional 11 scholarships (39 scholars supported in total). Of the 28 scholars, 19 identified as Aboriginal and/or Torres Strait Islander (Chart 3.8).

Chart 3.7 Degree types funded through the LICRC and CRCATSIH (2010-19)

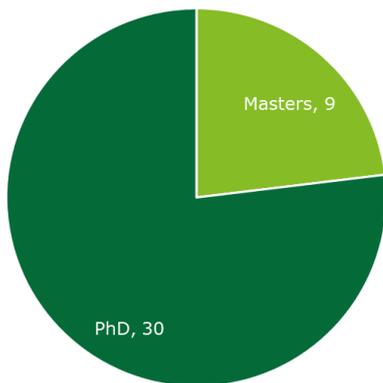
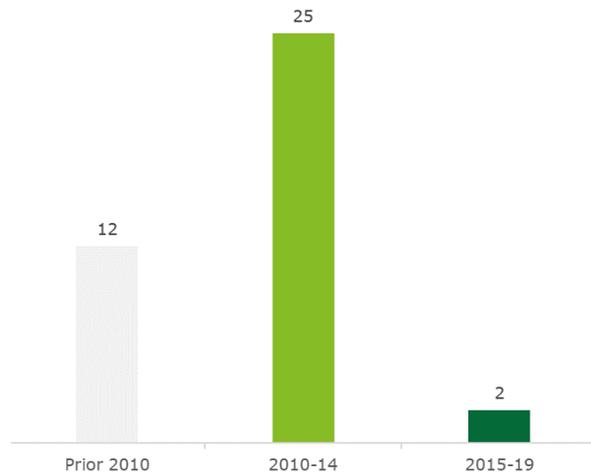


Chart 3.8 Number of students funded between 2010 and 2019 by commencement period



<sup>68</sup> Department of Education, 2018 Section 6: Indigenous students (28 October 2019) <<https://docs.education.gov.au/node/53020>> .

### **Private benefits from obtaining a postgraduate degree**

The LICRC and CRCATSIH's scholarships provided an opportunity for students to develop the skills required for effective health research — an opportunity which some may have been unable to access otherwise. These skills contribute to students' human capital by increasing their productivity at undertaking health research.<sup>69</sup>

This may also lead to increases in students' future earnings and employment opportunities, with evidence showing that individuals with higher education degrees are more likely to be employed and receive higher wages than those without.<sup>70</sup> In Australia, employees with Doctorate qualifications earn a median weekly income of \$1,701.64, compared to \$1,399.38 for those with Masters qualifications, and \$1,227.02 for Undergraduate qualifications.<sup>71</sup>

Despite facing a significant wage gap compared to non-Indigenous Australians, there is evidence that this relationship between wages and qualifications also holds for Aboriginal and Torres Strait Islander employees. In 2016, the median weekly income for Aboriginal and Torres Strait Islander persons was \$623, compared to \$935 for non-Indigenous Australians — indicating a 33 per cent gap in average weekly income.<sup>72</sup>

However, census data shows that median weekly incomes for Aboriginal and Torres Strait Islander people also increase alongside higher education qualifications (Chart 3.9).<sup>73</sup> Notably, median weekly incomes for Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians differ only for the highest and lowest levels of qualifications, among Doctorate and secondary school students. Further research is required to determine the underlying reasons for this disparity.

---

<sup>69</sup> A Leigh, 'Returns to education in Australia' (2008) 27(3) *Economic Papers* 233; George Borjas, *Labor Economics* (McGraw-Hill, 2010, 5<sup>th</sup> ed).

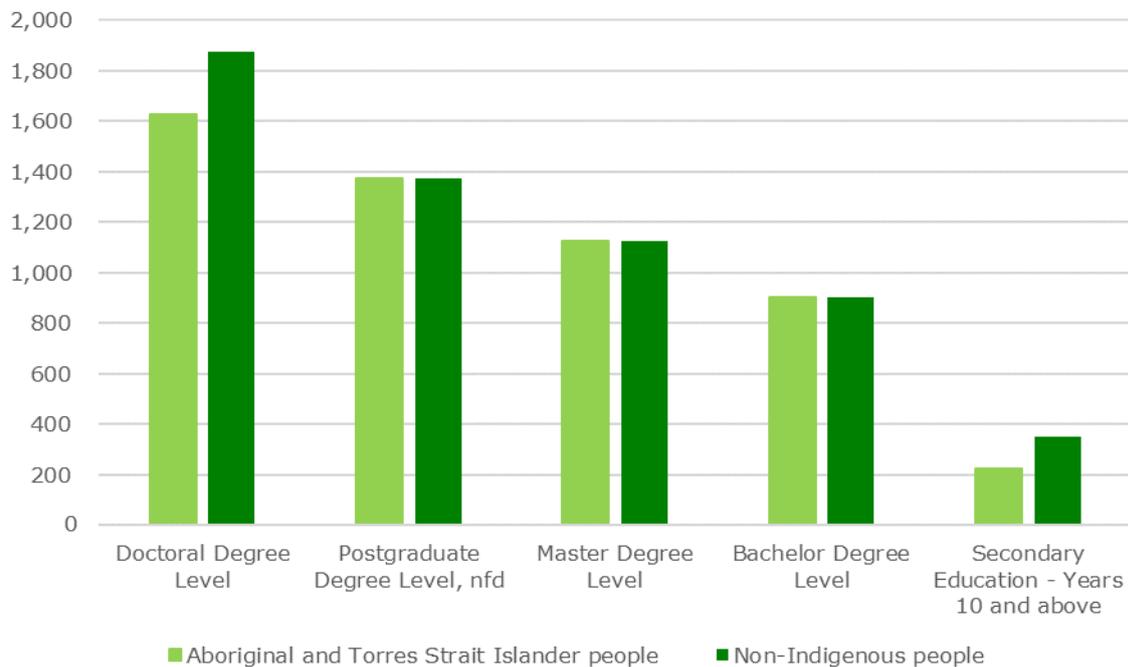
<sup>70</sup> R Wilkins, 'The Household, Income and Labour Dynamics in Australia Survey: Selected Findings from Waves 1 to 12' *Melbourne Institute of Applied Economic and Social Research* (2015) <[https://melbourneinstitute.unimelb.edu.au/\\_\\_data/assets/pdf\\_file/0006/2155506/hilda-statreport-2015.pdf](https://melbourneinstitute.unimelb.edu.au/__data/assets/pdf_file/0006/2155506/hilda-statreport-2015.pdf)>.

<sup>71</sup> Department of Education, Skills and Employment, *Income* (12 August 2019) <<https://docs.education.gov.au/node/53004>>.

<sup>72</sup> Australian Bureau of Statistics (ABS) publication 2019, *Household income and wealth, Australia, 2017-18*, ABS Cat No 6523.0.

<sup>73</sup> Australian Bureau of Statistics (ABS), *2016 Census of Employment, Income and Education*, accessed through TableBuilder on 1/06/2020.

Chart 3.9 Median weekly income, by highest level of educational attainment, 2016



Source: Australia Bureau of Statistics (ABS) TableBuilder (2016)<sup>74</sup>. Nfd = not further defined

One relevant financial proxy for valuing the benefits accruing to the scholarship students funded by the LICRC and CRCATSIH is the additional earnings attributable to the higher education qualification attained. Box 1 below outlines the results of modelling the expected lifetime additional earnings for scholars, as well as the associated public benefits of the scholarships.

### Box 1. Calculating private and public benefits from higher education scholarships

The value of additional earnings attributable to the higher education qualification attained can be approximated using wage premiums previously calculated by Deloitte Access Economics.<sup>75</sup> On average, an individual with a postgraduate qualification in health (other than medicine and nursing) earns **\$2,781** more per annum compared to an individual with a bachelor degree. This represents average earnings per individual with a qualification in health, rather than per employed individual, and as such is lower than estimates of average full-time earnings.

Disaggregating the effects which contribute to this premium, approximately 58 per cent of these additional earnings is thought to be attributable to the 'qualification effect' of completing a higher education degree.<sup>76</sup> The remainder is attributable to a range of demographic factors, such as age or gender.

The total increase in lifetime wages associated with the Institute's higher education scholarships can therefore be estimated by multiplying the average annual wage premium associated with postgraduate qualifications in health by the number of scholarship students

<sup>74</sup> Australian Bureau of Statistics (ABS), *2016 Census of Employment, Income and Education*, accessed through TableBuilder on 1/06/2020

<sup>75</sup> Deloitte Access Economics, *Estimating the public and private benefits of higher education* (report commissioned by the Department of Education and Training, 2016) <[https://docs.education.gov.au/system/files/doc/other/dae-det\\_benefits\\_of\\_higher\\_education\\_final\\_report.pdf](https://docs.education.gov.au/system/files/doc/other/dae-det_benefits_of_higher_education_final_report.pdf)>.

<sup>76</sup> Ibid.

funded by the Institute between 2010 and 2019, discounted at a rate of four per cent over time.

### **Marginal private benefits**

The marginal private benefits associated with the postgraduate degrees funded the LICRC and CRCATSIH capture the additional earnings which are attributable only to the postgraduate qualification funded by the scholarship, and not the undergraduate qualification. This amounts to **\$1.579 million** in lifetime discounted earnings premium for all 39 scholars funded between 2010 and 2019.<sup>77</sup>

Funding these scholarships also came at a cost to the LICRC and CRCATSIH. As exact costs were not available, this was calculated as the market cost of undertaking a higher degree course — approximately **\$21,321** per annum for two years for Masters degrees, or four years for Doctorate of Philosophy degrees.<sup>78</sup>

Using these results, the private return on investment ratio is 0.78 — meaning that for every \$1 invested by the LICRC and CRCATSIH in funding health research scholarships, **\$0.78** is returned in additional private earnings to Australia's health researchers. This indicates that funding postgraduate scholarships does not generate a net financial benefit as measured by earnings only.

### **Public benefits from obtaining a postgraduate degree**

Beyond the benefits to individuals from HDR education and employment, increasing the number of persons with higher education qualifications also returns a range of public benefits to the rest of Australia through increased labour productivity. Increasing the productivity of Australia's human capital leads to increased returns for employees and businesses, stimulating further flow-on consumption and investment activity throughout the economy.

The magnitude of this increase in productivity can be estimated using Deloitte Access Economics' computable general equilibrium (CGE) model, which simulates how additional human capital increases production across each sector in the economy. This model has previously been used to estimate the relative share of private and public returns on qualifications obtained in postgraduate degrees across different fields, finding that the public benefits generated by postgraduate level health-related degrees amount to 49 per cent of the total economic benefits.<sup>79</sup> Applying this share to the estimated private returns on the LICRC- and CRCATSIH-funded scholarships, Deloitte Access Economics estimates that the scholarships funded by the LICRC and CRCATSIH return an additional **\$1.517 million** in public benefits to the rest of Australia. This likely represents a conservative lower-bound estimate, given the significant spillover effects which higher education qualifications can bring for Aboriginal and Torres Strait Islander scholars' families and communities.

Using these results, return on investment ratio of both public and private benefits from scholarships is 1.52 — meaning that for every \$1 invested by the LICRC and CRCATSIH in funding health research scholarships, **\$1.52** is returned in additional private earnings and in economic growth to Australia's economy. This indicates that funding postgraduate scholarships generates a net financial benefit.

<sup>77</sup> Assuming that working lifetime is on average 46 years. The total number of 39 scholars includes 11 co-funded students and Lowitja Institute contribution to their scholarship is assumed at 50%. Future earnings are inflation adjusted to 2019 AUD and discounted at 4% rate.

<sup>78</sup> Deloitte Access Economics, *Economic and social contribution of Menzies School of Health Research to the NT, Australia and the Asia Pacific* (report commissioned by the Menzies School of Health, 2012) <[https://www.menzies.edu.au/icms\\_docs/155388\\_Deloitte\\_Report.pdf](https://www.menzies.edu.au/icms_docs/155388_Deloitte_Report.pdf)>.

<sup>79</sup> Deloitte Access Economics, *Estimating the public and private benefits of higher education* (report commissioned by the Department of Education and Training, 2016) <[https://docs.education.gov.au/system/files/doc/other/dae-det\\_benefits\\_of\\_higher\\_education\\_final\\_report.pdf](https://docs.education.gov.au/system/files/doc/other/dae-det_benefits_of_higher_education_final_report.pdf)>.

The above valuation captures the monetary value of scholarships from an economic perspective. However, other skills and attributes, such as building confidence in public speaking, and being provided support, are important values which cannot be captured from an economic perspective. The case study below was based on a consultation with Kalinda Griffith on her experience and support from CRCATSIH from trainee to researcher. It highlights the support of CRCATSIH, throughout her professional life (e.g. through coaching and networking) and personal life (e.g. impact on her children).

## Case study: Building capability of Aboriginal and Torres Strait Islander researchers

**Alumna:** Dr Kalinda Griffith

### *Support through education years*

Kalinda's story with what is now known as Lowitja Institute began in 1997, when she completed a Certificate III in Laboratory Techniques as part as a group of trainees. The training was a two-year course co-funded by the Institute based in the Northern Territory. The Institute's mentorship during the trainee course was critical for her to undertake further tertiary studies as a first-generation university student, as both her parents did not complete high school.

After completing the certificate, Kalinda knew that she enjoyed laboratory work, but didn't know at that point in time what career she wanted to pursue. With the Institute's support and guidance to navigate through the complex system of university admissions, Kalinda went on to undertake a Bachelor of Biomedical Science and then completed a Master of Public Health.

Kalinda set herself up for a PhD, having received a NHMRC scholarship and support from Lowitja Institute staff such as then General Manager of Research Vanessa Harris. CRCATSIH provided further top-up funding during her PhD, which allowed her to move away from home to the city:

*It gave me the financial safety to do that. I had two children and it enabled me to bring them with me to Sydney.*

The funding provided by CRCATSIH opened opportunities to careers in research that may not have been accessible to Kalinda in Darwin. Additionally, it enabled her to remain with her children and connected to her family, which is of particular importance in Aboriginal and Torres Strait Islander cultures.

### *Capability building*

Distinct to other funding bodies, Kalinda highlighted the Institute's focus on proactively engaging and supporting Aboriginal and Torres Strait Islander students to be involved in research. The existing relationships with the community have contributed to the Institute's ability to actively seek out Aboriginal and Torres Strait Islander talent and support them through their research career. Compared to other funding bodies, Kalinda reported that the Institute is more hands-on in their approach to providing support and building capability for researchers.

Kalinda also emphasised the importance of coaching and support she has received in public speaking and taking on leadership positions. For example, she had opportunities to practice public speaking and presentations skills in a safe environment and received constructive feedback from senior researchers at the Institute. Kalinda comments about other support she's received from the Institute:

*The support from other Indigenous people has been important. Having people who hold your hand has made me feel strong and that I can speak out and I get that voice and freedom for those ideas to come to fruition.*

Dr Kalinda Griffith is now an early career Scientia Lecturer at the Centre for Big Data Research at University of New South Wales (UNSW) and holds honorary positions at Menzies School of Research and the University of Sydney. Her areas of focus include the measurement of health disparities, with a particular focus on Indigenous data governance.

#### *Impact*

The impact of CRCATSIH on Kalinda's life has extended beyond her academia success. Her eldest daughter is thinking about doing further studies at university. Kalinda is able to provide her daughter with the knowledge and support to do this thanks to her own experiences navigating the system and processes with the support of the Institute. She feels she can give her daughters the opportunity for academic and education literacy.

Kalinda's relationship with the Institute is ongoing, running the Lowitja Institute Emerging Aboriginal and Torres Strait Islander Researcher Award. In this position, the Institute continues to build capability for Aboriginal and/or Torres Strait Islander researchers, such as Kalinda, by providing them a platform to take up leadership positions and support the next generation of Aboriginal and Torres Strait Islander researchers.

### **3.4.3 The impact of Aboriginal and Torres Strait Islander leadership in academia**

Strengthening Aboriginal and Torres Strait Islander leadership in health academia is key to ensuring that health research is effective and empowering for Aboriginal and Torres Strait Islander communities. Aboriginal and Torres Strait Islander researchers are uniquely equipped with the cultural knowledge needed to identify and address issues of cultural inappropriateness in research methodologies and healthcare practices. Left unchecked, such issues can detract from the efficacy of healthcare services which adopt culturally inappropriate approaches and tools.<sup>80</sup>

Historically, Aboriginal and Torres Strait Islander peoples have been excluded from participating in Australia's academia and knowledge economy.<sup>81</sup>

Yet recent years have seen an increase in the number of Aboriginal and Torres Strait Islanders engaged in academic health research and HDR studies. For example, the number of Aboriginal and Torres Strait Islander doctoral students has doubled over the last decade.<sup>82</sup> The number of Aboriginal and Torres Strait Islander academic staff employed in Australia has also increased, growing from 830 full-time equivalent (FTE) positions in 2009 to nearly 1,400 in 2018 (see Chart 3.10).

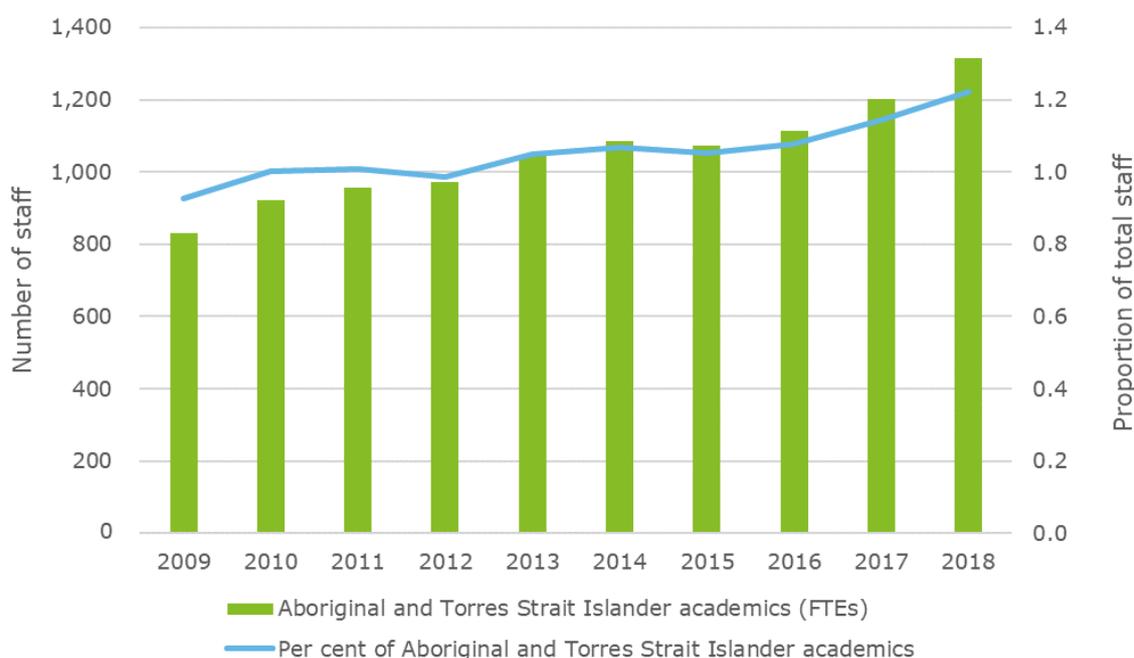
---

<sup>80</sup> Shaun C Ewen et al, 'Capacity building of the Australian Aboriginal and Torres Strait Islander health researcher workforce: a narrative review' (2019) 10 *Human Resources for Health* 17.

<sup>81</sup> *Ibid.*

<sup>82</sup> *Ibid.*

Chart 3.10 Aboriginal and Torres Strait Islander academic staff, 2009-18



Source: Department of Education, Skills and Employment (2018)<sup>83</sup>

To this end, the LICRC and CRCATSIH had a particular focus on empowering Aboriginal and Torres Strait Islander health researchers to participate in health research and academia. All of the 41 projects funded by the LICRC between 2014 and 2019 featured Aboriginal and/or Torres Strait Islander researchers and staff, with 68 per cent of projects led by Aboriginal and/or Torres Strait Islander researchers.<sup>84</sup>

This was further validated by the results of the randomised document review of the LICRC and CRCATSIH-funded projects as part of this analysis, with 67 per cent of projects reviewed featuring at least one Aboriginal and/or Torres Strait Islander researcher.

By comparison, outside of the Institute, Aboriginal and Torres Strait Islander researchers typically only represent a small portion of health research project teams — even among studies specifically focussed on Aboriginal and Torres Strait Islander health issues. While 546 research grants were allocated to projects investigating Aboriginal and Torres Strait Islander health issues by the NHMRC between 2010 and 2016, only 50 grants were made to health projects led by an Aboriginal and/or Torres Strait Islander researcher in the same period.<sup>85</sup> Overall, only 6.3 per cent of total NHMRC investment was allocated to projects either researching Aboriginal and/or Torres Strait Islander health issues, or led by Aboriginal and/or Torres Strait Islander researchers in 2016.<sup>86</sup>

The LICRC and CRCATSIH’s project governance and delivery teams also typically feature local community members, to ensure community input is incorporated at every stage of research planning and implementation.<sup>87</sup>

<sup>83</sup> Department of Education, Skills and Employment, *2018 Staff indigenous* (29 November 2018) <<https://docs.education.gov.au/node/51706>>.

<sup>84</sup> In consultation with Lowitja Institute.

<sup>85</sup> NHMRC, *Road Map 3: A strategic framework for improving Aboriginal and Torres Strait Islander health through research* (June 2018) <<https://edit.nhmrc.gov.au/sites/default/files/documents/attachments/road-map-3-strategic-framework.pdf>>.

<sup>86</sup> Ibid.

<sup>87</sup> See, eg, Lowitja Institute, *Framework for evaluation of policies, programs and services* (16-HPS-01) <<https://www.lowitja.org.au/page/research/research-categories/health-policy-and-systems/monitoring-and->

Commercial-in-confidence

For example, a pilot study of an adult literacy campaign in an Aboriginal and Torres Strait Islander community in regional New South Wales adopted a participatory research model, which engaged local Aboriginal staff in the research design, data collection and analysis process.<sup>88</sup> Local community leaders were also represented on the project steering committee. Researchers identified the strong and engaged Aboriginal leadership of the project at both the community and national level as a key enabling factor to the success of the project.

### 3.4.4 Capability building in academia

#### Further funding

The LICRC and CRCATSIH helped to build a stronger Aboriginal and Torres Strait Islander health workforce by supporting job creations for Aboriginal and Torres Strait Islander researchers. Approximately a quarter of all research projects funded by the LICRC between 2014 and 2019 went on to obtain grants from the NHMRC or ARC to continue research originally commissioned by the LICRC.<sup>89</sup>

This continued funding may have led to the creation of new research jobs which may not have existed otherwise. This was supported by evidence from the randomised document review. For example, one case study and evaluation of an Aboriginal health promotion model commissioned by CRCATSIH in 2011 attracted further funding for the original research team following the completion of the project, with an additional NHMRC project grant.<sup>90</sup>

Other projects also reported the creation of new research employment during the course of the project, some of which may have continued after the completion of the project.<sup>91</sup>

#### Open-access research tools and resources

Providing an open-access resource of research infrastructure for all researchers to use also contributes towards building greater capacity in Australia's Aboriginal and Torres Strait Islander health workforce. Part of the Institute's expenditure goes towards funding a range of research infrastructure required to perform health research, such as research tools, publication services and administrative infrastructure. Some of these are also publicly available resources, such as EthicsHub, an online resource to support individuals and organisations conducting and participating in culturally appropriate Aboriginal and Torres Strait Islander health research. The Institute also developed the database Lit.Search, which is also open for use by others engaged in health research.

---

evaluation/projects/evaluation-policies-programs-services>; *Development and trial of an integrated model for Aboriginal health promotion and its evaluation* (HCS-004)

<<https://www.lowitja.org.au/page/research/research-categories/cultural-and-social-determinants/social-determinants-of-health/completed-projects/development-and-trial-of-an-integrated-model-for-aboriginal-health-promotion-and-its-evaluation>>; *Culture mediation approach in Aboriginal primary health care: Impacts on screening and treatment for risky alcohol consumption* (SG-002)

<<https://www.lowitja.org.au/page/research/research-categories/health-policy-and-systems/health-policy/completed-projects/culture-mediation-alcohol>>; *Evaluating a community of practice for Torres Strait Islander health and wellbeing* (017-G-048) <<https://www.lowitja.org.au/page/research/research-categories/health-policy-and-systems/monitoring-and-evaluation/projects/meriba-buay>>.

<sup>88</sup> Lowitja Institute, *Aboriginal adult literacy campaign* (HCS-008A)

<<https://www.lowitja.org.au/page/research/research-categories/cultural-and-social-determinants/social-determinants-of-health/completed-projects/aboriginal-adult-literacy-campaign>>.

<sup>89</sup> In consultation with Lowitja Institute.

<sup>90</sup> Lowitja Institute, *Development and trial of an integrated model for Aboriginal health promotion and its evaluation* (HCS-004) <<https://www.lowitja.org.au/page/research/research-categories/cultural-and-social-determinants/social-determinants-of-health/completed-projects/development-and-trial-of-an-integrated-model-for-aboriginal-health-promotion-and-its-evaluation>>.

<sup>91</sup> See, eg, Lowitja Institute, *Yarning Together: Developing a culturally secure rehabilitation for Aboriginal and Torres Strait Islander peoples after brain injury* (017-SW-002)

<<https://www.lowitja.org.au/page/research/research-categories/health-services-and-workforce/service-solutions/completed-projects/yarning-together-culturally-secure-rehabilitation-for-aboriginal-and-torres-strait-islander-peoples-after-brain-injury>>; *Roles and Ritual: The Inala Wangarra Rite of Passage Ball case study* (017-YM-004) <<https://www.lowitja.org.au/page/research/research-categories/cultural-and-social-determinants/culture-for-health-and-wellbeing/projects/inala-wangarra>>; *Mayi Kuwayu: the National Study of Aboriginal and Torres Strait Islander Wellbeing* (017-G-031).

## Networks

The Institute helps to build capacity in Aboriginal and Torres Strait Islander health academia by bringing together otherwise isolated health researchers in a niche field of study. Enabling collaborations between researchers may increase the productivity of health research by enhancing communication networks and enabling the sharing of ideas and knowledge.<sup>92</sup>

Working alone, individual health research institutes risk producing overlapping or fragmented research — a risk which is heightened in the area of Aboriginal and Torres Strait Islander health research given the lack of centralised governance or stewardship of the sector nationally.<sup>93</sup>

By comparison, more than half of the projects reviewed in the randomised study featured collaborations or co-authorships between different research institutes and health service bodies, such as the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the Institute for Urban Indigenous Health, the Aboriginal and Torres Strait Islander Community Health Service, and research institutes at several Australian universities.<sup>94</sup> By acting as a central body and bringing together a range of different health research institutes and universities from across Australia, the Institute may enable greater productivity in Aboriginal and Torres Strait Islander health academia.

Similarly, individual researchers and scholarship students funded by the LICRC and CRCATSIH may also gain from networking benefits as a result of working with the Institute. Engaging in research or higher degree education with the Institute may enable researchers and students to access academic networks which they may not have otherwise been able to enter.

These academic networks can be integral to accessing further professional opportunities in the future. For example, between 2010 and 2019, at least eight research projects commissioned by the LICRC and CRCATSIH were led by former scholarship students funded by the Institute.<sup>95</sup> This included at least three projects led by former Aboriginal and/or Torres Strait Islander scholarship students.

---

<sup>92</sup> Bruna de Paula Fonseca e Fonseca et al, 'Co-authorship network analysis in health research: method and potential use' (2016) 34(14) *Health Research Policy and Systems* 1.

<sup>93</sup> Genevieve Howse, 'Legally Invisible – How Australian Laws Impede Stewardship and Governance for Aboriginal and Torres Strait Islander Health' (Lowitja Institute, 2011) <[https://www.lowitja.org.au/content/Document/Lowitja-Publishing/Legally\\_Invisible\\_report.pdf](https://www.lowitja.org.au/content/Document/Lowitja-Publishing/Legally_Invisible_report.pdf)>.

<sup>94</sup> In consultation with Lowitja Institute.

<sup>95</sup> In consultation with Lowitja Institute.

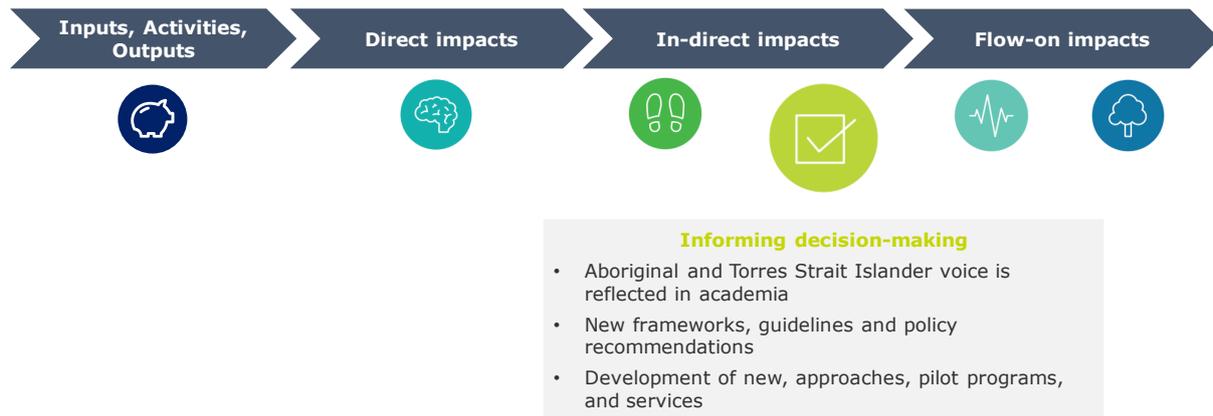
### 3.5 Impact: Informing decision-making

This section seeks to capture the ways in which research translates into outcomes in clinical, managerial, scientific and public health decision-making.<sup>96</sup> This is particularly important in determining the extent to which the Institute’s research generates tangible improvements in Australian health policy and practice for Aboriginal and Torres Strait Islanders.

However, it is important to note that this category also poses particular challenges in isolating the extent of these improvements which can be attributed to the Institute, independent of other research, policies or stakeholders.

As outlined in Figure 3.5 below, three specific impact areas were identified.

Figure 3.5 Key impact areas identified under the ‘Informing decision-making’ impact category



Source: Deloitte Access Economics (2020)

#### 3.5.2 Aboriginal and Torres Strait Islander community voice in policy making

Community engagement in the design, governance and implementation of health policy is key to ensuring that policies are tailored to the healthcare needs of the population.<sup>97</sup> This is particularly important for minority populations, who may face a range of different healthcare needs compared to the rest of the population, and require a voice to communicate these needs.

For example, Aboriginal and Torres Strait Islander people have a conceptually different understanding of health and wellbeing and the meaning of being ‘healthy’. The National Aboriginal Community Controlled Health Organisation (NACCHO) describes this as:

*[t]he western understanding of health is an absence of disease, someone is healthy if they do not have a disease or illness. ... The Aboriginal understanding of health is holistic and includes land, the physical body, clan, relationships, and lore, it is the social, emotional and cultural wellbeing of the whole community not just the individual.<sup>98</sup>*

Healthcare policies which are designed alongside this understanding of health may be more effective at addressing health issues among Aboriginal and Torres Strait Islander communities, and better

<sup>96</sup> Canadian Academy of Health Sciences, *Making an impact: a preferred framework and indicators to measure returns on investment in health research* (January 2009) <[https://www.caahs-acss.ca/wp-content/uploads/2011/09/ROI\\_FullReport.pdf](https://www.caahs-acss.ca/wp-content/uploads/2011/09/ROI_FullReport.pdf)>.

<sup>97</sup> See, eg, World Health Organisation, *Rio Political Declaration on Social Determinants of Health* (21 October 2011) <[https://www.who.int/sdhconference/declaration/Rio\\_political\\_declaration.pdf?ua=1](https://www.who.int/sdhconference/declaration/Rio_political_declaration.pdf?ua=1)>.

<sup>98</sup> NACCHO, *Submission: Productivity Commission Inquiry into Human Services: Identifying sectors for reform* <[https://www.pc.gov.au/\\_\\_data/assets/pdf\\_file/0007/204964/sub227-human-services-identifying-reform.pdf](https://www.pc.gov.au/__data/assets/pdf_file/0007/204964/sub227-human-services-identifying-reform.pdf)>.

contribute to reducing inequality in healthcare outcomes across the population. Broad community engagement can also facilitate a wider uptake of research findings and resulting policies.<sup>99</sup>

To this end, projects commissioned by the LICRC and CRCATSIH utilised community engagement as an input to all stages of the research process — from collaborative planning and design of research methods, to project governance, and reporting results back to communities.

For example, in an evaluation of the roll-out of the National Disability Insurance Scheme (NDIS) in Queensland and the Northern Territory, Aboriginal and Torres Strait Islander communities were involved at all stages of the research process, including the project reference group, the co-design process and the final workshop.<sup>100</sup> The project research team included local community members, who were trained in research methods and ethics by university researchers and employed as interviewers through the project partners. The findings of the evaluation were used to shape policy recommendations to improve the provision of NDIS services to Aboriginal and Torres Strait Islander communities.

Similarly, a project researching the experience of Aboriginal and Torres Strait Islander men during their partner's pregnancy relied upon the use of community-based researchers to recruit new and expectant Aboriginal and Torres Strait Islander fathers.<sup>101</sup> The research findings were shared back with stakeholders through in-depth yarns.

Community engagement was also key to the success of a pilot study of an adult literacy campaign in a remote Aboriginal community in New South Wales.<sup>102</sup> Thirteen local agencies were involved in the support network for the project, including the Wilcannia Aboriginal Corporation, local school, technical and further education (TAFE), and others. Local program facilitators were recruited to produce a range of tools and resources for use in class and trained to work as tutors to deliver the program to recipients. In the review, the project team identified the community mobilisation as important to the program's success, with the local school principal stating that 'the reasons why this [program] has been embraced, is the fact that it is actually for the community, by the community.'<sup>103</sup>

Many of the LICRC and CRCATSIH projects were also designed and implemented in partnership with Aboriginal Community Controlled Health Services (ACCHS). An ACCHS is a "primary health care service initiated and operated by the local Aboriginal community to deliver holistic, comprehensive, and culturally appropriate health care to the community which controls it, through a locally elected Board of Management".<sup>104</sup> One such project identified in the randomised document review was an evaluation of a model of care for urban clients at risk of contracting blood borne viral infections.<sup>105</sup> The concept for this project arose from the research team at Nunkuwarrin Yunti, an ACCHS based in metropolitan Adelaide, and was implemented in cooperation with researchers from the Kirby Institute.

Another project delivered in collaboration with an ACCHS was an evaluation of a culturally mediated screening instrument.<sup>106</sup> This involved training general practitioners at the ACCHS on how to ask about 'mob' and 'country' as a method of screening for alcohol and mental health problems. This enabled the medical practitioners to improve their liaison skills with Aboriginal and Torres Strait Islander patients. Similarly, an evaluation of a primary healthcare workforce development model

<sup>99</sup> Jessica K Holzer et al, 'Why we need community engagement in medical research' (2014) 62(6) *Journal of Investigative Medicine* 851.

<sup>100</sup> Lowitja Institute, *Is the National Disability Insurance Scheme meeting the needs of Aboriginal and Torres Strait Islander people? Evaluating the roll-out in Queensland and the Northern Territory* (017-D-001)

<sup>101</sup> Lowitja Institute, *Tell My Story: Hearing from the Dads in the Indigenous Birthing in an Urban Setting (IBUS) Study* (017-YM-006).

<sup>102</sup> Lowitja Institute, *Aboriginal adult literacy campaign* (HCS-008A)

<<https://www.lowitja.org.au/page/research/research-categories/cultural-and-social-determinants/social-determinants-of-health/completed-projects/aboriginal-adult-literacy-campaign>>.

<sup>103</sup> Bob Boughton, *Aboriginal Adult Literacy Campaign Wilcannia Pilot Project: Final Evaluation Report* [check that publicly released].

<sup>104</sup> NACCHO, *About NACCHO* <<https://www.naccho.org.au/about/>>.

<sup>105</sup> Lowitja Institute, *An integrated and comprehensive model of care targeting at-risk clients in metropolitan Aboriginal Community Controlled Health Service: model development and evaluation plan* (SG 014)

<sup>106</sup> Lowitja Institute, *Culture mediation approach in Aboriginal primary health care: impacts on screening and treatment for risky alcohol consumption* (SG 002)

Commercial-in-confidence

was developed in response to a request from Gurriny Yealamucka Health Service, an ACCHS based in Queensland.<sup>107</sup>

### 3.5.3 New frameworks, guidelines and policy recommendations

One key indicator of the LICRC and CRCATSIH's impact on health-related decision making is its direct contribution to the shaping of new and existing public health policies. When the Institute's research is referenced in public health guidelines supporting a new pilot health program for an Aboriginal and Torres Strait Islander community, it can be shown that the Institute has at least partly contributed to a change in policy for that community.

For example, findings from one project reviewed in the randomised sample from a pilot study of an adult literacy campaign were later used in negotiations with the Commonwealth and state governments for funding to support the delivery of the program at two more sites in addition to the original campaign.<sup>108</sup>

The extent of this impact on shaping health policy can be quantified by reference to measures such as instances of citations of the Institute's research in health guidelines and public policy documents. A range of these contributions are illustrated in Table 3.4 below.

Table 3.4 The LICRC and the Institute's contribution to public health guidelines and policy documents, 2018-19

Document type	Topic
Policy briefs	<ul style="list-style-type: none"> <li>Working Well: Tailoring a workforce development model to delivery sustained improvements in community-controlled health care. The story of Gurriny Yealamucka Health Service</li> <li>An Evaluation Framework to Improve Aboriginal and Torres Strait Islander Health: Users Guide.</li> </ul>
Submissions	<ul style="list-style-type: none"> <li>Submission to the Medical Research Future Fund consultation, to inform second Australian Medical Research and Innovation (August 2018)</li> <li>Recommendations to the Productivity Commission, Indigenous Evaluation Strategy Issues Paper (August 2019).</li> </ul>
Speeches, presentations, keynote addresses, panellists	<ul style="list-style-type: none"> <li>Aboriginal and/or Torres Strait Islander Governance Reform Forum</li> <li>Australian Institute of Family Studies Conference</li> <li>National Conference on Indigenous Health Workforce Leadership</li> <li>National Aboriginal and Torres Strait Islander Male Health Convention</li> <li>Healing Our Spirit Worldwide Gathering</li> <li>Indigenous Allied Health Association Forum</li> <li>ANZSOG Indigenous Affairs</li> <li>15<sup>th</sup> National Rural Health Conference</li> <li>Australian Pharmacy Council and the ANMAC Colloquium</li> <li>Not Racist, But...: Racism and Health Panel</li> <li>Australian Indigenous Doctors Association conference.</li> </ul>
Policy group/committee memberships	<ul style="list-style-type: none"> <li>Coalition of Peak Aboriginal and Torres Strait Islander Peak Bodies</li> <li>National Health Leadership Forum</li> <li>Close the Gap Steering Committee</li> <li>Implementation Plan Advisory Group, National Aboriginal and Torres Strait Islander Health Plan</li> <li>Expert Advisory Group, Indigenous Health Research Fund</li> </ul>

<sup>107</sup> Lowitja Institute, *Working well: Tailoring a workforce development model to deliver sustained improvements in community-controlled healthcare* (017-SW-022)

<sup>108</sup> Lowitja Institute, *Aboriginal adult literacy campaign* (HCS-008A)

<<https://www.lowitja.org.au/page/research/research-categories/cultural-and-social-determinants/social-determinants-of-health/completed-projects/aboriginal-adult-literacy-campaign>>.

- 
- Health Justice Partnerships
  - Aboriginal and Torres Strait Islander Advisory Group – Health and Genomics.
- 

Source: Lowitja Institute, 2018-19 Annual Report

Note: Majority of the above contributions are associated with the advocacy work led by the Institute, rather than specific CRC-funded research projects.

The Institute's research may also shape decision-making on Aboriginal and Torres Strait Islander health policy through contributing to the public discourse on health issues, such as through public advocacy and lectures. These activities can raise awareness among private and public stakeholders of the health issues relevant to Aboriginal and Torres Strait Islander populations.

For example, a discussion paper commissioned by the Institute on the 'legal invisibility' of responsibility for Aboriginal and Torres Strait Islander health provides a set of recommendations as to how the Commonwealth and state governments should divide responsibility for health legislation, based on a review of existing health legislation and international comparisons.<sup>109</sup> This discussion contributed to the discourse on the recognition of Aboriginal and Torres Strait Islander peoples in Australia's constitution, and was designed to stimulate discussions among public policy makers and community organisations on the issue.

Another example is the Institute's direct contribution to the Closing the Gap campaign. Prior to the establishment of Closing the Gap targets set out by the Australian Government, non-government organisations formed a Close the Gap Campaign Steering Group, of which the Institute is a member, to push for increased actions to achieve equal health and life expectancy outcomes for Aboriginal and Torres Strait Islander peoples.

The Institute's involvement as a member of the National Health Leadership Forum resulted in several papers that supported the development of the National Aboriginal & Torres Strait Islander Health Plan and contributed to the development of Closing the Gap health targets.<sup>110, 111</sup> The plan itself also highlighted the role that the Institute had played in sharing important learnings from Aboriginal and Torres Strait Islander research.

### **3.5.4 Development of new approaches, pilot programs, services**

The randomised review of the Institute's projects also returned evidence of the development of new approaches, programs and services as a result of some studies. Some the Institute-commissioned projects supported the creation of new representative and community healthcare bodies. For example, an evaluation of knowledge sharing networks in Torres Strait Islander health practice led to the establishment of the first known Torres Strait Islander Researchers' CoP and knowledge mobilisation network.<sup>112</sup>

Other studies developed strategic material for use in later studies, such as frameworks for the evaluation of health benefits for Aboriginal and Torres Strait Islander communities,<sup>113</sup> or a collaborative resource base for understanding Aboriginal and Torres Strait Islander health and wellbeing.<sup>114</sup>

Some studies advocated more directly for specific policy changes, such as recommendations to improve the coverage, choice, and delivery of services for Aboriginal and Torres Strait Islander

---

<sup>109</sup> Policy review: 'Enduring Government Responsibility for Aboriginal Health' --> Leading to Discussion Paper: 'Legally Invisible - How Australian laws Impede Stewardship and Governance for Aboriginal and Torres Strait Islander Health' (EPS 003)

<sup>110</sup> Commonwealth of Australia 2013, National Aboriginal and Torres Strait Islander Health Plan 2013–2023, Australian Government, Canberra. Accessed 6 October 2016 at: <http://www.health.gov.au/natsihp>.

<sup>111</sup> National Congress of Australia's First Peoples 2016, 'National Health Leadership Forum'. Accessed 6 October 2016 at: <http://nationalcongress.com.au/health/>

<sup>112</sup> Meriba buay - ngalpan wakaythoemamay (We come together to share our thinking): Evaluating a community of practice for Torres Strait Islander health and wellbeing (017-G-048)

<sup>113</sup> Development of a framework for the evaluation of policies, programs and services that aim to improve Aboriginal and Torres Strait Islander peoples' health and wellbeing (16-HPS-01)

<sup>114</sup> Mayi Kuwayu Scaling Up: The National Study of Aboriginal and Torres Strait Islander Wellbeing (017-G-031)

Commercial-in-confidence

communities,<sup>115</sup> or the development of a community-wide strategy to engage and empower Aboriginal and Torres Strait Islander fathers.<sup>116</sup>

Another project resulted in the development of a range of postgraduate Aboriginal and Torres Strait Islander health subjects at two Australian universities, including subjects such as 'Indigenous Health: From Data to Practice' and 'Substance Use and Misuse Among Indigenous People'.<sup>117</sup>

Translation of research findings to community resources, policy and practice provides the ability for Aboriginal and Torres Strait Islander peoples to use this information to influence their health and wellbeing directly. The case study below was based on a consultation with Dr William Fogarty on influencing policy change through his research findings. He also discusses the support of the LICRC and highlights the impact of having an organisation with connections with local Aboriginal and Torres Strait Islander communities.

## Case study: Changing the language used in policy

**Project:** Discourse, Data and Deficit: Deconstructing the 'Indigenous Health' paradigm and its effect on Aboriginal and Torres Strait Islander peoples

**Project lead consulted:** Dr William Fogarty

### *Knowledge gap*

Dr William Fogarty's involvement with the LICRC was centred on addressing the deficit discourse present in public policy (the project was the first of three Dr Fogarty was involved in on this topic). The issue of deficit discourse arose from discussions with communities and Aboriginal and Torres Strait Islander researchers around the way Aboriginal and Torres Strait Islander people were spoken about in policy narratives, often represented as a problem or taking a deficit approach. At the time of the project's inception, addressing and mapping deficit discourse was a severely under-researched area.

The findings were used to provide solutions in policy and practice surrounding issues affecting Aboriginal and Torres Strait Islanders peoples.

### *Lowitja Institute's approach to KT*

The LICRC funding not only enabled the launch of the project, but it also facilitated knowledge translation. The project team was able to disseminate the findings to community, engage Aboriginal and Torres Strait Islander leaders, and run best practice participatory workshops. This was instrumental to the work that Dr Fogarty and his colleagues had done as it enabled the research team to receive feedback from Aboriginal and Torres Strait Islander communities and leadership around the country.

The dissemination of research findings was further possible through Lowitja Institute's conference held in Canberra and Darwin and a seminar with over 300 public officials in attendance in Canberra – regarded by Dr Fogarty as a seminal moment.

Through the Institute's communication channels and support in running KT activities, the term 'deficit discourse' started to be used in literature and policy language. This highlights the support of the LICRC in informing decision-making process and process of policy change.

Dr Fogarty comments that unlike many other funding bodies, Lowitja Institute has an explicit funding stream for translating research findings into practice and policy. The KT funding has

---

<sup>115</sup> Is the National Disability Insurance Scheme meeting the needs of Aboriginal and Torres Strait Islander people? Evaluating the roll-out in Queensland and the Northern Territory (017-D-001)

<sup>116</sup> Tell My Story: Hearing from the Dads in the Indigenous Birthing in an Urban Setting (IBUS) Study (017-YM-006)

<sup>117</sup> Collaboration supporting a nationally accessible MPH specialisation in Indigenous Health (KE-017A)

allowed the findings to be reported back to the communities and ensured that ground-level change could take place:

*This type of research, like a lot of us in Indigenous research, want to see change on the ground and in policy, and Lowitja [the LICRC] funding allowed us to do this on the ground. A lot of research is dedicated towards medical research. But Lowitja [Institute] really fills this gap in application research.*

#### *Impact*

As a consequence of this research, and with support from the LICRC, the project has enabled project co-leads Dr Fogarty, Dr Mick Dodson (a member of the Yawuru peoples) and his team to employ local Aboriginal and Torres Strait Islanders people.

Being on the research project has given one researcher the opportunity to gain traction on this issue of deficit discourse (which he previously struggled to achieve) and subsequently his own Aboriginal-owned Corporation. The other research has gone on to do a PhD as a result of this project.

Dr Fogarty highlights that work done at the ground-level is often the most impactful for Aboriginal and Torres Strait Islander peoples and their communities:

*Lowitja [Institute] fills a very unique position in the research world – it brought together lots of different parts of the research world and enabled both applied and cutting-edge theoretical world and I hate to see that lost in the future.*

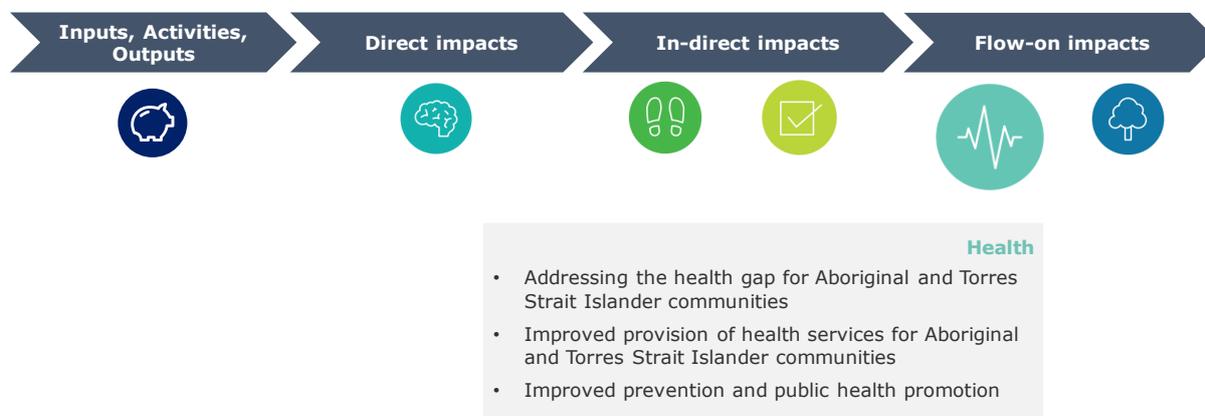
Unlike traditional funding bodies, Lowitja Institute plays a unique role in Aboriginal and Torres Strait Islander research, not only as a funding body but also as a network between organisations, researchers and interested stakeholders. When research is done collaboratively, knowledge is generated and utilised by a greater number of participants, whom all have one centred goal to improve the health and life outcomes of Aboriginal and Torres Strait Islander peoples. Lowitja Institute facilitates this goal and encourages the use of knowledge from the ground-level up which impact the people who need this information the most.

### 3.6 Impact: Health

This section examines impacts of research on the health status and the determinants of health for Aboriginal and Torres Strait Islander peoples.<sup>118</sup>

As outlined in Figure 3.6 below, four specific impact areas were identified.

Figure 3.6 Key impact areas identified under the 'Health impact' category



Source: Deloitte Access Economics (2020)

#### 3.6.2 Addressing the health gap for Aboriginal and Torres Strait Islander communities

The Institute continues to adapt to the health priorities of the Aboriginal and Torres Strait Islander people. Over the four CRC periods, there have been changes to research areas of focus.

The Institute's focus has gradually shifted away from biomedical research and in favour of projects centred on social and emotional wellbeing and understanding social determinants of health. This is in line with a significant proportion of indicators and outcomes highlighted in the Closing the Gap targets and other findings involving Aboriginal and Torres Strait Islander people published by the Australian Government. Of the 148 research projects that the LICRC and CRCATSIH commissioned, 28 per cent (n=41) projects have been mapped to the theme social determinants of health or social and emotional wellbeing. Other major topics addressed by the Institute include health conditions, such as lung cancer and renal disease, and family and community health, including women's and early childhood health.

As outlined throughout this report, there is evidence to suggest that the Institute's research contributes to improvements in both longevity and quality of life for Aboriginal and Torres Strait Islander people to some degree.

With sufficient availability of data, these improvements can ordinarily be quantified using established metrics:

- Longevity of life – e.g. Years of life lost (YLL), changes in life expectancy
- Quality of life – e.g. Quality-adjusted life years (QALYs), or disability-adjusted life years (DALYs).

This section explores the feasibility of estimating the value of these health gains and considers the extent to which they can be attributed to the Institute's research.

#### Longevity of life

The ongoing crisis in Aboriginal and Torres Strait Islander health has been a result of generations of neglect, failed public policy and lack of accessible resources. In response to these long-term health

<sup>118</sup> Canadian Academy of Health Sciences, *Making an impact: a preferred framework and indicators to measure returns on investment in health research* (January 2009) <[https://www.caahs-acss.ca/wp-content/uploads/2011/09/ROI\\_FullReport.pdf](https://www.caahs-acss.ca/wp-content/uploads/2011/09/ROI_FullReport.pdf)>.

Commercial-in-confidence

challenges, the Australian Government committed to specific Closing the Gap targets for reducing health inequalities in Aboriginal and Torres Strait Islander life expectancy and mortality rates.<sup>119</sup>

Other target areas included education, employment and school attendance. Although there has been progress against the targets over the past decade, there still exists areas of concern that require more action and progress. Health outcomes are just a few of the Closing the Gap Targets, and the progress over the decade is demonstrated in Table 3.5.

Table 3.5 Closing the Gap targets under Health outcomes over the last decade

	<b>Aboriginal and Torres Strait Islander people</b>	<b>Non-Indigenous people</b>	<b>Target is on track or has been met</b>
<b>Health outcomes</b>			
Child mortality rate Halve the gap in mortality rates for Indigenous children under five within a decade (by 2018)	141 per 100,000	67 per 100,000	<b>Not met</b>
Life expectancy Close the life expectancy gap within a generation (by 2031)	Males: 71.6 years Females: 75.6 years	Males: 80.2 years Females: 83.4 years	<b>Not on track</b>

Source: Close the Gap report (2020)

The life expectancy gap between Aboriginal and Torres Strait Islander people and non-Indigenous people is a clear example of the existing health disparity between the two populations. The government set a target to close the life expectancy gap within a generation by 2031. However, review of the targets shows that this is not currently on track.

In 2015-17, figures from the Australian Bureau of Statistics revealed Aboriginal and Torres Strait Islander men and women had a life expectancy at birth of 71.6 and 75.6 years respectively, as demonstrated in Chart 3.11.<sup>120</sup>

In comparison, non-Indigenous life expectancy at birth for males and females was 80.2 and 83.4 years. This is a difference of 8.6 years for males and 7.8 years for females. The state with the lowest life expectancy is the Northern Territory (66.6 years for males, 69.9 years for females). The largest gap across the genders is 13.4 years for males and 12.8 years for females, in Western Australia and the Northern Territory respectively.<sup>121</sup> In addition, Aboriginal and Torres Strait Islander men and women living in remote and very remote Australia have lower life expectancy than those living in major cities.

<sup>119</sup> Commonwealth of Australia, Department of the Prime Minister and Cabinet 'Closing the Gap Report 2020' <<https://ctgreport.niaa.gov.au/sites/default/files/pdf/closing-the-gap-report-2020.pdf>>.

<sup>120</sup> Australian Bureau of Statistics, *Deaths in Australia*, cat no. PHE 229 (28 June 2019).

<sup>121</sup> Commonwealth of Australia, Department of the Prime Minister and Cabinet 'Closing the Gap Report 2020'.

Commercial-in-confidence

Chart 3.11 Average life expectancy for Aboriginal and Torres Strait Islander peoples and non-Indigenous male and female, 2005-07 and 2015-17



Source: Deloitte Access Economics using data from Closing the Gap Report 2020

The primary reason for reduced Aboriginal and Torres Strait Islander age-standardised mortality rates has been driven by improvements in mortality rate from stroke, hypertension and heart disease.<sup>122</sup> Early intervention and treatment of chronic conditions and reduced smoking rates in Aboriginal and Torres Strait Islander people has also led to improved health outcomes which positively impact life expectancy.

However, it is important to note that for both smoking-related and cancer-related health outcomes and interventions, there is a long lead time before the true impacts can be seen. Therefore, it is expected that there will be considerable improvement in the rate of cancer and smoking-related health problems over the next few decades.

**Quality of life**

Positive health outcomes are a function of not just length, but also quality of life. In an attempt to capture both aspects, composite measures such as DALYs and QALYs were developed. Although calculations behind these measures differ, the underlying idea is that life years should be adjusted depending on the health state of an individual.

The notion of quality-adjusted metrics of health is important in this context, as Aboriginal and Torres Strait Islander people are more likely than non-Indigenous people to report common long-term health conditions, such as eye diseases and vision problems, respiratory disease, musculoskeletal diseases and ear disease and hearing problems (see Figure 3.7).<sup>123</sup>

<sup>122</sup> Commonwealth of Australia, Department of the Prime Minister and Cabinet 'Closing the Gap Report 2020'.

<sup>123</sup> Australian Bureau of Statistics, *Australian Aboriginal and Torres Strait Islander Health Survey: First Results, Australia, 2012-13*, cat no. 4727.0.55.002 (16 December 2015).

Commercial-in-confidence

Figure 3.7 Age-specific prevalence of leading long-term health conditions in Aboriginal and Torres Strait Islander population, 2012-13

Rank	0-14yo	15-24yo	25-34yo	35-44yo	45-54yo	55+yo	Total
1 <sup>st</sup>	Respiratory diseases 20.9%	Respiratory diseases 29.9%	Respiratory diseases 36.9%	Eye diseases and vision problems 46.7%	Eye diseases and vision problems 87.2%	Eye diseases and vision problems 92.4%	Eye diseases and vision problems 33.4%
2 <sup>nd</sup>	Eye diseases and vision problems 8.8%	Eye diseases and vision problems 22.0%	Eye diseases and vision problems 27.4%	Respiratory diseases 39.8%	Musculoskeletal diseases 47.0%	Musculoskeletal diseases 59.8%	Respiratory diseases 31.0%
3 <sup>rd</sup>	Ear diseases and hearing problems 7.1%	Musculoskeletal diseases 12.7%	Musculoskeletal diseases 21.8%	Musculoskeletal diseases 35.3%	Respiratory diseases 42.6%	Endocrine, nutritional and metabolic diseases 47.4%	Musculoskeletal diseases 19.9%

Source: Deloitte Access Economics using source from Australia Institute of Health and Welfare

Aboriginal and/or Torres Strait Islander peoples also have high prevalence of cardiovascular disease such as diabetes and mental health-related problems. For example, over a five-year period, Aboriginal and Torres Strait Islander people:

- Had almost twice the suicide rate compared to non-Indigenous people<sup>124</sup>
- Were over three times more likely to have diabetes (amongst adults) compared to non-Indigenous adults.<sup>125</sup>

### Capturing improvements in life longevity and quality

In an ideal scenario, estimating the monetary value of life longevity and quality attributable to the Institute would involve:

- a) Calculating the QALYs gained from all health interventions or policy changes that resulted from research projects supported by the Institute
- b) Assigning a monetary value to the QALYs
- c) Attributing a proportion of the resulting value to the Institute informed by stakeholder consultations and additional project-based analysis (e.g. citation metrics, understanding changes in healthcare provision).

However, due to limited availability and quality of data the above steps face challenges.

Firstly, the Institute has supported hundreds of research projects on diverse topics and it is simply impossible to trace their direct contribution to specific interventions. The current approach to data capture and reporting also does not enable this. As a result, it is not possible to estimate an aggregate number of QALYs using this bottom-up approach.

An alternative measure that could be used is the number of DALYs averted (reduction in disease burden) for Aboriginal and Torres Strait Islander people. DALYs for a health condition are calculated as the sum of the years of life lost (YLL) due to premature mortality in the population and the years lost due to disability (YLD) for people living with the health condition or its consequence. One DALY represents one year of life lost<sup>126</sup>. The advantage of this measure is that it is not intervention-specific and is therefore reported as an aggregate for population sub-groups.

<sup>124</sup> Australian Institute of Health and Welfare, *The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples 2015*, cat no. IHW 147 (2015).

<sup>125</sup> Australian Institute of Health and Welfare, *The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples 2015*, cat no. IHW 147 (2015).

<sup>126</sup> Australian Institute of Health and Welfare, *Australian Burden of Disease Study: impact and causes of illness and death in Aboriginal and Torres Strait Islander people 2011*, cat no. BOD 7 (23 September 2016).

Commercial-in-confidence

Between 2003 and 2011, there was a five per cent reduction in the rate of total burden of disease in the Aboriginal and Torres Strait Islander population. This is equivalent to 25 DALY per 1,000 people. In 2011, Aboriginal and Torres Strait Islander people experienced a burden of disease that was 2.3 times the rate of non-Indigenous people. This totalled 190,227 years of life lost due to death or an unhealthy state.

In other words, 284 years were lost due to premature death or living with illness for every 1,000 Aboriginal and Torres Strait Islander persons. Close to two-thirds of the total disease burden is accounted for by chronic diseases, with mental and substance use diseases (19 per cent) causing the greatest burden in Aboriginal and Torres Strait Islander people.

While the DALY approach is non-financial, it can be used in conjunction with the value of a statistical life year (VSLY) approach to ascertain the cost of an injury or fatality or the value of a preventive health intervention. In this methodology, one DALY incurred equals one year of (healthy) life lost, which is valued at a loss of \$213,000.<sup>127</sup>

An intervention which has the effect of reducing expected cases of paraplegia (disability weight of 0.50) by one case each year represents an annual saving to society of half a year of healthy life, equivalent to a gain of \$106,500. This benefit can then be assessed against the cost of the intervention, to determine whether it is cost-effective.

The challenge with using DALYs to understand health gains is that there are no estimates of changes in DALYs over time for Aboriginal and Torres Strait Islander people. Individual estimates of disease burden at a point in time are not sufficient for the purposes of understanding before-after impact.

The most reliable data available over time on changes to health outcomes for Aboriginal and Torres Strait Islander people is life expectancy. With the above limitations, the alternative approach to estimating the monetary value of life longevity and quality attributable to the Institute involves:

1. Calculating life expectancy gains for the population of Aboriginal and Torres Strait Islander over time in total life years, and converting that into DALY (this is likely to be an underestimation of health impacts as compared to using QALYs in an ideal scenario)
2. Assigning a monetary value to DALYs
3. Attributing a proportion of the resulting value to the Institute informed inputs metrics (e.g. attribution based on share of Australian health research expenditure).

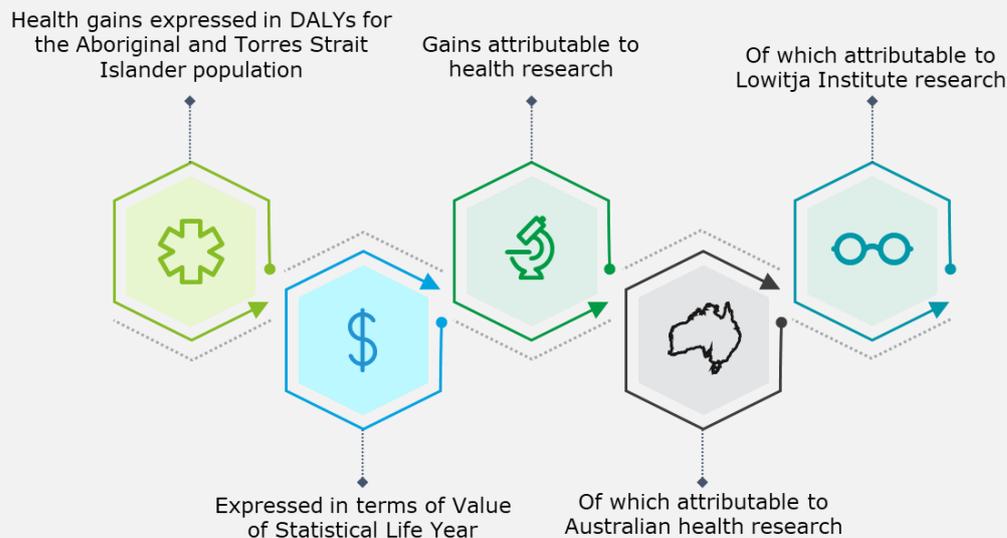
## **Box 2: Illustrative example of how value of health outcomes could be attributed to Lowitja Institute**

Using the methods of attribution outlined above, it is possible to estimate the monetary value of the Institute's impact on health outcomes for Aboriginal and Torres Strait Islander peoples. The estimate relies on a number of assumptions presented in Figure 3.8 and explained in detail below.

---

<sup>127</sup> Department of the Prime Minister and Cabinet, 'Best Practice Regulation Guidance Note: Value of statistical life' (August 2019) <[https://www.pmc.gov.au/sites/default/files/publications/value-of-statistical-life-guidance-note\\_0\\_0.pdf](https://www.pmc.gov.au/sites/default/files/publications/value-of-statistical-life-guidance-note_0_0.pdf)>.

Figure 3.8 Conceptual logic of monetising Lowitja Institute's impact on health outcomes



**Life expectancy** was chosen as a proxy for overall improvements in health due to the availability of the data. However, it is recognised that other metrics, such as the total improvements in QALYs for Aboriginal and Torres Strait Islander people over time would be more appropriate as they would not only capture the length, but also the quality of life. As an alternative, the improvements in life expectancy were converted into DALYs based on a ratio of YLD to YLL calculated in 2011<sup>128</sup>.

- 0.355 years – additional life expectancy gained on average by an Aboriginal and Torres Strait Islander person (average for males and females) over a one-year period (based on 2005-15 comparisons).<sup>129</sup> It is assumed that this yearly increase in life expectancy is constant over the forecasted period.
- 0.671 years – corresponding DALYs estimated; assumes that the YLD to YLL ratio will remain constant over time

**Number of Aboriginal and Torres Strait Islander people** is used to understand the total additional life years gained as a result of extended average life expectancy.

- 798,365 people – this is the population of Aboriginal and Torres Strait Islander people in Australia as per the 2016 Census. It is assumed that the population growth between 2016 and 2036 is on average two per cent which is in line with a medium scenario proposed by ABS.<sup>130</sup>

**Value of Statistical Life Year** is used to monetise the improvements in life expectancy.

- \$213,000 – VSLY as per the 2019 Best Practice Regulation Guidance.<sup>131</sup> This value is assumed to be constant over the forecasted period with a discount rate of seven per cent applied.

**Attribution of health gains to health research** is the most significant assumption in the model. Health outcomes improve not only due to advancements in health research, but also due to improvements in health service delivery, health infrastructure, as well as other social determinants of health (e.g. education).

- 50 per cent – in the absence of robust Australian or international econometric evidence which separates out the effects of health research on health outcomes, the assumption made here is that health research has directly or indirectly accounted for half of the gains

in health span of Aboriginal and Torres Strait Islander peoples (in line with similar research conducted in the past).<sup>132</sup>

**Attribution to Australian health research** recognises that many health gains in Australia have been achieved due to international research. Bibliometric data can be used to determine how much of the health research journal publication output in the world is Australian.

- 3.6 per cent – Australian share of world biomedical publications is used as a proxy for understanding how much of the impacts can be attributed to Australian research.<sup>133</sup>

**Attribution of health gains to Lowitja Institute** is based on the proportion of its expenditure as compared to the total spending on health research in Australia. During 2017–18, an estimated \$5.8 billion was spent on health research, which includes the contribution of the Australian Government, state and territory governments, as well as the non-government sector contributed.<sup>134</sup> The Institute's average expenditure for the LICRC 2014–19 (\$5.9 million) was used to calculate the attribution rate.

- 0.1 per cent – the Institute's average contribution to Australian health research per year. This proportion was held constant over the forecasting period.

**Time lags** were also considered in valuing the outcome gains to recognise that it takes time for the benefits of research to be realised. Past research indicates that impacts of research are realised over 10 to 25 years.<sup>135</sup>

- 17 years – assumed central estimate of the time lag between research output and benefits being realised. As such, for each year of the Institute's investment in research, benefits of increased life expectancy are spread across 17 years. The resulting forecasting timeframe is therefore until 2036 (17 years from the last investment in scope of this analysis 2019).
- 4% - discount rate used to allow for comparability of future value of benefits to current costs.

Using the approach outlined above (Box 2), the resulting value of health gains that could be attributed to research activity supported by the LICRC and former CRCs is approximately \$49.9 million. This is presented in Table 3.6 below alongside sensitivity testing.

<sup>128</sup> AIHW, *Impact and causes of illness and death in Aboriginal and Torres Strait Islander people* (2011) <[https://www.aihw.gov.au/getmedia/f494255e-5399-4fae-8e41-1916c99dd030/aihw-bod-7-BoD-ATSI\\_2011.pdf.aspx?inline=true](https://www.aihw.gov.au/getmedia/f494255e-5399-4fae-8e41-1916c99dd030/aihw-bod-7-BoD-ATSI_2011.pdf.aspx?inline=true)>

Total number of Years Lost due to Disability (YLD) = 89,564, Total number of Years of Life Lost (YLL) = 100,663; DALY = (1+YLD/YLL) x (life expectancy improvement) = 0.671

<sup>129</sup> AIHW, *Life expectancy of Aboriginal and Torres Strait Islander people* (2019)

<<https://www.aihw.gov.au/reports/life-expectancy-death/deaths/contents/life-expectancy>>

<sup>130</sup> ABS, *3238.0 - Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2006 to 2031* (2019)

<[https://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/3238.0Media%20Release12006%20to%202031?opendocument&tabname=Summary&prodno=3238.0&issue=2006%20to%202031&num=&view="](https://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/3238.0Media%20Release12006%20to%202031?opendocument&tabname=Summary&prodno=3238.0&issue=2006%20to%202031&num=&view=)>

<sup>131</sup> Department of the Prime Minister and Cabinet, *Best Practice Regulation Guidance Note Value of statistical life* (2019) <[https://www.pmc.gov.au/sites/default/files/publications/value-of-statistical-life-guidance-note\\_0\\_0.pdf](https://www.pmc.gov.au/sites/default/files/publications/value-of-statistical-life-guidance-note_0_0.pdf)>

<sup>132</sup> Deloitte Access Economics, *Returns on NHMRC funded Research and Development* (2017)

<sup>133</sup> National Health and Medical Research Council, *Measuring Up 2018*. (2018) Canberra: National Health and Medical Research Council <[nhmrc.gov.au/about-us/publications/measuring-up-report-2018](http://nhmrc.gov.au/about-us/publications/measuring-up-report-2018)>

<sup>134</sup> AIHW, *Health expenditure Australia 2017–18*, (2019) <<https://www.aihw.gov.au/getmedia/91e1dc31-b09a-41a2-bf9f-8deb2a3d7485/aihw-hwe-77-25092019.pdf.aspx>>

<sup>135</sup> Health Economics Research Group, Office of Health Economics, RAND Europe. *Medical Research: What's it worth? Estimating the economic benefits from medical research in the UK*. London: UK Evaluation Forum; 2008 <<https://mrc.ukri.org/publications/browse/medical-research-whats-it-worth/>>

Commercial-in-confidence

Table 3.6 Estimates of value of health gains attributable to the LICRC and CRCATSIH's activity between 2010 and 2019 with sensitivity testing on two assumptions.

	Central assumption	Lower bound	Higher bound	Sensitivity
<b>Health gains attributable to research in general</b>				
Assumption	50%	30%	70%	
Total benefits	\$49.9 M	\$29.9 M	\$69.8 M	High sensitivity
<b>Discount rate</b>				
Assumption	4%	6%	2%	
Total benefits	\$49.9 M	\$55.7 M	\$45.2 M	Moderate sensitivity

These results shown in Table 3.6 should be considered in the context of the following limitations:

- Estimate of health gain over time is simplistic. It is based on life expectancy changes converted into DALYs based on historical ratios. There is insufficient data monitoring Aboriginal and Torres Strait Islander people health status over time to allow for an accurate estimate of QALYs.
- Attribution of health gains to advancements in health research is assumption-based. This is one of the most sensitive assumptions influencing the results and that was originally considered in the context of US research.<sup>136</sup> Although this assumption was used for the purposes of Australian health research gain estimates in the past, it requires further validation.
- Attribution to Australian health research and then to the LICRC and CRCATSIH uses output (citation metrics) and input (funding) measures as proxies. This may not be an accurate representation of the impact of Australian and the Institute CRC and CRCATSIH research.
- In the context of health gains for Aboriginal and Torres Strait Islander people, further considerations are required on the extent to which research focused specifically on Aboriginal and Torres Strait Islander people contributes more than, equally, or less than health research without such focus.
- The Institute's research may also impact policy and practice internationally (e.g. in Canada). Health gains of Indigenous people internationally have not been accounted for in these estimates.

### 3.6.3 Improving provision of health services

Aboriginal and Torres Strait Islander peoples experience poorer health outcomes for a variety of reasons, and one of those reasons is due to lack of access to health services, such as acceptability of (i.e. cultural aspects or lack of these) and availability (geographic location and remoteness) to health services.<sup>137</sup>

Measures of access to health care services can be used to monitor disparities between Aboriginal and Torres Strait Islander and non-Indigenous people. In 2016-17, BreastScreen participation rates for Aboriginal and Torres Strait Islander women were 27 per cent compared with 34 per cent for non-Indigenous women.<sup>138</sup>

<sup>136</sup> Hatfield M, Sonnenschein H, Rosenberg L, *Exceptional Returns: The Economic Return to Health Expenditure* (2000) Funding First, New York <[www.laskerfoundation.org/reports/pdf/exceptional.pdf](http://www.laskerfoundation.org/reports/pdf/exceptional.pdf)>

<sup>137</sup> Australian Institute of Health and Welfare 2016, *Australia's health 2016. Australia's health series no. 15*, cat no. AUS 199 (2016).

<sup>138</sup> Australian Institute of Health and Welfare 2019, *Cultural safety in health care for Indigenous Australians: monitoring framework*, cat no. IHW 222 (28 October 2019).

Commercial-in-confidence

Lower rates in health service participation may further be explained by the quality of service received by Aboriginal and Torres Strait Islander people, which often lacks cultural safety and respect.<sup>139</sup> However, the data surrounding this is limited at the national and state level.

Projects funded by the LICRC and CRCATSIH have addressed the issues of access to and quality of health service provision for Aboriginal and Torres Strait Islander people in Australia through examining topics including (but not limited to):

- Evaluation of service delivery and practice
- Development of models for best practice service delivery in mental health
- Governance in Aboriginal and Torres Strait Islander health services
- Recommendations for safe medication management
- Development and delivery of postgraduate subjects in Aboriginal and Torres Strait Islander health
- Assisting Aboriginal and Torres Strait Islander primary health care centres to improve their systems for delivering best practice in chronic disease.

One example is the *Working Well* project at Gurriny Yealamucka Health Service (Gurriny) in Yarrabah, Queensland. This project aimed to improve Aboriginal and Torres Strait Islander community-controlled primary health care service provision, through developing evidence-informed, tailored workforce systems and processes.<sup>140</sup>

The project was a direct response to a priority identified by Gurriny to better elucidate their workforce model, and address challenges faced by Aboriginal and Torres Strait Islander primary care services such as staffing levels, retention and turnover. The findings of the project identified six strategies to address the issues, which can be tailored to suit the needs of other local services.<sup>141</sup> The key strategies are:

1. Improve recruitment and retention of Aboriginal and Torres Strait Islander health professions in clinical and non-clinical roles across all health disciplines
2. Improve the skills and capacity of the Aboriginal and Torres Strait Islander workforce in clinical and non-clinical roles across all health disciplines
3. Health and related sectors be supported to provide culturally safe and responsive workplace environments for the Aboriginal and Torres Strait Islander workforce
4. Increase the number of Aboriginal and Torres Strait Islander students studying for qualifications in health
5. Improve completion/graduation and employment rates for Aboriginal and Torres Strait Islander health students
6. Improve information for health workforce planning and policy development.

Over a three-year period, Gurriny has increased employment of local people by 75 per cent, with over 80 per cent of positions filled by Aboriginal and/or Torres Strait Islander peoples.<sup>142</sup> The recruitment and retention of Aboriginal and Torres Strait Islander staff (and implementing the six strategy areas) has been essential to client engagement and the delivery of culturally safe care. This is particularly important in Yarrabah, where 97 per cent of its population is made up of Aboriginal

---

<sup>139</sup> Australian Institute of Health and Welfare 2019, *Cultural safety in health care for Indigenous Australians: monitoring framework*, cat no. IHW 222 (28 October 2019).

<sup>140</sup> Lowitja Institute, *Working well: Tailoring a workforce development model to delivery sustained improvements in community controlled healthcare* (2020) Lowitja Institute <<https://www.lowitja.org.au/page/research/research-categories/health-services-and-workforce/workforce/completed-projects/working-well>>.

<sup>141</sup> Aboriginal and Torres Strait Islander Health Workforce Working Group, National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework 2016-2023 (February 2017) Australian Health Ministers' Advisory Council

<[https://www1.health.gov.au/internet/main/publishing.nsf/Content/4A716747859075FFCA257BF0001C9608/\\$File/National-Aboriginal-and-Torres-Strait-Islander-Health-Workforce-Strategic-Framework.pdf](https://www1.health.gov.au/internet/main/publishing.nsf/Content/4A716747859075FFCA257BF0001C9608/$File/National-Aboriginal-and-Torres-Strait-Islander-Health-Workforce-Strategic-Framework.pdf)>.

<sup>142</sup> McCalman J et al, 'Working well: a systematic scoping review of the Indigenous primary healthcare workforce development literature' (2019) 19 *BMC Health Service Research* 1.

Commercial-in-confidence

and Torres Strait Islander people.<sup>143</sup> The research findings of this project have long-lasting impact and provides other Aboriginal and Torres Strait Islander community controlled primary healthcare services the enabling conditions and strategies for best practice workforce model.

Challenges and opportunities faced by Aboriginal and Torres Strait Islander people living with disabilities have also been a focus on some of the Institute's research projects. Defined as 'any limitation, restriction or impairment which restricts everyday activities and has lasted or is likely to last for at least six months', Aboriginal and Torres Strait Islander people are 1.7 times as likely to be living with disability than non-Indigenous people (27.6 per cent compared with 16.5 per cent), after adjusting for age.<sup>144</sup>

Recommendations for better acceptance of the NDIS by Aboriginal and Torres Strait Islander people living with disabilities and their families have been published as a result of project supported by the LICRC.<sup>145</sup> One issue identified by Aboriginal and Torres Strait Islander people living with disabilities and their families is the availability of accessible information about NDIS. For many Aboriginal and Torres Strait Islander people, English is not their first language, so information about the NDIS, how it works and how to access it needs to be available in an accessible manner to ensure applicability.<sup>146</sup>

Another example, is the *Improving the culture of hospitals* project, aimed at improving cultural sensitivity in acute health care institutions. A focal point of the project included using the experiences of Aboriginal and Torres Strait Islander people to develop a quality improvement framework for hospitals and health care institutions. Each stage of the system engagement process between Aboriginal and Torres Strait Islander people and health care institutions were addressed to ensure sustained cultural change in hospitals. Two key factors for the project's success included having a strong partnership with Aboriginal communities, and a committee to supporting the Aboriginal and Torres Strait Islander workforce.<sup>147</sup>

### 3.6.4 Prevention and public health promotion

The Institute's research can provide improvements in the health status of Aboriginal and Torres Strait Islander populations by contributing to medical or policy changes which reduce the mortality and morbidity associated with different health issues.

Health research by the Institute can most likely also impact on the determinants of health, by impacting individual, social, and environmental determinants. For example, where the Institute research is used to create educational material which leads individuals to reduce their rates of smoking, this can conceivably be linked to a change in the determinants of health. As these impacts are not directly linked to the publication of research, additional evidence is required to establish a link between research and the associated health benefit.

As previously mentioned in section 3.3.2, the Institute publishes a range of material across several platforms to increase the awareness and accessibility of their research findings. By doing this, the Institute acknowledges that information that is consumed by its end-users needs to suit the environment and context of which they are intended to provide benefits to their audience.

This is particularly highlighted in a case study of the development and implementation of culturally appropriate evaluation protocols for Aboriginal and Torres Strait Islander health promotion

<sup>143</sup> Australian Bureau of Statistics, *2016 Census Quickstats: Yarrabah(S)* (23 October 2017) <[https://quickstats.censusdata.abs.gov.au/census\\_services/getproduct/census/2016/quickstat/LGA37600](https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/LGA37600)>.

<sup>144</sup> Australian Bureau of Statistics, *4430.0 - Disability, Ageing and Carers, Australia: Summary of Findings, 2012* (13 November 2013) <[<sup>145</sup> The University of Melbourne, \*Understanding disability through the lens of Aboriginal and Torres Strait Islander people – challenges and opportunities\* \(May 2019\) <\[https://www.lowitja.org.au/content/Document/PDF/NDIS\\\_Evaluation\\\_M\\\_Kelaher\\\_v2.pdf\]\(https://www.lowitja.org.au/content/Document/PDF/NDIS\_Evaluation\_M\_Kelaher\_v2.pdf\)>.](https://www.abs.gov.au/ausstats/abs@.nsf/mf/4433.0.55.005#:~:text=The%20crude%20disability%20rate%20was,24.8%25%20and%2022.2%25%20respectively)%3B).></a>.</p>
</div>
<div data-bbox=)

<sup>146</sup> Australian Bureau of Statistics, *2076.0 - Census of Population and Housing: Characteristics of Aboriginal and Torres Strait Islander Australians, 2016* (14 March 2019) <<https://www.abs.gov.au/Ausstats/abs@.nsf/7d12b0f6763c78caca257061001cc588/656ea6473a7580bbca258236000c30f7!OpenDocument>>.

<sup>147</sup> Lowitja Institute, 'Improving the cultural sensitivity of hospitals for Aboriginal and Torres Strait Islander people', (Factsheet 14a, Lowitja Institute, 2014).

Commercial-in-confidence

programs. The *Creating Health Environments* project emphasises that production of new monitoring and reporting tools need to be more relevant to the social and environmental determinants of health which influence Aboriginal and/or Torres Strait Islander peoples.<sup>148</sup>

Similar recommendations can be found in other projects, including a project addressing cultural medication approaches and a literature review. These projects further emphasise the need to strengthen the range and quality of promotion tools and approaches for Aboriginal and Torres Strait Islander people to inform a holistic pathway to primary health care services.

A combination of influences and factors contributes to the health and wellbeing of individuals. This is particularly important for children, especially during the initial years of life, which are critical for healthy development. The case study below was based on a consultation with Professor Kerry Arabena on her experience with improving services during childhood years of Aboriginal and/or Torres Strait Islander children. Professor Arabena discussed her long-standing connection with the Institute, and support of the CRCs over the course of her career.

## Case study: Identifying factors influencing childhood health and wellbeing

**Project:** Service integration for Aboriginal and Torres Strait Islander early childhood

**Project lead consulted:** Professor Kerry Arabena

### *Lowitja Institute's approach*

The success of the early childhood development project subject to this case study can be attributed to the strong partnerships between multiple organisations and individuals. Professor Kerry Arabena highlighted the Institute's ability to bring people to a collective as the driving force behind the service integration component of the project. Lowitja Institute's presence in Aboriginal and Torres Strait Islander communities enabled the research findings to be disseminated to a broad network of organisations, through Lowitja Institute's newsletter and website and conference. The Institute also played an important part in facilitating a partnership agreement between mainstream and other organisations that would not usually come together.

*"What I have learnt from Lowitja Institute has made me incredible masterful to work across different groups, and people and knowledge areas and that has been so empowering. And it's priceless and something you can't put a price on it."*

The project has made a great contribution to 'First 1000 Days Australia' and has built on the achievements of people, celebrated cultural knowledge in terms of partnering and skills, and the impact for child to be unified with families. The findings of Professor Arabena's research emphasise the multimodal domains of Aboriginal and Torres Strait Islander child wellbeing, which include safety, health, culture and connections, mental health and emotional wellbeing, and empowerment and economic wellbeing.

Service integration has enabled partner organisations to meet a broad range of needs for Aboriginal children and families and provide holistic and coordinated care. Furthermore, successful partnerships with a range of service providers have enabled access to a broader range of services for Aboriginal children and families, holistic and coordinated care, and increased cultural capacity among mainstream providers.

### *Impacts*

---

<sup>148</sup> Lowitja Institute, *Integrated model for Aboriginal health promotion and its evaluation* (2020) <<https://www.lowitja.org.au/page/research/research-categories/cultural-and-social-determinants/social-determinants-of-health/completed-projects/integrated-model-for-aboriginal-health-promotion-and-its-evaluation>>.

In addition to intended outcomes, positive impact on learning, social and emotional wellbeing was a major benefit of the two childcare centres as they clearly support the development of social support networks and social connection for children and families, which was considered crucial considering the evidence relating to the importance of belonging, connectedness and identity for Aboriginal and Torres Strait Islander peoples.

When asked about what role Lowitja Institute has played in Professor Arabena's professional career more broadly, she reflects:

*"I would never in a million years to have excepted myself to end up being a professor. As a mum living in a caravan park and then to the first female Torres Strait Islander professor in Australia. Never would I have understood that as a teenager. Lowitja Institute came into my life when I was looking for a bigger horizon and seeing how people progressed in their own lives and understanding there are no professors and now, we have 24 and that has really been generated through Lowitja Institute and all the supports."*

What is most impactful is the Institute's role in supporting and engaging generations of Aboriginal and Torres Strait Islander researchers. The Institute fosters an environment where Aboriginal and Torres Strait Islander people can talk openly about their stories and their 'Indigenusness' and how it is contributing to wellbeing and a new understanding of the world. This mindset is embedded within the culture of the Lowitja Institute, and this attribute is what distinguishes itself from other funding bodies.

### 3.7 Impact: Economic, social, and environmental

This final section seeks to assess the impact of the LICRC and CRCATSIH’s health research on a range of wider socioeconomic and cultural indicators for Aboriginal and Torres Strait Islander peoples.<sup>149</sup>

As outlined in Figure 3.9 below, four specific impact areas were identified.

Figure 3.9 Key impact areas identified under the ‘Economic, social and environmental’ impact category



Source: Deloitte Access Economics (2020)

#### 3.7.1 Increased awareness of the social determinants of health outcomes

Social determinants of health include the circumstances in which people grow, live, work and age, and the systems put in place to deal with illness. Political, social and economic forces influence and contribute to how people live and die.<sup>150</sup> It is well established that factors such as poverty, poor access to quality food, unsafe neighbourhoods, poor-quality housing and low level of education all have a negative impact on health outcomes for all people.

According to the Close the Gap report, social determinants explain up to a third (34 per cent) of the gap between Aboriginal and Torres Strait Islander and other Australians’ health outcomes.<sup>151</sup> Of these, behavioural factors such as smoking, obesity and alcohol use contribute a total of 19 per cent.<sup>152</sup>

Changes in the social determinants of health can lead to improved health and quality of life for Aboriginal and Torres Strait Islander peoples. Over the past years, the Institute has supported increasingly more studies which raise the awareness and the understanding on this topic. From the sample of 18 projects analysed, the following social determinants of health were examined (primarily from the Mayi Kuwayu Study<sup>153</sup>):

- **Sociodemographic factors** (e.g. Age, gender, housing, literacy, formal education, employment, remoteness, household composition)

<sup>149</sup> Canadian Academy of Health Sciences, *Making an impact: a preferred framework and indicators to measure returns on investment in health research* (January 2009) <[https://www.caahs-acss.ca/wp-content/uploads/2011/09/ROI\\_FullReport.pdf](https://www.caahs-acss.ca/wp-content/uploads/2011/09/ROI_FullReport.pdf)>.

<sup>150</sup> World Health Organisation, *Social determinants of health (2005-2008)*, [https://www.who.int/social\\_determinants/thecommission/finalreport/key\\_concepts/en/](https://www.who.int/social_determinants/thecommission/finalreport/key_concepts/en/).

<sup>151</sup> Lowitja Institute, *Close the Gap: We nurture our culture for our future, and our culture nurtures us.* (2020) <[https://www.lowitja.org.au/content/Document/CtG2020\\_FINAL4\\_WEB%20\(1\).pdf](https://www.lowitja.org.au/content/Document/CtG2020_FINAL4_WEB%20(1).pdf)>.

<sup>152</sup> Australian Bureau of Statistics, *Aboriginal and Torres Strait Islander Health Performance Framework (HPF) report 2017*, cat no. IHW 194 (30 May 2017).

<sup>153</sup> Jones, R., et al, *Study protocol: Our Cultures Count, the Mayi Kuwayu Study, a national longitudinal study of Aboriginal and Torres Strait Islander wellbeing.* (2018). *BMJ open*, 8(6), e023861. <<https://doi.org/10.1136/bmjopen-2018-023861>>

Commercial-in-confidence

- **Cultural practice, expression, and connection** (e.g. Country and connection to country, Aboriginal and Torres Strait Islander peoples' beliefs and knowledge, cultural expression, self-determination and leadership, language, identity)
- **Family support and connection** (e.g. Family, kinship and community)
- **Health behaviours** (e.g. Physical activity, tobacco and alcohol use, nutrition and diet, health service use)
- **Experiences and environments** (e.g. Services in the community, experiences of racism, community safety, environmental conditions, life events).

Quantifying the extent to which increased awareness about these social determinants leads to improvements in health is challenging due to the issues of attribution. It first requires identification of the specific changes in the determinants of health, such as reduced prevalence of obesity, or increased literacy. Once identified, a causal link between the change in the social determinant and a health outcome needs to be established. Finally, the dollar value of these improvements in health and wellbeing can be monetised using a number of different financial proxies.

It may not be possible to demonstrate a direct contribution of the LICRC and CRCATSIH's research to improved social determinants and therefore health outcomes statistically. However, it is important to recognise the Institute's contribution in the first step of this value chain – increased awareness and recognition of the social determinants.

For instance, the *Mayi Kuwayu* study supported by the LICRC has enabled a large-scale investigation of the relationship between culture and wellbeing for Aboriginal and Torres Strait Islander people. Those social determinants arose from community-identified priorities and were developed through extensive consultation with the community.

This study enabled the generation of a first large-scale national cohort survey to enable the meaningful and appropriate collection of data about Aboriginal and Torres Strait Islander cultures and wellbeing across diverse settings. The study is a necessary building block for identify opportunities to incorporate cultures in programmes and policy to improve Aboriginal and Torres Strait Islander wellbeing.

A flow-on effect of the Institute's research may include reduced criminal, healthcare and welfare costs for impacted populations, allowing for government funding to be redistributed away from these areas. While valuing these outcomes might be possible by reference to the avoided costs associated with the justice system, without data on the extent to which these benefits have been realised means that it would more appropriate to report these qualitatively.

### **3.7.2 Improved trust and engagement of Aboriginal and Torres Strait Islander communities in government services**

Trust in government health services and institutions has been identified as a critical issue for supporting the participation and uptake of Aboriginal and Torres Strait Islander communities in public health services and treatments.<sup>154</sup> In a survey of Aboriginal and/or Torres Strait Islander listeners to community radio broadcasting services, being an 'Aboriginal community controlled organisation' was ranked as the most important factor to ensuring the trust of the community.<sup>155</sup> Aboriginal and Torres Strait Islander leaders in fields such as health research are therefore in a unique position to develop more positive connections with communities, and also become a role model for others. One way of facilitating those relationships and trust is through involving Aboriginal and Torres Strait Islander leaders and communities in the design and delivery of government health services.<sup>156</sup>

<sup>154</sup> Sandra C Thompson et al, 'Not just bricks and mortar: planning hospital cancer services for Aboriginal people' (2011) 2 *BMC Research Notes* 62.

<sup>155</sup> Social Ventures Australia, *More than ratio – a community asset: Social return on investment analyses of Indigenous Broadcasting Services* (report commissioned by the Department of Prime Minister and Cabinet, 2017) <[https://firstnationsmedia.org.au/sites/default/files/files/ibs\\_sroi\\_report-corrected.PDF](https://firstnationsmedia.org.au/sites/default/files/files/ibs_sroi_report-corrected.PDF)> 68.

<sup>156</sup> Brenton Holmes, 'Citizens' engagement in policymaking and the design of public services' (Parliament of Australia, Research Paper No 1/2011-12)

Commercial-in-confidence

While rarely identified as an explicit aim of health research funded by the LICRC and CRCATSIH, many projects in the randomised review of project documentation provided support for the use of community engagement as a method of building trust in government health services.

For example, a review of the roll-out of the NDIS among certain communities was conducted in collaboration with two research partners, both of which had longstanding connections with Aboriginal and Torres Strait Islander communities in the regions of interest.<sup>157</sup> The project built on these strong relationships with Aboriginal and Torres Strait Islander communities, which enabled intimate access to participants, resource sharing and the expertise of highly experienced disability and community service professionals across design, planning and data gathering phases of the project.

Another study assessing the impact of a cultural mediation approach to screening for alcohol and mental health problems involved training medical practitioners at the local medical clinic on asking about 'mob' and 'country' – helping to build rapport between clients and practitioners.<sup>158</sup>

### **3.7.3 Preservation of threatened and near threatened species of flora and fauna.**

For Aboriginal and Torres Strait Islander people, the word 'Country' refers to everything all living together. This includes the living (e.g. birds), non-living (e.g. rock), the climate and humans and the relationship and function of everything that creates a healthy environment.<sup>159</sup>

Native plants and animals have provided Aboriginal and Torres Strait Islander people with food, medicine and material, and has been a source of livelihood for many centuries. However, the condition of Australia's biodiversity is getting worse in part due to the impact of climate change. The diversity of bush foods and resources is declining, and this has had a negative impact on the nutrition, health and physiological wellbeing of Aboriginal and Torres Strait Islander peoples, particularly those who are reliant upon local species for food.

Another important consequence of the declining diversity of bush food and resources is the missed opportunities for future generations to learn and apply this knowledge or have this cultural identify as an Aboriginal and/or Torres Strait Islander person. Evidently, the Aboriginal and Torres Strait Islander way of life promotes sustainability and environmentalism, issues which are only now becoming a priority in the Western world.

The long-term impacts of global issues such as climate change highlights the need for research funding to move towards a direction that ensures our economy and society can thrive with the changing environments. The Institute has identified this as important social determinant that impacts the wellbeing and livelihood of Aboriginal and/or Torres Strait Islander communities, and inputs funding to preserve the culture, knowledge and traditional way of living that have benefited communities for centuries.

The importance of Country can be illustrated in the *Meriba buay - ngalpan wakaythoemamay* (We come together to share our thinking) project commissioned by the LICRC and James Cook University. The study's aim was to enhance social capital through the mobilisation of knowledge about adaptability and resilience initiatives and strategies to address natural environment concerns relating to Torres Strait Islander people.

The impact of the changing environment, and by extending the health of both Land and Sea Country, related to the social determinants of health and wellbeing for Torres Strait Islanders. These include (but are not limited to):

- Potential loss of cultural and weakening of Ailan Kastom (Island Custom)
- Rising sea levels in the Torres Strait region
- Fluctuating economic circumstances and rising cost of living

---

<[https://www.aph.gov.au/about\\_parliament/parliamentary\\_departments/parliamentary\\_library/pubs/rp/rp1112/12rp01](https://www.aph.gov.au/about_parliament/parliamentary_departments/parliamentary_library/pubs/rp/rp1112/12rp01)>.

<sup>157</sup> Is the National Disability Insurance Scheme meeting the needs of Aboriginal and Torres Strait Islander people? Evaluating the roll-out in Queensland and the Northern Territory (017-D-001)

<sup>158</sup> Culture mediation approach in Aboriginal primary health care: impacts on screening and treatment for risky alcohol consumption (SG 002)

<sup>159</sup> CSIRO 2014, Biodiversity: Science and solutions for Australia

Commercial-in-confidence

- Cross border concerns such as population growth, infectious and tropical diseases and pests
- Disrupted fisheries.

This project established the first known Torres Strait Islander Researchers' CoP, a group of Torres Strait Islander members with a range of expertise in areas from health to visual arts.<sup>160</sup> The CoP also drives for change in policy and practice and played a key role in knowledge translation for research end-users. To engage the Torres Strait Islander community and general public on climate change issues, the CoP conducted a range of knowledge translation activities as an arts-based performance and a games night. The performance told the story about a future where Torres Strait Islander communities have been swallowed by the waters that surrounded them. The performance was well received, and feedback was positive:

*"When the show went through, I got the message and it was clear with all that action of how we need to be aware of our environment".*

The game based, problem solving taster night was also held to inform Torres Strait Islander people about threats facing communities in the region such as sea level rise, tsunamis and volcanic eruptions. The feedback received was also positive with many participants commenting on the effectiveness of using game-based activities to deliver knowledge. This project is an example of acknowledging research findings need to be delivered in a way that is accessible to the community.

#### **3.7.4 Development of culturally safe workplaces**

A safe and culturally responsible workplace is creating a place of better understanding and awareness of differences and diversity.<sup>161</sup> This is particularly important for Aboriginal and Torres Strait Islander communities, which have their own traditions and approaches towards medicine and health. Within the healthcare setting, a balance needs to be achieved between academic/clinical knowledge and customs of Aboriginal and Torres Strait Islander cultures.

Furthermore, for healthcare professionals to work effectively with Aboriginal and Torres Strait Islander communities, it is critical they understand that not all individuals that fit within their community are the same or have the same Aboriginal and/or Torres Strait Islander culture. Importantly, it should be acknowledged that there exist distinct groups within the Aboriginal and Torres Strait Islander population. Despite some shared commonalities in customs, Aboriginal and Torres Strait Islander culture is not homogenous, and the care delivered needs to reflect these differences.

As previously mentioned in this report, the *Working Well* project is one example of healthcare professionals achieving better engagement of Aboriginal and Torres Strait Islander patients. This is largely due to the high proportion of positions at the health service filled by Aboriginal and Torres Strait Islander peoples, who live and intimately understand principles of Aboriginal and Torres Strait Islander cultures.<sup>162</sup>

In the *Working Well* project exit report, the research investigators indicate the findings of the project will have long-last impacts on other Aboriginal and Torres Strait Islander community controlled primary healthcare services. However, they emphasise that these findings need to be tailored to the characteristics of the community that make up the surrounding area.

The *culture medication approach in Aboriginal primary health care* project, which investigated the impact of cultural medication as an approach to primary health care delivery in those with alcohol and mental health problems, is another example of creating a culturally safe workplace. Understanding the need to create culturally sensitive approaches, the physicians at Winnunga Nimmityjah Aboriginal Medical Service received training on how to ask patients about their 'mob'

<sup>160</sup> Lowitja Institute, *Evaluating a community of practice for Torres Strait Islander health and wellbeing* (2020) <<https://www.lowitja.org.au/page/research/research-categories/health-policy-and-systems/monitoring-and-evaluation/projects/meriba-buay>>.

<sup>161</sup> National Aboriginal and Torres Strait Islander Health Worker Association, *Cultural safety framework: National Aboriginal and Torres Strait Islander health workers association* <[www.aph.gov.au/sub104d\\_AIDA\\_CATSINaM\\_IAHA\\_NATSIHWA.pdf](http://www.aph.gov.au/sub104d_AIDA_CATSINaM_IAHA_NATSIHWA.pdf)>.

<sup>162</sup> McCalman J et al, 'Working well: a systematic scoping review of the Indigenous primary healthcare workforce development literature' (2019) 19 *BMC Health Service Research* 1.

Commercial-in-confidence

and 'Country' in order to inform a holistic approach to primary health care and screen for alcohol and mental health problems.<sup>163</sup> Embedding the principles of cultural safety within training and practice is vital in ensuring Aboriginal and/or Torres Strait Islander patients are accommodated and feel respected within the workplace and healthcare setting.

Improving health and wellbeing of Aboriginal and Torres Strait Islander persons includes addressing all economic, social and environmental factors which influence an individual's wellbeing, one of which includes empowerment. The case study presented below illustrates how sharing stories, allows Aboriginal and Torres Strait Islander people the opportunity to feel empowered by their challenges, overcome hurdles, and to take ownership of their future. It was based on a consultation with Professor Yvonne Cadet-James on her experience with integrating a training program that helps Aboriginal and Torres Strait Islander heal from past experiences with early childhood family-centred care. Professor Cadet-James also discusses her connection with the LICRC, and their support of her research project.

## Case study: Empowerment through sharing stories

**Project:** Sustainable implementation of Indigenous early childhood family support programs that work: A Family Wellbeing case study

**Project lead consulted:** Professor Yvonne Cadet James

*Whole of community approach to early childhood care*

The Family Wellbeing (FWB) program is a community-based training program (participants obtain Certificate II through TAFE) designed to empower Aboriginal and Torres Strait Islander people to tackle their personal and community needs.

In the context of early childhood support, the Family Wellbeing (FWB) program was identified as having a potential to empower family-centred care which attends to broader social and emotional needs of families (rather than focusing on addressing physical health needs only).

Professor Cadet-James has worked on the FWB over the past two decades. This particular project focused on understanding the Social Return on Investment from integrating the FWB program into early childhood services and designing sustainable funding models to help Aboriginal and Torres Strait Islander communities, and those who work with them, deliver and sustain integrated early childhood services.

Through the adoption of Participatory Action Research and Continuous Quality Improvement frameworks, Professor Cadet-James and her James Cook University colleagues worked in partnership with Aboriginal and Torres Strait Islander organisations, related services and other stakeholders to coordinate and integrate early childhood family support initiatives across regions where FWB program exists. The project was strengths based with the content including understanding leadership, basic human needs, grief and loss, family violence and provides participants with the skills for decision making for positive change.

### *Impact*

The training program delivered as part of the FWB program brings people together in a safe and supportive environment to facilitate empowerment and sharing of challenges and stories. Systematic review of the program over 17 years has revealed positive outcomes regarding person, family and community empowerment and wellbeing.

A key component of this project was an evaluation of the program regarding the impact on participants and services, investigation into sustainable funding models and social return on

---

<sup>163</sup> Culture mediation approach in Aboriginal primary health care: impacts on screening and treatment for risky alcohol consumption (SG 002).

investment. The FWB project and its findings are one of the few Lowitja Institute supported research projects which has been systemically exploring the impact of the research <sup>164</sup>

The research team reported the following impacts on family and community members as a result of the project:

- Reduced psychological distress
- Improved relationships
- Increased social participation and engagement
- Skills development
- Improved workplace performance
- Capacity to seek and use support mechanisms.

#### *Lowitja Institute's approach*

Years of partnership between Lowitja Institute and James Cook University allowed for an avenue for information sharing and peer support. Lowitja Institute became aware of the work Professor Cadet-James and her colleagues were doing to address early childhood development. In seeing the value in the research that was being conducted by James Cook University, the LICRC provided the project with financial support.

*In terms of Lowitja Institute, they have to be the most valued organisation. It's a space where Indigenous people can engage with our own methodology and knowledge and be supported in the way they can do so.*

The LICRC funding enabled significant KT activities throughout the project, including knowledge exchange between FWB regional hubs, and hosting of a national FWB Forum attended by 70 members.

The success of the training program is attributed to the fact that the FWB program is designed by and for Aboriginal and Torres Strait Islander people. Professor Cadet-James also mentions Lowitja Institute's previous work and development of the Research for Impact Logic Model which has been used in the Family Wellbeing project.

---

<sup>164</sup> Tsey et al., *Assessing research impact: Australian Research Council criteria and the case of Family Wellbeing research*. (2019). *Evaluation and Program Planning*, 73, 176.

# 4 Journey so far



## 4.1 Section overview

The lessons captured here relate to considerations that emerged throughout conducting this project, with respect to measuring the impact in Aboriginal and Torres Strait Islander health research. More specifically, this relates to lessons for:

- **Lowitja Institute** - as a national organisation focusing on high impact Aboriginal and Torres Strait Islander health research (Objective 1 addressed in Section 4.2)
- **Broader research policy and practice** - in Australia and internationally with respect to measuring the impact of research effectively (Objective 3 addressed in Section 4.3).

## 4.2 Lessons for Lowitja Institute

This section relates to the first and third objectives of this analysis, that is:

**Objective 1. The Institute's progress with capturing impact:** to test the Institute's 'Knowledge Translation and Research Impact Logic Model' and to understand the efficacy of measuring progress against identified Impact Measures

### 4.2.1 Understanding the available sources of data

The original scope of the engagement involved undertaking a social return on investment analysis on the impact of the LICRC and former CRC's work over a 20-year period.

Due to the project timelines, stakeholder interviews or surveying that required ethical approvals were not in scope. As a result, the data collection approach relied on secondary data contained in the documentation collected by the Institute.

Given the uncertainties with the Institute's capacity to digitise its documents within the allotted timeframes, the proposed method initially relied on the physical inspection of the archived documentation. However, over the course of the engagement, the Institute had successfully digitised a significant proportion of the project documentation over the last 20 years. This allowed the Deloitte Access Economics team to move to a desktop review of the documents.

The scope of the study was revised to the years between 2010 and 2019 in response to significant data gaps identified pre 2010 (in particular with respect to financial information), as well as the lack of comprehensive research exit reports available from that time period. The quality of CRC exit reports and annual reports was found to improve over time.

### 4.2.2 Understanding the stock of the Institute's work

The initial analysis focused on understanding the stock of the Institute's work. This is because historically, the Institute had not catalogued, tracked or monitored their funded research or activities in a systematic way.

Therefore, using the information supplied by the Institute, Deloitte Access Economics began the work by developing a database of all projects commissioned to understand the volume of work. This exercise was fundamental to understanding the scope and nature of the research work over the preceding 20-year period.

The main data sources used to build the database included the CRC annual reports, the list of CRC themes and associated projects, and the digitised project files. Areas of overlaps were identified between CRC periods with projects carrying over from one period to the next. Should the Institute choose to perform a full acquittal of its work, this potential source of duplication should be taken into account.

The resulting database included over 400 research projects over the Institute's 20-year history. It allowed for the quantification of certain inputs, activities and outputs outlined in the KT and Research Impact Measures.

Although the database proved to be a helpful source of information, it lacked depth in the sense that:

- Key information was not available for the majority of the projects (e.g. expenditure, project length, whether the project was led by Aboriginal and Torres Strait Islander researchers)

Commercial-in-confidence

- Detailed classification of the projects (e.g. by topics) was not present
- It reflected counts of activities and didn't capture the length
- It did not map the individual projects to impacts.

#### **4.2.3 Understanding the balance between breadth and depth**

Given the volume of projects identified and gaps in the information available, it was clear that a full bottom-up analysis of the social return on investment would not be feasible.

On the other hand, a top-down analysis of impacts would have been too simplistic and would fail to capture the diversity of the impacts achieved by the LICRC and CRCATSIH.

Based on the targeted literature review, the CAHS Framework was identified as a promising starting point for the conceptualisation of the impacts. The five impact categories in the CAHS Framework were adopted and the KT and Research Impact Measures were then mapped onto those categories. This allowed for a level of generalisation, whilst at the same time ability to tailor the framework to the Institute's unique context.

The resulting methodology combined top-down (economic analysis) and bottom-up (documentation analysis and case studies) analytical approaches to examine each of the five impact categories.

#### **4.2.4 Efficacy of the proposed Impact Measures**

The KT and Research Impact Measures developed by the Institute describes how the key inputs and activities translate to research and knowledge translation outputs. It also provides examples of impacts expected as a result of these outputs.

The KT and Research Impact Measures are an important first step in understanding, at a high level, how outcomes and impacts are expected to be achieved. However, for the purposes of impact measurement, further detail and considerations are required. This includes consideration of:

- Scope
- Causal pathways and pre-conditions
- Data availability and quality.

##### **4.2.4.1 Scope**

The current KT and Research Impact Logic Model (and associated Impact Measures) is designed to capture impact of research commissioned by the Institute. The Impact Measures are presented at a high-level with examples of impacts listed, rather than an exhaustive mapping of impacts.

Naturally, the level of granularity possible depends on the scope and purpose of the Impact Logic Model. The current level of detail in the Impact Logic Model may be sufficient for strategic purposes. However, for the purposes of impact measurement, the model would benefit from a more detailed articulation of the expected impacts, clearer mapping of the relationships between the individual elements, as well as an outline of the underlying assumptions and pre-conditions.

Given the diverse nature of activities and research projects supported by the Institute, this level of detail may only be possible with a narrower scope of the Impact Logic Model. The scope could be defined through a number of ways depending on the strategic purpose, including but not limited to the type of activities (e.g. specific theme of research projects only) and the type of stakeholders impacted (e.g. health researchers only).

##### **4.2.4.2 Causal pathways and pre-conditions**

As described in the methodology section of this paper (see section 2.2), the nature of research impact is inherently diffused and causal links are often difficult to establish. Nevertheless, the causal pathways mapping would benefit from some clearer explanation in the Impact Logic table. The current approach lists different impacts and is quiet on the specific pre-conditions to those impacts. This aspect of the Impact Logic has important implications on the questions of attribution in any potential impact measurement.

Further details on assumptions and contextual factors that may influence the links between outputs and impacts are also required to strengthen the Impact Logic Model. This is particularly important

Commercial-in-confidence

in the research context, as many of the expected impacts from knowledge translation outputs depend on external stakeholder engagement.

The CAHS Framework adopted in this analysis may be a helpful starting point for developing the increased conceptual clarity required to articulate those causal pathways and assumptions.

#### **4.2.4.3 Data availability and quality**

The Impact Measures proposed as part of the Impact Logic Model were assessed from the perspective of data availability and limitations. The assessment was conducted based on a review of organisational documents and project documentation utilised for the impact analysis. The final assessment was finalised towards the end of the project to ensure that all technical considerations learned over the course of the projects were captured.

If the Impact Logic is intended to be used for future monitoring and evaluation, data availability and quality will be a significant limiting factor.

The Institute has developed a list of indicators proposed to measure the progress against the Impact Logic Model. However, the assessment of data availability and quality conducted as part of this project indicates that there are still areas for improvement in the way data is collected and maintained by the Institute. A detailed assessment of specific data gaps is outlined in Table 4.1.

Table 4.1 Assessment of data availability and feasibility of measuring the Input components of Lowitja Institute KT and Research Impact Measures

Data availability assessment key:



Component	Indicators proposed by Lowitja Institute	Data availability assessment	Data available	Data limitations
<b>Inputs</b>				
<b>Research &amp; KT funding</b>	<ul style="list-style-type: none"> <li>Total funding (main project and KT funding)</li> <li>Proportion of funding spent on KT activities</li> <li>Total budget spent on employing research staff</li> <li>Proportion of salary budget (and amount) spent on employing Indigenous people</li> <li>Proportion of salary budget (and amount) spent on employing local Indigenous people where appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>Mostly available</li> </ul>	<ul style="list-style-type: none"> <li>Individual project budget files allowed for a more detailed understanding of spending by employee and activities (where available)</li> <li>Annual reports provided overall expenditure figures for Lowitja Institute.</li> </ul>	<ul style="list-style-type: none"> <li>Detailed financial accounts were not available for the purposes of this project. Estimates of expenditure relied on the annual reports</li> <li>Individual project documentation was sometimes incomplete</li> <li>A breakdown of the expenditure by activity based on individual project documentation was not feasible within the timeframes of the project given the volume of the projects.</li> </ul>
<b>Staff and Indigenous health research workforce</b>	<ul style="list-style-type: none"> <li>Total number of project team members</li> <li>Proportion (and number) of the team who are Indigenous</li> <li>Proportion (and number) of research students who are Indigenous</li> <li>Proportion (and number) of Indigenous Chief Investigators/Associate Investigators.</li> </ul>	<ul style="list-style-type: none"> <li>Partially available</li> </ul>	<ul style="list-style-type: none"> <li>Individual project progress and final exit reports provided overview of project team and nature of Aboriginal and Torres Strait Islander leadership</li> <li>Annual reports detailed quantity of research students who are Indigenous.</li> </ul>	<ul style="list-style-type: none"> <li>Individual project documentation was sometimes incomplete</li> <li>Inconsistent project documentation across CRC periods and within CRC period</li> <li>The change of annual report reporting from one CRC period to the next sometimes resulted in incomplete or uncaptured data.</li> </ul>
<b>Background Intellectual Property and Indigenous Cultural Intellectual Property</b>	<ul style="list-style-type: none"> <li>Consultation with Indigenous people</li> <li>Incorporation of Indigenous knowledge, protocols and wisdom.</li> </ul>	<ul style="list-style-type: none"> <li>Partially available</li> </ul>	<ul style="list-style-type: none"> <li>Individual project exit reports allowed for more detailed understanding of Aboriginal and Torres Strait Islander peoples engagement and involvement the study design.</li> </ul>	<ul style="list-style-type: none"> <li>Individual project documentation was sometimes incomplete or when completed, lacked some details.</li> </ul>

Component	Indicators proposed by Lowitja Institute	Data availability assessment	Data available	Data limitations
<b>Infrastructure and equipment</b>	<ul style="list-style-type: none"> <li>Consideration of Indigenous procurement.</li> </ul>	<ul style="list-style-type: none"> <li>Weak/no availability</li> </ul>	<ul style="list-style-type: none"> <li>Infrastructure/equipment data reported is rarely reported by researchers in activity reports.</li> </ul>	<ul style="list-style-type: none"> <li>Further detail for this indicator is required to clarify how 'consideration of Indigenous procurement' will be measured.</li> </ul>
<b>Time</b>	<ul style="list-style-type: none"> <li>Length of project</li> <li>Consideration of cultural events and timelines.</li> </ul>	<ul style="list-style-type: none"> <li>Limited availability</li> </ul>	<ul style="list-style-type: none"> <li>Individual project proposals provided overview of intended length of project</li> <li>Annual reports provided project start dates.</li> </ul>	<ul style="list-style-type: none"> <li>Detailed project timelines were often unavailable</li> <li>Some projects documentation indicated a project start date but did not provide a project end date</li> <li>Individual project documentation often did not mention external cultural events and timelines.</li> </ul>
<b>Knowledge and data</b>	<ul style="list-style-type: none"> <li>Utilising research knowledge from peer-review publications, reports etc. (Literature review)</li> <li>Experiential knowledge from yarns, elders, communities.</li> </ul>	<ul style="list-style-type: none"> <li>Limited availability</li> </ul>	<ul style="list-style-type: none"> <li>Individual project documentation provided insight on the use of Indigenous community voice in research findings</li> <li>Individual project documentation provided details on literature review conducted during the research process.</li> </ul>	<ul style="list-style-type: none"> <li>No systematic project documentation method used, especially between CRC period.</li> </ul>
<b>Activities</b>				
<b>Research work and training</b>	<ul style="list-style-type: none"> <li>Total number of staff who participated in training</li> <li>Proportion of research work carried out by Indigenous people</li> <li>Number of Indigenous staff participating in training</li> <li>What is the researcher's connection to the country and/or people the research is conducted on</li> <li>Involvement of end-users/community in data analysis phase to collectively make sense of the findings (e.g. conducting a roundtable tabling the findings of the project).</li> </ul>	<ul style="list-style-type: none"> <li>Limited availability</li> </ul>	<ul style="list-style-type: none"> <li>Individual project exit reports provided detail on the number of Aboriginal and/or Torres Strait Islander researchers on the project team</li> <li>Individual project documentation provided details on engagement with end-users/community and their involvement on projects.</li> </ul>	<ul style="list-style-type: none"> <li>Limited documentation of researcher's connection to the Country and/or people the research was conducted on besides if the research identified as Aboriginal and/or Torres Strait Islander persons</li> <li>Individual project exit reports were sometimes incomplete or absent</li> <li>Incomplete data (e.g. list of all training courses, number of attendees and proportion of Aboriginal and Torres Strait Islander attendees) count of staff participation in training not detailed in annual reports.</li> </ul>
<b>Stakeholder engagement</b>	<ul style="list-style-type: none"> <li>Involvement/consultation of Indigenous elders and community members in all phases of the research</li> <li>Use of Indigenous interpreter.</li> </ul>	<ul style="list-style-type: none"> <li>Partially available</li> </ul>	<ul style="list-style-type: none"> <li>Individual project progress and exit reports provided details on Aboriginal and Torres Strait Islander</li> </ul>	<ul style="list-style-type: none"> <li>Individual project exit reports were sometimes incomplete or absent</li> </ul>

Commercial-in-confidence

Component	Indicators proposed by Lowitja Institute	Data availability assessment	Data available	Data limitations
			community engagement during the research project.	• 'Use of Indigenous interpreter' was not consistently captured in any documentation.
<b>KT activities</b>	<ul style="list-style-type: none"> <li>• Use of Indigenous language (if applicable)</li> <li>• Has the KT activity been co-developed with end-user?</li> <li>• Indigenous leadership in knowledge sharing and KT activities.</li> </ul>	■ Partially available	<ul style="list-style-type: none"> <li>• Individual project proposal, progress and exit reports provided details on the development phase of KT activities and if material used Aboriginal and/or Torres Strait Islander peoples' language</li> <li>• KT material included in final exit report and described Aboriginal and Torres Strait Islander leadership where applicable.</li> </ul>	• Individual project exit reports were sometimes incomplete or absent.
<b>Outputs</b>				
Media (includes publications, websites, videos, social media outputs, tv/radio interviews)	<ul style="list-style-type: none"> <li>• Total number of media produced</li> <li>• Proportion of total number of publications with an Indigenous co-author</li> <li>• Proportion of total number of publications with an Indigenous person as lead author</li> <li>• Number of publications produced</li> <li>• Citation metrics</li> <li>• Consideration of Indigenous procurement/outlets (e.g. NITV, Indigenous X)</li> <li>• Is the project represented by an Indigenous person in media engagement?</li> </ul>	■ Partially available	<ul style="list-style-type: none"> <li>• Annual reports provided high level data on number of media produced/engagement (e.g. Facebook, Twitter, and website activity)</li> <li>• Annual reports and CRC period exit reports provided a list of publications attributable to the Institute's work.</li> </ul>	<ul style="list-style-type: none"> <li>• Annual reports were sometimes incomplete and did not contain all publications</li> <li>• No documentation of whether publications were authored or co-authored by Aboriginal and Torres Strait Islander persons</li> <li>• No documentation existed for media engagement by Aboriginal and/or Torres Strait Islander person, or Aboriginal and/or Torres Strait Islander procurement/outlets.</li> </ul>
Presentations (includes conferences, seminars, forums, webinars)	<ul style="list-style-type: none"> <li>• Total number of presentations</li> <li>• Number of events with an Indigenous presenter</li> <li>• Ratio of non-Indigenous vs Indigenous-specific conference where the research was presented</li> <li>• Number of conferences and/or seminars with an Indigenous co-presenter.</li> </ul>	■ Partially available	<ul style="list-style-type: none"> <li>• Annual reported provided high level data on number of conferences attended and presentations delivered</li> <li>• Individual project documentation provided some detail on conference metrics.</li> </ul>	<ul style="list-style-type: none"> <li>• Annual report detailed high-profile conferences but did not provide additional detail on all conferences</li> <li>• Count of Aboriginal and Torres Strait Islander co-presenter and ratio of non-Indigenous vs Aboriginal and Torres Strait islander specific conference where research was presented not documented.</li> </ul>
New products, patents, information tools and/or resources	<ul style="list-style-type: none"> <li>• Total number of resources produced</li> <li>• How many resources are produced in language?</li> </ul>	■ Limited availability	<ul style="list-style-type: none"> <li>• Annual report provided list of publications (including non-peer-reviewed)</li> </ul>	• Annual reports were sometimes incomplete and did not contain all resources developed

Commercial-in-confidence

Component	Indicators proposed by Lowitja Institute	Data availability assessment	Data available	Data limitations
	<ul style="list-style-type: none"> <li>Have the resources been co-produced with Indigenous people?</li> <li>Consideration of Indigenous procurement</li> <li>Consideration of the environmental impact of the product</li> <li>Consideration of cultural knowledge/background IP implications.</li> </ul>		<ul style="list-style-type: none"> <li>Individual project progress and exit reports provided details on engagement with Aboriginal and Torres Strait Islander peoples for resources developed.</li> </ul>	<ul style="list-style-type: none"> <li>Limited/no documentation referenced environmental impact of product development.</li> </ul>
Development of skills and leadership	<ul style="list-style-type: none"> <li>Involvement of Indigenous leaders as mentors for non-Indigenous researchers</li> <li>Number of PhD completions</li> <li>Number of Indigenous PhD completions</li> <li>Number of formal credentialed training (Indigenous and non-Indigenous staff)</li> <li>Number of non-credentialed training (Indigenous and non-Indigenous staff).</li> </ul>	<ul style="list-style-type: none"> <li>Partially available</li> </ul>	<ul style="list-style-type: none"> <li>Individual project reports provided details of involvement of Aboriginal and Torres Strait Islander researchers as mentors where applicable</li> <li>Annual report and other documentation provided high level details on PhD and if formal credentialed and non-credentialed training ran during the reporting period.</li> </ul>	<ul style="list-style-type: none"> <li>Annual report and other documentation provided for PhD data were sometimes incomplete</li> <li>Annual report included high level data on formal credentialed and non-credentialed training and did not provide additional detail such as number of Aboriginal and Torres Strait Islander or non-Indigenous participants.</li> </ul>
Workshops (includes in-person and online workshops)	<ul style="list-style-type: none"> <li>Proportion of staff who facilitated the workshop</li> <li>Number of Indigenous people who facilitated the workshop.</li> </ul>	<ul style="list-style-type: none"> <li>Weak/no availability</li> </ul>	<ul style="list-style-type: none"> <li>Annual reports provided high level detail on workshops held</li> </ul>	<ul style="list-style-type: none"> <li>No/limited documentation detailed the number and proportion of staff who facilitated workshops</li> <li>Further detail for this indicator is required to distinguish the difference to 'presentations' indicators.</li> </ul>
<b>Outcomes</b>				
Job creations	<ul style="list-style-type: none"> <li>Total number of new jobs produced</li> <li>Proportion and number of jobs produced employing Indigenous people</li> <li>Number of people who went into leadership positions</li> <li>Number of Indigenous people who went into leadership positions/professional promotions.</li> </ul>	<ul style="list-style-type: none"> <li>Weak/no availability</li> </ul>	<ul style="list-style-type: none"> <li>Individual project exit reports provided details of new jobs produced where applicable.</li> </ul>	<ul style="list-style-type: none"> <li>Individual project documentation was sometimes incomplete or when completed, lacked some details</li> <li>Weak documentation of number of Aboriginal and Torres Strait Islander people who went into leadership positions/promotions unless they led individual research projects.</li> </ul>
Improved health and wellbeing for Aboriginal and Torres Strait Islander populations directly involved	<i>No indicators provided.</i>	N/A	N/A	N/A

Commercial-in-confidence

Component	Indicators proposed by Lowitja Institute	Data availability assessment	Data available	Data limitations
in research project				
Changes in awareness and attitudes	<i>No indicators provided.</i>	N/A	N/A	N/A
Changes in practices and service delivery	<ul style="list-style-type: none"> <li>Adoption of research evidence in service delivery facilities.</li> </ul>	<ul style="list-style-type: none"> <li>Weak/no availability</li> </ul>	<ul style="list-style-type: none"> <li>Individual project report provided detail in the background section on literature used to deliver service facilities.</li> </ul>	<ul style="list-style-type: none"> <li>Individual project reports often were incomplete or did not include this data</li> <li>No systematic tracking of project impact post-exit. The Institute relies on relationships formed with organisations; therefore feedback may be given but not formally documented.</li> </ul>
Development and implementation of policies, guidelines and programs, and additions to existing policies	<ul style="list-style-type: none"> <li>Citation of research evidence in policy document.</li> </ul>	<ul style="list-style-type: none"> <li>Weak/no availability</li> </ul>	<ul style="list-style-type: none"> <li>Annual report provided summary of high-level detail of research findings used to inform policy.</li> </ul>	<ul style="list-style-type: none"> <li>Annual report does not provide further detail on research findings used in policy change.</li> </ul>
New collaboration and partnerships	<ul style="list-style-type: none"> <li>Extended funding/new funding</li> <li>The benefits of the new partnerships to Indigenous peoples/end-users.</li> </ul>	<ul style="list-style-type: none"> <li>Partially available</li> </ul>	<ul style="list-style-type: none"> <li>Individual project reports provided detail when projects received additional funding from funding bodies</li> <li>Individual project financial statements provided details on total funding received and if extended funding was received</li> <li>Annual reports and project reports provide high level detail on benefits and implication of new partnerships to Aboriginal and Torres Strait Islander peoples/end-users.</li> </ul>	<ul style="list-style-type: none"> <li>Financial statements for extended funding often unavailable</li> <li>Benefit of new partnerships discussed at high level, but often lack specific details.</li> </ul>
New knowledge produced and data sharing	<ul style="list-style-type: none"> <li>Recording of project findings/learnings</li> <li>Citation metrics</li> <li>Evidence of uptake of the research by other disciplines.</li> </ul>	<ul style="list-style-type: none"> <li>Mostly available</li> </ul>	<ul style="list-style-type: none"> <li>Annual report and individual project progress and exit reports provided details on project findings and learnings</li> <li>Annual report contains high level detail of research evidence uptake by other disciplines or organisations.</li> </ul>	<ul style="list-style-type: none"> <li>No systematic documentation recorded for citation metrics.</li> </ul>

Commercial-in-confidence

Component	Indicators proposed by Lowitja Institute	Data availability assessment	Data available	Data limitations
<b>Impacts</b>				
Improved health, wellbeing and quality of life for Aboriginal and Torres Strait Islander communities across Australia	<ul style="list-style-type: none"> <li>• Increase in life expectancy for Aboriginal and Torres Strait Islander peoples</li> <li>• Reduction in prevalence and incidence of disease and illness.</li> </ul>	■ Weak/no availability	<ul style="list-style-type: none"> <li>• Individual project reports provided high level benefits to health and wellbeing outcomes for Aboriginal and Torres Strait Islander peoples.</li> </ul>	<ul style="list-style-type: none"> <li>• Direct impact on life expectancy, prevalence and incidence of disease and illness often absent in documentation. The impacts are long-term and difficult to capture in short-term projects.</li> </ul>
Establishment of culturally safe workplaces	<ul style="list-style-type: none"> <li>• Elimination and/or zero tolerance of racism in workplace</li> <li>• Codes of cultural conduct developed and implemented in each workplace</li> <li>• Recruitment and retention rates of Indigenous employees increased.</li> </ul>	■ Limited availability	<ul style="list-style-type: none"> <li>• Individual project reports provided detail on cultural competency when this was the project's focus.</li> </ul>	<ul style="list-style-type: none"> <li>• Individual project reports often did not address these indicators. However, engagement of Aboriginal and Torres Strait Islander peoples and community in project development was mentioned to ensure cultural safety.</li> </ul>
Social inequality reduced	<ul style="list-style-type: none"> <li>• Income and wealth distribution measures.</li> </ul>	■ Weak/no availability	<ul style="list-style-type: none"> <li>• Further clarification for this indicator is required</li> <li>• No data was identified.</li> </ul>	<ul style="list-style-type: none"> <li>• Further clarification for this indicator is warranted before any data limitations are identified.</li> </ul>
Healthcare, criminal justice & other welfare costs reduced	<i>No indicators provided.</i>	N/A	N/A	N/A

## Commercial-in-confidence

Based on the detailed review of data availability and quality, the following observations and recommendations to the Institute are made:

- **De-centralised nature of data collection** – the current practices of data collection rely primarily on documents submitted by individual researchers. All files are saved in individual project folders and there is no centralised way of accessing the information. This limits the Institute's ability to obtain insights at an aggregate level
- **Standardisation** – the data made available to Deloitte Access Economics (e.g. dataset on scholarships awarded; dataset of projects commissioned) included inconsistencies in the way information was recorded. This included minor formatting issues (e.g. dates reported in different formats) and gaps in the data (e.g. empty values on whether research was Aboriginal and Torres Strait Islander researcher-led). The Institute may consider standardising the responses allowed in the surveys/forms. This will not only improve the efficiency of the data analysis process, but will also avoid accidental misrepresentation of the missing data (e.g. distinguishing between 'no' versus 'prefer not to say', rather than allowing for an empty answer)
- **Classification** – research projects supported by the LICRC and former CRCs vary by topic area and design. As impacts of research depend on the nature of the research, it may be valuable to categorise these research projects into sub-themes by topic (e.g. immunology, maternal health) and research design (e.g. RCT, case study). Such classification is in part captured by the CRC research theme, however those themes are generally broad and vary over time. The Institute may consider developing an overarching framework which classifies the research projects to enable a deeper analysis of its information, aligned with the Impact Logic outcome and impact areas
- **Tracking impact over time** – impact of research has a significant time lag. Research projects supported by the Institute often resulted in multiple publications and extension projects. The Institute's impact monitoring would benefit from a more established way of following-up with the researcher and tracking the activity and publications which were made possible by the initial support from Lowitja Institute.

It is acknowledged that at the time of this analysis, the Institute has been working on a new online portal which is expected to address a number of the issues listed above.

### 4.3 Lessons for broader research policy and practice

This section relates to the first and third objectives of this analysis, that is:

**Objective 3. Journey so far:** to capture the lessons learned through this process and understand how measurement of impact can be approached in the future.

#### 4.3.1 Lessons learned over the course of the project

Governments and private funding bodies are putting increasingly more emphasis on understanding impact when making decisions about distribution of funds. For the Institute, demonstrating impact in a timely and reliable manner is crucial to long-term sustainability of the organisation.

This study has gone some way in demonstrating the impact of the LICRC and CRCATSIH to the economy and broader society. However, this analysis has also revealed that many of the LICRC and CRCATSIH's important contributions, such as empowering the Aboriginal and Torres Strait Islander voice in academia, cannot be quantified with the available data.

In this regard, the findings of this study likely underestimate the impact of the LICRC and CRCATSIH. Furthermore, the contribution of its more recent research projects has likely not been realised and would be expected to grow overtime, alongside the evidence base which may be used to demonstrate the value of the Institute to the Australian society.

This section outlines how the methodology of this analysis evolved over the course of the project and provides further reflections on the measurement of impact in the Aboriginal and Torres Strait Islander health research space.

Commercial-in-confidence

### **4.3.2 Understanding what matters**

The principle of 'valuing what matters' is particularly important in the context of Aboriginal and Torres Strait Islander communities who have a different conception of social value to the dominant narratives (e.g. neoliberal economic approach).

The process of sample selection for the case studies revealed a number of interesting lessons. The purposefully selected case studies were intended to focus on the highest-impact research projects. The initial approach to identify potential candidates for those case studies used citation metrics and a later consultation with the Institute's stakeholders.

Citation metrics are known to be an imperfect measure of research impact due to issues of self-citation and bias towards well-established fields of research and against newer and more experimental papers.

However, the use of citation metrics in the context of the research supported by the LICRC and CRCATSIH revealed a significant underrepresentation of Aboriginal and Torres Strait Islander researchers. This is likely to result from the historical precedent and the underrepresentation of Aboriginal and Torres Strait Islander researchers in the health field in general. In addition, a lot of the Institute's research outputs are published as outputs to the community (rather than journal articles) which may also explain this bias. However, further research is required to understand the scale and the nature of this bias.

As a result of this learning, high-impact case studies were selected by the Institute stakeholders. The case studies were further validated with informal discussions with the project leaders who shared insights on the intangible impacts.

### **4.3.3 Understanding the value of what matters**

During the economic analysis stage, an important reoccurring issue identified by Deloitte Access Economics was surrounding the total attribution of impacts to the LICRC and CRCATSIH. While the KT and Research Impact Measures provides a clear link between inputs, outputs and outcomes, it is somewhat unclear to what extent the total health gains to research, and by extension to the Institute, is reasonable.

It also became clear that there is a lack of consensus in literature on the appropriate approaches to attribution of health gains to health research, and that the economic tools available to monetise impacts do not sufficiently capture the value of the Institute. While quantification of impact is often desired as it implies precision and the ability to understand 'return on investment', the Institute's work has influence over long time horizons in ways that are complex and difficult, if not impossible, to track.

Although the value of what can be monetised – benefits of scholarships and health outcomes improvements – is high, it does not do justice to what truly matters and is at the heart of the Institute's mission, including (but not limited to) the value of:

- A partnership with the Institute and the resulting change in mindset for all stakeholders
- Research authenticity for Aboriginal and Torres Strait Islander people
- Recognition of Aboriginal and Torres Strait Islander peoples' input, voice and opinion in policy and decision-making.

These impacts do not necessarily lend themselves to measurement or quantification. Equally, to not recognise them may limit our understanding of the Institute's impact. Consequently this report marks an attempt to resolve some of these challenges at this time, while providing constructive suggestions for both Lowitja Institute and other stakeholders with complementary objectives.

Commercial-in-confidence

## 4.4 Recommendations

Based on the lessons learned as part of this assessment, the following recommendations are made:

Table 4.2 Recommendations for Lowitja Institute

Theme	Recommendation	Dependencies
KT and Research Impact Logic Model	<i>Short-term (&lt;6 months):</i>	
	1.a. Define key strategic objectives for the use of the KT and Research Impact Logic Model within Lowitja Institute. These objectives should guide the scope and level of granularity required for monitoring and evaluation of research impact.	-
	1.b. Prioritise a sub-set of Impact Measures for systematic data collection to balance the need for evidence with a potential administrative burden of reporting for researchers. This sub-set of priority Impact Measures should be based on the feasibility of data collection, ethical considerations, as well as strategic priority of the Institute.	1.a.
	<i>Medium term (6 – 18 months):</i>	
Information collection	1.c. Develop a library of Impact Measures which extends on the current list of Impact Measures to include: variable definitions, indicator of data availability, level of priority (see recommendation 1b), and guidance to users on how to source the required data. Such library would serve as the main reference source for users. A dedicated owner may be required to maintain the library and update information.	1.b.
	1.d. Drawing on the findings of this report, expand on the KT and Research Impact Logic Model to include a clearer articulation of casual pathways, as well as underlying assumptions.	1.a.
	<i>Short-term (&lt;6 months):</i>	
Information collection	2.a. Review how the internal reporting frameworks (e.g. KT plan, research activity reports, exit reports) align to the KT and Research Impact Logic Model and whether priority Impact Measures are captured systematically (i.e. in a standardised way, reported consistently across all research activity).	1.a.
	2.b. Continue placing emphasis on the importance of exit reports as 'the source of truth' about inputs, activities and outputs from research projects, including working with researchers to describe how the information will be used and why this is important.	-
	2.c. Institute methods to capture research impact beyond the project timeframes by incentivising researchers to report back on new publications and research impacts (e.g. 3 years after project completion). This could be achieved through a short survey collecting standardised inputs (e.g. links to publications, presentations to public audiences, consultations to government and community initiatives) and/or post-research qualitative	-

Commercial-in-confidence

	interviews at an agreed period (e.g. 6 months follow-up interview).	2.b.
	2.d. Consider adding 'financial information' section in the exit reports to enable consistent reporting of financial information on project expenditure against key research activities. This section may be pre-populated by the finance team to reduce administrative burden placed on researchers.	
Internal information management infrastructure	<p><i>Medium-term (6 - 18 months)</i></p> <p>3.a. Consider developing a detailed project topic classification framework which could be used to categorise past CRC projects and future research activity. Lowitja Institute may utilise its current research categories (used on Lowitja Institute website) for this purpose. This would enable a more detailed impact assessment tailored to specific research areas (e.g. maternal health).</p> <p><i>Long-term (18+ months)</i></p> <p>3.b. Develop an approach to store, manage and report information at an organisational-level which cascades down to funding portfolio-level and project-level. This may build on the Institute's portal (currently under development) and other existing databases (e.g. catalogue of projects on the Institute's website). This may be in a form of a database of key research activity including (but is not limited to): projects commissioned by the LICRC and former CRCs to date, publications and policy submissions developed by Lowitja Institute, scholarships. Such database would ideally be linked to a portfolio/project management system and update on an ongoing basis as new information is uploaded to the system (e.g. with submission of KT plans and research activity reports).</p>	-
Broader ecosystem collaboration and leadership	<p><i>Long-term (18+ months):</i></p> <p>4.a. Play a leading role in addressing data gaps with respect to Aboriginal and Torres Strait Islander peoples' outcomes by guiding community research partners to collect prospective data which would enable future articulation of research impact.</p> <p>4.b. Continue advocating for a broader recognition of what 'high-impact' health research looks like for Aboriginal and Torres Strait Islander communities. Identify potential biases in mainstream approaches to measuring research impact and guide research community on next steps with respect to avoiding such biases in the future.</p> <p>4.c. Collaborate with other funding bodies and research partners to ensure alignment in approaches to collecting, classifying and reporting information on research impact to allow for comparability and to reduce unnecessary duplication of efforts for researchers.</p>	4.a.

# Appendices



# Appendix A Lowitja Institute KT and Research Impact Logic Model

Table A.1 Proposal Lowitja Institute Knowledge Translation (KT) and Research Impact Logic Model

COST						
Priority setting	Inputs	Activities	Outputs	Outcomes		Impact
				Short-term (<12 months)	Medium-term/Intermediate (1-5 years)	Long-term outcomes (>5 years)
Prioritise issues for research  Potential user groups & evidence needs ascertained	Research funding & KT funding  Infrastructure and equipment  Time	Research work (e.g. data collection, data analysis etc.)  KT activities	Media (publications, websites, videos, social media outputs, tv/radio interviews)  Presentations (conferences, seminars, forums and webinars)  Workshops  New products, patents, information tools and/or resources	<b>Knowledge outcomes examples:</b> <ul style="list-style-type: none"> <li>• New knowledge generated</li> <li>• Data sharing</li> <li>• Generation of new research questions</li> <li>• Changes in awareness and attitudes</li> </ul> <b>Economic outcomes examples:</b> <ul style="list-style-type: none"> <li>• Job creation</li> <li>• New collaborations/partnerships established</li> <li>• Increased in research funding</li> </ul> <b>Health outcomes examples:</b> <ul style="list-style-type: none"> <li>• Improved health and wellbeing for Aboriginal and Torres Strait Islander populations directly involved in research projects</li> </ul>	<b>Health outcomes examples:</b> <ul style="list-style-type: none"> <li>• Development and implementation of policies, guidelines and programs, and additions to existing policies</li> <li>• Changes in practices (individual, organisational, community)</li> </ul> <b>Knowledge outcomes examples:</b> <ul style="list-style-type: none"> <li>• New knowledge generated</li> <li>• Generation of new research questions</li> <li>• Changes in awareness and attitudes</li> </ul>	<b>Health impact examples:</b> <ul style="list-style-type: none"> <li>• Improved health, wellbeing and quality of life for Aboriginal and Torres Strait Islander communities across Australia</li> </ul> <b>Social impact examples:</b> <ul style="list-style-type: none"> <li>• Social inequality is reduced</li> </ul> <b>Economic impact examples:</b> <ul style="list-style-type: none"> <li>• Improved services</li> <li>• Healthcare, criminal justice &amp; other welfare costs reduced</li> </ul> <b>Environmental impact examples:</b> <ul style="list-style-type: none"> <li>• Preservation of threatened and near threatened</li> </ul>

		Others	species of animals and plants		
Staff and Aboriginal and Torres Strait Islander health workforce	Training Stakeholder engagement	Development of skills and leadership	<p><b>Economic impact examples:</b></p> <ul style="list-style-type: none"> <li>• Job creation</li> </ul> <p><b>Social impact examples:</b></p> <ul style="list-style-type: none"> <li>• Empowering community to conduct community-led research</li> </ul>	<p><b>Economic impact examples:</b></p> <ul style="list-style-type: none"> <li>• Continued growth of Indigenous workforce</li> </ul>	<p><b>Cultural impact examples:</b></p> <ul style="list-style-type: none"> <li>• Development of culturally safe workplaces</li> </ul> <p><b>Social impact examples:</b></p> <ul style="list-style-type: none"> <li>• Social inequality is reduced</li> <li>• System wide legal changes</li> </ul> <p><b>Economic impact examples:</b></p> <ul style="list-style-type: none"> <li>• Healthcare, criminal justice &amp; other welfare costs reduced</li> </ul>
Knowledge (Previous research knowledge and Indigenous experiential knowledge) and data	KT activities (e.g. Stakeholder engagement	<p>Media (publications, websites, videos, social media outputs, tv/radio interviews)</p> <p>Presentations (conferences, seminars, forums and webinars)</p> <p>Workshops</p> <p>New products, patents, information tools and/or resources</p> <p>Others</p>	<p><b>Knowledge impact examples:</b></p> <ul style="list-style-type: none"> <li>• New knowledge generated</li> <li>• Generation of new research questions</li> <li>• Changes in awareness and attitudes</li> </ul>	<p><b>Social impact examples</b></p> <ul style="list-style-type: none"> <li>• Increased uptake of research findings/recommendations in practice and policy</li> </ul>	<p><b>Social impact examples:</b></p> <ul style="list-style-type: none"> <li>• Social inequality is reduced</li> </ul> <p><b>Economic impact examples:</b></p> <ul style="list-style-type: none"> <li>• Healthcare, criminal justice &amp; other welfare costs reduced/avoided</li> </ul> <p><b>Health impact examples:</b></p> <ul style="list-style-type: none"> <li>• Improved health, wellbeing and quality of life for Aboriginal and Torres Strait Islander communities across Australia</li> </ul>

Definitions:

- Inputs: Resources invested into the project
- Activities: Actions taken or work performed through which inputs are mobilised to produce specific outputs
- Outputs: Products, capital goods and services which result from the development of the activities
- Outcomes (Short and medium term): The likely or achieved short-term and medium-term effects of the activity's outputs. Outcomes tend to be pre-defined and can be measured objectively
- Impact (long term outcomes): Positive and negative, primary and secondary long-term effects produced by a development of the activity, either directly or indirectly, intended or unintended.

# Appendix B Projects sampled

Table B.1 List of projects sampled for the documentation review.

<b>Impact category alignment</b>	<b>Project leader</b>	<b>Project title</b>
<b>CRCATSIH 2010-2014</b>		
Informing decision-making	G. Howse	Options for enduring government responsibility for Aboriginal health (Stewardship 1 - Legally Invisible)
	J. Dwyer	Funding, accountability and results (FAR) for Aboriginal health services - Closing the policy implementation gap?
	L. Coombe and S. Ewen	Collaboration supporting a nationally accessible MPH specialisation in Indigenous health
Health	J. Kaldor	An integrated and comprehensive model of care targeting at-risk clients in metropolitan Aboriginal community-controlled health service: Model development and evaluation plan.
	R. Reilly	Creating Healthy Environments: Development and trial of an integrated model for Aboriginal health and its evaluation
	R. Lovett	Culture mediation approach in Aboriginal primary health care: Impacts on screening and treatment for risky alcohol consumption
Economic, social and environmental	B. Boughton	Adult Literacy Project - Wilcannia Stage 2
	T. Butler	Reducing Australia's Aboriginal prisoner population using Justice Reinvestment - assessing the public's views to incarceration using a Citizen's Jury Approach
	M. Wise; S. Angus	Scoping study of health promotion tools for Aboriginal and Torres Strait Islander peoples (Auditing health promotion tools - Stage 1)
<b>The LICRC 2014-2019</b>		
Informing decision-making	F. Watkin Lui	Meriba buay – ngalpan wakaythoemamay (We come together to share our thinking): Evaluating a community of practice for Torres Strait Islander health and wellbeing
	M. Dodson B. Fogerty	Discourse, Data and Deficit: Deconstructing the 'Indigenous Health' paradigm and its effect on Aboriginal and Torres Strait Islander peoples
	M. Kelaher	Development of a framework for the evaluation of policies, programs and services that aim to improve Aboriginal and Torres Strait Islander peoples' health and wellbeing
Health	J. McCalman	Working well: Tailoring a workforce development model to deliver sustained improvements in community-controlled healthcare
	M. Kellaher	Is the National Disability Insurance Scheme meeting the needs of Aboriginal and Torres Strait Islander people? Evaluating the roll-out in Queensland and the Northern Territory
	Y. Roe	Tell My Story: Hearing from the Dads in the Indigenous Birthing in an Urban Setting (IBUS) Study
Economic, social and environmental	C. Bond	Roles and Ritual: The Inala Wangarra Rites of Passage Ball Case Study
	R. Lovett	Scaling up Mayi Kuwayu – The National Study of Aboriginal and Torres Strait Islander Wellbeing
	S. Woodland	Listening to Country: Exploring the value of acoustic ecology with Aboriginal and Torres Strait Islander women in prison

# Appendix C Total research projects by source

Table C.1 Reconciliation table against total research projects commissioned by Lowitja Institute between online database and the LICRC exit reports

<b>CRC period</b>	<b>Total number of research projects as per the LICRC and CRCATSIH exit reports</b>	<b>Total number of research projects as per a database of developed based on project files in Sharepoint and Annual Reports</b>
CRCATSIH (2010-14)	15 small grants	
	17 in-kind projects	6 in-kind projects
	57 CRC projects	79 CRC projects
The LICRC (2014-19)	41 CRC projects	52 CRC projects
		11-in kind projects
Total (2010-19)	98 CRC projects	131 CRC projects
	17-kind projects (2010-14 only)	17 in-kind projects
	15 small grants (2010-14 only)	

# Limitation of our work

## **General use restriction**

This report is prepared solely for the internal use of Lowitja Institute. This report is not intended to and should not be used or relied upon by anyone else and we accept no duty of care to any other person or entity. The report has been prepared for the purpose set out in the contract dated 27 February 2020. You should not refer to or use our name or the advice for any other purpose.



Deloitte Access Economics is Australia's pre-eminent economics advisory practice and a member of Deloitte's global economics group. For more information, please visit our website: [www.deloitte.com/au/deloitte-access-economics](http://www.deloitte.com/au/deloitte-access-economics)

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited ("DTTL"), its global network of member firms, and their related entities. DTTL (also referred to as "Deloitte Global") and each of its member firms and their affiliated entities are legally separate and independent entities. DTTL does not provide services to clients. Please see [www.deloitte.com/about](http://www.deloitte.com/about) to learn more.

Deloitte is a leading global provider of audit and assurance, consulting, financial advisory, risk advisory, tax and related services. Our network of member firms in more than 150 countries and territories serves four out of five Fortune Global 500® companies. Learn how Deloitte's approximately 286,000 people make an impact that matters at [www.deloitte.com](http://www.deloitte.com).

#### **Deloitte Asia Pacific**

Deloitte Asia Pacific Limited is a company limited by guarantee and a member firm of DTTL. Members of Deloitte Asia Pacific Limited and their related entities provide services in Australia, Brunei Darussalam, Cambodia, East Timor, Federated States of Micronesia, Guam, Indonesia, Japan, Laos, Malaysia, Mongolia, Myanmar, New Zealand, Palau, Papua New Guinea, Singapore, Thailand, The Marshall Islands, The Northern Mariana Islands, The People's Republic of China (incl. Hong Kong SAR and Macau SAR), The Philippines and Vietnam, in each of which operations are conducted by separate and independent legal entities.

#### **Deloitte Australia**

In Australia, the Deloitte Network member is the Australian partnership of Deloitte Touche Tohmatsu. As one of Australia's leading professional services firms, Deloitte Touche Tohmatsu and its affiliates provide audit, tax, consulting, and financial advisory services through approximately 8000 people across the country. Focused on the creation of value and growth, and known as an employer of choice for innovative human resources programs, we are dedicated to helping our clients and our people excel. For more information, please visit our web site at <https://www2.deloitte.com/au/en.html>.

Liability limited by a scheme approved under Professional Standards Legislation.  
Member of Deloitte Asia Pacific Limited and the Deloitte Network.

©2020 Deloitte Access Economics. Deloitte Touche Tohmatsu