Valuing First Nations Cultures in Cost-Benefit Analysis

Research Paper

March 2024



Acknowledgement of Country

We acknowledge that Aboriginal and Torres Strait Islander peoples are the First Peoples and Traditional Custodians of Australia, and the oldest continuing culture in human history.

We pay respect to Elders past and present and commit to respecting the lands we walk on, and the communities we walk with.

We celebrate the deep and enduring connection of Aboriginal and Torres Strait Islander peoples to Country and acknowledge their continuing custodianship of the land, seas and sky.

We acknowledge the ongoing stewardship of Aboriginal and Torres Strait Islander peoples, and the important contribution they make to our communities and economies.

We reflect on the continuing impact of government policies and practices and recognise our responsibility to work together with and for Aboriginal and Torres Strait Islander peoples, families and communities, towards improved economic, social and cultural outcomes.

Artwork:

Regeneration by Josie Rose



Table of Contents

| Exec | utive | Summary | 5 |
|-------|-------------------------|---|----|
| 1. | Introduction | | |
| | 1.1 | Background | 7 |
| | 1.2 | Purpose | 8 |
| | 1.3 | Scope | 10 |
| | 1.4 | Method | 10 |
| 2. | Case for change | | 11 |
| | 2.1 | Prioritising First Nations cultures – the underlying evidence | 11 |
| | 2.2 | Current state of the economic evidence base | 18 |
| | 2.3 | Implications for CBA | 19 |
| 3. | Challenges in valuation | | |
| | 3.1 | CBAs have incorporated First Nations cultures in two main ways | 20 |
| | 3.2 | Challenges with valuing cultural outcomes in CBA | 21 |
| | 3.3 | Challenges with valuing the contribution of culture to broader outcomes | 26 |
| 4. | Opportunities | | 33 |
| | 4.1 | Genuine partnership from early stages | 33 |
| | 4.2 | CBA specific methodological guidance | 34 |
| | 4.3 | Investment in research, outcome evaluations and ex-post CBAs | 35 |
| 5. | Nex | t steps | 38 |
| Glos | sary3 | 9 | |
| Refe | rence | 98 | 41 |
| Furtl | ner in | formation and contacts | 47 |

Executive Summary

The NSW Government has heard that changes are needed in how initiatives that affect First Nations people and communities are designed, prioritised, and evaluated.¹

Under the 2022-2024 NSW Implementation Plan for Closing the Gap, the NSW Government is progressing actions to improve how agencies engage and partner with First Nations people and communities. This includes the development of an investment framework to embed First Nations perspectives into the design and evaluation of initiatives and, in turn, better support evidence-based decisions that align with the priorities of First Nations people and communities.

One component of this framework will focus on cost-benefit analysis (CBA), an important tool used by the NSW Government to help prioritise budget funding decisions. CBA assesses the extent to which an initiative will deliver value for money by considering all its expected impacts – economic, social, environmental and cultural.

This paper presents the key findings from NSW Treasury's research and engagement on how CBA has been applied to First Nations initiatives to date. It explores the ways in which the value of First Nations cultures have been incorporated in CBAs, and the associated challenges and opportunities to improve current practice.

The value of First Nations cultures is not commonly incorporated in economic evidence

First Nations cultures have intrinsic value and are central to First Nations wellbeing. Evidence from land management, health, education and restorative justice also illustrate the positive associations between First Nations cultures and the achievement of broader outcomes.

Initiatives focused on improving outcomes for First Nations people and communities have, however, rarely been assessed using CBA. In part, this reflects resourcing constraints and the size of NSW funded First Nations initiatives, with between 80 to 90 per cent likely to be below the \$10 million total cost threshold that mandates completion of a CBA. This means that the impact and value of First Nations cultures are yet to be consistently represented in the economic evidence provided to government in support of funding decisions.

CBA can capture the value of First Nations cultures in two main ways

The small available sample of CBAs of First Nations-specific initiatives have tended to consider the value of First Nations cultures in the following two ways:

- Identifying specific cultural outcomes delivered by an initiative: recognising that connection to culture, including cultural practices, knowledge and heritage has value in its own right for First Nations people and communities, while also enriching the broader Australian community.
- Identifying culture as an input that supports the delivery of broader outcomes: recognising that by embedding First Nations cultures into the design and implementation of an initiative. culture also has value as an asset which can contribute to the delivery of other economic, social and environmental outcomes.

¹ For example, as summarised in the 2022-2024 NSW Implementation Plan for Closing the Gap (NSW Government 2022).

The value of specific First Nations cultural outcomes – such as connection to culture, language, or cultural heritage - is generally limited to qualitative discussion in CBA

Initiatives that embed First Nations cultures into their design and delivery are investments that can help to strengthen and sustain cultural connection and practice. If we are to properly inform funding decisions the value of these cultural outcomes should be captured in CBA.

The pool of quantitative estimates of the value of First Nations cultural outcomes is, however, limited. This likely reflects the combination of cultural sensitivities, technical and practical challenges that limit the effective application of non-market valuation methodologies. On a case-bycase basis, the risk of an inaccurate valuation of cultural outcomes should be weighed against the risk of no valuation at all.

CBA may be better placed to quantify the contribution of First Nations cultures as inputs to initiatives that enhance the achievement of broader outcomes

There is a growing base of evidence on the contribution of First Nations cultures to the achievement of broader outcomes. When embedded into the design and delivery of an initiative, culture has the potential to increase the initiative's likelihood of success, or the size of the benefits achieved. Initiatives that have benefited from involvement of First Nations people and communities in their early stages are better placed to have their cultural contribution recognised in their supporting CBAs.

It can, however, be challenging for CBA practitioners to explicitly articulate and measure the contribution of culture, fill data gaps and navigate measurement and valuation techniques for outcomes that might usually sit in areas outside their expertise.

There are opportunities to improve current practice by establishing genuine partnerships, developing additional guidance, and learning from what has worked

This paper explores three opportunities to address the existing challenges:

- 1. Genuine partnership from early stages: CBAs that seek to incorporate the value of First Nations cultures in their results need to be able to first demonstrate that there has been involvement from First Nations people and communities, preferably under a partnership model from the development of the initiative. This is necessary to make the case that there will be a material benefit for First Nations people and communities – whether that be through the realisation of specific cultural benefits, or the influence of culture on other outcomes.
- 2. CBA specific methodological guidance: There is a current information gap around how to effectively capture and incorporate the value of First Nations cultures into CBA. Guidance on how to do this in a culturally appropriate way would help lift capability and support more robust decision making.
- 3. Investment in research, outcome evaluations and ex-post CBAs: A continued focus on learning from what has, and has not, worked in practice is necessary to grow our understanding of what works. This is key to guiding the development of future initiatives and informing decisions around what to expand and what to scale back or change.

Next steps

These findings will inform the development of an investment framework for the design and evaluation of initiatives that impact First Nations people and communities, that is due for delivery by June 2024. The framework will supplement the NSW Government's existing policies and guidance for building evidence throughout the investment lifecycle, focusing on the key principles for embedding First Nations perspectives and ensuring culturally informed evaluative thinking.

Treasury welcomes feedback and is open to exploring opportunities to apply and test the concepts raised.

1. Introduction

This paper presents the key findings from Treasury's research and engagement on how CBA has been applied to First Nations initiatives to date. It explores the ways the value of First Nations cultures have been incorporated into CBAs, and the associated challenges and opportunities to improve current practice and build a base of evidence.

These findings will inform Treasury's development of an investment framework to embed First Nations perspectives into the design and evaluation of initiatives, as committed under the 2022-2024 NSW Implementation Plan for Closing the Gap.²

This work aims to support policy makers and program designers to identify and demonstrate how their initiatives will improve the outcomes sought by First Nations people and communities and by how much. This would enable agencies to improve the quality of advice to decision makers to prioritise funding towards the initiatives most likely to improve outcomes.

1.1 Background

Australia's First Nations cultures, the world's oldest, are a source of strength, knowledge, resilience, and opportunity. First Nations communities have consistently emphasised the significance of culture in wellbeing and prosperity, and this viewpoint is increasingly supported by broader evidence (see Section 2.1).

There is a growing understanding and acceptance of the important role culture plays in the achievement of outcomes for First Nations people and practitioners are looking at ways to incorporate this. Evidence based advice supports improvements in the efficiency and efficacy of state expenditure as it assists decision makers to prioritise initiatives most likely to work.

CBA is an important tool that is used by Treasury and government to assess the likely benefits of policy proposals, and their value for money against cost. This is used as a source of evidence to inform government decision making and resource allocation (Box 1).

To support a more robust and culturally informed evidence base. Treasury is developing an investment framework to help embed First Nations perspectives into the design and evaluation of initiatives. The framework will provide guidance on good practice when planning, designing and conducting economic appraisal and evaluation of initiatives that impact First Nations people.

The findings in this paper will help inform how CBA can better capture and incorporate the effects that First Nations cultures will have on an initiative.

The framework is due for delivery in June 2024, and is a Treasury commitment under the 2022-2024 NSW Implementation Plan for Closing the Gap. This agreement commits Australian governments to a new way of working with First Nations people and communities that is based on genuine partnership and truth-telling to achieve better outcomes.

² NSW Government 2022a.

Box 1: What is Cost-Benefit Analysis (CBA) and why is it important?

In New South Wales, CBA is the preferred method for assessing the relative merit of proposed government initiatives, including policies, programs, regulatory changes and infrastructure projects.

CBA is a form of economic analysis and offers a structure for assessing government initiatives in terms of their capacity to improve welfare, compared to the required investment. This determines the 'net benefit' to society. CBA is an important component of business cases seeking funding through the Budget process.

CBA is more than a financial analysis. It attempts to capture the full range of an initiative's monetary and non-monetary benefits, including economic, social, environmental and cultural costs and benefits. This allows decision makers to directly compare the benefits and costs of initiatives on a like for like basis. Where impacts cannot be quantified or expressed in monetary terms, CBA allows for a qualitative description of impacts as well as a sensitivity analysis to test how assumptions or impacts could vary. This provides decision makers with comprehensive analysis and evidence to support their considerations.

As a first step to identifying and valuing benefits, the initiative's objective must be clearly defined. Outcomes that can be attributed to an initiative are compared with a base case (i.e., the 'business as usual' scenario) and realistic alternative options. The benefits and costs of options are measured, valued and assessed to determine the preferred approach.

CBA can incorporate uncertainty through sensitivity tests or Monte Carlo analysis to examine how the distribution of results might change under different scenarios or assumptions. CBA can be undertaken either before implementation of an initiative (known as an ex-ante CBA), or during or after an initiative is complete (known as an ex-post CBA).

Ex-post CBA offers a valuable assessment of observed impacts to determine the efficiency and effectiveness of an initiative. This helps to build a base of evidence on 'what works' and steer the direction of new or existing initiatives to deliver better outcomes.

1.2 Purpose

This report explores four primary research questions:

- What is the case for change for increasing the application of CBA to First Nations initiatives?
- How can First Nations cultures be incorporated in CBA?
- What challenges do practitioners face in effectively incorporating the value of culture in CBA?
- What opportunities are there to address these challenges?

This will inform the development of guidance on embedding First Nations perspectives into the design and evaluation of initiatives, and in turn:

- improve understanding of the factors that drive improved outcomes for First Nations people and communities
- build a more informed evidence base to better guide investment advice and decision making through CBA; and
- increase knowledge and capability across the sector for culturally responsive initiative design and economic appraisal.

1.2.1 A caveat: limits to defining and valuing culture

Just as there is no single definition of First Nations cultures (Box 2), there are also limits to how the value of First Nations cultures can be reflected in monetary terms.

Box 2: What is 'culture'?

Culture is a concept that can be easy to recognise and discuss but is difficult to define. Culture can have a different meaning to different people. Moreover, the meanings and values within First Nations cultures are not concepts that can or should be readily understood by everyone. Some aspects of First Nations culture are sacred and private, including men's and women's business that are only spoken of and practiced in specific situations.

This paper acknowledges the complex, diverse and evolving nature of First Nations cultures. As captured by June Oscar AO and Victor Briggs:

Culture is a concept difficult to articulate, because it is, as the women on Murray Island said, 'everything' ...

Culture is the English word used to capture a diverse range of Aboriginal and Torres Strait Islander traditional practices and our many contemporary ways of expressing ourselves, all of which can vary considerably across Australia.

Culture, in this broad and sometimes simplistic usage can hide and diminish the many aspects of our cultural practices, while also making us, as a peoples and societies, seem unchanging.

> June Oscar AO, a Bunuba woman and the Aboriginal and Torres Strait Islander Social Justice Commissioner³

[Aboriginal culture is] an erudite culture that connects people, people who once networked and communicated with each other, a people who held intergenerational knowledge systems.

This extraordinary culture is deeply rooted in environmental consciousness, total avatar, connection to country, connection to mother, connection to both land and sea, connection to the metaphysical reciprocated in altruistic, a culture submerged in deep ecology where the dreamtime and the metaphysical are one and the same ...

Aboriginal culture is about astronomy, kinship systems, religion, ritual, ceremonies, languages, laws, totems, sustainability, spirituality, conservation and the environment which reveals to us the nexus of what it means to be a cultured being.

Victor Briggs, a Gumbuyah Gamilaroi man⁴

In developing guidance for culturally informed CBA the objective is not to encourage or facilitate a monetary valuation of First Nations cultures. Rather, it is to identify opportunities where CBA can better recognise the value of initiatives that deliver cultural outcomes, and better reflect how First Nations cultures contribute to policy effectiveness. This can support better informed policy design.

³ Australian Human Rights Commission 2020, p 56-7.

⁴ National Library of Australia 2019.

1.3 Scope

This paper reviews the types of cultural factors that have been linked to improved First Nations health and wellbeing outcomes.⁵ These cultural domains are outlined in Section 2.1 (Table 1).

This paper seeks to establish the case for change, identify challenges within current practice and point to potential opportunities, rather than offering fully developed solutions. The findings will support the development of guidance on good practice for planning, designing, and conducting CBA and evaluation of initiatives that impact on First Nations peoples.

It is acknowledged that while guidance can help to lift capability and knowledge, it will not resolve broader issues that limit the capacity of proponents to fully embed First Nations perspectives in initiative design, delivery and evaluation. Further work will be required to address broader barriers, such as constraints on developing genuine partnerships, investing in research, limited funding or a lack of cultural safety.

1.4 Method

This paper has been developed through a mixed-method approach, drawing on insights from across a broad range of qualitative and quantitative sources, including:

- **Review and analysis:** of past CBAs published in New South Wales and other jurisdictions.
- Engagement: with First Nations and non-Indigenous stakeholders, within government and other sectors, who have been involved in the design and economic appraisal of initiatives that impact First Nations people.
- Learning-by-doing: through partnering with stakeholders on real-time case studies for the design and development of CBAs for government consideration.
- Desktop research: to identify research on definitions of culture and First Nations cultural domains, evidence on the links between First Nations cultures and improved outcomes, the application of non-market valuation methods to cultural outcomes, and other relevant information.

⁵ Salmon et al. 2019.

2. Case for change

Key points:

First Nations cultures have intrinsic value and are central to wellbeing and prosperity. Evidence from land management, health and education illustrate the positive associations between First Nations cultures and broader outcomes.

Initiatives focused on improving outcomes for First Nations people and communities have rarely been assessed using CBA. This means that the impact and value of First Nations cultures is yet to be consistently represented in the economic evidence provided to government in support of funding decisions. In many cases, this is likely due to resourcing constraints and the small size of First Nations programs, with 80 to 90 per cent of NSW Government funded First Nations initiatives falling below the threshold for a mandatory CBA.

There is a role for Treasury to help lift the capability of proponents to consider and incorporate the value of First Nations cultures in CBA. This will need to consider the resourcing constraints of initiatives that are smaller in scale and tailored to a local community, as well as specific challenges in valuing First Nations outcomes.

In turn, this will help direct funding to the initiatives that are most effective and that align with the values and priorities of First Nations people.

Prioritising First Nations cultures – the underlying 2.1 evidence

There is an emerging body of evidence of a positive association between culture and improved life outcomes for First Nations peoples. This encompasses social, emotional and physical measures of wellbeing.6

A review of evidence published between 1997 and 2017 found 72 studies that examined the role of culture in improving the health and wellbeing of First Nations people in Australia and overseas (including Canada, United States, New Zealand and Scandinavia). Most of these studies (61 studies) found a positive relationship between culture and health and wellbeing outcomes, with an additional 9 studies reporting a mix of positive and non-significant associations.⁷

Cultural indicators varied across studies but were captured by one or more of the following domains: connection to Country, cultural expression, knowledge and beliefs, language, family and kinship and self-determination (Table 1).

⁶ Allen et al. 2018; Bals et al. 2011; Biddle and Crawford 2017; Biddle and Swee 2012; Burgess et al. 2008, 2009; Campbell et al. 2011; Chandler and Lalonde 1998; Chandler et al. 2003; Dockery 2009; Hallett et al. 2007; Oster et al. 2014; Wright et al. 2021.

⁷ Bourke and Wright et al. 2018. The two studies that were found to report a negative association between health measures and some elements of culture were undertaken in Canada.

Table 1: Cultural domains and sub-domains linked to First Nations health and wellbeing

| Connection to Country spiritual connection living on Country land rights and autonomy caring for Country | Indigenous beliefs and knowledge • spiritual and religious beliefs • traditional knowledge • traditional healing • knowledge transmission and continuity | Indigenous language impacts of language on health language revitalisation language education |
|--|---|---|
| Family, kinship and community • family and kinship • community | Cultural expression and continuity identity traditional practices arts and music community practices sport | Self-determination and leadership cultural safety self-determination and wellbeing leadership |

Source: Salmon et al. 2019.

The National Agreement on Closing the Gap recognises this positive relationship between culture and outcomes for First Nations people, particularly in the role of Aboriginal Community Controlled Organisations (ACCOs). The National Agreement aims to strengthen the role of ACCOs in improving outcomes through Priority Reform 2: Building the community-controlled sector.8

There is growing evidence to show that programs designed and delivered by ACCOs lead to better outcomes for First Nations Australians, particularly in health services and child protection. For example, several studies show that First Nations Australians experience more positive outcomes with Aboriginal Community Controlled Health Services (ACCHSs) compared to mainstream health services.¹⁰ This reflects that ACCHSs often provide more holistic, comprehensive and culturally appropriate healthcare to First Nations communities. 11

While there has been progress in developing the First Nations community sector, opportunities for further advancement remain. NSW Treasury's Interim Indigenous Expenditure Report (2021-22) found that ACCOs are responsible for delivering 24.2 per cent (\$255.7 million) of Indigenousspecific programs and services in New South Wales, with a further 9.2 per cent (\$97.7 million) of identified spending being delivered in partnership between First Nations communities and NSW Government agencies.

The following case studies provide four examples of the positive impact of First Nations cultures when embedded into the design and delivery of initiatives. These examples examine:

- Traditional land management: which has been linked with improvements in environmental, health, economic and social outcomes.
- Maternal and child health: highlighting the success of the First Nations-led Birthing in Our Community program, which has reduced the rate of premature births by 50 per cent in Brisbane and delivered significant health cost savings.
- Education: evidence that First Nations students' experiences of their culture at school can affect their aspirations for higher education and predict primary school learning outcomes.
- Restorative justice: where the involvement of First Nations Elders in Local Court sentencing decisions has been associated with lower rates of imprisonment and reoffending, leading to cost savings for government.

⁸ Australian Government 2020.

⁹ Productivity Commission 2023.

¹⁰ Baba et al. 2014; Campbell et al. 2018; Panaretto 2014; Pearson et al. 2020.

¹¹ Pearson et al. 2020.

2.1.1 Caring for Country extends beyond environmental outcomes

First Nations people and communities have been stewards of Australia's natural environment for tens of thousands of years. This custodianship is deeply cultural and reflects a spiritual and reciprocal relationship with Country. It intertwines with language, beliefs and knowledge, kinship and other forms of cultural expression and identity.

As described by Danièle Hromak, Budawang/Yuin researcher and spatial designer:

Country means much more than land, it is our place of origin in cultural, spiritual and literal terms. It includes not only land but also skies and waters. Country incorporates both the tangible and intangible, for instance, all the knowledges and cultural practices associated with land. People are part of Country, and our identity is derived in a large way in relation to Country. 12

This deep connection to Country has underpinned the accumulation of deep ecological knowledge by First Nations people, evident from the recognition of Aboriginal and Torres Strait Islanders as the world's longest living cultures.

For example, anthropologists from Stanford University examined cultural burning practices of the Martu people in Western Australia over the 10 years to March 2010. Their analysis demonstrated the valuable role of cultural burning in reducing the risk of large-scale lightning fires, through intentional changes in the mix of vegetation and use of fire breaks.¹³

There is also evidence demonstrating that initiatives that involve First Nations people and communities in land management extend beyond just positive environmental outcomes, to include economic, health, social and cultural benefits.¹⁴ The type of outcomes identified in research include:

- Improvements in physical health markers: including reductions in body mass index and blood pressure, and improved high-density lipoprotein cholesterol, which are linked with a lower risk of cardiovascular disease. 15 One study estimated cost savings in the provision of primary health care attributed to participation in land management to be \$268,000 per year (across a community of just over 1,200 people, reported in 2008 dollars).¹⁶
- **Increased economic participation:** including direct employment and associated welfare cost savings for government, establishment of fee-for-service contracts in natural resource management, facilitation of broader commercial opportunities, such as cultural tourism and ecotourism, native foods collection and production for sale, production of materials in the arts and crafts industry.¹⁷
- Broader social outcomes: including improvements in school attendance and reduced anti-social behaviour due to youth participation in caring for country programs.¹⁸

While there are interacting factors that contribute to the achievement of these broader outcomes, recent analysis from Mayi Kuwayu: The National Study of Aboriginal and Torres Strait Islander Wellbeing demonstrates that the inherent cultural basis of traditional land management plays an important role.19

A cross-sectional analysis of survey data from almost 10,000 First Nations people found that the combination of ranger work and cultural participation have a reinforcing effect on wellbeing outcomes for First Nations people and communities. Therefore, policies that acknowledge and enhance cultural knowledge and participation will likely lead to greater wellbeing outcomes.²⁰

¹² Government Architect NSW 2020.

¹³ Bird et al. 2012.

¹⁴ AIATSIS 2011; Urbis 2012; Hill et al. 2013.

¹⁵ Burgess et al. 2009 in Hill et al. 2013

¹⁶ Campbell et al. 2011.

¹⁷ AIATSIS 2011: Hill et al. 2013.

¹⁸ Hunt, Altman and May 2009 in Hill et al. 2013.

¹⁹ Wright et al. 2021.

²⁰ Wright et al. 2021.

2.1.2 Culture as a determinant of health

Led by the efforts of First Nations researchers, peak health bodies and health practitioners, the role of First Nations cultures as both a foundation and driver of health outcomes has received increasing recognition and prominence in health strategies and policies.²¹

For example, the National Aboriginal and Torres Strait Islander Health Plan 2021-2031 centres culture within the foundations for a healthy life (see Figure 1).²²

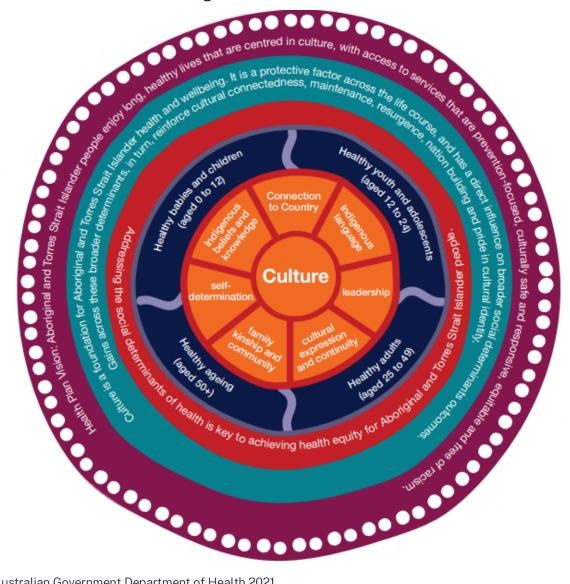


Figure 1: Framework – National Aboriginal and Torres Strait Islander Health Plan 2021-2031

Source: Australian Government Department of Health 2021.

Professor Ngiare Brown, Yuin nation woman and Chair of the National Mental Health Commission, describes how the First Nations cultures influence health and other outcomes by strengthening identity, self-esteem and resilience:

Cultural determinants originate from and promote a strength-based perspective, acknowledging that stronger connections to culture and Country build stronger individual and collective identities, a sense of self-esteem, resilience and improved outcomes across the other determinants of health including education, economic stability and community safety.²³

²¹ Lowitja Institute 2021.

²² Australian Government Department of Health 2021.

²³ Brown 2014 in Lowitja Institute 2020, p 13.

A recent example demonstrating the impact that First Nations cultures can play in improving health outcomes is the 'Birthing in Our Community' (BiOC) service in Brisbane.

BiOC was established in 2013 as a partnership between the Institute for Urban Indigenous Health. the Aboriginal and Torres Strait Islander Community Health Service Brisbane and the Mater Mothers' Hospital.²⁴ Developed and implemented under First Nations leadership, the service provides women with access to a primary midwife and family support workers throughout their pregnancy, birth, and six weeks post-birth.

The service is built on a culturally intrinsic parenting and family services model that supports connection, belonging and cultural growth. The service is supported by a First Nations workforce strategy and delivered in a culturally safe and welcoming ACCO hub with a dedicated transport officer to help facilitate access to appointments.

A 5-year study of the service found that First Nations babies in the program were 50 per cent less likely to be born premature, compared to standard care.²⁵ The program has also delivered health cost savings, estimated at an average of \$4,810 per mother-baby pair, after accounting for differences in patient characteristics.²⁶ It is estimated that replicating this model across Australia has the potential to prevent almost 1,000 First Nations preterm births each year, and deliver annual health cost savings of around \$86 million.²⁷

2.1.3 Culture as a driver of aspirations to finish school and predictor of learning outcomes

Student aspirations affect education outcomes. Aspirations are influenced by a range of factors including having positive relationships at school, personal interest, motivation and investment from teachers and family.²⁸ For First Nations students, the experience of their culture at school also plays a critical role.

Student survey data analysed by the Centre for Education Statistics and Evaluation (CESE) has found that it is important for First Nations students to feel good about their culture while at school, and that their teachers also have a good understanding of it. First Nations students who aspire to go to university report being more positive about these aspects than First Nations students who do not aspire to go to university (Figure 2).

In addition, there is early evidence that learning outcomes for First Nations students can be predicted by the inclusion of First Nations histories and cultures in teaching.²⁹

Specifically, analysis of 2013 data from Footprints in Time: The Longitudinal Study of Indigenous Children (LSIC) found that First Nations primary school students achieved higher average literacy. vocabulary and maths scores if their school incorporated First Nations histories and cultures in its teaching across all subjects as a cross-curriculum priority.³⁰ These results remained statistically significant after controlling for other factors that affect student performance, such as attendance, health, year level, parental education and remoteness.

While these analyses were not undertaken for the purpose of CBA, the findings demonstrate that culture is a relevant consideration for policies and programs to support First Nations students to achieve their full learning potential.

²⁴ Kildea et al. 2019.

²⁵ Kildea et al. 2019.

²⁶ Gao et al. 2023.

²⁷ Gao et al. 2023.

²⁸ Centre for Education Statistics and Evaluation 2021.

²⁹ These findings relate to the application of the cross-curriculum priority, Aboriginal and Torres Strait Islander Histories and Cultures. The priority seeks to 'provide opportunities for all students to deepen their knowledge of Australia by engaging with the world's oldest continuing living cultures.' - ACARA 2023.

³⁰ Department of Social Services 2020.

Percentage of students who agree or strongly agree 100% 90% 80% 70% I feel good about my 60% culture when I am at school 50% My teachers have a 40% good understanding of my culture 30% 20% 10% 0% Year 4 Year 5 Year 8 Year 9 Year 6 Year 7 I feel good about my culture when I am at school Plan to go to university - - Do not plan to go to university My teachers have a good understanding of my culture

Figure 2: Aboriginal students' aspirations to attend university and feelings of culture at school³¹

Source: Centre for Education Statistics and Evaluation 2021.

An inspiring community-led initiative that recognises the importance of culture in improving education outcomes is the Gumbaynggirr Giingana Freedom School, which opened in April 2022 and is the first bilingual school of an Aboriginal language in New South Wales.

- - Do not plan to go to university

Plan to go to university

Gumbaynggirr Giingana Freedom School provides a culturally safe, strength-based learning environment in both English and Gumbaynggirr language.³² A cohort of 24 First Nations students from Kindergarten to Year 4 are currently enrolled in 2023, with a plan to expand to Year 6 in 2024. Students are expected to benefit from strengthening their connection to community, family and culture, as well as the positive impact that speaking two languages has for cognitive development.

The school is working towards the development of an evaluation plan to track and measure the outcomes it achieves over time.

2.1.4 Circle Sentencing is associated with lower rates of reoffending

The practice of Circle Sentencing involves First Nations Elders in Local Court sentencing decisions and is associated with lower rates of imprisonment and reoffending.³³

Circle Sentencing retains the full sentencing powers of a traditional court but involves members of the offender's community in the sentencing decision. Circle Sentencing groups typically include First Nations Elders, the presiding magistrate, a court officer, a police prosecutor, the offender and their legal representative, and the victim and their support person.

The group sits in a circle and discusses the offender, the offence and the impact on the victim and community. While the presiding magistrate retains the final say, penalties are generally determined by majority rule.

³¹ Graphic sourced from the Centre for Education Statistics and Evaluation 2021 and based on data from the NSW Department of Education Tell Them From Me survey.

³² Bularri Muurlay Nganggan Aboriginal Corporation 2021.

³³ Yeong and Moore 2020.

This initiative was first introduced at Nowra Local Court in 2002 and is now available in 12 Local Courts across New South Wales (Table 2).

Table 2: Introduction of Circle Sentencing in NSW Local Courts, 2002-2010³⁴

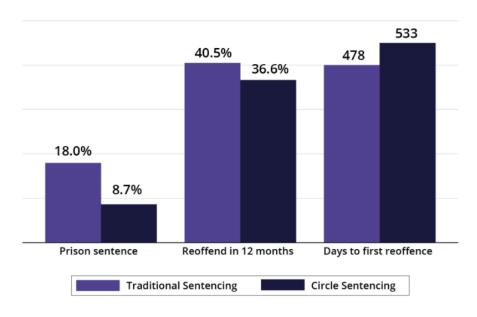
| Nowra – Feb 2002 | Bourke – Jan 2006 | Mt Druitt – Jan 2007 |
|-----------------------|---------------------|----------------------|
| Dubbo - Oct 2003 | Kempsey – Jan 2006 | Nambucca – Apr 2009 |
| Brewarrina – Jan 2005 | Armidale – Apr 2006 | Blacktown – Jul 2010 |
| Lismore – Jan 2006 | Walgett – Jul 2006 | Moree - Oct 2010 |

Source: Yeong and Moore 2020.

Compared to similar First Nations people who progressed through the standard Local Court process between March 2005 and August 2018, those who participated in Circle Sentencing were 9.3 percentage points less likely to receive a prison sentence (Figure 3).

Among those that did not receive a prison sentence, Circle Sentencing participants were 3.9 percentage points less likely to reoffend within 12 months and took an average of 55 days longer to reoffend, if they did.

Figure 3: Outcomes of Circle Sentencing



Source: Yeong and Moore 2020.

While these results control for a range of offender characteristics and time factors, some selection biases remain. For example, candidates that are less likely to reoffend are more likely to be deemed suitable for, and consent to, Circle Sentencing.³⁵ For example, the suitability assessment process considers an offender's level of remorse and connectedness to the local community, factors which are also likely to influence the likelihood of future offences.

Further research would be beneficial to understand the causal drivers behind these outcomes. including the contribution of cultural factors. Evaluations have identified that circle groups may enable more effective sentencing outcomes that are tailored to the circumstances of the case and individual,³⁶ and that respect for Elders may influence an offender to consider the impact of their

³⁴ Yeong and Moore 2020.

³⁵ Yeong and Moore 2020.

³⁶ Yeong and Moore 2020.

actions.³⁷ Outcomes could also be influenced by the strength of an offender's support network, and the availability of other support services.³⁸

These findings would be suitable for use in a CBA of the program, which might demonstrate that the benefits of Circle Sentencing are significant. Beyond the benefits to individuals and communities, at the time of the evaluation, a one-percentage point decrease in incarceration rates was estimated to reduce the incarceration costs incurred by the NSW Government by over \$7,800 per day, or almost \$2.9 million per year.³⁹

Current state of the economic evidence base 2.2

Despite the growth in research of the contribution of First Nations cultures to broader outcomes, there has been limited economic appraisal of First Nations initiatives using CBA, either in New South Wales or Australia.

In 2016, the Centre for Independent Studies commissioned a nation-wide review of First Nationsspecific initiatives. The review found that less than 10 per cent of the 1,082 First Nations initiatives (of which 797 were delivered by non-government organisations) had been evaluated either during or after implementation.⁴⁰ Of those, only five included a CBA as part of the evaluation.⁴¹

More recently, the Australian Productivity Commission found that 'the quality and usefulness of evaluations of policies and programs affecting [First Nations] people are lacking.'42 The Commission requested information from Australian Government agencies for evaluations conducted between 2016-17 and 2019-20 that provided results for First Nations people. This revealed just four evaluations that included economic analysis (Box 3). This represents just over three per cent of 117 evaluations sampled.

Box 3: National evidence on the low rate of economic evaluation for First Nations initiatives

To inform the development of the Indigenous Evaluation Strategy, the Australian Productivity Commission sought information from 182 Australian Government agencies on evaluations of initiatives affecting First Nations people between 2016-17 and 2019-20.

52 out of the 182 agencies responded, identifying a total of 509 evaluations. Agencies were able to provide details for 307 evaluations (60 per cent). Of these, 61 were identified as First Nationsspecific and an additional 56 mainstream evaluations mentioned First Nations people.

The inclusion of CBA in evaluation was rare. Across all programs, only four evaluations with results for First Nations people included an economic analysis. Evaluation was primarily conducted using literature and document reviews, interviews, focus groups and surveys. While many evaluations attempted to measure impact, most contained limited data, or the impacts were not compared with a control group. Instead, quantitative analysis focused primarily on activities, outputs, user perceptions and feedback.

Similar findings have been made in academic research. For example, a review of economic evaluations of Australian First Nations health programs published between 2010 and 2020 identified just 13 publications, including only four cost-benefit analyses.⁴³

³⁷ Cultural and Indigenous Research Centre 2008.

³⁸ Cultural and Indigenous Research Centre 2008., Yeong and Moore 2020.

³⁹ Cultural and Indigenous Research Centre 2008., Yeong and Moore 2020.

⁴⁰ Hudson 2016.

⁴¹ Hudson 2017.

⁴² Productivity Commission 2020b.

⁴³ Doran et al. 2023.

NSW Government Investment Framework – mandatory requirements for CBA

Resourcing constraints are one of the factors limiting the application of CBA to government funded First Nations initiatives in New South Wales. Typically, CBA is prioritised towards higher value initiatives, in recognition that the larger the amount of funding being sought, the more important it is that value for money be assured.

In New South Wales, business cases must be submitted for initiatives with a total estimated cost of \$10 million or more. CBA is a mandatory component of these business cases. While a business case is not required for initiatives costing under \$10 million, agencies must still demonstrate an initiative's value for money. 44 CBA is rarely used for this value for money assessment for small scale initiatives.

Treasury's 2021-22 Comprehensive Indigenous Expenditure Report identified 399 First Nationsspecific programs across the NSW Government. 45 Of these, only 40 initiatives (10 per cent) had expenditure of \$10 million or more over the four years from 2020-21. The majority (84 per cent) had total funding of less than \$5 million over the same period. Although this data does not include expenditure over the entire life of the programs, it suggests that a CBA was unlikely to be compulsory for between 80 and 90 per cent of existing First Nations-specific initiatives.

2.3 Implications for CBA

Government decisions on initiatives to improve First Nations outcomes are not often informed by robust economic evidence, such as CBA.

Treasury has a clear role in building frameworks and guidelines to help improve the evidence base for what works in First Nations policy. There is increasing evidence that the inclusion, or recognition of, First Nations cultures in initiatives can improve outcomes, and help direct resources towards initiatives that are both effective and aligned with the values and priorities of First Nations people.

Treasury's guidance will explore options for CBA that can be applied to smaller scale First Nations initiatives and tailored to specific communities. This may include preliminary CBAs before an initiative has commenced and establishing monitoring and evaluation plans to enable ex-post CBAs during, or after, their implementation.

The following chapter explores additional challenges specific in valuing First Nations cultures in CBA.

⁴⁴ NSW Treasury 2023b.

⁴⁵ NSW Treasury 2022b.

3. Challenges in valuation

Key points:

The small sample of CBAs have incorporated First Nations cultures in two main ways: recognising that First Nations cultures can be both an **input to**, and **outcome of**, policies and programs.

Recognising that initiatives can support cultural outcomes is perhaps the most intuitive way of considering the value of First Nations cultures in CBA. There is, however, a limited pool of quantitative estimates of the value of First Nations cultural outcomes. This likely reflects the combination of cultural sensitivities and the practical challenges associated with the application of non-market valuation methodologies. On a case-by-case basis, the risk of an inaccurate valuation of cultural outcomes should be weighed against the risk of no valuation at all.

CBA may be better placed to estimate the contribution of First Nations cultures as inputs to initiatives, recognising the role that culture can play as an asset, or institution, that can enhance the effectiveness of an initiative. This could be by increasing the initiative's likelihood of success, or the size of the benefits that it can achieve. Challenges with this approach include explicitly articulating and measuring the contribution of culture, filling data gaps and navigating the measurement and valuation of outcomes that sit across different government portfolios.

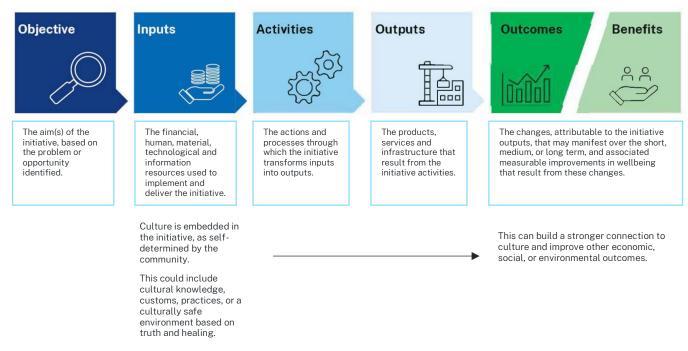
3.1 CBAs have incorporated First Nations cultures in two main ways

CBAs of First Nations initiatives have tended to consider the value of First Nations cultures in the following two ways:

- Identifying specific cultural outcomes delivered by an initiative: recognising that connection to culture, including cultural practices, knowledge and heritage has value for First Nations people and communities, while also enriching the broader Australian community.
- Identifying culture as an input that supports the delivery of broader outcomes: recognising that by embedding First Nations cultures into the design and implementation of an initiative, culture also has value as an asset, or institution, that can contribute to the delivery of better economic, social and environmental outcomes.

Recognising culture as both an input and an outcome aligns with terminology used in the development of logic models during program and policy design and evaluation (see Figure 4).

Figure 4: Culture as both an input and outcome in a program logic



Source: Adapted from NSW Treasury 2023a.

There are challenges associated with applying each of these approaches in CBA (Table 3). These challenges are explored in the remainder of this chapter.

Table 3: Challenges associated with valuing First Nations cultures in CBA

| | Valuing cultural outcomes | Valuing the contribution of culture to broader outcomes |
|---|--|---|
| Challenges explored in this chapter | Measuring and quantifying cultural outcomes Ensuring cultural appropriateness in non-market valuation Managing risks of benefit transfer | Lack of a framework to explicitly describe how and why culture can be recognised as an input to initiatives in CBA Ensuring capacity and capability for early consideration of culture and genuine partnership Addressing gaps in data and evidence |

Source: NSW Treasury.

3.2 Challenges with valuing cultural outcomes in CBA

CBAs often identify that First Nations initiatives will deliver cultural outcomes and include these in their lists of benefits.

Cultural outcomes that have been identified in CBAs include connection to culture, cultural growth, connection to Country, the conservation and protection of cultural heritage, and self-determination, pride and recognition.

Treasury conducted an internal review of 28 published and unpublished CBAs for initiatives that either directly or indirectly impacted First Nations people. The CBAs were developed between 2018-19 and 2022-23. Most of these (64 per cent) included at least a qualitative discussion of culture and cultural outcomes, with the majority leaving cultural outcomes unquantified.

Only 5 of the 28 attempted to quantify cultural benefits. The most common method for quantification was benefits transfer, which involves using estimates from existing studies (discussed in Section 3.2.3).

This section discusses the main challenges associated with quantifying cultural outcomes in CBA, including:

- cultural outcomes can be difficult to measure
- appropriateness of non-market valuation methods; and
- risks associated with benefit transfer.

3.2.1 Cultural outcomes can be easy to identify, but difficult to measure

In instances where cultural outcomes have been identified in CBA, they are usually included in a qualitative discussion. High level explanations for the qualitative treatment of benefits include insufficient data and evidence to enable an economic valuation. In other cases, CBAs have described cultural outcomes as 'unquantifiable' without further explanation on how this conclusion was reached.46

Quantifying a benefit or cost in CBA typically involves two 'building blocks': outcome data on the size of the impact that is attributable to the initiative (i.e. the quantity), and valuation data that expresses the willingness to pay for those changes in outcomes in monetary terms (i.e. the price) (Figure 5).

Figure 5: Simplified 'building blocks' for quantifying benefits and costs in CBA



Source: NSW Treasury.

There are, however, gaps in the available outcome and valuation data for First Nations cultural outcomes, such as the volume of an individual's or community's engagement in culture or connection to Country and its associated value. Such non-market activities are difficult to break down into measurable units and value for economic assessment. This means that cultural outcomes are often left unquantified.

Analysis of market information provides one way of — at least partly — estimating the value of cultural outcomes. For example, a review by James Cook University identified only 18 studies that quantified the value of benefits associated with Indigenous Protected Areas in Australia, with most of these studies relying on market data. The studies 'focused on provisioning services, such as the value of food or medicine obtained from Country and the value of employment associated with ranger programs." In these instances, the market value of food, medicine or employment helped to quantify benefits:

Benefits that are more loosely, or not at all, associated with the market are, for the most part, left unquantified. Future research could thus usefully explore these, including, but not limited to, explorations of the benefits associated with Indigenous culture, knowledge, and the (inseparable) value of connections between land/people and culture.48

It is important to note that an individual's or community's value of a cultural asset can be different from that assigned by the market, for example the market value of cultural art or expression.

⁴⁶ Treasury analysis of existing CBAs.

⁴⁷ Farr et al. 2016, p 3.

⁴⁸ Farr et al. 2016, p 35.

While the market value might represent total revenue generated from the sale of art, it may not capture the intrinsic value of these cultural assets to First Nations people, such as connection to culture and wellbeing. ⁴⁹ These types of outcomes are not observable from market transactions but could be examined using non-market valuation techniques.

There are, however, a limited number of non-market valuation studies that have estimated First Nations peoples' values of cultural outcomes, particularly in Australia. There are also sensitivities to consider when applying such methods to a culture, as discussed in Section 3.2.2.

If we are to apply such values in CBA more broadly, we will need to commission new studies to fill the gaps in available outcome and valuation data. Such research could focus on the range of cultural domains and sub-domains that have been linked to First Nations people's health and wellbeing (Table 1) and partnering with First Nations people to address potential cultural sensitivities associated with non-market valuation.

3.2.2 Ensuring cultural appropriateness in non-market valuation

There are a limited number of Australian studies that have estimated the value First Nations peoples' place on culture, largely reflecting sensitivities among such communities.⁵⁰ For example, some people or communities would consider expressing First Nations values in monetary terms unethical or inappropriate.⁵¹ The following excerpt summarises some of these sensitivities:

Valuation techniques for non-marketed goods may simply be inappropriate if Indigenous peoples' valuation of land access is non-utilitarian. It may make as little sense to ask an Indigenous person their WTA [i.e., willingness to accept compensation] for the loss of access to traditional living areas from which they derive ceremonial/religious values as it would be to ask a devout Christian how much they would need to be compensated in monetary terms to forswear any practice of their religion. It is not that the estimation is difficult – in the conventional sense of problems with estimating values in contingent markets – but that the entire idea of forswearing for monetary compensation is simply nonsensical.⁵²

In preliminary discussions with First Nations people and communities regarding the valuation of First Nations cultural outcomes in CBA, Treasury heard concerns about the cultural appropriateness of non-market valuation methods and the risk of devaluing First Nations cultures. These include:

- The sensitivity of asking First Nations people to 'put a dollar value' on, or 'trade-off,' elements of their culture.
- The appropriateness of survey design. For example, typical valuation methods seek to establish willingness to pay based on individual preferences, whereas for many First Nations communities, values and preferences are often determined at the community level.
- Some valuations of First Nations cultures will only reflect a partial understanding of what those cultures mean to First Nations communities. This could be due to the inherent diversity or complexity of First Nations culture, or aspects that are deemed sacred or private.

Internationally, some studies have sought to estimate First Nations cultural values while taking a more culturally sensitive approach to non-market valuation. Examples include:

- Engaging with local First Nations communities to understand the range of values held for a particular cultural asset and inform survey design and research method.⁵³
- Using non-monetary payment vehicles, such as willingness to contribute time, so respondents aren't asked to state monetary values for sensitive trade-offs.⁵⁴

⁵⁰ Manero et al. 2022.

⁴⁹ Choy 2018.

⁵¹ Choy 2018; Daw et al. 2015; Godden 1999.

⁵² Godden 1999, p 18.

⁵³ Adamowicz et al. 2004.

⁵⁴ O'Garra 2009.

• Surveying First Nations people in group settings rather than individually to allow communities to discuss and reach a communal agreement, yielding less random and more valid estimates that capture collective benefits and views.⁵⁵

Agreement with First Nations communities of valuation approaches of First Nations cultural outcomes has not been broadly tested. To do so should involve partnering with First Nations communities to gain a better understanding of the sensitivities, the circumstances where such valuation could potentially be applied, and where other approaches might be more appropriate. An alternative, for example, would be valuing the contribution of culture to broader outcomes (discussed in Section 3.3).

3.2.3 Managing risks with benefit transfer

In addition to cultural sensitivities, challenges with use of non-market valuation studies include resourcing constraints, such as time, funding and expertise. Where original studies are not feasible, CBA practitioners increasingly rely on existing studies from which to take valuations to use as proxy values for benefits, or costs, in another situation.⁵⁶ This is referred to as benefit transfer.

There are, however, known limitations to the use of benefit transfer, particularly when the circumstances of the original and proposed study sites are different. Values can be highly sensitive to the situation under which they were estimated, and their application should be tested.

Despite these challenges, benefit transfer is an accepted approach, provided it is based on the best available evidence. This can be difficult for First Nations applications because there are few studies that have estimated First Nations peoples' cultural outcomes in Australia. Where studies do exist, they are generally based on specific locations, communities and outcomes that may not apply in other contexts.⁵⁷ This means there is a limited pool of established cultural values available for broader use in CBA.

The limited literature on the value of cultural outcomes increases the likelihood that values are invalidly transferred. This can misrepresent benefits and influence the benefit-cost ratio in a CBA, either positively or negatively, even if the likelihood of that value being realised is low (Box 4).

While there are challenges in applying benefit transfer, the risk of an inaccurate valuation should be weighed against the risk of no valuation at all. Leaving significant cultural benefits unquantified could undervalue an initiative's impacts and lead decision makers to otherwise think an initiative does not represent value for money.

Where benefit transfer is applied, best practice is to include caveats and a discussion on its limitations, including how the results might change if the value was different, or excluded. More importantly, the application of benefit transfer should be agreed by First Nations representatives who would be affected by the proposed initiative.

The risks of benefit transfer can be mitigated by increasing the availability of high-quality valuation studies for specific cultural outcomes, as well as investing in ex-post economic evaluation. Section 4.3 discusses the priorities for greater investment in ex-post evaluation and research.

⁵⁶ Infrastructure Australia 2021; NSW Treasury 2023a; OECD 2006.

⁵⁵ Nikolakis et al. 2016.

⁵⁷ Examples include Campbell et al 2011; Coyne, Williams and Sangha 2022; Rolfe and Windle 2003; Zander and Straton 2010.

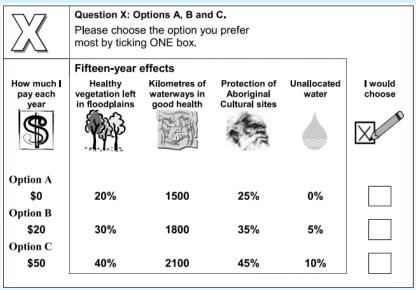
Box 4: Transferring benefit values out of context can influence CBA results with little meaning for First Nations communities

Valuation data from an Australian choice modelling study, conducted by Rolfe and Windle (2003), has been proposed for use by other CBAs.

The study estimated the willingness to pay of local First Nations and non-Indigenous populations for protection of First Nations cultural heritage sites in the context of hypothetical increases in the allocation of water for irrigation in the Fitzroy Basin in Queensland. It is one of few studies in Australia that has estimated a specific First Nations cultural outcome in monetary terms.

The study found that the local First Nations community holds significantly higher values for protection of First Nations cultural heritage compared to the non-Indigenous communities. Non-Indigenous communities were more concerned with broader environmental protection.

Figure 6: Example choice survey question



Source: Rolfe and Windle 2003.

There are several factors that limit the external validity of the study's results. These include:

- Values reported in choice modelling surveys are sensitive to framing of the questions asked. In this study, households were asked to trade-off different levels of cultural heritage site protection and other environmental outcomes (see Figure 6). Very little detail, however, was provided to households on the significance of the sites to First Nations communities. Further investigation would be needed to understand how stated values would change when provided with more specific information about the sites in question.
- Benefit transfer requires similarity between the original study and the proposal to which values are being applied. In this study, the values reported by households apply to a specific context and location. This limits the suitability of the estimates for assessing different initiatives, particularly in urban areas, or to value other types of cultural outcomes.

The authors concluded the paper by noting that 'further work is needed to generate results that are fully suitable for inclusion in CBA studies.'58 Failing to recognise or be transparent about limitations of benefit transfer could mislead decision makers or misrepresent the values of First Nations people.

⁵⁸ Rolfe and Windle 2003.

3.3 Challenges with valuing the contribution of culture to broader outcomes

In addition to valuing cultural outcomes from an initiative, CBA can capture and quantify how culture can influence broader outcomes, including economic, social and environmental outcomes.

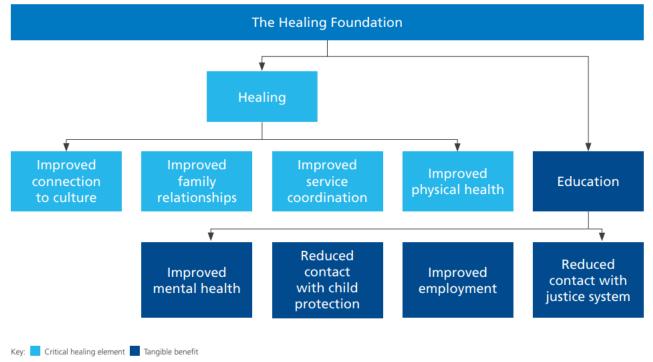
Two examples of where this approach has been applied are the CBAs of the **Murri School Healing Program** in Brisbane, and the **Danila Dilba Health Service** (DDHS) in the Northern Territory.⁵⁹ The programs and the key findings of each CBA are summarised in Table 4.

The CBA of the Murri School Healing Program found that the provision of culturally appropriate, family-based healing, preservation, and early intervention services, including cultural and group activities within the Murri School, had lifted Year 12 completion rates, improved mental health outcomes, and reduced the number of children entering the child protection and justice systems.

The benefits framework used in the CBA (Figure 7) identified 'improved connection to culture' as both an intangible benefit, and a critical element that leads to the other quantifiable benefits. This included benefits such as increased employment, improved mental health outcomes, and reduced contact with the child protection and justice systems.

The influence of culture in the program is evident through both specific cultural activities and experiences. These include activities on Country, as well as the provision and coordination of other support services that are culturally appropriate. This recognises and addresses the impacts of intergenerational trauma and seeks to strengthen family and community connections.

Figure 7: Benefits framework in the Murri School Healing Program CBA



Source: Deloitte Access Economics 2017.

⁵⁹ Deloitte Access Economics, 2016b, Deloitte Access Economics 2017.

Table 4: Summary of two CBAs that valued the broader benefits that can be achieved from initiatives where First Nations cultures are embedded

| СВА | Description of initiative | Benefit-Cost Ratio | Quantified benefits |
|---|--|--|---|
| Murri School Healing Program, Brisbane | A healing program run at the Aboriginal and Islander Independent Community School (Murri School) in Greater Brisbane, funded by the Healing Foundation, an independent Aboriginal and Torres Strait Islander organisation. The program seeks to create a culturally appropriate, supportive environment for students and their families to heal the intergenerational trauma that has impacted First Nations people and communities since colonisation. The program involves therapeutic intervention, service coordination, family case work, family camps, cultural and group activities, and connection with educational and sporting activities. | 8.85, estimated in 2017. No sensitivity analysis included. | Higher Year 12 completion rates, valued in terms of increased lifetime earnings for students. Improved mental health outcomes, valued in terms of improved quality of life for students. Reduced contact with child protection services, facilitated by access to culturally appropriate early intervention services and other family-based supports, valued in terms of improved quality of life, increased productivity from higher employment, and cost savings for government. Reduced incarcerations from higher educational attainment and stronger connections with community, valued in terms of cost savings for government. |
| Danila Dilba Health Service (DDHS), Darwin | Darwin's only Aboriginal community-controlled health service, providing culturally appropriate and comprehensive primary health care and community services. Since its establishment in 1991, the DDHS has expanded over time, currently operating nine clinics with over 200 staff. The DDHS' services encompass acute care, immunisation, chronic disease management, women's health, men's health, child and maternal health, sexual health and social and emotional wellbeing. The service also provides a range of community programs in areas such as health promotion and mental health. The DDHS also provides transport services for patients and health services to homeless people through a mobile unit. | 4.18, estimated in 2015-16. No sensitivity analysis included. | Reduced cases of chronic kidney disease and associated complications, including kidney failure and death, from screening and management services. Reduced risk of complications associated with type 2 diabetes, including vision loss, neuropathy, renal disease and cardiovascular conditions, from improved management of blood glucose and blood pressure levels. Prevention of cases of underweight children, resulting in lower incidence of associated conditions such as nutritional deficiencies and respiratory infections. This analysis was limited to these three core health service areas due to data limitations in other areas. Benefits were quantified in terms of improved quality of life for DDHS clients and lower health expenditures for government. |

Source: Deloitte Access Economics, 2016b, Deloitte Access Economics 2017.

The CBA of the DDHS also described how the initiative's focus on providing health services that are culturally appropriate was likely to influence the outcomes achieved. The analysis noted that DDHS aims for all its clients to be treated by Aboriginal health practitioners in the first instance. As referenced in the CBA report:

Culturally appropriate services are likely to have a far greater influence on Indigenous people than services which are not culturally appropriate. Culture influences Indigenous people's decisions about whether they will seek and adhere to treatment, and ultimately the success or failure of the treatment. 60

3.3.1 Absence of a framework to explain culture's role as an input in CBA

The two previous examples demonstrate how it is possible for CBA to capture the impact of culture on the effectiveness of First Nations initiatives, in terms of its contribution to the type, and magnitude, of other outcomes.

CBA is an incremental analysis, measuring the benefits and costs of an initiative relative to a base case, or counterfactual scenario (Figure 8). Accordingly, the extent to which a CBA will capture the impact of culture on broader outcomes relies on how the counterfactual is defined.

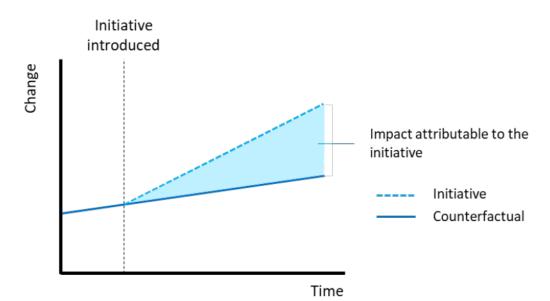


Figure 8: CBA measures the impact of an initiative relative to a counterfactual base case

Source: NSW Treasury.

In the CBA of the Murri School Healing Program, the outcomes of students at the Murri School were compared with the outcomes of the average First Nations student in Queensland.

Similarly, the CBA of DDHS measured the incremental benefits of the service by examining how the health outcomes for DDHS clients differed from the outcomes of the broader First Nations population of the Northern Territory that did not access DDHS services. It included adjustments to recognise the influence of socioeconomic factors, such as differences between metropolitan and rural and remote locations, that might otherwise skew the result.

While such approaches provide a way to include the contribution of First Nations cultures to improved outcomes measured and valued in CBA, they also illustrate the challenges in making this contribution explicit. While both CBAs identified culture as an important influence on the outcomes achieved by each initiative, the discussion of how culture contributed was more limited.

A framework that helps proponents to identify and articulate the pathways or mechanisms that culture can influence broader outcomes may encourage further application of CBA to First Nations initiatives.

⁶⁰ Department of Health and Community Services 2007 in Deloitte Access Economics, 2016b, p 2.

3.3.2 Capacity and capability for early consideration of culture and genuine partnership

A first step for an analyst considering how to incorporate the value of First Nations cultures as an input in a CBA is to confirm that there has been involvement from First Nations people and communities, preferably in the scoping and design of the initiative.

Evidence demonstrates that initiatives that have been designed and delivered with First Nations people and communities have a greater likelihood of improving First Nations outcomes. The Closing the Cap Clearinghouse produced three reports which outlined high-level principles for successful programs in 'overcoming Indigenous disadvantage'. 61 The reports drew on a synthesis of evaluation findings across Australia between 2009 and 2014 and found that successful initiatives were often characterised by partnerships, networks, and shared leadership with First Nations people and communities, flexibility based on local needs and contexts and investments in trust and relationships (Table 5). In contrast, one-size-fits-all approaches and a lack of cultural safety were found to be common features of initiatives that have not worked.

Table 5: Principles for First Nations initiatives – synthesis from the Closing the Gap Clearinghouse

What works

Flexibility in the design and delivery of policies and programs to consider local needs and environment. This requires: understanding that issues that are often complex and contextual; knowledge of the underlying social determinants; and respect for different cultures and languages.

- Community involvement and engagement in the development and delivery of programs, for example, through leadership, and community-member engagement, partnerships, networks, and shared leadership.
- The importance of building trust and relationships, including developing social capital to work collaboratively with stakeholders.
- Adequate resourcing, with planned and comprehensive policies and programs. including a well-trained and well-resourced workforce.
- Continuity and coordination of services. including collaboration that builds bridges between public agencies and the community, and coordination between communities, nongovernment organisations and government to prevent duplication of effort.

What doesn't work

- Programs implemented in isolation: 'one size fits all' approaches, designed without context in mind (such as existing services, local culture and belief systems, and the physical, economic, and social realities of the community).
- Short-term funding and high staff turnover: insufficient time provided to build relationships between service providers and communities, and a failure to develop First Nations people's capacity to provide services.
- Lack of cultural safety: programs designed without local First Nations community partnership and culturally appropriate adaptation, such as employing staff without an understanding of local cultures, languages, and knowledge.
- Inflexible program delivery: where the materials delivered and the program structure is not accessible to the local community (for example, lack of transport may be a barrier for some people to access the program).
- External authorities imposing change and reporting requirements.

Source: AIHW and AIFS 2013, p.1 and 5; Al-Yaman and Higgins 2011, p.2-3 (as reported by the PC (2020), p. 114.

⁶¹ The Closing the Gap Clearinghouse (AIHW, AIFS) 2011, 2012, 2013

While the emphasis of working in partnership with First Nations people and communities is not new, there are opportunities to further embed such approaches.

For example, consultations highlighted that a focus on listening to First Nations people and communities in the design phase of the policy cycle can help government agencies to prioritise local solutions based on evidence, rather than assumptions, that are more likely to be effective. 62 This aligns with the policy basis of the OCHRE Plan for Aboriginal Affairs and the Closing the Gap Partnership Agreement (Box 5).63

Box 5. Shared decision making under the National Agreement on Closing the Gap

The National Agreement on Closing the Gap has formally committed to a structural change in how all Australian governments work with First Nations people and communities.⁶⁴

The framework is based on shared decision making between governments and First Nations community-controlled organisations through the design, implementation and monitoring of policies and programs. It identifies two forms of partnerships: those that are focused on discrete policy areas, and place-based partnerships based on a specific region.

While this approach has been recognised as an important step forward, it is also acknowledged that it is a work in progress. Annual health checks have recommended a range of ways to strengthen the operation of the partnership.⁶⁵

These recommendations include identification of the need to better embed First Nations perspectives in monitoring and evaluation, including clarity and focus on:

- First Nations definitions of success and measurement frameworks
- flexible timeframes and funding arrangements to enable monitoring and evaluation
- differing values, communication styles and capabilities
- data sovereignty definition, implications, arrangements, and accountabilities, reflecting First Nations perspectives regarding appropriate ownership, measurement, collection, analysis and reporting
- support for a positive strengths-based narrative to further develop what is working, rather than a deficit or 'capacity building' narrative. 66

In addition, the Australian Productivity Commission's Indigenous Evaluation Strategy (discussed in Box 3) identified that First Nations people have been rarely included in evaluation planning and decision-making.⁶⁷ Analysis of evaluations submitted by Australian Government agencies found that just one-third of First Nations-specific evaluations included First Nations people in evaluation planning or decision-making (Figure 9). Only one mainstream evaluation with results for First Nations people (2 per cent) engaged with community.

This research emphasises that improvements in government's capacity and capability to engage meaningfully with First Nations people and communities on initiative design will be necessary before progressing to how culture can be valued in CBA.

⁶² NSW Treasury 2022c.

⁶³ Aboriginal Affairs NSW 2013., Australian Government 2020.

⁶⁴ Australian Government 2020.

⁶⁵ Hoffman 2020, ABSTARR Consulting 2021.

⁶⁶ ABSTARR Consulting 2021, p 26.

⁶⁷ Productivity Commission 2020a.

Figure 9: Proportion of evaluations that included First Nations people in decision making

Mainstream evaluations with results for First Nations people





Source: Adapted from Productivity Commission 2020b, Indigenous Evaluation Strategy, Background Paper.

Note: Counts represent information provided by the 52 agencies out of 182 agencies that responded to the Productivity Commission's information request. Some agencies that did respond were not able to provide information on all evaluations done by the agency. The nature and size of policies, programs and evaluations varied, therefore, counts only provide an indicative picture of overall evaluation practice.

Data and evidence gaps require further research and evaluation 3.3.3

There are also challenges in navigating gaps in evidence when attempting to quantify the contribution of First Nations cultures to outcomes. As discussed in Section 3.2.1 (and illustrated in Figure 5), developing quantitative estimates of benefits relies on both outcome and valuation data.

For many of the broader outcomes that cultural initiatives can influence, such as impacts on education, health and productivity, agreed valuation methods and data sets are increasingly available, but gaps remain.

For example, a comprehensive review of the evidence linking First Nations cultures with health and wellbeing published between 1997 and 2017 assessed the strength of evidence in most publications as moderate or low quality. 68 Common limitations included small sample size and location-specific data, a lack of reliable and valid measures of culture, and use of observational or cross-sectional data rather than randomised experiments or longitudinal studies.

The CBAs of the Murri School Healing Program and DDHS also illustrate the challenge of distinguishing the influence of First Nations cultures from other factors, particularly where limited access to data prevents robust statistical analysis.

The breadth of beneficial outcomes that can stem from First Nations initiatives adds to the challenge of tracking outcomes and estimating impact attributable to an initiative. The CBA of Community First Development (Box 6) provides an example of how these challenges were navigated in a CBA of 67 local projects.

Further investment is needed to continue building our base of evidence suitable for use in CBA. Over time, as research develops, so will the capacity to better understand and establish the causal pathways through which culture can influence broader outcomes. Longer-term impacts will also be better established and quantified as data is collected over many years.

Section 4.3 discusses the opportunity to address gaps in data and evidence, including recognition of the progress being made through Mayi Kuwayu: The National Study of Aboriginal and Torres Strait Islander Wellbeing.

⁶⁸ Bourke and Wright et al. 2018.

Box 6: Navigating data requirements - CBA of Community First Development

Community First Development is a community development and research organisation that works with Aboriginal and Torres Strait Islander communities across Australia.

Guided by its four 'distinctives' (Figure 10) the organisation partners with First Nations communities on local projects, most commonly in the areas of governance and economic development. It also plays a role in linking First Nations people with volunteers with relevant expertise aligned to community objectives, providing opportunities for Australians to contribute to First Nations communities through partnerships, and undertaking fundraising activities to support its work.

Core to Community First Development's operations is the principle of self-determination: that each community partner owns the targets, activities, and outcomes of their local project.

Figure 10: Community First Development's 'Distinctives'



Source: Community First Development 2020.

A CBA of Community First Development's activities estimated that every dollar expended by the organisation in 2020-21 returned \$3.73 in benefits, delivering \$12.8 million in net benefits overall.⁶⁹

These results were obtained by examining and aggregating the impacts of 67 individual community-led projects across seven benefit categories: higher rates of employment; higher rates of business success; improvement in health status; lower rates of welfare dependence; lower rates of interaction with the justice system; higher rates of volunteerism; and lower rates of housing support.

The benefit categories were jointly scoped by Community First Development's regional managers and the consultants engaged for the CBA to set a focus for the quantification task. Community First Development's regional managers then reported back on the nature of benefits associated with each project using a 'benefits register'. This included estimates of the size and timing of each benefit, the likelihood that the benefit had been achieved, and the extent that the project contributed to the delivery of the benefit, considering other influencing factors and stakeholders.

While this approach involved some subjectivity in assessing the impacts attributable to each project, it was able to provide an indication of the scale of the net impact of Community First Development's work.

The results demonstrated that working in partnership with First Nations communities, with a focus on self-determination, can deliver improvements across a broad range of outcomes, with benefits that exceed the costs.

4. Opportunities

Key points:

This chapter explores three opportunities to address the challenges often faced when valuing First Nations cultures in CBA:

- 1. Partnership from early stages: CBAs that seek to incorporate the value of First Nations cultures in their results should first demonstrate involvement from First Nations people and communities, preferably under a partnership model from outset.
- 2. CBA specific methodological guidance: There is a current information gap on how to effectively capture and incorporate the value of First Nations cultures into CBA. The development of guidance on how to do this effectively and in a culturally appropriate way can lift capability and build a more robust evidence base to support decision making.
- 3. Investment in research, outcome evaluations and ex-post CBAs: Continued learning from what has, and hasn't, worked is necessary to deepen the evidence base available for future CBAs. This is key to guiding the development of initiatives and informing decisions around what to expand, and what to scale back, or change. First Nations researchers are leading important advances in this area. For example, Mayi Kuwayu: The National Study of Aboriginal and Torres Strait Islander Wellbeing is examining how and why First Nations cultures can influence health and wellbeing outcomes.

Genuine partnership from early stages 4.1

This paper has examined two ways of incorporating the value of First Nations cultures in CBA: as distinct cultural outcomes of an initiative, as well as an input to the achievement of broader benefits.

Regardless of the valuation approach taken, CBAs that seek to reflect the value of First Nations cultures in their results should demonstrate there has been involvement from First Nations people and communities, preferably under a partnership model from the inception.

For cultural outcomes to be realised in practice, or for culture to influence an initiative's broader success, First Nations people and communities should lead the process of embedding culture in the design and delivery. This includes development of options for delivery by ACCOs (as discussed in Section 2.1).

Similarly, for the impact of First Nations cultures to be valued in a CBA, First Nations people and communities should have input on valuation methods used, and ensure the impacts identified align with the priorities and lived experience of the community (discussed in Sections 0 and 3.3).

Initial findings suggest that good practice for embedding First Nations values, interests and perspectives in CBA should involve:

- Listening to First Nations voices in the initial problem definition and the options development stages: to understand the key issues facing First Nations people and communities and incorporate First Nations expertise and ideas into potential solutions.
- Clear and careful definition of the base case and project case: to clearly draw out the incremental impact that can be attributed to the project.

⁶⁹ ACIL Alen 2021.

This is important to both highlight the contribution of First Nations cultures as assets, and to avoid inclusion of symbolic 'add on' benefits that may make an initiative appear more attractive, without a clear indication of how they will materially benefit First Nations people and communities.

For example, where an initiative seeks to incorporate and claim benefits from the inclusion of First Nations cultural elements, such as design, décor or language, it would be important to interrogate the opportunities to provide similar recognition of First Nations cultures in the base case, or through an alternative, lower cost option. Such cultural elements should not be used to attempt to justify the broader expense of an initiative if there is insufficient evidence of how they will meaningfully impact the lives of First Nations people and communities.

- Understanding how an initiative is likely to impact First Nations people and communities: whether these are positive or negative, taking the time to understand the perspectives of the impacted First Nations people and communities, and thinking beyond the 'government portfolio area' developing the initiative.
- Appropriate application of approaches to measure the impact of First Nations cultures on outcomes: using the best available evidence and ensuring explicit support from First Nations representatives on the approach taken.
- Recognising the diversity of First Nations communities when using data to measure and value impact: so that, where data allows, CBA estimates reflect local circumstances, rather than relying on averages.

When exploring partnership opportunities, proponents should be conscious that they do not further exacerbate the consultation fatigue that exists across many First Nations communities. Treasury's experience to date suggests that ways to manage this can involve:

- Due diligence: taking time to research the priorities of the local First Nations community based on publicly available information, and previous feedback or input provided on the topic to governments or other service providers.
- Recognising a community's right to 'opt out': where an initiative may not align with their priorities. Where this is the case, proponents should reassess the suitability of the initiative.
- Offering to compensate for time and expertise: so that communities are sufficiently resourced to be involved, where this aligns with their priorities.

The NSW Government is also establishing a portal for information sharing across agencies under the 2022-2024 Implementation Plan for Closing the Gap, to support better coordination and reduced duplication when speaking with First Nations communities.

CBA specific methodological guidance 4.2

There is an opportunity to supplement the existing NSW investment framework policies and guidelines with specific methodological guidance on how First Nations cultures can be reflected in CBA. Sharing information on the key considerations for assessing First Nations initiatives using CBA can help to lift capability and help to build the economic evidence base.

This guidance should include:

 A framework for understanding how culture influences broader outcomes: to encourage proponents to step beyond identification of cultural outcomes and examine how First Nations cultures can also influence the effectiveness of an initiative. One opportunity is to further explore how First Nations cultures can be viewed as assets or institutions, drawing on broader economic theory to explain the main pathways or mechanisms through which culture can influence other outcomes, so that this can be articulated more explicitly in CBA.

- Emphasis on all steps of CBA, starting from establishing the case for change: in recognition that consideration of First Nations cultures should not begin at the stage of identifying and valuing benefits in a CBA. First Nations people and communities should be involved at the beginning. informing the case for change and options development.
- Considerations for defining the base case: as noted in Section 4.1, this is necessary to ensure the CBA examines the incremental impacts that can be attributed to an initiative and excludes any symbolic 'add on' benefits that do not meaningfully benefit First Nations people and communities. Defining the scenarios is also essential. By exploring the difference in expected outcomes when First Nations cultures have been incorporated into an initiative, compared to a scenario where they have not, an estimate of the difference in outcomes can be calculated and in turn, valued.
- Considerations for culturally appropriate application of valuation methods: emphasising the need to work closely with First Nations people and communities, as limited studies have been undertaken in this area in Australia to date. Guidance might also identify circumstances that would benefit from further work, and where examining different methods of valuing the impact of First Nations cultures might be preferred.
- Ways to manage the risks associated with benefit transfer: navigating the difficult trade-off between potentially having an inaccurate value used in a CBA, and no value at all. Ensure that impacted First Nations Communities are consulted.
- Options for preliminary CBAs: that can be applied to initiatives that are smaller in scale and tailored to specific local communities, where a full CBA is not feasible. This may include 'preliminary' CBAs before an initiative has commenced and establishing monitoring and evaluation plans to enable ex-post CBAs during, or after, implementation.

4.3 Investment in research, outcome evaluations and ex-post CBAs

Prioritising further investment in research, outcome evaluations, and ex-post CBAs will help to lift the number and quality of CBAs of First Nations initiatives, with explicit recognition of the value of First Nations cultures. This work will help inform policy makers and First Nations Communities in decisions on what programs to expand, and what to scale back, or change. It will also inform the development of future initiatives.

In New South Wales, there is considerable scope to lift the rate of evaluation of government funded First Nations initiatives. NSW Treasury's Interim Indigenous Expenditure Report found that 70 (54.3 per cent) of the 129 discrete First Nations-specific programs and services reported by clusters and deemed eligible for evaluation, had not been evaluated.⁷⁰

To help address this, all new initiatives funded in the 2022-23 Budget that were prepared under the National Agreement on Closing the Gap governance structure and partnership model have included an explicit evaluation budget. A process is also underway to develop prioritisation plans for the evaluation of other existing First Nations-specific initiatives funded by the NSW Government as part of Closing the Gap commitments.

Opportunities to improve evaluation of First Nations initiatives include:

First Nations leadership of evaluation planning, analysis and reporting: The Australian Productivity Commission found that just 30 per cent of evaluations of First Nations initiatives administered by national agencies included First Nations people in evaluation decision-making. and that just 15 per cent of evaluations provided results back to community (Figure 9). First Nations leadership throughout the evaluation process is important to align the scope and approach to the priorities and lived experience of communities. Ensuring that results are shared back is a basic courtesy that can help guide future areas of focus.

⁷⁰ NSW Treasury 2021.

- Planning early how outcomes and benefits will be monitored: It is good practice to develop a monitoring and evaluation plan during the design stage of an initiative. This helps to ensure that there is clarity on how outcomes and benefits will be measured over the life of an initiative, what evaluation methods will be most suitable at different stages, and to ensure that there is adequate budget for monitoring and evaluation included in any submissions for funding.
- Planning and conducting ex-post CBAs: Ex-post CBA uses data and insights from implementation and increases the knowledge base by enabling the comparison of what was initially expected, with what was realised in practice. Planning for this in the early stages can ensure that relevant data is collected under the monitoring framework and to guide the setup of any ex-ante CBA. Ex-post CBA should be prioritised where an ex-ante CBA has not been undertaken, where there have been changes to an initiative in implementation, or where ex-ante CBA assumptions, such as attribution rates, need to be reviewed.

Further research into the causal pathways by which culture influences outcomes will also improve our understanding of what works, so that more effective initiatives can be designed and funded in the future.

First Nations researchers are leading important advances in this area. Mayi Kuwayu: The National Study of Aboriginal and Torres Strait Islander Wellbeing⁷¹ is a notable example of First Nations-led and controlled research focused on analysing the impact of First Nations culture on health and wellbeing outcomes (Box 7). Initiatives like this that are designed from a First Nations perspective, and maintain Indigenous data sovereignty, are likely to provide significant enhancements in the evidence base to inform the design of initiatives and support future CBAs.

⁷¹ Mayi Kuwayu 2022.

Box 7. Mayi Kuwayu: The National Study of Aboriginal and Torres Strait Islander Wellbeing

Mayi Kuwayu was established by First Nations researchers and staff at the Australian National University to help better understand how and why culture affects health and wellbeing outcomes for First Nations people and communities.

In the Ngiyampaa language of the Wongaibon peoples of New South Wales, 'Mayi Kuwayu' means 'to follow Aboriginal people over a long time'. As this name indicates, the study is centred around a longitudinal survey which can be voluntarily completed by any Aboriginal and Torres Strait Islander person aged 16 years and older.

The survey questions have been informed by detailed reviews of existing literature (and a series of focus groups over three years) which involved 165 First Nations people across Australia.⁷² Where permitted by survey participants, data can be linked to broader hospital, Medicare and other health records.

The key cultural themes captured through measures in the survey include: connection to Country; Indigenous beliefs and knowledge; cultural expression; self-determination and leadership; language; family, kinship and community; and identity.

The study has established a unique, large-scale data set that captures measures of cultural practice and expression, health and wellbeing that are both relevant and meaningful for First Nations people and communities, and suitable for robust quantitative analysis.

Insights gained from the study have already highlighted lessons for policy and program development in areas such as traditional land management and tobacco control.73

An important feature of the study is that it is led, and controlled, by First Nations people, with strong governance and privacy structures in place that align with the Maiam nayri Wingara Indigenous Data Sovereignty Principles. This means that survey participants can be assured that their information will only be used by, with, and for, the benefit of Aboriginal and Torres Strait Islander people.

⁷² Bourke and Wright et al. 2018., Salmon et al. 2019., Jones, Thurber and Chapman et al. 2018.

⁷³ Wright et al. 2021., Cohen et al. 20121.

5. Next steps

Prioritising the opportunities outlined in this paper has the potential to help reshape the investment landscape for First Nations initiatives. It can lead to a clearer understanding of the priorities of different First Nations communities and use the growing evidence of the strength of First Nations cultures to improve how initiatives are designed. In turn, this can better target investment to where it will have the greatest impact.

We will build on these learnings and address them through the development and delivery of an investment framework for embedding First Nations perspectives in the design and evaluation of initiatives. This is due to be delivered by June 2024. In particular, the CBA component of the framework will focus on providing guidance to lift knowledge and capability in how to value First Nations cultures in economic appraisal.

We will also continue to examine other ways to help build the capacity and capability to embed First Nations cultures and perspectives into economic appraisal. We also invite feedback on this paper, or suggestions for opportunities to apply and test the concepts raised with First Nations people and communities.

Glossary

| Terms | Definition |
|------------------------|--|
| Base case | In CBA, the base case is the projection of costs and benefits if none of the options proceed. It is a 'business as usual' situation, sometimes referred to as the 'counterfactual'. |
| Benefit-Cost Ratio | The ratio of the present value of net benefits to the present value of resource costs. |
| Benefit transfer | A valuation method that draws valuations from existing studies to use as proxy values for benefits or costs of the current initiative. |
| Choice modelling | A non-market valuation method often used for the purpose of CBA to observe consumer choices and estimate welfare surplus. The method involves surveying participants and asking them to choose between alternatives from a number of 'choice sets', each with different characteristics and prices. The value of certain characteristics in the choice sets can be inferred based on the choices that participants prefer. |
| Closing the Gap | The National Agreement on Closing the Gap was a commitment signed in 2020 by all Australian governments, along with the Coalition of Aboriginal and Torres Strait Islander Peak Organisations. The agreement committed to overcome the entrenched inequality faced by too many Aboriginal and Torres Strait Islander people so that their life outcomes are equal to those of all Australians. |
| Country | Country is a place of origin in cultural, spiritual and literal terms for First Nations people. It includes not only land but also skies and waters. Country incorporates both the tangible and intangible, for instance, all the knowledges and cultural practices associated with land. People are part of Country, and the identity of First Nations people is derived in a large way in relation to Country. |
| Culturally appropriate | Being aware, sensitive and knowing about the behaviour, attitudes, policies and systems of other cultures. |
| Cultural heritage | The living, traditional and historical practices, representations, expressions, beliefs, knowledge and skills (together with the associated environment, landscapes, places, objects, ancestral remains and materials) that Aboriginal people recognise as part of their cultural heritage and identity (NSW Aboriginal Cultural Heritage (Culture is Identity) Bill 2022). |
| Evaluation | A systematic and transparent process that can be used to assess the appropriateness, efficiency, effectiveness or net social benefits of an initiative. |
| Ex-ante | Evaluation undertaken prior to the implementation of an initiative. |

| Terms | Definition |
|--------------------------------------|---|
| Ex-post | Evaluation undertaken when an initiative is either underway (referred to as interim or 'in media res' ex post CBA) or completed (final ex post CBA). |
| Indigenous data sovereignty | Refers to the rights of First Nations peoples to collect, analyse, report, interpret, re-use and store First Nations data. |
| Non-market valuation | Used to measure the value of outcomes that do not have a clear market price. It includes but is not limited to: stated and revealed preference, proxy measures and hedonic analysis. |
| Non-use values | The value individuals place on a good simply for its existence, independently of any use value. |
| OCHRE Plan for Aboriginal Affairs | OCHRE was a 2013 NSW Government plan for Aboriginal affairs, standing for opportunity, choice, healing, responsibility and empowerment. It was developed by a ministerial taskforce made up of seven Ministers, four Aboriginal community leaders and senior public servants that looked at how to improve outcomes for Aboriginal people in education and employment, service delivery and accountability. |
| Partnership | Building and strengthening structures that empower First Nations people to share decision-making authority with governments. |
| Preliminary CBA | A less detailed form of CBA with principles still based on welfare economics. |
| Private use values | The value that individuals, households, communities or businesses gain from using something. |
| Revealed preference | A non-market valuation method. Revealed preference methods estimate consumers' willingness to pay by examining their actual behaviour. |
| Stated preference | A non-market valuation method. Stated preference methods ask individuals to self-report their preferences or valuations. |

References

ABSTARR Consulting (2021) Partnership Agreement on Closing the Gap – Partnership Health Check 2021, https://www.closingthegap.gov.au/sites/default/files/2021-12/partnership-health-check-2021report 0.pdf.

Aboriginal Affairs NSW (2013) Opportunity, Choice, Healing, Responsibility, Empowerment (OCHRE) Plan for Aboriginal affairs, https://www.aboriginalaffairs.nsw.gov.au/our-agency/stayingaccountable/ochre/the-ochre-plan/AA_OCHRE_final.pdf.

ACIL Allen (2021) Social and Economic Impact Assessment of Community First Development, Report commissioned by Community First Development,

https://static1.squarespace.com/static/5df6bf8c5a9fd4488885978d/t/616655959e27fc423a87142 f/1634096542043/Community+First+Development_Socio+Economic+Impact+Statement+Report_AC IL+Allen.V2+%28003%29.pdf.

Adamowicz, W, Boxall, P, Haener, H, Zhang, Y, Dosman, D, Marois, J, (2004) 'An Assessment of the Impacts of Forest Management on Aboriginal Hunters: Evidence from Stated and Revealed Preference Data', Forest Science, Vol. 50, Issue 2, pp 139-152, https://www.proquest.com/scholarlyjournals/assessment-impacts-forest-management-on/docview/197642152/se-2.

Allen, J, Rasmus, S M, Fok, C C T, Charles, B and Henry, D, (2018) 'Multi-Level Cultural Intervention for the Prevention of Suicide and Alcohol Use Risk with Alaska Native Youth: a Nonrandomized Comparison of Treatment Intensity'. Prevention Science, 19(2), pp 174-185, https://doi.org/10.1007/s11121-017-0798-9.

Australian Curriculum, Assessment and Reporting Authority (ACARA) (2023), Understand this crosscurriculum priority: Aboriginal and Torres Strait Islander Histories and Cultures. https://v9.australiancurriculum.edu.au/teacher-resources/understand-this-cross-curriculumpriority/aboriginal-and-torres-strait-islander-histories-and-cultures.

Australian Government (2020) National Agreement on Closing the Gap July 2020, https://www.closingthegap.gov.au/sites/default/files/files/national-agreement-ctg.pdf.

Australian Government Department of Health (2021) National Aboriginal and Torres Strait Islander Health Plan 2021-2031, https://www.health.gov.au/resources/publications/national-aboriginal-andtorres-strait-islander-health-plan-2021-2031?language=en.

Australian Human Rights Commission (2020) Wiyi Yani U Thangani (Women's Voices): Securing Our Rights, Securing Our Future Report, https://humanrights.gov.au/our-work/aboriginal-and-torresstrait-islander-social-justice/publications/wiyi-yani-u-thangani.

Baba, JT, Brolan, CE, Hill, PS, (2014) 'Aboriginal medical services cure more than illness: a qualitative study of how Indigenous services address the health impacts of discrimination in Brisbane communities', International Journal for Equity in Health, 13:56, https://doi.org/10.1186/1475-9276-13-56.

Bals, M, Turi, A L, Skre, I and Kvernmo, S, (2011) 'The relationship between internalizing and externalizing symptoms and cultural resilience factors in Indigenous Sami youth from Arctic Norway', International Journal of Circumpolar Health, 70(1), pp 37–45, https://doi.org/10.3402/ijch.v70i1.17790.

Biddle, N, and Crawford, H, (2017) Indigenous Participation in Arts and Cultural Expression, and the Relationship with Wellbeing: Results from the 2014–15 National Aboriginal and Torres Strait Islander Social Survey. Australia: Centre for Aboriginal Economic Policy Research,

https://caepr.cass.anu.edu.au/research/publications/indigenous-participation-arts-and-culturalexpression-and-relationship.

Biddle, N and Swee, H, (2012) 'The Relationship between Wellbeing and Indigenous Land, Language and Culture in Australia', Australian Geographer, 43(3), pp 215–232, https://doi.org/10.1080/00049182.2012.706201.

Bird, R B, Codding, B F, Kauhanen, P G and Bird, D W, (2012) 'Aboriginal hunting buffers climatedriven fire-size variability in Australia's spinifex grasslands', Proceedings of the National Academy of Sciences (PNAS), vol. 109, no. 26, pp 10287-10292, https://doi.org/10.1073/pnas.1204585109.

Bourke, S, Wright, A, Guthrie J, Russell, L, Dunbar, T, and Lovett, R, (2018) 'Evidence Review of Indigenous Culture for Health and Wellbeing.', The International Journal of Health, Wellness, and Society 8 (4): pp 11-27, https://doi.org/10.18848/2156-8960/CGP/v08i04/11-27.

Briggs, V, (2019) Sailing and Navigation: Indigenous Seafarers, recorded at the National Library of Australia, 19 January 2019,

https://www.google.com.au/url?sa=t&rct=j&g=&esrc=s&source=web&cd=&ved=2ahUKEwjF99DCyse BAxXTlFYBHSabCecQFnoECBIQAQ&url=https%3A%2F%2Fwww.nla.gov.au%2Fsites%2Fdefault%2 Ffiles%2Fsailing navigation indigenous seafarers.rtf&usg=AOvVaw2WYl6RSHeWQn knjNG3hYq& opi=89978449

Bularri Muurlay Nganggan Aboriginal Corporation (2021) The Gumbaynggirr Giingana Freedom School - Proposal, https://bmnac.org.au/wp-content/uploads/2021/08/Giingana-School-Advocacy-V16-.pdf

Burgess, C.P., Berry, H.L., Gunthorpe, W. and Bailie, R.S., (2008) 'Development and preliminary validation of the 'Caring for Country' questionnaire: measurement of an Indigenous Australian health determinant', International Journal for Equity in Health, 7(1), https://doi.org/10.1186/1475-9276-7-26.

Burgess, C.P., Johnston, F.H., Berry, H.L., McDonnell, J., Yibarbuk, D., Gunabarra, C., Mileran, A and Bailie, R S, (2009) 'Healthy country, healthy people: the relationship between Indigenous health status and 'caring for country", Medical Journal of Australia, 190(10), pp 567–572, https://doi.org/10.5694/j.1326-5377.2009.tb02566.x.

Campbell, D et al. (2011) 'Potential primary health care savings for chronic disease care associated with Australian Aboriginal involvement in land management', Health Policy, 99(1), pp 83-89. https://doi.org/10.1016/j.healthpol.2010.07.009.

Campbell, M A, Hunt, J, Scrimgeour, D J, Davey, M, and Jones, V, (2018) 'Contribution of Aboriginal Community-Controlled Health Services to improving Aboriginal health: an evidence review'. Australian health review: a publication of the Australian Hospital Association, 42(2), 218–226. https://doi.org/10.1071/AH16149

Chandler, M J and Lalonde, C, (1998) 'Cultural Continuity as a Hedge against Suicide in Canada's First Nations', Transcultural Psychiatry, [online] 35(2), pp 191–219. https://doi.org/10.1177/136346159803500202.

Chandler, M. J. Lalonde, C E, Sokol, B W, and Hallett, D, (2003) 'Personal persistence, identity development, and suicide: a study of Native and Non-native North American adolescents', Monographs of the Society for Research in Child Development, 68(2), vii-138, https://pubmed.ncbi.nlm.nih.gov/12951783/.

Centre for Education Statistics and Evaluation (CESE) (2021) Supporting Aboriginal students to attain the HSC, NSW Department of Education, https://education.nsw.gov.au/content/dam/maineducation/about-us/educational-data/cese/2021-supporting-aboriginal-students-attain-HSC.pdf

Choy, Y K, (2018) 'Cost-benefit Analysis, Values, Wellbeing and Ethics: An Indigenous Worldview Analysis', Ecological Economics, [online] 145, pp 1–9. https://doi.org/10.1016/j.ecolecon.2017.08.005. Closing the Gap Clearinghouse (AIHW, AIFS) (2011) 'What works to overcome Indigenous disadvantage: key learnings and gaps in the evidence', Canberra: Australian Institute of Health and Welfare and Melbourne: Australian Institute of Family Studies.

https://www.aihw.gov.au/reports/indigenous-australians/what-works-to-overcome-indigenousdisadvantage-200/contents/table-of-contents.

Closing the Gap Clearinghouse (AIHW, AIFS) (2012) 'What works to overcome Indigenous disadvantage: key learnings and gaps in the evidence 2010-11', Canberra: Australian Institute of Health and Welfare and Melbourne: Australian Institute of Family Studies.

https://www.aihw.gov.au/reports/indigenous-australians/what-works-to-overcome-indigenousdisadvantage-ke/contents/table-of-contents.

Closing the Gap Clearinghouse (AIHW, AIFS) (2013) 'What works to overcome Indigenous disadvantage: key learnings and gaps in the evidence 2011-12', Canberra: Australian Institute of Health and Welfare and Melbourne: Australian Institute of Family Studies. https://www.aihw.gov.au/reports/indigenous-australians/works-to-overcome-indigenousdisadvantage-2011/summary.

Cohen, R, Maddox, R, Sedgwick, M, Thurber, K A, Brinckley, M-M, Barrett, E M and Lovett, R, (2021) 'Tobacco Related Attitudes and Behaviours in Relation to Exposure to the Tackling Indigenous Smoking Program: Evidence from the Mayi Kuwayu Study', International Journal of Environmental Research and Public Health, 18, 10962, https://doi.org/10.3390/ijerph182010962.

Community First Development (2020) 'Community First Development 3 Year Macro Analysis 2017-2020', https://www.communityfirstdevelopment.org.au/stories/3-year-macro-analysis-2017-2020.

Coyne, C, Williams, G and Sangha, K, (2022) 'Assessing the Value of Ecosystem Services From an Indigenous Estate: Warddeken Indigenous Protected Area, Australia', Frontiers in Environmental Science, vol. 10, 845178, pp. 1-17. https://doi.org/10.3389/fenvs.2022.845178.

Cultural and Indigenous Research Centre (2008) NSW Attorney General's Department Evaluation of Circle Sentencing Program Report, https://www.indigenousjustice.gov.au/wpcontent/uploads/mp/files/resources/files/evaluationofcirclesentencing-reportc5df9cd3f29cc7fcd709205b9ab27727.pdf.

Daw, T M, Coulthard, S, Cheung, W W L, Brown, K, Abunge, C, Galafassi, D, Peterson, G D, McClanahan, TR, Omukoto, JO and Munyi, L, (2015) 'Evaluating taboo trade-offs in ecosystems services and human well-being', Proceedings of the National Academy of Sciences, 112(22), pp 6949– 6954, https://doi.org/10.1073/pnas.1414900112.

Deloitte Access Economics (2016b) Cost-benefit and funding analysis of the Danila Dilba Health Service, prepared for Danila Dilba Binnilutlum Health Service Aboriginal Corporation, https://ddhs.org.au/sites/default/files/media-library/documents/deloitte-au-economics-danila-dilbahealth-service-cost-benefit-funding-analysis-111116.pdf.

Deloitte Access Economics (2017) Cost Benefit Analysis of the Murri School Healing Program, prepared for The Healing Foundation,

https://www2.deloitte.com/content/dam/Deloitte/au/Documents/Economics/deloitte-au-economicscost-benefit-analysis-murri-school-healing-program-061017.pdf.

Department of Social Services (2020) A Decade of Data: Findings from the first 10 years of Footprints in Time, Canberra ACT, https://www.dss.gov.au/sites/default/files/documents/05_2021/19667-dssfootprints-time.pdf.

Dockery, A M, (2009) 'Culture and Wellbeing: The Case of Indigenous Australians' SSRN Electronic Journal, 99(2), https://doi.org/10.2139/ssrn.1351633.

Doran, C M, Bryant, J, Langham, E, Bainbridge, R, Begg, S and Potts, B, (2023), 'Scope and quality of economic evaluations of Aboriginal and Torres Strait Islander health programs: a systematic review, Australian and New Zealand Journal of Public Health, 46(3), pp 361-369, https://doi.org/10.1111/1753-6405.13229.

Farr, M, Stoeckl, N, Esparon, M, Grainger, D and Larson, S (2016) Economic values and Indigenous protected areas across Northern Australia, James Cook University, Townsville, https://www.nespnorthern.edu.au/wpcontent/uploads/2017/04/Economic_Values_and_IPAs_final_web.pdf.

Gao, Y, Roe, Y, Hickey, S, Chadha, A, Kruske, S, Nelson, C, Carson, A, Watego, K, Reynolds, M, Costello, J, Tracy, S and Kildea, S, (2023) 'Birthing on country service compared to standard care for First Nations Australians: a cost-effectiveness analysis from a health system perspective. The Lancet Regional Health - Western Pacific, 34, 100722, https://doi.org/10.1016/j.lanwpc.2023.100722.

Godden, D, (1999) 'Attenuating indigenous property rights: land policy after the Wik decision', Australian Journal of Agricultural and Resource Economics, 43(1), pp 1–33, https://doi.org/10.1111/1467-8489.00066.

Government Architect New South Wales (2020) Draft Connecting with Country Framework, https://www.aidr.org.au/media/7760/designing-with-country-discussion-paper.pdf.

Hallett, D, Chandler, M.J. and Lalonde, C.E. (2007) 'Aboriginal language knowledge and youth suicide', Cognitive Development, [online] 22(3), pp 392-399. https://doi.org/10.1016/j.cogdev.2007.02.001.

Hill, R, Pert, P L, Davies, J, Robinson, C J, Walsh, F, and Falco-Mammone, F, (2013) Indigenous Land Management in Australia: Extent, scope, diversity, barriers and success factors, Cairns: CSIRO Ecosystem Sciences, https://publications.csiro.au/rpr/download?pid=csiro:EP124759&dsid=DS5.

Hoffman, S (2020) Partnership Agreement on Closing the Gap - Health Check 2020, https://www.closingthegap.gov.au/sites/default/files/2021-06/partnership-health-check-2020report.pdf.

Hudson, S, (2016) Mapping the Indigenous program and funding maze, The Centre for Independent Studies Research Report, https://www.cis.org.au/app/uploads/2017/09/rr18.pdf.

Hudson, S, (2017) Evaluating Indigenous programs: a toolkit for change, The Centre for Independent Studies Research Report, https://www.cis.org.au/app/uploads/2017/06/rr28.pdf.

Infrastructure Australia (2021) Guide to economic appraisal: Technical guide of the Assessment Framework, Australian Government, Canberra, Assessment Framework 2021 Guide to economic appraisal.pdf (infrastructureaustralia.gov.au).

Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) (2011) The benefits associated with caring for country - literature review, commissioned by the Department of Sustainability, Environment, Water, Population and Communities, https://aiatsis.gov.au/sites/default/files/research_pub/benefits-cfc_0_3.pdf.

Jones, R, Thurber, K A, Chapman, J, D'Este, C, Dunbar, T, Wenitong, M, Eades, S J, Strelein, L, Davey, M, Du, W, Olsen, A, Smylie, J K, Banks, E and Lovett, R, on behalf of the Mayi Kuwayu Study Team (2018) 'Study protocol: Our Cultures Count, the Mayi Kuwayu Study, a national longitudinal study of Aboriginal and Torres Strait Islander wellbeing', BMH Open, 8:e023861, https://bmjopen.bmj.com/content/8/6/e023861.

Kildea, S., Gao, Y., Hickey, S., Kruske, S., Nelson, C., Blackman, R., Tracy, S., Hurst, C., Williamson, D and Roe, Y, (2019) 'Reducing preterm birth amongst Aboriginal and Torres Strait Islander babies: A prospective cohort study', eClinical Medicine, Published by The Lancet, vol. 12, pp 43-51,

https://doi.org/10.1016/j.eclinm.2019.06.001.

Lowitja Institute (2021) Culture is Key: Towards cultural determinants-driven health policy, Final Report, Lowitja Institute, Melbourne, https://www.lowitja.org.au/resource/culture-is-key-towardscultural-determinants-driven-health-policy/.

Lowitja Institute (2020) We nurture our culture for our future, and our culture nurtures us, A report prepared by the Lowitja Institute for the Close the Gap Steering Committee, https://www.lowitja.org.au/wp-content/uploads/2023/05/CtG2020 FINAL4 WEB-1.pdf

Manero, A, Taylor, K, Nikolakis, W, Adamowicz, W, Marshall, V, Spencer-Cotton, A, Nguyen, M and Grafton, R Q, (2022) 'A systematic literature review of non-market valuation of Indigenous peoples' values: Current knowledge, best-practice and framing questions for future research', Ecosystem Services, 54, p 101-417, https://doi.org/10.1016/j.ecoser.2022.101417.

Mayi Kuwayu: The National Study of Aboriginal and Torres Strait Islander Wellbeing (2022), Australian National University, https://mkstudy.com.au/.

Nikolakis, W, Akter, S and Nelson, H, (2016) 'The effect of communication on individual preferences for common property resources: A case study of two Canadian First Nations', Land Use Policy, 58, pp. 70-82. https://doi.org/10.1016/j.landusepol.2016.07.007.

NSW Treasury (2021) Interim Indigenous Expenditure Report 2021, https://www.treasury.nsw.gov.au/sites/default/files/2022-03/20220323 indigenous expenditure report accessible.pdf.

NSW Government (2022a), 2022–2024 NSW Implementation Plan for Closing the Gap, August 2022, https://www.aboriginalaffairs.nsw.gov.au/media/website_pages/closingthegap/nswimplementation-plan/2022-24-implementation-plan/NSW-Closing-the-Gap-Implementation-Plan-2022-2024-(4)-accessible-Updated-(1).pdf.

NSW Treasury (2022b) Comprehensive Indigenous Expenditure Report 2021-22, September 2022, Comprehensive Indigenous Expenditure Report 2021–22 (nsw.gov.au).

NSW Treasury (2022c), Shaping evaluation of policies and programs impacting First Nations people – Consultation listening series, August 2022, https://www.treasury.nsw.gov.au/sites/default/files/2022-08/20220831-consultation-report-for-the-development-of-a-nsw-first-nations-evaluationframework.pdf.

NSW Treasury (2023a) NSW Government Guide to Cost-Benefit Analysis, TPG23-08. https://www.treasury.nsw.gov.au/sites/default/files/2023-04/tpg23-08_nsw-government-guide-tocost-benefit-analysis_202304.pdf.

NSW Treasury (2023b) Policy and Guidelines: Submission of Business Cases, TPG22-04, February 2023, https://www.treasury.nsw.gov.au/sites/default/files/2023-02/202302_tpg22-04_submissionof-business-cases.pdf.

O'Garra, T, (2009) 'Bequest Values for Marine Resources: How Important for Indigenous Communities in Less-Developed Economies?', Environ Resource Econ 44, 179–202 https://doi.org/10.1007/s10640-009-9279-3.

Oster, RT, Grier, A, Lightning, R, Mayan, MJ and Toth, EL, (2014) 'Cultural continuity, traditional Indigenous language, and diabetes in Alberta First Nations: a mixed methods study', International Journal for Equity in Health, 13(1). https://doi.org/10.1186/s12939-014-0092-4.

Ostrom, E, (2011) 'Background on the Institutional Analysis and Development Framework,' The Policy Studies Journal, 39(1). https://doi.org/10.1111/j.1541-0072.2010.00394.x.

Panaretto, K S, Wenitong, M, Button, S and Ring, I T, (2014) 'Aboriginal community controlled health services: leading the way in primary care', Medical Journal of Australia, [online] 200(11), pp 649–652, https://doi.org/10.5694/mja13.00005.

Pearce, D, Atkinson, G and Mourato, S, (2006) Cost-benefit analysis and the environment: recent developments, Organisation for Economic Co-operation and Development (OECD), Paris, https://doi.org/10.1787/9789264010055-en.

Pearson, O, Schwartzkopff, K, Dawson, A et al. (2020) 'Aboriginal community controlled health organisations address health equity through action on the social determinants of health of Aboriginal and Torres Strait Islander peoples in Australia', BMC Public Health 20, 1859 https://doi.org/10.1186/s12889-020-09943-4.

Productivity Commission (2020a), Indigenous Evaluation Strategy, https://www.pc.gov.au/inquiries/completed/indigenous-evaluation/strategy/indigenous-evaluationstrategy.pdf.

Productivity Commission (2020b), State of Evaluation: Policies Affecting Indigenous People, Indigenous Evaluation Strategy - Background Paper, https://www.pc.gov.au/inquiries/completed/indigenous-evaluation/strategy/indigenous-evaluationbackground.pdf.

Productivity Commission (2023) Review of the National Agreement on Closing the Gap, Information Paper 3, Draft Report, Canberra, July, https://www.pc.gov.au/inquiries/current/closing-the-gapreview/draft/ctg-review-draft-information3.pdf.

Rolfe, J and Windle, J, (2003) 'Valuing the Protection of Aboriginal Cultural Heritage Sites', The Economic Record, vol. 79, Special Issue, S85-S95, https://doi.org/10.1111/1475-4932.00094.

Salmon, M, Doery, K, Dance, P, Chapman, J, Gilbert, R, Williams, R and Lovett, R, (2019) Defining the Indefinable: Descriptors of Aboriginal and Torres Strait Islander Peoples' Cultures and Their Links to Health and Wellbeing, Aboriginal and Torres Strait Islander Health Team, Research School of Population Health, The Australian National University, Canberra, https://openresearchrepository.anu.edu.au/handle/1885/148406?mode=full.

Urbis (2012) Assessment of the social outcomes of the Working on Country Program, prepared for the Department of Sustainability, Environment, Water, Population and Communities.

Wright, A, Yap, M, Jones, R, Richardson, A, Davis, V, and Lovett, R, (2021) 'Examining the Associations between Indigenous Rangers, Culture and Wellbeing in Australia 2018-2020', International Journal of Environmental Research and Public Health, 18(6), 3053, https://doi.org/10.3390/ijerph18063053.

Yeong, S and Moore E, (2020) Circle Sentencing, incarceration and recidivism, Crime and Justice Bulletin No. 226, NSW Bureau of Crime Statistics and Research (BOCSAR), https://www.bocsar.nsw.gov.au/Publications/CJB/2020-Report-Circle-Sentencing-incarceration-andrecidivism-CJB226.pdf.

Zander, K K and Straton, A, (2010) 'An economic assessment of the value of tropical river ecosystem services: Heterogeneous preferences among Aboriginal and non-Aboriginal Australians', Ecological Economics, 69(12), pp 2417-2426, https://doi.org/10.1016/j.ecolecon.2010.07.010.

Further information and contacts

For further information or clarification on issues raised in this paper, please contact:

First Nations Economic Wellbeing Branch, NSW Treasury

Email: fnew@treasury.nsw.gov.au

Sydney NSW 2000

GPO Box 5469 Sydney NSW 2001

W: treasury.nsw.gov.au

This publication is protected by copyright. With the exception of (a) any coat of arms, logo, trade mark or other branding; (b) any third party intellectual property; and (c) personal information such as photographs of people, this publication is licensed under the Creative Commons Attribution 3.0 Australia Licence.

The licence terms are available at the Creative Commons website at: creativecommons.org/licenses/by/3.0/au/legalcode

NSW Treasury requires that it be attributed as creator of the licensed material in the following manner: © State of New South Wales (NSW Treasury), (2023).

