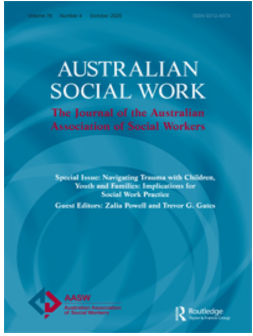

Australian Social Work

ISSN: 0312-407X (Print) 1447-0748 (Online) Journal homepage: www.tandfonline.com/journals/rasw20

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To cite this article: Nicole Nayda, Michelle Jones, Helen McLaren & Laura Edney (2025) Early Intervention Program for High-Risk Youth: Preliminary Evidence on Costs Avoided, Australian Social Work, 78:4, 413-428, DOI: 10.1080/0312407X.2025.2494586

To link to this article: https://doi.org/10.1080/0312407X.2025.2494586

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AUSTRALIAN SOCIAL WORK
2025, VOL. 78, NO. 4, 413–428
https://doi.org/10.1080/0312407X.2025.2494586

Early Intervention Program for High-Risk Youth: Preliminary Evidence on Costs Avoided

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ABSTRACT

Significant health and economic costs are associated with children being removed and placed into state care. Intensive, early intervention programs may support young, at-risk individuals to reduce child removals resulting in improved health and economic outcomes. Using routinely collected administrative service data, this study provides preliminary insights into the value of a government-funded, therapeutic, trauma-responsive, social care program supporting at-risk young people. Descriptive costs avoided were estimated based on case notes supplemented with evidence from the literature. The program cost AUD17,614 annually per person, generating net avoided costs of AUD1.37 million per year for the participating cohort of 26 clients. Threshold analyses suggested the program needed to prevent 4.12 children being placed into care annually to be cost neutral. Several key assumptions were made to generate these results due to limited data. These assumptions are detailed and several recommendations are made to reduce uncertainty in future estimates. Importantly, additional evidence is required to conduct further economic evaluations of similar community-based social and healthcare programs. More empirical evidence and rigorous evaluation built in prior to program commencement would support more robust economic evaluations.

IMPLICATIONS

- Preliminary analyses suggest a trauma-responsive, social health, early intervention program supporting young, at-risk, pregnant care-leavers may generate reduced healthcare system costs.
- More rigorous evaluation of social health programs established prior to commencement would support robust economic evaluations.

ARTICLE HISTORY

Received 3 November 2023
Accepted 14 April 2025

KEYWORDS

Health Services; Young People; Child Protection; Early Intervention; Avoided Costs; Trauma-responsive; At-risk; Economic Costs; State Care; Child Removal; Economic Benefits; Health Benefits; Care Placement; Avoided Care Placement

Trauma associated with statutory child removals present significant health, wellbeing, and economic costs. This is particularly relevant when repeat interactions with child protection services are common, with 69% of children receiving repeat services in 2022–2023 in

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Australia (Australian Institute of Health and Welfare, 2024). Early intervention programs can improve the health and wellbeing of participants and their families and potentially lead to government cost savings with Child Protection services accounting for $8.2 billion of government expenditure in 2021–2022, of which care services accounted for 62% (Productivity Commission, 2023). In the United Kingdom (UK), a trauma-informed early intervention program (known as Pause) for care-leavers who have experienced, or are at-risk of, repeat removals, supported 125 women to maintain care of their children over an 18-month duration (McCracken et al., 2017). Pause found increases in access and engagement with services including GP, housing, and substance misuse services, with improved outcomes observed for some women (McCracken et al., 2017). Outcomes included that 26% moved to secure housing, 30% reduced alcohol consumption to safer levels, 27% stopped using Class A substances, and 46% reported no further domestic violence (McCracken et al., 2017). The program generated estimated net cost savings between GBP1.2 and GBP2.1 million per annum based solely on reductions in costs associated with care proceedings resulting in child removals (McCracken et al., 2017) without considering broader outcomes such as improvements in quality of life or reductions in levels of DV, or harmful substance use.

Economic evaluation of interventions can support funding sustainability. However, economic evaluations of social work programs are not always conducted due to their inherently responsive nature; they are often developed to address identified needs in a community and mostly with little funding dedicated to evaluation (see e.g., Ma et al., 2023). Prior reviews of economic evaluations of social interventions have highlighted limitations associated with the lack of comparator group, standardised outcome measures, and the incorporation of relevant outcomes for high-risk youth (Edmunds et al., 2018) to address child abuse and neglect (Kugener et al., 2023), and for children's social care (Suh & Holmes, 2022).

These programs are important as they can break the intergenerational cycle of institutional care, address trauma and mental health needs, reduce isolation and rebuild epistemic trust, and can improve parenting skills and child outcomes (Jones et al., 2024). If left unaddressed, these issues may exacerbate the effects of trauma on children. The study reported here explored the feasibility of estimating potential avoided costs generated by a government-funded, trauma-responsive, social care program based on service-generated administrative data.

Methods

The aims of this study were to (1) provide a preliminary descriptive estimate of the avoided costs, and (2) outline the additional data required to build routine service data collection to reduce uncertainty and generate more robust estimates of avoided costs to support future service prioritisation decisions. The study design employed a descriptive approach to generate preliminary estimates of avoided costs associated with the program, rather than testing specific hypotheses. Ethical approval was granted by the relevant institutional (2022/HRE00222), Aboriginal (04-22-1010), and university human research ethics committees (5905). A retrospective analysis of case notes recorded by program staff for the 2-year program duration was used to extract age, gender, disability, ethnicity, housing, mental health, substance and alcohol use,

sex work, youth and criminal justice involvement, learning difficulty, contraception use, number of pregnancies, children and removals, placement type, duration and nature of services provided, and the incidence of sexual, DV, and family abuse. Extracted data was based on self-report by clients and program staff observations, rather than using formal validated scales capturing outcomes such as alcohol use. All de-identified data were tabulated, and cost estimates generated, using Microsoft Excel (2024).

Intervention

The program under evaluation was funded from July 2020 to June 2023 by the Australian government to provide therapeutic and healthcare services to young people. The program was modelled on Pause (McCracken et al., 2017) and aimed to disrupt intergenerational patterns of abuse and neglect through providing an early intervention, trauma-responsive service. The program's goals were to reduce the number of children entering child protection systems through preventing pregnancy, and enhancing parenting skills, and aimed to support healthier relinquishment if required. Services delivered as part of the program included supporting receipt of tertiary antenatal care, provision of outreach antenatal care and education, risk assessment, safety planning, therapeutic engagement, targeted relational work, complex care planning, multiagency consultation, and provision of and linkages with specialist healthcare (Jones et al., 2024).

Participants

Over an 18-month period, the program provided services to 26 youth at-risk of child removal. Eligibility criteria included individuals aged 12–25 years, under the Guardianship of the Chief Executive (GoCE) or post-Guardianship and identified as at-risk of repeat removals of infants or children from their care. The populations classified as high risk included young first-time parents, adolescents with complex trauma experiences, Aboriginal[1] families with complex needs, and families of infants at risk. This included young people who were currently pregnant, considering or actively trying to become pregnant, at-risk of sexual exploitation resulting in pregnancy, or who had experienced recent or multiple child removals. As per program capacity, referrals were triaged to prioritise those under 18 who were pregnant at the time of referral. The program made exceptions for young people with alternative care experiences, including kinship placements or family arrangements, where abuse and/or neglect existed, and the young person indicated a high number of adverse childhood experiences. It was a requirement of the program funding agreement that at least 25% of clients identified as Aboriginal, in recognition of the disproportionate number of Aboriginal young people in care.

Program Outcomes

The primary outcome of the program was to reduce the number of children removed from parents and entering care placement. Secondary outcomes included increased uptake of contraception, reductions in alcohol use (reported as reduction or abstinence of alcohol use), substance use (recorded as reduction or abstinence of cannabis, methamphetamine, or poly-substance use) and DV (reported as reduction in perpetration,

experience, or exposure), whilst other outcomes included change in mental health, sex work, or youth and criminal justice involvement.

Costs

Program costs were generated from top-down estimates of total government funding as reported by the organisation in their contractual agreement for program funding. Costs avoided due to the program were determined by estimating avoided costs from avoided care placement, avoided antenatal care and birthing costs, and from reductions in alcohol use, substance use, and DV restricted to a single year (see Table 1 for a description of these domains and key assumptions made). Sufficient data were not available to estimate avoided costs from reported change in mental health, sex work, or youth and criminal justice involvement, or duration and nature of additional social services provided.

Care Services

The estimated avoided costs from one child avoiding care was generated by estimating the annual cost per child in care as the real Australian government expenditure spent on care services in 2021–2022 and the number of children in out-of-home care services during this period (Productivity Commission, 2023). This provided a per child annual estimate of care services representing the annual cost avoided from one child avoiding care placement.

Services provided by the program can prevent children from being placed in care in three distinct circumstances: (1) children who were born during the program and remained in their parents' care as the program facilitated stable homes; (2) children

Table 1 Summary of Outcomes and Assumptions Made

Outcome	Measurement[a]	Assumptions
Children in care		
Children avoiding care	Number of children born during the program who remained in their parents' care	Without the program, 84% of these children would have been placed in care (Broadhurst et al., 2015).
Potential children avoiding care due to contraception	Number of clients placed on contraception	Without the program, each client without contraception would have led to 1 birth per client per 2-year period, and, of these, 84% would have been placed into care (Broadhurst et al., 2015).
Avoided antenatal and birthing health service utilisation due to contraception	Number of clients placed on contraception	Without the program, each client without contraception would have led to 1 pregnancy and birth per client per 2-year period, assumed to be births in public hospitals.
Substance use		
Children avoided care—returned to their parents' care	Number of children returned to their parents' care	Program advocacy led to children being returned to their parents' care.
Reduced substance intake	Client self-report	Reductions in substance use occurred as a result of the program and led to nondependence; where poly-substance use was reduced, avoided costs were based on methamphetamine use as the lower estimate of avoided costs.
Domestic violence		
Reduction in experience of domestic violence	Client self-report and risk assessment conducted by program staff	Reduction in domestic violence experience occurred as a result of the program.

[a]Captured from case notes.

who were previously in government care and were returned to their parents' care because of program support and advocacy; and (3) avoided pregnancies that may have resulted in the child being placed into care if the program did not facilitate contraception or termination of pregnancy. Avoided care associated with (1) and (2) were directly observed, but those associated with (3) were estimated based on a study conducted in the UK (Broadhurst et al., 2015). Their study sample was comparable, as the majority of mothers (62.8%, $n = 4415$) were aged 29 years or younger and were all involved in recurrent care proceedings due to successive pregnancies, similar program clients who had either previously experienced, or were at-risk of, successive pregnancies and child removals. The median interval between care proceedings was 17 months, and approximately 16% of children in care proceedings remained in their parent's care (Broadhurst et al., 2015). Based on this 17-month median interval, estimates of 84% of births avoided by contraception would have resulted in a child removal in the absence of the program. As there is no follow-up data available on the long-term outcomes for young people engaging in the program or similar intensive health and social care interventions, this study takes the conservative assumption that these removals were avoided only for a single year. A reduction in such services can result in costs avoided.

Avoided pregnancies and care placement due to contraception result in avoided cost to the government from healthcare service utilisation for antenatal care and birthing costs also. For a public patient in a public hospital ($n = 105{,}343$), the annual government costs of antenatal care and birth including costs to Medicare and public hospitals have been estimated for all Queensland births from 2012 to 2015 (Callander et al., 2021) representing avoided health costs from antenatal care and birth. Estimates were used for public patients in public hospitals representing women with higher rates of medical conditions, smoking rates, and Indigenous mothers than women giving birth in a private hospital, or as a private patient in a public hospital (Callander et al., 2021).

Substance Use

Total healthcare costs (hospital separations, ambulance, and emergency department presentations, outpatient care, primary healthcare, drug treatment services, community mental health, medications, dental services, aged care, and informal care) associated with alcohol use were estimated in Australia in 2017–2018 in addition to estimated mean national alcohol dependence prevalence in Australians aged 15 and over (Whetton et al., 2021). The lower bound health cost estimate and the upper bound prevalence estimate are used to generate a conservative health cost estimate per alcohol dependent adult aged over 15 years in 2017–2018.

Total healthcare costs (costs associated with hospital separations, ambulance services, nonadmitted care, primary healthcare, community mental health, specialist drug services, pharmaceuticals, dental care, residential and aged care services, and informal care costs) associated with cannabis use were estimated in Australia in 2015–2016 in addition to estimates of mean cannabis dependence prevalence in adults aged over 15 years in 2015–2016 (Whetton et al., 2020). The lower bound health cost estimate and the upper bound prevalence estimate are used to generate a conservate health cost estimate per cannabis dependent adult aged over 15 years in 2015–2016.

Total healthcare costs (inpatient admissions, emergency department presentations, community mental health, general practitioners, ambulance services, and costs associated

with HIV/AIDs and hepatitis C) associated with methamphetamine use were estimated in Australia in 2013–2014 in addition to estimated mean dependent methamphetamine use in adults aged 15–54 years (Whetton et al., 2016). The lower bound cost estimate and prevalence estimate were used to generate a conservative health cost estimate per methamphetamine dependent adult over 15 years in 2013–2014. Avoided costs are based on these figures, and where the type of drug was not specified, the lowest substance abuse cost was used.

Domestic Violence

Private and public healthcare costs associated with treating the effects of violence were estimated per victim in 2021–2022 (The Australian Government Department of Social Services, 2009) and 2016 (KPMG, 2016). Here the more conservative value (The Australian Government Department of Social Services, 2009) was used to estimate avoided costs per person whose experience of DV was reduced. For all outcome estimates, assumptions were made in the absence of the program, children born are in care, and clients return to their baseline substance use intake and DV incident after a single year, representing a conservative assumption given limited evidence of any longer term duration effects beyond the program length for this cohort (e.g.,Caruana et al., 2023). All dollars are reported in their year of estimation throughout.

Threshold Analysis

Threshold analysis (see e.g., Briggs et al., 2012) was used to identify change in the primary outcome required for the program to be cost neutral. Total program costs were divided by the costs associated with avoided child removals to generate the number of avoided child removals required for the program to be cost neutral.

Results

Demographic Characteristics

This analysis included all 26 clients who received services from the program, including 24 young people at high risk of pregnancy and/or removals, and two partners. Demographic characteristics are presented in Table 2. Average age at initiation of engagement was 19 years (range 14–24 years), with the majority being female (84.6%) and identifying as being of Aboriginal descent (61.5%). As per the eligibility criteria, most clients (73.1%) were either currently under, or had previously been under, the Guardianship of the Chief Executive (GoCE) (Table 2). In total, 62 referrals were made from community and tertiary health services, the government Department for Child Protection, and non-government organisations; see Figure 1 for the flow of participants through the program.

Program Costs

The total funding provided to the 2-year program was AUD767,150. Approximately 95% of this budget covered the wages of staff, which comprised 2 social workers (1.3 FTE) and one midwife (1.9 FTE), with an Aboriginal Social and Emotional Wellbeing role (0.5 FTE) available but remaining unfilled for the majority of the project duration due to extensive recruitment barriers. The remaining budget covered a small amount of

Table 2 Baseline Demographic Characteristics of Clients

Demographics	Mean ± standard deviation or *n* (%) *n* = 26
Age	18.9 ± 2.76
Gender	
Female	22 (84.6)
Male	2 (7.7)
Nonbinary	2 (7.7)
Indigineity	
Aboriginal	16 (61.5)
Neither Aboriginal nor Torres Strait Islander	10 (38.5)
Care Experience	
Guardianship of the Chief Executive (GoCE)	6 (23.1)
Post-GoCE	13 (50.0)
Alternative care experiences[a]	7 (26.9)
Mental Health Conditions[b]	
Depression	8 (30.8)
Anxiety	10 (38.5)
Borderline personality disorder	9 (34.6)
Posttraumatic stress disorder	7 (26.9)
Suicidal ideation	10 (38.5)
Self-harm	10 (38.5)
Other mental health conditions[c]	7 (26.9)
Intellectual disability	10 (38.5)
Past exposure to domestic, family, or sexual violence	26 (100)
Substance use	17 (65.4)
Alcohol use	14 (53.8)
Homelessness/Transience	12 (46.2)
Involvement in sex work or commercial sexual exploitation	6 (23.1)
Involvement with the youth or criminal justice system	12 (46.2)

GoCE is Guardianship of the Chief Executive.
[a] *Includes those with partners under GoCE and those previously in care*
[b] *Values do not sum to the total as individuals may have more than one condition*
[c] *Includes attention deficit hyperactivity disorder, distruptive mood regulation disorder, bipolar disorder, autism spectrum disorder, and other mental health conditions*

goods and services including motor vehicle expenses, computing expenses, and consumables for clients. The organisation where staff were employed provided information and communication technology, facilities, and administration. These were estimated at the average AUD2020 market value for 2 desktop computers (AUD3,000), and facility and administration costs were estimated at 20% of the total budget assigned to salaries (AUD145,758.5); see Table 4. Total 2-year program costs were estimated at AUD915,908.50, or AUD35,227.25 per client accessing program services and AUD11,742.42 per client annually.

Avoided Costs

The estimated annual avoided costs due to the program are displayed in Table 3 including avoided costs from care services, antenatal care and birthing costs, and avoided health costs due to reductions in substance use and DV. Unit cost sources associated with each category of avoided costs are displayed in Table 4.

Care Services

Seven children born during the program directly avoided being placed into care due to client involvement in the program, whilst 2 removed children were returned to their

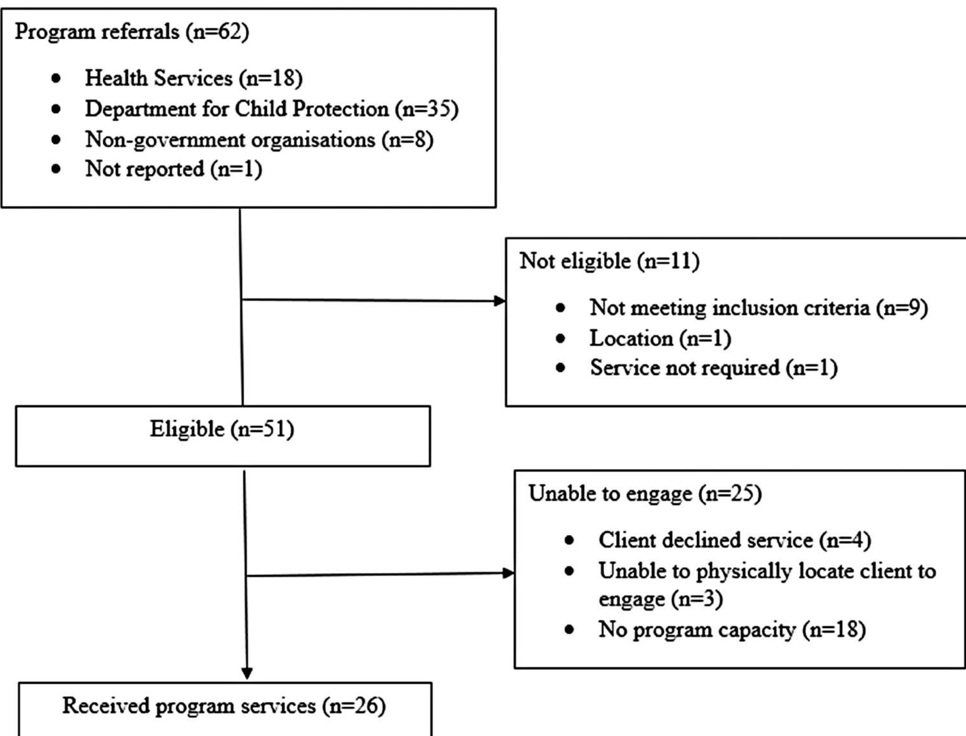

Figure 1 Flow diagram of clients in the program

parents care as a result of advocacy from the program. Nine clients started a contraceptive supported by the program, suggesting 9 births were avoided of which 84% were assumed to result in a child removal in the absence of the program (Broadhurst et al.,

Table 3 Costs (AUD) Avoided Associated With the Program

Domain	Total (*n*)	Estimated government cost per person (AUD)	Total estimated government cost (AUD)
Children in care			
Number avoided children placed into care	5.9	111,257.6	654,194.8
Children in care returned to parents	1.7	111,257.6	186,912.8
Costs avoided			*841,107.6*
Contraception			
Number avoided children placed into care	7.6	111,257.6	841,107.6
Avoided antenatal care and birthing costs	9	14,029.0	126,261.0
Costs avoided			*967,368.6*
Substance use			
Number reductions in alcohol use	1	3,196.7	3,196.7
Net reductions in cannabis use	4	1,837.8	7,351.2
Number reductions in methamphetamine use	4	1,117.4	4,469.8
Costs avoided			*15,017.6*
Domestic violence			
Number reductions	4	1,154.0	4,616.0
Costs avoided			*4,616.0*
Total estimated costs avoided			1,828,109.9

Table 4 Estimates for Program and Outcome Costs

Costs	Value (AUD)	Source
Program cost		
Total program funding	767,150.00	Total program funding
Facilities and administration	145,758.50	20% of total program funding allocated to salary
Two desktop computers	3,000.00	Estimated from online sources (2020)
Outcome costs		
Child in care	111,257.62	(Productivity Commission, 2023)
Antenatal care	3,124.00	(Callander et al., 2021)
Birth	10,905.00	(Callander et al., 2021)
Alcohol-related health use	3,196.71	(S. Whetton, Tait, R.J., Gilmore, W., Dey, T., Agramunt, S., Abdul Halim, S., McEntee, A., Mukhtar, A., Roche, A., Allsop, S. & Chikritzhs, 2021)
Cannabis-related health use	1,837.79	(S. Whetton, Tait, R.J., Chrzanowska, A., Donnelly, N., McEntee, A., Mukhtar, A., Zahra, E., Campbell, G., Degenhardt, L., Dey, T., Abdul Halim, S., Hall, W., Makate, M., Norman, R., Peacock, A., Roche, A., Allsop, S., 2020)
Methamphetamine-related health use	1,117.44	(S. Whetton, Shanahan, M., Cartwright, K., Duraisingam, V., Ferrante, A., Gray, D., Kaye, S., Kostadinov, V., McKetin, R., Pidd, K., Roche, A., Tait, R.J. & Allsop, 2016)
Domestic violence-related health use	1,154.00; 1,354.08	(KPMG, 2016; Commonwealth of Australia, 2009)

2015). Therefore, an estimate of 15.12 child removals were avoided due to the program. Based on the estimated avoided costs per child in care services, a net total of AUD1,682,215 was estimated to be saved on future care services. Based on 9 avoided pregnancies and births, an additional AUD126,261 in avoided costs were estimated for antenatal care and birthing costs per annum (see Tables 3 and 4).

Substance Use

One client reduced their alcohol consumption as a result of the program. Estimated avoided costs based on a reduction in health service utilisation for one client is AUD3,197. No clients reported increased alcohol consumption during the program (see Table 3). Nine clients reduced their substance use due to their involvement in the program and 1 increased substance use. Five of these reported reducing cannabis use, 2 reported reduction in poly-substance abuse including methamphetamine, 2 reported decrease in poly-substance abuse with substances not defined, and 1 reported an increase in cannabis use. Therefore, estimated avoided costs based on a reduction in health costs due to cannabis use for 4 clients and methamphetamine use for 4 clients was estimated at AUD15,017.6 per annum (see Table 3).

Domestic Violence

Four clients experienced a reduction in their experience of DV. Therefore, estimated avoided costs based on healthcare costs for 4 clients was estimated at AUD4,616 per annum (see Table 3).

Total Avoided Costs

The combined avoided costs from avoided care placements, avoided antenatal care and birthing costs, and reductions in substance use and DV are equivalent to AUD1,828,110. Subtracting the total yearly program cost of AUD457,954.25 results in estimated avoided costs of AUD1,370,155.6 or AUD52,698.3 per person per annum. Avoided costs

associated with care placements alone were estimated at AUD1,682,215.2, less yearly program costs, resulting in estimated avoided costs associated with care alone of AUD1,224,261 or AUD47,087 per person per annum.

Threshold Analyses

Based on the primary outcome, avoided child removals, alone, the program needed to avoid 4.12 children being placed into care annually to be cost neutral.

Discussion

The authors estimate the program cost AUD17,613.6 per person per year leading to potential avoided costs to government of AUD70,311.9 per person, for net avoided costs of AUD1.37 million per year for the participating cohort of 26 clients. Preliminary evidence reported here suggests the program generates avoided costs of AUD3 for every AUD1 spent primarily due to the reduction in delivery of care services to children in out-of-home care placements (92%) rather than reductions in antenatal care and birthing costs, substance use, and DV.

These estimated avoided costs were estimated conservatively throughout given the lack of empirical evidence to directly link the program with the observed outcomes due to the lack of a comparator group. Conservatively, the authors assume the benefits of the program are restricted to the economic costs associated with having a child under the GoCE and those related to decrements in substance use and DV. Based on the lack of data collected on additional outcomes, the authors do not account for several significant additional factors that could contribute to avoided costs beyond those considered, such as school-based educational services, disability support services, housing support, mental health and substance use programs, and childcare assistance. These factors represent substantial avoided costs. For example, the direct costs per care-leaver have been estimated at AUD738,741 (2004/05AUD) based on expenses associated with housing, the justice system and corrective services, police, drug and alcohol services, mental and physical health, employment, and lost GST revenue (Raman et al., 2005). Potential health and economic benefits accrued to children as a result of in utero parental health decisions (e.g., Szewczyk et al., 2021) and improved parenting are not considered, and we do not capture health-related quality of life impacts associated with the program.

Due to a lack of follow-up data on long-term outcomes for clients who engage with the program, we further make the conservative assumption that any benefits would only be realised for a single year. This assumption implies children under the care of their parents would be placed under the GoCE the following year, and any reductions in substance use and DV would only be sustained for a year. This is a conservative assumption made based on the lack of context-specific empirical data. For example, the UK Pause program cost GBP2,525,230 for estimated avoided costs of GBP2,008,049 over the 18-month intervention period (McCracken et al., 2017). The full cost of delivering the program was estimated to be offset within 2–3 years, for estimated net avoided costs of between GBP1.2 million and GBP2.1 million per year after the intervention period from the reduction in child removals alone. This demonstrates the extent to which avoided

costs may be underestimated in this analysis if the outcomes from the program are sustained longer term.

Other key assumptions may have resulted in an overestimation of avoided costs. The assumption reductions in substance use and DV resulted solely from the program may overestimate avoided costs if (1) these reductions were due to other factors, and (2) the reported reductions were not clinically significant reductions associated with nonsubstance dependence or complete removal of DV. However, given the majority (92%) of avoided costs were attributed to avoided costs of care services, rather than of substance use and DV, removing avoided costs associated with these outcomes does not substantially reduce the estimated costs avoided.

Additionally, the estimate of avoided pregnancies due to facilitating contraception remains uncertain and may overestimate the program impact. It was assumed that for 1 client on contraception 1 pregnancy was avoided during the program based on literature on recurrent care proceedings and discussion with expert service providers. However, it is unknown what the rate of pregnancy and birth would have been in the absence of contraception. Furthermore, the literature-derived assumption of 84% of children being removed may not necessarily apply to this specific population, and it is possible some young people would not have given birth and therefore not had their child placed in care, even in the absence of contraception. This highlights the importance of collecting comparator group data to reduce the uncertainty associated with these assumptions to provide more robust estimates of avoided costs.

Taken together, these estimates of avoided costs only considered a restricted four outcomes and further restricted these effects to a single year; the assumptions used in this study are overall conservative and suggest an underestimation of the true avoided costs of the program. However, these conclusions should be considered against key assumptions that may have led to overestimated avoided costs. These include the lack of empirical evidence linking the program to our outcomes and standardised outcome measurement. Due to these uncertainties in cost estimates, threshold analyses were performed, which suggest the program would need to prevent 4.12 children being placed into care annually to be cost neutral.

The program was implemented as an embedded program within an existing community-based social and healthcare service, with no available funding to engage a research assistant to support data collection. This issue of underfunding in social, community-based interventions is not unique to the program, and it often creates challenges in involving researchers from inception and meeting data requirements. Despite these constraints, it is important to acknowledge the lack of optimal data should not exclude *any* evaluation. Hence, this article now discusses recommendations to facilitate more robust evaluations of social work early intervention programs in the future.

Recommendations

A series of recommendations are made for future work to attempt to reduce uncertainty in cost estimates and to conduct a full economic evaluation of early intervention services.

First, full economic evaluations should follow the Consolidated Health Economic Evaluation Reporting Standards (CHEERS) statement to improve consistency and transparency in economic evaluation reporting. The CHEERS checklist should be used to

ensure all essential components of the CHEERS statement are systematically addressed, enhancing the thoroughness and comparability of the reported economic evaluations (Husereau et al., 2013; Husereau et al., 2022).

Second, to better understand the costs of delivering the service, a bottom-up costing approach could be conducted to provide detailed intervention resource and cost information. This would support subsequent economic evaluations and service expansion decisions. In addition, comprehensive information on participant outcomes would be required to conduct a full economic evaluation for enrolled participants, including standardised data collection for *a priori* identified outcomes. These outcomes should be captured, at minimum, at preintervention and postintervention and could include a measure of Health Related Quality of Life (HRQoL), such as the EuroQol-5D (EQ-5D), or the Assessment of Quality of Life (AQoL) instruments, which can be converted to preference-based utility scores for economic evaluations. Validated self-report measures should be used to capture change in key outcomes, such as change in substance use and DV. Potential validated tools include the Alcohol Dependence Scale (ADS [Skinner & Allen, 1982]), Alcohol Use Disorders Identification Test (AUDIT [Babor & Robaina, 2016]), Severity of Dependence Scale (SDS [Gossop et al., 1995]), and the DV Screening Instrument (DVSI-R [Williams & Grant, 2006]). If administration of formal questionnaires is considered to impede rapport and trust, then collection of primary outcomes, such as HRQoL, should be prioritised.

Social care interventions are likely to have an impact on the use of other healthcare services, which is important to consider in an economic evaluation. Although national estimates of healthcare utilisation were used due to reductions in substance use, comprehensive, individual-level data on *observed* changes in healthcare utilisation would provide a better understanding of the individual impact of the program, particularly given those without substance issues may have been seen as a decrease in healthcare utilisation that has been unable to be captured. The costs associated with inpatient separations, emergency department presentations, medical services, and pharmaceutical scripts could either be accessed through State and Territory health departments and Commonwealth administrative datasets with client approvals or could be estimated based on surveys such as the validated TiC-P (Bouwmans et al., 2013). Furthermore, a broader perspective such as a societal perspective could be adopted to capture benefits beyond those to government.

Ideally, additional information on costs and outcomes should be captured for a comparator group representative of treatment as usual to assess any incremental costs and health benefits of the program compared to treatment as usual. Although these programs are not focused on evaluation, and randomisation may not be feasible in such contexts, referrals that declined due to project capacity could serve as a potential comparator group to provide data required to minimise assumptions made in an economic analysis. For example, a comparator group would provide justification for expected avoided pregnancies due to contraception that was supported by the program. Determining the expected rate of pregnancy, birth, and child removal rate in this population is important to determine whether avoided removals resulted from the program. Additionally, this would aid in supporting whether reductions in substance use or DV were due to the program.

The time horizon of the interventions should be considered also with follow-up data collected where possible. Longer-term, follow-up data can determine whether changes

observed during the program are sustained, or only maintained for the program duration. For example, it is unclear whether program clients would retain care of their children following removal of program supports, and whether any reductions in substance use or DV were sustained.

Where feasible, the perspective of the funder was taken and attempted to include costs incurred by government through provision of care services and public healthcare. However, for some outcomes, the most appropriate cost estimates from the literature included costs not traditionally included such as those associated with aged care and informal care costs for costs associated with substance use, representing a limitation of our approach. Future evaluations should consider the perspective taken when generating cost estimates that may go beyond the healthcare system or provider perspective to include a broader societal perspective. A societal perspective can incorporate inter-sectoral costs and benefits from criminal justice, education, labour and social security, household and leisure, and individual and family sectors. This can provide a more complete picture of the overall impact of an intervention on society by including all health and nonhealth-related implications for all stakeholders (Garrison & Neumann, 2018) and could therefore inform future evaluations.

Limitations

The program was situated within an existing community-based social and healthcare service, with no available funding to engage a research assistant to support data collection. As a result, the descriptive cost estimates were generated by retrospectively analysing administrative case notes, relying on outlined assumptions, and incorporating evidence extrapolated from the literature. This issue of underfunding in social, community-based interventions is not unique to this program, and often creates challenges to involve researchers from program inception and to meet data requirements (Edmunds et al., 2018; Kugener et al., 2023; Suh & Holmes, 2022). Despite these constraints, it is important to acknowledge a lack of optimal data should not exclude *any* evaluation. Hence, this article offers a pragmatic evaluation, given the available information, and identifies the requirements to facilitate robust future evaluations.

Conclusion

In this study authors sought to determine the costs avoided resulting from implementation of an early intervention social program. Preliminary evidence suggested the program may be associated with avoided costs of AUD70,312 per person and for net avoided costs of AUD1.37 million per year for the participating cohort of 26 clients. Most avoided costs were attributed to costs associated with care services rather than with substance use and DV. Here evidence is presented suggesting these estimates likely represent an underestimate of avoided costs due to the exclusion of broader health and societal benefits of the program and exclusion of longer-term avoided costs considered against the assumption that observed outcomes were associated with the program. The program needed to prevent an estimated 4.12 children being placed into care annually to be cost neutral. Analysis of avoided costs assists programs for trauma-affected, young pregnant care-leavers at-risk of child removal through the

identification of avoided costs. It provides a strong rationale for continued program funding, guiding policy and advocacy efforts that support trauma-informed prevention and early intervention. While there is limited empirical evidence supporting many community-based social and healthcare programs, the preliminary evidence presented here suggests that extended funding for these programs is justified. Rigorous evaluation built in at conception would support more robust evaluations of future services in this area.

Note

1. In this article, the term "Aboriginal" is used, unless a source refers directly to "Indigenous" or "Aboriginal and Torres Strait Islander". This research was conducted in South Australia where the Aboriginal Peoples self-identify as Aboriginal; hence, the use of the term respects the preference of the Aboriginal Peoples involved in this research.

Acknowledgements

This project was funded by the Women's and Children's Health Network. The authors would like to thank the staff and stakeholders of the program for their co-operation and Professor Jonathan Karnon for his comments on an earlier draft of this manuscript.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by Women's and Children's Health Network, SA.

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