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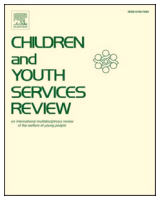

Enablers and barriers to the implementation of Multisystemic Therapy for Child Abuse and Neglect (MST-CAN) into the routine delivery of child protection services in New South Wales, Australia

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ABSTRACT

Background: Multisystemic Therapy for Child Abuse and Neglect (MST-CAN) aims to reduce the likelihood of child maltreatment and out-of-home care (OOHC) entry for high-risk children aged between six and 17 years.
Objective: To identify the key enablers and barriers to implementing MST-CAN into the routine delivery of child protection services.
Participants/setting: Twenty MST-CAN and policy experts, and 25 service providers, involved in the delivery of MST-CAN in New South Wales (NSW), Australia.
Methods: Semi-structured interviews with MST-CAN and policy experts were thematically analyzed to identify enablers and barriers to the uptake of MST-CAN. These themes were quantified using a modified Consolidated Framework for Implementation Research (CFIR) scoring approach: −2 for barriers, 0 for neutral, and 2 for enablers. The nominal group technique (NGT) identified and ranked the enablers and barriers to MST-CAN delivery perceived by service providers in two discussion groups.
Results: The semi-structured interviews generated 15 themes, of which two enablers and four barriers were identified using CFIR scoring. The two NGTs identified six enablers and six barriers. Key enablers common to both interviews and NGTs were the training and supervision of therapists delivering MST-CAN in NSW, and MST-CAN's analytic approach. Key barriers included referral and adaptation challenges for the NSW context and population (including Aboriginal families), staff recruitment difficulties, and problems with the absence and interpretation of outcome data.
Conclusions: Barriers to sustained implementation of MST-CAN may be overcome by revising staff qualification thresholds and data collection procedures, and improved adaptation of MST-CAN in partnership with Aboriginal organizations.

1. Introduction

Programs aimed at engaging with families to reduce child maltreatment, prevent child removal, or restore children to their families are of high interest to communities and governments. Consistent with the Convention on the Rights of the Child 1989 (Intl), it is a fundamental right for children to live with their families, unless it is unsafe to do so. It is also important for children to reside with their families to strengthen their connection to culture and community (Davis, 2019). Governments are motivated to preserve children with their families to meet community needs and minimize the significant expenditure associated with out-of-home care (OOHC) (Fang et al., 2012). Health and community services deliver a range of services to improve child safety, including case management and home visitation (Olds, 2007), parenting programs (Barlow et al., 2006) and intensive family preservation services (Forsythe, 1992). More recently, family therapy programs have also been implemented to reduce the increasing rates of child OOHC entry reported in high-income countries

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internationally (Australian Institute of Health and Welfare [AIHW], 2020; Child Welfare Information Gateway, 2018). One such family therapy program that aims to prevent child maltreatment, and subsequently preserve and restore high-risk children to their families, is Multisystemic Therapy for Child Abuse and Neglect (MST-CAN) (Swenson et al., 2010).

Multisystemic Therapy (MST) originated in the United States in the late 1970s primarily for the treatment of adolescent antisocial, delinquency and substance abuse problems in a juvenile justice setting (Henggeler et al., 2009; Henggeler & Borduin, 1990). Since 2010, MST has been adapted to both the child and adolescent welfare context in the form of MST-CAN, with a specific focus on improving youth and parent wellbeing and family relations within a social ecology framework (Swenson et al., 2010). MST-CAN is based on the hypothesis that children and their families are embedded in multiple systems that both directly and indirectly influence their functioning, and that families and their communities are essential partners and collaborators in achieving change (Bronfenbrenner, 1979; Swenson et al., 2010). Combining therapy with case management, MST-CAN adopts an analytic approach to identifying and prioritising the treatment of behaviors that are associated with child maltreatment, including parenting and life-skills training, cognitive behavioral therapy for trauma and reinforcement-based therapy for substance abuse (Stallman et al., 2010; Swenson et al., 2010). The highly intensive, home-based intervention has been implemented with children up to 17 years, including those as young as six (Buderer et al., 2020) and 10 (Swenson et al., 2010).

Only two US-based studies assessing the impact of MST-CAN on child protection outcomes have been published: a randomized controlled trial of 87 families (44 in the MST-CAN group) in South Carolina (Swenson et al., 2010); and a quasi-experimental study of a derivation of MST-CAN known as Multisystemic Therapy – Building Stronger Families (MST-BSF), involving 43 families (25 in the MST-BSF group) in Connecticut (Schaeffer et al., 2013). Participants who received MST-CAN reported seven and 16 percentage points lower risk of child maltreatment notifications and OOHC, respectively, compared to enhanced outpatient care. Participants who received MST-BSF reported 41 and 17 percentage points lower risk of child maltreatment notifications and OOHC, respectively, relative to families in usual care. Although promising, findings of both studies are fragile due to small sample sizes and the high likelihood of residual confounding, particularly in the observational study of MST-BSF. For example, residual confounding may be present in the outcomes reported by Schaeffer et al. (2013) because those outcomes could be attributed, at least in part, to other differences between the intervention and comparison groups that were not controlled for in the study design and data analysis, such as child and family characteristics.

Since the original studies of MST-CAN in the USA, MST-CAN has been implemented in at least six other countries (MST Services, n.d.), including the Netherlands (Kamphuis et al., 2015), Switzerland (Bauch et al., 2022; Buderer et al., 2020; Hefti et al., 2020), Norway (Thuve, 2020) and Australia (Albers et al., 2020; Hebert et al., 2014; Stallman et al., 2010). These studies have demonstrated a range of potentially positive benefits for both parents and children who received MST-CAN, including reduced parent and child psychiatric illness (Kamphuis et al., 2015), reduced parental psychological distress (Hefti et al., 2020) and reduced parental stress among program participants who completed follow-up (Bauch et al., 2022). However, these studies were not adequately designed to facilitate confident estimation of the effectiveness of MST-CAN, insofar as they relied on case studies (Kamphuis et al., 2015), or examined outcomes only for families receiving MST-CAN, with no comparison group (Bauch et al., 2022; Hefti et al., 2020).

In Australia, MST programs have been implemented in the context of routine child protection service delivery across three states: MST-Psychiatric (a variant of MST-CAN for families with youth emotional, behavioural and psychological problems) in Victoria, and MST-CAN in Queensland and New South Wales (NSW). In Victoria, an evaluation of the implementation of three programs in 2020 (MST-Psychiatric [Huey et al., 2004], Functional Family Therapy – Child Welfare [FFT-CW®, Alexander & Robbins, 2011] and SafeCare [Lutzker et al., 1998]) in 2020 demonstrated that service providers experienced difficulties in training and assisting staff to deliver MST-Psychiatric, and reported that the Victorian referral system and various service provider organizations were under-prepared to deliver these programs overall (Albers et al., 2020). In Queensland, a pilot trial of MST-CAN was evaluated using a case study of a seven-year-old girl who received the program (Stallman et al., 2010) and qualitative interviews with a small group of child protection caseworkers involved in its setup and ongoing delivery (Hebert et al., 2014). Both studies highlighted high levels of therapist engagement and support afforded to families participating in the MST-CAN program. One study emphasized the strong cooperation between MST-CAN services and other child protection stakeholders (Hebert et al., 2014), while the other highlighted the program's focus on family strengths and goals as key to targeting behaviors that may increase the likelihood of child maltreatment (Stallman et al., 2010).

Since 2017, MST-CAN and the FFT-CW® programs were simultaneously introduced in the most populous state of Australia, NSW. Both MST-CAN and FFT-CW® were implemented in six districts. Although implemented simultaneously, these two programs targeted clearly defined, separate sub-populations of families: FFT-CW® was provided to low, moderate and high risk families with children aged 0–17 years (although initially FFT-CW® was only for families at high or very high risk of abuse), while MST-CAN was provided to high or very high risk families with children aged six-17 years (Shakeshaft et al., 2020). For both programs, the NSW Government's Department of Communities and Justice (DCJ) mandated that up to 50% of program places would be available to eligible Aboriginal families (Shakeshaft et al., 2020), in response to the high over-representation of Aboriginal and Torres Strait Islander children in OOHC in NSW. They comprise 40% of the OOHC population aged less than 18 years, or approximately 6,600 children, despite comprising 6% of the population aged less than 18 years in NSW (AIHW, 2021; Hunter et al., 2020).

This study extends the findings of the initial evaluation of the early implementation of MST-CAN and FFT-CW® in NSW (Shakeshaft et al., 2020). Overall, the initial evaluation highlighted some early successes in implementing MST-CAN into routine service delivery in NSW. For example, the anticipated referral target (N = 219 families referred) was being met, fidelity thresholds were acceptable (69% of MST-CAN therapists achieved a benchmark score of 0.61 or higher), 46% of all referrals were for Aboriginal families, and very early outcome trends indicated that families who completed the program were at reduced risk of having their children being placed into OOHC. Nevertheless, the initial evaluation also acknowledged that MST-CAN had only been delivered in NSW for less than 18 months and that there were some unanticipated outcomes. For example, higher rates than expected of families exited the program before completion (almost one third of both Aboriginal and non-Aboriginal families) and there was less than optimal completion of outcome measures (Shakeshaft et al., 2020). Given a key mechanism for optimising the uptake of MST-CAN and ensuring its sustainability over time is to address implementation issues, the objective of this study was to identify the key enablers and barriers to implementing MST-CAN into the routine delivery of child protection services in NSW from the perspectives of policy and program experts, and service providers.

2. Methods

2.1. Study design

Policy and program experts participated in semi-structured interviews (Newcomer et al., 2015), and service providers participated in nominal group technique (NGT) discussions (Van de Ven & Delbecq, 1972).

The nominal group technique (NGT) used in focus group discussions aims to identify consensus among participants using a four-staged

approach: 1) silent generation of ideas; 2) sharing ideas – round robin; 3) group discussion/categorization and 4) voting and ranking (Van de Ven & Delbecq, 1972). Silent generation involves participants individually producing ideas in response to a specific research question. Round robin sees participants reporting their responses to the group until all ideas have been expressed. Group discussion/categorization consists of participants collaboratively pooling the ideas generated in round robin into over-arching themes. Finally, voting and ranking involves participants individually scoring the themes generated in the categorization stage on the extent to which they are of personal importance or relevance to them.

2.2. Study setting

NSW has a population of approximately eight million people, of whom approximately 3% (or more than 250,000) identify as Aboriginal or Torres Strait Islander (Australian Bureau of Statistics, 2018). Sydney is the capital of NSW. The Greater Sydney region comprises approximately 4.9 million people, whereas Regional NSW comprises 3.1 million people. Of those who live in Regional NSW, a greater proportion reside in rural (1.8 million in 'Country NSW') than urban (1.3 million in 'Regional Metro') areas (Australian Bureau of Statistics, 2019).

2.3. Context of the MST-CAN program implementation in NSW

In NSW, the Department of Communities and Justice (DCJ) provides services that promote safety and security for at-risk children and their families, and has primary responsibility for undertaking child maltreatment investigations and OOHC entry decisions (Department of Communities and Justice, 2021, 2022). Following a competitive tender process, DCJ funded six service providers to deliver the MST-CAN program from August 2017. Service providers were selected based on the extent to which they met criteria for being able to deliver MST-CAN. The districts reflect the geographical areas in which these service providers operate across NSW.

Service providers were from two metropolitan and four regional teams. By 30 September 2018, these six service providers had implemented MST-CAN in six of the seven districts in NSW, which corresponds to six of 15 sub-districts. The remaining nine NSW sub-districts comprised seven metropolitan and three regional districts.

The average population of the six sub-districts in NSW where MST-CAN was delivered was approximately 240,000 with a median age of 34 years, compared to 488,000 and a median age of 36 years in the nine sub-districts where MST-CAN was not delivered (DCJ 2021, 2022). An estimated 13% of the population in the six sub-districts where MST-CAN was delivered identified as Aboriginal or Torres Strait Islander, compared to 6% in the nine sub-districts where MST-CAN was not delivered (DCJ 2021, 2022).

2.4. The MST-CAN program in NSW

A detailed explanation of the MST-CAN project is provided elsewhere (Swenson et al., 2010). In brief, MST-CAN is a family therapy program that aims to modify risk factors of child physical abuse and neglect across several contexts (e.g., social, occupational and familial) based on Bronfenbrenner's (1979) socio-ecological framework. It is a highly structured program that provides a minimum of three sessions per week to families using a combination of evidence-based intervention components tailored to the needs and goals of families. The program has a strong focus on: engagement with families; treatment fidelity and adherence; small caseloads; psychiatric support; a whole-of-family approach; building effective client-therapist rapport; and therapist accountability (Swenson et al., 2010).

Both MST and MST-CAN share the same structured socio-ecological approach in which treatment is centred on family engagement to improve the lives of individuals with complex, high-risk needs (Henggeler et al., 2009; Swenson et al., 2010). However, whereas MST is a four-to-six-month program which focuses on the risk factors and treatment interventions for enhancing outcomes for juveniles with antisocial problems, MST-CAN is a six–to-nine month program that aims to reduce the risk of child abuse and neglect in high-risk families using different interventions, such as functional analysis, cognitive behavioral and reinforcement-based treatments (Henggeler et al., 2009; Swenson et al., 2010).

Youths are aged between 13–18 years in MST and six-17 years in MST-CAN. In addition, youths are deemed 'high' or 'very high' risk of maltreatment by child protection services to be eligible to participate in the MST-CAN program. MST teams comprise one supervisor and three therapists, whereas MST-CAN teams consist of one supervisor, three therapists, one crisis caseworker and a part-time psychiatrist (Swenson et al., 2010). Finally, although MST treatment services focus on youth behaviors, MST-CAN treatment services focus on parent and youth behaviors in the family context (Schaeffer et al., 2013; Swenson et al., 2010).

2.5. Participants

2.5.1. Policy and program experts

Policy and program experts were defined as those who were involved in the development, planning, policy, monitoring and implementation of MST-CAN in NSW, as opposed to the service providers who actively delivered MST-CAN to families. The roles and responsibilities of the four organizations from which policy and program experts were identified were as follows:

(i) *MST-CAN purveyors:* Clinicians from the United States who developed the MST-CAN program and own its licencing, copyright and trademark rights. The MST-CAN purveyors comprised two US-based organizations: MST Services and the MST Institute. Consistent with licencing arrangements, the role of these purveyors was to train and upskill service providers to deliver MST-CAN, and to provide ongoing clinical guidance, supervision and fidelity support.

(ii) *Their Futures Matter:* Their Futures Matter had oversight of the contractual and funding agreements with services, in addition to establishing and monitoring program vacancies at eligible sites delivering MST-CAN across NSW.

(iii) *Department of Communities and Justice:* DCJ investigated child maltreatment in families who were referred to the NSW child protection system, as well as funded and referred at-risk families to prevention-based programs to ensure child safety and well-being, such as MST-CAN.

(iv) *Intermediary organizations:* There were three intermediaries. First, the international intermediary was the New York Foundling's Implementation Support Center, which provided support to both the service providers delivering MST-CAN in NSW and the local intermediary service. Second, the local intermediary was a NSW-based service provider called OzChild. It provided implementation and fidelity support to service providers delivering MST-CAN in NSW. Third, the Aboriginal intermediary was the NSW Child, Family and Community Peak Aboriginal Corporation (AbSec), which advocated for the care of Aboriginal children in NSW, particularly those involved in child protection services. AbSec's role was to provide cultural competence training to Aboriginal and non-Aboriginal service providers on the adaptations of MST-CAN, with the aim of enhancing the cultural responsiveness of the program for Aboriginal families.

2.5.2. Service providers

Each service provider created specialized, multidisciplinary teams to provide MST-CAN as a separate activity to their usual functions (primarily the provision of assistance with a range of socio-economic needs,

such as housing and financial management). The MST-CAN teams typically comprised supervisors and therapists with postgraduate qualifications in psychology, while crisis caseworkers had tertiary qualifications in social science, social work or a related degree (Swenson et al., 2010). A part-time psychiatrist was also part of the team. In addition, a senior manager had oversight of various programs delivered by each service provider, but the roles of the other team members were specific to delivering MST-CAN.

2.6. Sampling strategy

2.6.1. Semi-structured interviews

A purposive framework was utilized for this sampling methodology (Etikan et al., 2016). The MST-CAN program manager (a senior policy officer at DCJ) invited policy and program experts from the four organizations previously described (MST-CAN purveyors, Their Futures Matter, DCJ and intermediary organizations) to submit an expression of interest to participate in a semi-structured interview about their experiences implementing MST-CAN in NSW. The MST-CAN program manager then provided Their Futures Matter with the names and contact details of the interested policy and program experts, and Their Futures Matter passed these details onto the researchers. This process was adopted, rather than direct contact by the research team, to ensure participants did not feel pressured to partake in the interview. The details of 24 policy and program experts (89% of all potential participants) were passed on to the research team.

Of the 24 experts, 20 (83%) could be successfully contacted, all of which consented and participated in the interviews, including model purveyors (n = 4), intermediaries (n = 6), Their Futures Matter (n = 5) and DCJ (n = 5) staff. Two intermediaries (one male and one female) and two DCJ staff members (both females) could not be contacted. The proportion of those who could not be contacted who were female (75%) was comparable to the proportion of participants who were female (80%). Of those who could be contacted and consented to participate, fourteen interviewees were involved with implementing both the MST-CAN and FFT-CW® programs, and six interviewees were involved solely with the implementation of the MST-CAN program. Sixteen participants were female (80%). None of the participants refused or withdrew their consent from the evaluation. Participants were provided lunch and the reimbursement of their travel expenses for their participation.

2.6.2. Group discussions using NGTs

A purposive framework for this sampling methodology was also utilized for the NGT groups (Etikan et al., 2016). A staff member from each of the service providers delivering MST-CAN across NSW was nominated to communicate with the research team. Before MST-CAN staff were invited to express and/or register their interest to participate, all relevant details pertaining to the scope, structure and objective of the NGT discussions were relayed by the nominated staff member to their respective teams. Considering both the recommended sample size of six-12 individuals for each NGT discussion (Pastrana et al., 2010) and the roles and responsibilities of MST-CAN staff, the 25 participants who consented to participate were divided into two groups. There was one group for managers and supervisors (n = 10) and one for therapists and crisis caseworkers (n = 15). No participants refused or withdrew their consent from this evaluation.

Given there were six service providers delivering MST-CAN in NSW and six members in each MST-CAN team (one manager, one supervisor, three therapists and one crisis caseworker), the 25 participants represent 69% of the possible 36 participants in the NGT (see Table 1).

2.7. Data collection

2.7.1. Semi-structured interviews

The authors were responsible for the composition of the interview guide. Interview questions broadly encompassed five key areas: i) interviewee role and responsibility (i.e., his or her nature of contact with the program); ii) observations and experiences as to which aspects of MST-CAN work well and/or require improvement; iii) input and participation into the delivery of MST-CAN; iv) difficulties experienced in the delivery of MST-CAN; and v) any further feedback. An example of this interview guide administered to model purveyors is detailed in Appendix A; (additional probing questions were included for the other groups to ensure questions adequately captured the experiences of these staff and can be disseminated by the corresponding author on request). Their Futures Matter reviewed and endorsed the interview guides for use with policy and program experts. Five in-person and 15 phone interviews were subsequently conducted between August and September 2018 using these interview guides. Each interview was approximately 30 to 45 min long. All interviews were audio-recorded and professionally transcribed, the data of which were stored and assessed in NVivo 12 software (Bazeley & Jackson, 2013).

2.7.2. Group discussions using nominal group techniques (NGTs)

Two questions, formally reviewed and approved by Their Futures Matter, formed the basis of the NGT discussions: 1) *Which aspects of MST-CAN are enablers to engaging/improving outcomes for families?* and 2) *Which aspects of MST-CAN are barriers to engaging/improving outcomes for families?* Both NGTs were conducted in Sydney in August and September 2018 as a central meeting point to accommodate for the fact participants were commuting from different NSW districts and locations. A lead facilitator and a support facilitator (both male) who did not have any relationship to the program developers, but who were members of the research team subcontracted by DCJ to evaluate the initial implementation of MST-CAN in NSW, convened the group discussion. Consistent with the 5 key steps of the NGT protocol, these included: i) *introduction and explanation*: after explaining the objectives and goals of the NGT, facilitators introduced question 1; ii) *silent generation of ideas*: participants noted down their answers or feedback to question 1, without any discussion or input from other participants; iii) *sharing ideas – round robin*: participants audibly informed the group of their feedback and answers to question 1; although these responses could be clarified, no discussion from other participants was permitted at this stage; iv) *group discussion/clarification*: participants and facilitators worked collaboratively to discuss as a group how these responses could be classified under analogous themes; v) *voting and ranking*: participants

Table 1
Number of service providers who participated in NGTs.

Participant characteristics	Number of service providers	Number of services	Number of services delivered program/participated in NGT	Number of teams
Role				
NGT 1: Managers and supervisors	10	6	6/6	6
NGT 2: Therapists and crisis caseworkers	15	6	6/6	6
Total	25			
Number (%) females	16 (64%)			

then individually ranked each of these themes on the extent to which they perceived them as important or not (this was performed separately for enablers and barriers) (Potter et al., 2004; Van de Ven & Delbecq, 1972). The same sequence of steps was replicated for question 2.

2.8. Data analysis

2.8.1. Semi-structured interviews

Interview feedback was thematically analysed using NVivo codes in order to classify enablers and barriers to program implementation. Two authors reviewed each of these codes and categorized and arranged them into similar classifications, thereby creating a list of enablers and barriers. The coding framework also allowed for data to be deductively analyzed (Smith & Firth, 2011). Key themes were then identified based on the frequency in which they were discussed (i.e., those discussed by 50% or more of the policy and program experts belonging to their respective group): model purveyors (n = 4), intermediaries (n = 6), Their Futures Matter (n = 5) and DCJ (n = 5) staff. Two authors used line-by-line coding to further separate key themes into sub-themes. Given only 20 policy experts were interviewed, the research team decided against reporting their specific job titles to optimize the preservation of their anonymity. Next, consistent with the Consolidated Framework for Implementation Research (CFIR) scoring approach, key themes were assigned a score between −2 and +2 (Damschroder & Lowery, 2013). A detailed description of CFIR and its application to the child protection context to evaluate another family-based therapy program (FFT-CW®) in NSW is described elsewhere (Economidis et al., 2023). Themes scored as −2 or +2 were classified as enablers and barriers, respectively, whereas themes scored 0 were classified as neither an enabler nor a barrier. Scores of +1 and −1 were not assigned to themes in the present study to ensure themes were objectively and unequivocally classified as enablers or barriers, despite scores of +1 and −1 being utilized in previous CFIR studies (Damschroder & Lowery, 2013). Two authors separately and independently scored and classified themes, discrepancies of which were reconciled by discussion between both authors. To quantify the degree to which each theme was perceived as an enabler or barrier across all policy and program experts, the scores from each of the groups were totaled. Given four expert groups were interviewed, the highest possible score for each theme was +8 (frequently identified enabler), and the lowest possible score for each theme was −8 (frequently identified barrier). The organizations of interviewed participants reviewed and provided feedback on the researchers' findings and their interpretation of the results, and approved all work submitted for factual accuracy.

2.8.2. Group discussions using nominal group techniques (NGTs)

The list of enablers and barriers (i.e., extent to which participants perceived each theme as important to engaging families and achieving positive outcomes) for both the manager/supervisor and therapist/crisis caseworker NGTs were separately collated in Microsoft Excel. The scores were then totalled and arranged from highest (most important) to lowest (least important) to obtain an aggregate rank. All participants were provided this feedback within 24–48 h after completing their group discussion for feedback and review, although this did not change the themes identified by any of the groups, or their respective rankings.

2.9. Ethics and reflexivity

The University of NSW's Human Research Ethics Committee (HC180375) and the NSW Aboriginal Health and Medical Research Council (1429/18) provided ethics approval to undertake this evaluation. All policy and program experts and service providers provided informed written consent to participate in this study.

Table 2
Enablers and barriers identified by policy experts.

Key theme	Policy expert group who identified the theme[a]	Total score	Sub-theme (no. of participants who identified)[b]
Enablers			
1. Training and supervision of therapists by model purveyors	Model purveyors (100%; +2)	+2	a. Implementation support to DCJ and training support to service providers (n = 4) b. Fidelity and quality assurance assistance (n = 2)
2. MST-CAN monitoring systems and analytic approach	TFM staff (60%; +2)	+2	a. Real-time monitoring of families in program (n = 3) b. Analytic, strengths-based program (n = 2)
Barriers			
1. Technical and logistical referral challenges	Model purveyors (50%; −2) Intermediaries (83%; −2) TFM staff (60%; −2)	−6	a. Lack of clarity surrounding OzChild's responsibilities in referral process (n = 3) b. Lack of communication between CRU and existing data systems (n = 3) c. Time lag associated with processing referrals (n = 2)
2. Adaptation challenges (both to Australia and for Aboriginal Australians)	Model purveyors (100%; −2) Intermediaries (67%; −2) TFM staff (60%; −2)	−6	a. Lack of Aboriginal consultation and inclusivity (n = 7) b. Unclear role of OzChild in adaptation process (n = 6) c. Therapist Adherence Measure (TAM) (n = 4) d. Methodological rigor/inflexibility (n = 3)
3. Workforce organizational, recruitment and funding challenges	Model purveyors (75%; +2)	−2	a. Staff recruitment (n = 3) b. Working hours and remuneration (n = 2)
4. Data collection and monitoring issues	TFM staff (80%; +2)	−2	a. Difficulty monitoring and interpreting self-report data (n = 3) b. Missing TAM data (n = 1)

[a] % of experts who identified this theme within each group; allocated score. Total number of policy experts in each group: model purveyors (N = 4), intermediaries (N = 6), TFM staff (N = 5), DCJ staff (N = 5)

[b] The number of participants who identify each sub-theme are not separated by policy expert group to protect their anonymity (i.e., they reflect the total number of participants interviewed who identified each sub-theme)

3. Results

3.1. Enablers and barriers identified by policy and program experts

As summarized in Table 2, policy experts identified 16 themes of which two were enablers (comprising five sub-themes), four were barriers (comprising 11 sub-themes) and 10 were neither enablers nor barriers (see Appendix B for a full list of themes representing enablers, barriers or neither to the implementation of MST-CAN in NSW).

3.1.1. Key themes identified by policy and program experts and classified as enablers

1. Training and supervision of MST-CAN therapists by model purveyors

The two sub-themes that emerged were: a) implementation and training support to service providers delivering MST-CAN, and b) fidelity and quality assurance supervision.

(a) For implementation and training support to service providers, especially during the early setup stages of MST-CAN in NSW, the coaching and recruitment phases were particularly invaluable in enabling the program's implementation in NSW:

"I worked closely with our program developer, to get new teams started, and then we worked with communities as they're setting up the program, and then worked with them to hire teams, and got things ready for the team start-up. I think we did a good job…I was also responsible for all the training materials for MST-CAN and for updating those materials as needed, and training staff to be able to deliver those materials" (Model purveyor)

(b) For fidelity and quality assurance supervision, model purveyors providing detailed feedback and guidance on how MST-CAN staff were delivering the program to ensure appropriate levels of model adherence was well regarded:

"An integral part of [our jobs is] our ability to train and support teams and to have them implement wCith fidelity and adherence…The consultants and teams are able to access online information about their own program and have successfully used that information to plan what is needed to help them move towards greater adherence and better outcomes" (Model purveyor)

2. MST-CAN monitoring systems and analytic approach

The two sub-themes that emerged were: a) the intricate and real-time monitoring of families as they entered and progressed through MST-CAN, as well as b) the analytic and strengths-based focus of the program.

(a) For real-time monitoring, the program was deemed effective in tracking families as they were referred to, were currently active in, exited early from, or completed MST-CAN in its entirety. This information could also be quickly extracted to provide a 'snapshot' of family progress, and presented to other policy and program experts:

"Can identify how many kids are in the service at any one time and then communicate that via the dashboards to the board and to the executive" (Their Futures Matter staffer)

(b) For the analytic approach of MST-CAN, the multidisciplinary clinical team identified 'drivers' that perpetuated harmful interaction patterns in the home, and then focused on family strengths using a combination of therapy and case management to address these negative behaviors. Therapists engaging in this framework on a 24/7 basis was perceived as integral in engaging families throughout the program and optimising any potential benefits received from the MST-CAN program:

"I also think what works is that we can typically get quite a lot of change within a family in a fairly short period of time by focusing on engaging that family…I also think what works and why that change can occur is because of the analytic process that we use. So really having a clear frame of thought that we go through in identifying why problems are occurring with families and then using that [and family strengths] to identify the solutions that we try to put in for each family individually" (Their Futures Matter staffer)

3.1.2. Key themes identified by policy and program experts and classified as barriers

1. Technical and logistical referral challenges

The three sub-themes that emerged were: a) the lack of clarity surrounding the responsibilities of the local intermediary (OzChild) in the referral process, b) the incompatibility of Central Referral Unit (CRU) with other existing data systems, and c) the time lag associated with referrals being received at various service provider organizations.

(a) For OzChild's responsibilities, although it was meant to play a role in increasing the number of referrals sent to MST-CAN services, this was either not fulfilled or substantially delayed, thereby impeding the implementation of MST-CAN in NSW overall:

"So the cost benefit of having an intermediary, if I was in their shoes, I'd be wondering about [how]… to bring extra referrals in" (Intermediary)

(b) For data system incompatibilities, two standalone systems: the CRU (managed internally by DCJ) and Vacancy Management System (a data repository of families and their status as they progress through the MST-CAN program, initially managed by Their Futures Matter but then DCJ) were not entirely synced, which in turn, inhibited referrals from being sent to some MST-CAN services:

"I think it was quite complicated…Referrals, notifications, contracting, all of that was kind of held in one IT system so it was very difficult for us. Setting up a whole standalone system is quite difficult…kind of colliding a little bit at the same time" (Their Futures Matter staffer)

(c) For the time lag in processing referrals, not only was there a large quantity of paperwork associated with processing MST-CAN referrals, but it was also at times difficult to identify the incident of child maltreatment in the last 180 days (an eligibility criterion for MST-CAN):

"With the current referral process, it's taking them a really long time to sift through all of the documents to find out what that incident of abuse and neglect was that happened within the last 180 days. So that's something that seems to be a bit of a pain point in the program" (Their Futures staffer)

2. MST-CAN adaptation challenges (both to Australia, and for Aboriginal Australians)

The four sub-themes that emerged were: a) the methodological rigor and inflexibility of MST-CAN, b) the lack of Aboriginal consultation and inclusivity, c) the lack of clarity surrounding OzChild's role in the adaptation process and d) the Therapist Adherence Measure (TAM).

(a) For rigor and inflexibility, although these attributes were perceived among the key assets of the MST-CAN program, their

inflexibility, at times, impacted on the quality of services received by families:

"And at times we've had some difficulties with fidelity, because I think people are always going to push the envelope. I mean, we've had one team in particular who thought that having somebody buy them a nice big van to transport clients would just be great" (Model purveyor)

(b) For Aboriginal consultation and inclusivity, ensuring that relevant Aboriginal Australian community members and organizations (e.g., AbSec and Cultural Consultants) were comprehensively engaged in the design, setup and rollout of MST-CAN was somewhat limited:

"I'm not sure they ever got cultural awareness training but there was quite a bit of feedback that they were respectful, but they don't understand necessarily the plight of our first people. So, I think we probably could have done that a bit better and in terms of ensuring that we were more inclusive of Aboriginal organizations but it's a challenge…" (Intermediary)

(c) For OzChild's role in adaptation, although they were initially brought on to assist with identifying and addressing implementation and fidelity barriers to MST-CAN delivery, they did not receive the requisite training to undertake such tasks. Thus, their role in this process was unclear, or under-utilized:

"So it was almost like we'd missed the shop and the opportunity to be trained in the CDT (Community Development Team) model, and the CDT model is the only model that the New South Wales government want for implementation…We're waiting to find what our role looks like beyond the next quarter" (Intermediary)

(d) For the TAM (a fidelity measure quantifying the extent to which therapists' follow the MST-CAN treatment manual), issues comprised its 'cold call' method of administration. Furthermore, the double negative and American-intensive language of the TAM wording, the difficulty in administering and collecting TAM data, and the lack of compatibility of the TAM with the broader data system (Ebase), compromised fidelity:

"Service providers are actually hiding the way that they're delivering the program to Aboriginal families. They're doing things under the table that doesn't fit with the program fidelity, which means this program is being measured as being fantastic, and working for Aboriginal families, but the fact is they haven't captured all that other stuff that's under the table. They're hiding it…The actual Ebase system that we use doesn't work for the TAM collector" (Intermediary)

3. Workforce organizational, recruitment and funding issues

The two sub-themes that emerged were: a) MST-CAN staff recruitment challenges, particularly in rural locations, and b) the working hours and remuneration model underpinning the MST-CAN program.

(a) For staff recruitment, the high level of academic qualifications required of MST-CAN staff has made employment in regional and remote areas especially problematic, restricting the implementation of MST-CAN in these communities overall. Although some services rectified this staffing shortfall by enrolling fewer families, at least two of the four MST-CAN providers in regional NSW had only one or two therapists recruited to deliver the program (it is stated as a program requirement that three therapists be employed to deliver MST-CAN at each site):

Some of the barriers that I was seeing was around hiring and it was very difficult for a lot of teams to be able to find qualified applicants and qualified therapists for those positions, especially I think when we go out to some of the more remote areas…I think there's been turnover on certain teams and certain teams just have not been able to fill - have not been able to fill all of the positions yet simply because it's difficult to hire in those areas (Model purveyor)
"For MST-CAN, I think that the biggest barrier for them is really just around staffing. It was just really a challenge, and delayed their being able to start, because they're looking for a very specific education level for the therapist positions, and there's just not that many in Australia." (Model purveyor)

(b) For working hours and remuneration, the model had yet to be adapted from the standard 40-hour American working week to the standard 35-hour Australian working week, the effects of which were negatively impacting the implementation of the MST-CAN program in NSW:

"The model definitely has been set up for at least a 40-hour week and because Australia works a 35-hour week I do see that coming into play and having some effect sometimes on trying to get three clinical visits each week with clients" (Model purveyor)

4. Data collection and monitoring issues

The two sub-themes that emerged were: a) data of select measures not being properly recorded or interpreted, as well as b) issues relating to missing TAM data.

(a) For data monitoring and interpretation issues, there was a lack of clarity for some self-report measures, such as the Growth and Empowerment Measure (GEM) and Personal Wellbeing Index (PWI), surrounding who was responsible for collecting and analysing this data and/or difficulty interpreting the data to see if families have indeed improved on these measures. The primary consequences of this lack of clarity was the relatively low completion rates for self-report measures, averaging almost 50% and 60% at program entry and exit respectively (Shakeshaft et al., 2020), which negatively impacted on the quality of the data available for analysis:

"I could not tell you right now who's answered them [GEM & PWI], and what the outcomes were. I can't tell you if there's been improvement from the pre and the post…there's no visibility around that" (Their Futures Matter staffer)

(b) For the 36-question TAM, not only was it time-intensive to administer each month to families, but there were also a lack of contingency plans for when staff responsible for its administration were absent or on leave:

"[The intermediary has got] a month to two months' worth of missing TAM scores which the guys in America are super unhappy about…there has to be a backup for when the primary collector's away…I'm not sure of the quality of it because it's pretty full-on" (Their Futures Matter staffer)

3.2. Enablers and barriers identified by service providers

As summarized in Tables 3 and 4, service providers identified six

Table 3
Enablers identified by service providers.

Enabling themes	Managers & supervisors' (n = 10) ranking	Therapists & crisis caseworkers' (n = 15) ranking
1. Therapeutic & empowering approaches	–	1
2. Family centered & systemic approaches	–	3
3. Structured & evidence-based approaches	1	2
4. Accountability/fidelity frameworks	1	–
5. Delivery & availability of the programs	4	5
6. Staffing competencies & characteristics	3	4

Table 4
Barriers identified by service providers.

Barrier themes	Managers & supervisors' (n = 10) ranking	Therapists & crisis caseworkers' (n = 15) ranking
1. Adaptation challenges	3	3
2. Service providers' relationship with DCJ and other stakeholders	4	2
3. Implementation challenges	5	1
4. Measures/data issues	–	5
5. Staff recruitment & retainment	2	4
6. How model fits into broader NSW child protection system	1	6

enabling themes for, and six barrier themes to, the implementation of MST-CAN in NSW.

3.2.1. Enablers identified by service providers

The six enabling themes related to the capacity of MST-CAN to successfully engage with families in NSW and the perceived high-quality of the program. In terms of engagement, service providers identified the combined therapeutic and case management component of MST-CAN to be empowering, as was its family-centred and systematic approach. These themes were integral in establishing rapport between therapists and families and providing families with regular guided feedback to enhance their parental competence and autonomy. In terms of the high quality of the program, service providers ranked MST-CAN's structured and evidence-based approach and its accountability/fidelity frameworks highly. Specifically, for example, therapists maintaining at least three visits per week with families was deemed essential for engaging them through to program completion. Although identified as enabling themes, staffing competencies and the delivery and availability of the program were of least importance in fostering positive outcomes, compared to the other enablers.

3.2.2. Barriers identified by service providers

Although the extent to which the MST-CAN model fitted into the broader NSW child protection system and staff recruitment and retainment were ranked the two main barriers to engaging and improving family outcomes for managers and supervisors, these were indicative of implementation challenges and service providers' relationship with DCJ and other stakeholders for therapists and caseworkers. By contrast, both service providers' relationship with DCJ and other stakeholders and implementation challenges were perceived as being of relatively low importance, compared to the other barriers generated for the managers and supervisors. Measures/data issues and how the MST-CAN model fitted into the broader NSW child protection system were of least importance to therapists and caseworkers.

4. Discussion

4.1. Summary of findings

The contents, structure and approach of the MST-CAN program was ranked by both policy and program experts and service providers as a key factor in positively engaging with, and improving child protection outcomes for, high-risk families. For example, the monitoring of families that participate in the MST-CAN program, and the analytic approach wherein target behaviors perpetuating child maltreatment were systematically addressed as part of treatment, were enablers to implementation. In addition, the engagement of model purveyors providing training and feedback to MST-CAN therapists was positively viewed, as was the therapeutic and family-centered approach of the MST-CAN program, particularly from the perspectives of therapists and crisis caseworkers. Managers and supervisors stressed the clear and rigid program guidelines of MST-CAN, coupled with the quality assurance and supervision frameworks in place to enhance program fidelity, as important attributes in maximising child and family outcomes. Furthermore, managers, supervisors, therapists and crisis caseworkers identified the commitment and competence of MST-CAN service providers to deliver the program as vital to enhancing program implementation.

Policy and program experts reported several technical, implementation and organizational-related challenges to delivering MST-CAN. These were reducing the delays in referrals being sent to MST-CAN providers, recruiting therapists in remote and regional communities, and adapting the program for the Australian population, particularly Aboriginal-Australian families. Collection of outcome measures, and the interpretation of those outcomes, were also identified as a barriers, with particular concerns about administering the TAM. Therapists and MST-CAN caseworkers reported that referral processes, and their perception that the funding and resources for delivering MST-CAN were insufficient, as barriers to implementing the program in the context of routine child protection service delivery in NSW.

4.2. Comparison of findings to previous literature

Our study suggests a key factor that worked well in engaging families in MST-CAN in NSW was the combined therapeutic and case management components of the MST-CAN model. While therapy was integral in improving parenting practices and changing communication patterns between family members, case management simultaneously targeted housing, educational, employment and social needs of families (Shakeshaft et al., 2020). Programs that combine intensive therapy with case management have also reported positive child protection outcomes (Donohue et al., 2014), as well as in those that employ a strengths-based approach (Turner et al., 2017) in the United States. A second factor that worked well in engaging families was the family-centred and systematic approach of MST-CAN, which is consistent with other international evaluations of intensive family programs (Furlong et al., 2021; Thulin et al., 2020). The positive attributes of family members were leveraged (e.g., the mother's determination to have her child restored to her care, or the child's passion for schooling and education), and families were non-judgmentally regarded by MST-CAN therapists as experts of their own circumstances to enhance their autonomy for change.

By extension, the analytic approach was highlighted as key to fostering rapport between therapists and families; methodically identifying and targeting negative behaviors associated with child maltreatment by augmenting family strengths; and developing the clinical skills and competencies of MST-CAN therapists. The approach and structure of the MST-CAN program, or a closely related derivation of MST-CAN, have also been favorably perceived by stakeholders implementing or

delivering the program in other Australian jurisdictions, such as Queensland (Hebert et al., 2014; Stallman et al., 2010) and Victoria (Albers et al., 2020), as well as in European countries, such as Switzerland (Hefti et al., 2019) and the Netherlands (Kamphuis et al., 2015). For example, both policy experts and service providers in the current study highlighted the availability of therapists on a 24/7 basis as both conducive to family needs and key to engaging them through to program completion, a finding that is consistent with the feedback of a child protection team involved in the implementation of MST-CAN in Queensland (Hebert et al., 2014) and Switzerland (Hefti et al., 2019). Moreover, the importance of the strong fidelity and supervision systems underpinning the MST-CAN program reported by model purveyors and service provider managers has been highlighted previously in publications on the early implementation of MST-CAN internationally (Swenson et al., 2010) and in NSW (Heriot & Kissouri, 2018).

Both policy experts and service providers identified opportunities to improve the adaptation of the program for the Australian population, primarily for Aboriginal families. Concerns were raised about the complexity of administration, American phasing and layout (e.g., its use of double negatives and lack of Australian-English) of the TAM, as well as the potential to instill cultural shame and re-traumatization when delivered as an outcome measure. Additionally, from the outset, DCJ policy documents stated that 50% of MST-CAN vacancies in NSW would be allocated to eligible Aboriginal families. Although AbSec's Cultural Consultants were contracted by DCJ to advise on fidelity and culturally safe activities with Aboriginal families as part of the MST-CAN implementation process, participants reported that they were under-utilized during the study period. Consequently, it was not always clear that adequate cultural advice was sought or integrated in service delivery on matters relating to program intake and the administration of outcome measures to Aboriginal families. The critical but sometimes underemployed role of key Aboriginal organizations to support child protection services embed culturally safe practices in their delivery of intensive family programs has also been voiced in other high-income countries, such as Canada (Gerlach et al., 2017).

Past Australian and international research has consistently demonstrated that the high level of competence and engagement of MST-CAN teams comprising therapists, crisis caseworkers and psychiatrics, has been viewed as a hallmark of the program (Albers et al., 2020; Buderer et al., 2020; Hefti et al., 2019; Stallman et al., 2010). This is reflected, in part, in the high completion rates of families participating in MST-CAN in previous experimental (Swenson et al., 2010) and observational (Schaeffer et al., 2013) studies. However, model purveyors and service providers have raised staffing issues from the perspective of excessive qualification standards required of MST-CAN therapists, with insufficient attention paid to the field or practical experience of such staff. While the Master of Social Work pre-requisite has been recognized as a common American postgraduate qualification, for example, greater adaptation is needed to appropriately recognize the credentials of mental health professionals registered in Australia. These tertiary qualification requirements have the potential to be particularly problematic for the recruitment of therapists in regional communities delivering MST-CAN, and the preferencing of academic qualifications over relevant practical work-skills may well be over-stated. More generally, the difficulty in both recruiting and retaining therapists in rural and regional communities across Australia, particularly in the provision of allied health and community-based services, has been well-documented in the extant literature (Dew et al., 2013; Struber, 2004). Difficulties recruiting clinicians to deliver these types of services are also prevalent issues in other countries, such as the United States (Murphy, 2022) and the United Kingdom (Moriarty et al., 2018).

4.3. Strengths and limitations of the study

4.3.1. Strengths

A wide range of policy and program experts responsible for the planning, monitoring and implementation of MST-CAN were interviewed, inclusive of model purveyors, intermediary organizations, DCJ and Their Futures Matter staff. The standardized and consistent process in which all semi-structured interviews were conducted allowed for a multitude of perspectives and rich feedback to be collated and classified into enablers and barriers. The structure of the NGT methodology, including its easy-to-use scoring approach, provided an efficient way of calculating the extent to which service providers perceived themes as important. In addition, the high turnout and participation rate of frontline service providers suggests there was diversity of opinion reflected in the NGT scoring, from manager and supervisors to therapists, interventionists and intake workers. Since most of the MST-CAN workforce participated in the NGT (69%), it is unlikely that the views of those who did not participate would have significantly changed the results, even if they had different views and perspectives to those who did participate.

Furthermore, the governance arrangements of this stakeholder collaboration were principally established between MST-CAN purveyors and DCJ. Although contributing to the complexity of the governance arrangements, both groups agreed that additional organizations were needed to optimize the implementation and contracting support in NSW, which led to the recruitment of intermediary organizations. These governance organizations had different roles throughout the adaptation, development and implementation of MST-CAN in NSW. For example, model purveyors and DCJ staff agreed on the purchasing and adaptation procedures to optimize the fidelity of MST-CAN, as well as the long-term scheduling and training regimen of service providers in NSW. Model purveyors also liaised with Their Futures Matter to determine referral processes and identify program vacancies, and intermediaries were trained by model purveyors on program implementation to support service providers delivering MST-CAN on an ongoing basis. Despite its intricacies, the complex governance structure was identified by policy and program experts as a neutral theme (score = 0), meaning it was classified as neither an enabler nor barrier to the implementation of MST-CAN in NSW (see Appendix B).

4.4. Limitations

Given most policy and program experts engaged in a phone-based, semi-structured interview, the absence of a face-to-face medium may have limited the rapport between the interviewers and participants. Many experts and service providers may also have a vested interest in highlighting the MST-CAN program as more favorable than what may otherwise be, particularly given the significant investment in delivering MST-CAN in NSW. The impact of this potential bias is most likely limited, however, given more barriers than enablers were identified, particularly in the semi-structured interviews. Further, although participants were not specifically asked about their perceived enablers or barriers in implementing MST-CAN, this objective was most likely communicated by phrasing enablers as "what works" and barriers as "what doesn't work". Despite this phrasing being less explicit, it aimed to achieve a more conversational discourse for participants to recount their experiences in delivering MST-CAN.

Finally, some potentially relevant participant characteristics of those who participated in the semi-structured interviews and focus group discussions were not collected. These characteristics included participants' cultural heritage or ethnicity, professional qualifications, history of child protection employment, and the length of time that they had been engaged in delivering MST-CAN. Consequently, the ability to investigate the extent to which participants' characteristics may have been associated with specific perspectives on enablers or barriers to program implementation was limited. For example, it is likely that the MST-CAN purveyors (from the MST Services and the MST Institute) had significant experience in the adaptation and delivery of MST-CAN, while the NSW-based experts (Their Futures Matter and DCJ) and intermediaries (OzChild and AbSec) had much less experience in the

adaptation and delivery of MST-CAN in new environments. The potential association between participants' characteristics and their perceptions should be further explored as part of future monitoring, along with their implications for addressing the barriers associated with the ongoing implementation of MST-CAN in NSW.

4.5. Implications for policy and practice

The contents, structure and supervision frameworks encompassed by MST-CAN were positively perceived by policy experts and service providers alike and should therefore be maintained in the delivery of the program across NSW. Nonetheless, family therapies such as MST-CAN are a relatively new and innovative way of engaging families in NSW. Thus, it is unsurprising that some implementation and technical difficulties in embedding MST-CAN into the routine delivery of child protection services in NSW were identified, and these could be subsequently improved over time. These potential areas for improvement have resulted in at least three implications for policy and practice.

First, MST-CAN could be further adapted and co-designed with relevant policy experts and service providers to maintain its fidelity and optimize its benefits for a wider range of families. This would require i) leveraging the strengths and expertise of AbSec to provide cultural competence guidance training and ii) adapting the TAM and revising its language to enhance the uptake of cultural and other adaptations into practice. A uniquely NSW innovation, for example, could be the further co-design of a version of MST-CAN that is Aboriginal led, rather than just adapted to Aboriginal service providers. This would need to include a clear role for Cultural Consultants and AbSec (operationalized by specific, feasible activities). The consistency with which the TAM is administered could also be improved through specific training workshops that explicitly address program fidelity. These workshops could be delivered by model purveyors, AbSec and Cultural Consultants to all services delivering MST-CAN in NSW. Service providers could anonymously raise deviations to program fidelity, such as cultural concerns, with DCJ. Any fidelity issues could then be confidentially addressed by services in partnership with policy experts. These deviations, and the ways in which they are resolved, could potentially be disseminated to all MST-CAN service providers across NSW to assist them in monitoring their own implementation processes.

Second, further consideration of the balance between the requirements for formal academic qualifications and therapeutic experience should be explored. In recruiting therapists, for example, it may be worthwhile giving more weight to their clinical skills and history of working with vulnerable and high-risk populations, particularly for those delivering MST-CAN in remote and rural Australian communities where there are fewer staff with formal qualifications. In relation to a similar family-based therapy program currently delivered in NSW, called FFT-CW®, eligible therapists are those who have more than five years' experience in child protection and/or in delivering comparable programs (Alexander & Robbins, 2011; Turner et al., 2017). Alternatively, expanding the post-graduate educational requirement to include Bachelor-level psychologists, counsellors or social workers with relevant clinical experience may also reconcile differences in psychology training and practice requirements between the US and Australia. This educational eligibility criterion may subsequently enhance the recruitment opportunities of prospective MST-CAN therapists in NSW. Concerns about the erosion of the quality of program delivery could be allayed through enhanced monitoring of program fidelity.

Third, outcome measures could be reviewed in collaboration with service providers, AbSec's Cultural Consultants and other Aboriginal stakeholders to improve their cultural adaptation, validity, and safety for families. The adaptation and administration of outcome measures could be improved in either of two ways i) clarifying how to most appropriately conduct and interpret the current set of six measures collected by families at program intake; or ii) refining the number of intake measures to those that most effectively capture the key aims of the MST-CAN program (e.g., quality of life or substance abuse scales that are not explicitly assessed in the suite of psychometric tools currently administered to families). As has been suggested for other cultural minority groups, the timing with which these measures are applied should be determined by Aboriginal services (Boyd-Franklin, 1989; Celano & Kaslow, 2000).

5. Conclusion

MST-CAN is an intensive family therapy program that has been implemented in multiple countries but is yet to establish an adequately rigorous body of academic evidence for the extent to which it reduces the risk of child maltreatment and OOHC entry for vulnerable children. To maximize the potential for MST-CAN to achieve these positive outcomes for Australian families, this study identified a number of implementation barriers that could be addressed. Key areas for improvement specifically include further adapting MST-CAN for Aboriginal-Australian populations; improving referral administrative processes and integration with existing processes in the NSW child protection system; enhancing the recruitment of therapists by broadening therapist educational and clinical experience criteria; tailoring and streamlining funding mechanisms; and modifying how outcome measures are administered to families at program intake. Addressing these barriers would improve the uptake of MST-CAN and ensure its sustainability in NSW, both of which would likely optimize its outcomes over time. Nevertheless, the enablers identified in this study, primarily the high quality of the training and supervision of MST-CAN therapists, the effectiveness of the monitoring systems and the analytic approach to therapy highlight that the sustained uptake of MST-CAN into the complex, real-world and routine delivery of child protection services in NSW would be feasible (O'Cathain et al., 2019). However, to accurately estimate the likely effectiveness and costs of MST-CAN on rates of child maltreatment and OOHC among high-risk families in NSW, it is essential that investment in quality evaluations are enacted prior to full-scale program implementation. Given the MST-CAN program has been recently introduced in NSW, such an approach will ensure that a range of plausible scenarios associated with its uptake over time can be modelled for, and integrated in, both its implementation and evaluation.

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CRediT authorship contribution statement

George Economidis: Conceptualization, Methodology, Formal analysis, Investigation, Data curation, Writing – original draft, Writing – review & editing, Visualization, Project administration. **Sara Farnbach:** Methodology, Validation, Writing – review & editing, Supervision, Visualization. **Anne-Marie Eades:** Methodology, Validation, Formal analysis, Investigation. **Kathleen Falster:** Writing – original draft, Writing – review & editing, Supervision, Visualization. **Anthony Shakeshaft:** Conceptualization, Resources, Writing – original draft, Writing – review & editing, Supervision, Visualization, Funding acquisition.

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The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Anthony Shakeshaft was the lead investigator on a competitive tender (FACS.17.266) awarded by the NSW Government Department of Family and Community Services (now Department of Communities and Justice) to evaluate the Functional Family Therapy – Child Welfare [FFT-CW®] and Multisystemic Therapy for Child Abuse and Neglect [MST-CAN] programs in New South Wales, Australia (2018-2020). George Economidis was employed part-time at the National Drug and Alcohol Research Centre as a Project Coordinator for the FFT-CW® and MST-CAN program evaluation from May 2018 to August 2020.

Data availability

Data will be made available on request.

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Appendix A. Supplementary material

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