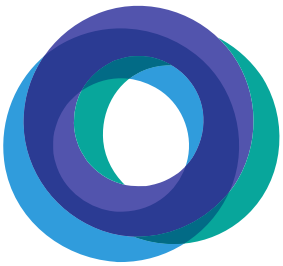

Centre for Evidence and Implementation

Out-of-Home Care: An Evidence and Gap Map

Prepared for the NSW Department of Family and Community Services

August 2017

FACSIAR
INSIGHTS, ANALYSIS AND RESEARCH

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Contents

1. Summary of the findings

This Evidence and Gap Map (EGM) presents an overview of current best evidence on the impact of different types of Out-of-Home Care (OOHC) on a broad range of child and youth outcomes, including safety, permanency, health and wellbeing. Ninety-three primary studies and 28 systematic reviews could be identified, of which the latter include 717 studies together.

The largest amount of evidence exists in the area of general and intensive foster care and related to mental health outcomes, covering children and youth's emotional intelligence, self-efficacy, coping skills, internalising and externalising behaviours.

The child and youth outcomes are featured in most of the primary studies and systematic reviews with relevance to the social and cognitive functioning of children in OOHC, and the permanency of their living arrangements.

Randomised-controlled trials and systematic reviews are included in this EGM, of which the latter could cover any type of study design and in many cases included non-randomised studies. The assessment of systematic reviews and primary studies shows that the level of quality varies and should be considered when accessing the EGM. Seventy-eight percent of all primary studies received 1 or 2 out of 5 possible points on the Jadad scale indicating a low to moderate methodological quality of the included studies. Similarly, the average AMSTAR score achieved across systematic reviews is 6, with three systematic reviews achieving the full score of 11. This too points to a moderate quality of the evidence gathered.

The largest knowledge gap identified through this EGM is the lack of studies examining interventions aiming to maintain and develop the cultural and spiritual identity of children and youth in OOHC. Given the overrepresentation of Aboriginal and Torres Strait Islander children in OOHC in Australia the lack of evidence on what works best and how indigenous culture can be integrated into the design and delivery of services is concerning.

Five systematic reviews are included in this EGM and provide guidance within the areas of Kinship Care Treatment Foster Care and OOHC prevention. Primary studies, on the other hand, offer the possibility of understanding particular interventions, their content and the way they are delivered. They also help users of evidence with detailed information about the outcomes achieved for different types of participants in a trial. In this way, evidence of interest detected through a systematic review can be further unravelled by examining concrete trial data.

EGM users need to be cautioned against interpreting outcomes from single randomised controlled trials included in this EGM as a solid evidence base. The OOHC EGM should therefore be used as a gateway for *exploring* particular aspects of the evidence base for OOHC. An exploration that should always be followed by further critical examination of the studies included, and combined with additional evidence related to the particular context in which change is intended to be introduced.

EGM users should also keep in mind that the production of knowledge is a continuous and dynamic process, and that new studies are published regularly. To maintain the relevance of this EGM, it should be updated at regular intervals. This EGM can lead to the production of additional EGMs focusing on designated areas covered by this map, e.g. transitioning out of OOHC or supporting carers, thereby providing more detailed insights into the evidence base for OOHC.

2. Introduction

2.1. Purpose and scope of this Evidence and Gap Map (EGM)

The NSW Department of Family and Community Services (NSW FACS) commissioned this Evidence and Gap Map for Out-of-Home Care. Its purpose is to summarise the prevalence of evidence available for a range of OOHC interventions and for a range of health and wellbeing outcomes in children and youth placed in care.

In November 2015, the NSW Government commissioned an independent review of the Out-of-Home Care (OOHC) system in NSW. Commissioned in response to the growth of the Out-of-Home Care population and continuing poor outcomes for the most vulnerable children and families, its purpose was to:

- Create a future vision and long-term strategy for OOHC;
- Understand the demand drivers for OOHC, including the entry and exit pressures on the system;
- Propose solutions for the unsustainable growth in the number of children in OOHC and the OOHC budget;
- Understand the causes of overrepresentation of Aboriginal children in the OOHC system, and the poorer outcomes for many of these children;
- Propose solutions to reduce the overrepresentation of Aboriginal children in the OOHC system and improve outcomes for these children and young people; and
- Review the ongoing appropriateness of programs funded by the Keep Them Safe reforms (Cassells et al., 2014).

The review concluded that despite significantly increased government expenditure, the number of children and young people in OOHC had doubled over the past 10 years, and continued to increase. Moreover, it pointed to a system failing to improve long-term outcomes for children and to arrest cycles of intergenerational abuse and neglect. Outcomes were particularly poor for Aboriginal children, young people and families (NSW Government, 2016).

The directions of the review have informed the reform package “Their Futures Matter: A New Approach to Out-of-Home Care in NSW” launched in November 2016. The implementation of this package is currently underway in the Department of Family and Community Services (FACS) and across the service sector.

Another impetus for reforming NSW OOHC was the development of a ‘NSW Human Services Outcomes Framework’ initiated by FACS in 2015 (NSW Department of Family and Community Services, 2017). The framework includes a set of population-level wellbeing outcomes and indicators, designed to systematically track and prioritise client outcomes across FACS policies, programs, and services. It also informs this evidence and gap map.

A central goal of the OOHC reform is to allow government to monitor the effectiveness of the interventions funded to ensure that funding streams are directed to interventions with a documented evidence base that increases the likelihood of achieving positive outcomes for children and youth. A precondition for building these clear ties between funding streams and the effectiveness of interventions is to establish an overview of the evidence base for OOHC and to continuously update this overview in the future.

2.2. Background

Out-of-home Care (OOHC) refers to a situation where a child up to 18 years old is unable to live with his or her biological parents and instead is placed with alternative caregivers for a shorter or longer term. Different types of OOHC living arrangements are available to children and youth with the ones highlighted in the box below being the most common utilised in Australia.

- General Foster Care: all situations "where placement is in the home of a carer, who is receiving a payment and supervision from a state or territory for caring for a child".
- Intensive Foster Care: comprises an additional component to general foster care wherein the child and their carers are receiving an intensive intervention that is aimed at managing and improving the child's behaviour and wellbeing.
- Residential Care: includes all OOHC "where placement is in a residential building, whose purpose is to provide placements for children and where there are paid staff, and includes facilities where there are rostered staff and where staff are offsite".
- Kinship Care: settings "where the caregiver is a family member or a person with a pre-existing relationship to the child".
- Supported Independent Living: refers to situations where the child or young person is living independently in the community and receiving some form of support
- Temporary Care: short-term living arrangements focused on providing acute support to children and youth

Commonwealth of Australia (2011)

As of June 30, 2017, 55,600 Australian children were living in OOHC. In 2015-2016, 12,829 children were admitted to OOHC in Australia, 3,554 of these in New South Wales(Australian Institute of Health and Welfare, 2017).

The framework for providing OOHC in NSW is the 'OOHC Contracted Care Guidelines' (NSW Department of Family and Community Services, n.d.). This program aims to ensure:

- permanency and placement stability is achieved for children as early as possible
- appropriate support for children and young people is provided in a safe environment where formal supports match their changing support needs
- cultural identity and connections with family and community for Aboriginal and Torres Strait Islander children and young people are maintained
- cultural identity and connection with family and community for children and young people from a culturally and linguistically diverse background are maintained
- children and young people participate in decision-making
- carers are supported to care for children and young people

The types of placement services available through the NSW program are briefly described below.

Table 1: OOHC placement service activities and service descriptions

Placement Service	Service Description
General foster care	Statutory or supported care provided to children and young people by authorised carers in the carer's own home or in a home owned or rented by an agency. This includes relative and kinship care provided by an extended family member or persons of significance to the child or young person whose relationship is defined by Part 2, clause 5 of the Children and Young Persons (Care and Protection) Regulation 2002.
Intensive foster care	Statutory or supported care provided to children and young people who are assessed as having high support needs and for particular groups of children (like siblings) that together require a more complex caring role. Intensive foster care provides for a coordinated plan of casework and therapeutic intervention within a community based environment for children and young people with high support needs.
Residential care	Care provided to children and young people who have challenging behaviours and medium to high support needs. Care is provided in a property owned or rented by an agency, staffed by direct care workers and with access to multidisciplinary specialist services.
Intensive residential care	Time-limited care (6–12 months) provided in a stand-alone facility for children and young people who have high needs and require more intensive therapeutic support.
Supported independent living (SIL)	Services provided for young people with low to moderate support needs who are in transition to independent living from OOHC. SIL services provide accommodation and access to support services for young people aged 16 to 18 years at entry to the program. Support is available for up to 2 years.
Supported family group home	Medium to long-term care provided for specific groups of children or young people (e.g. large sibling groups) aged 0–17 years who have low to moderate support needs but cannot be placed in relative, kinship or foster care. The client groups live in regular houses in the community in a family-like environment and are cared for by carers living in the home seven days a week.

In acknowledging the need to examine the developmental wellbeing of children and young people in OOHC, the New South Wales government in 2009 initiated the Pathways of Care Longitudinal Study (POCLS). It is the first large scale prospective longitudinal study on OOHC in Australia, covering all children, who entered OOHC for the first time in NSW between 1 May 2010 and 31 October 2011. Future findings from this study will be an important contribution to the evidence for outcomes for children in OOHC in NSW.

Research initiatives like the POCLS are pertinent, given that the rates of children referred to an OOHC living arrangement have been increasing in recent years across Australia. Compared to 2011, when 7.4 out of 1,000 children were living in OOHC, this rate increased to 8.1 children in 2015 (Australian Institute of Family Studies, 2016).

The number and proportion of Aboriginal and Torres Strait Islander children living in Out-of-Home Care (OOHC) in Australia is of particular importance when compared with similar figures for non-Indigenous children. According to the Australian Institute for Health and Welfare (AIHW, 2016), the rate of Aboriginal and Torres Strait Islander children living in out-of-home care has risen from 43.2 per 1,000 children in 2011-12 to 52.5 per 1,000 children in 2014-15, an increase of 21.5 per cent. Comparatively, the rate of placement of non-Indigenous children increased from a low of 5.2 per 1000 to 5.5 per 1000 over the same years, an increase of just 5.8 per cent. In other words, Aboriginal and Torres Strait Islander children are almost 10 times more likely to be living in OOHC than their non-Indigenous counterparts, and this difference is increasing at an alarming rate. The reasons for the increases are manifold, including current and historical economic and social disadvantage that are beyond the scope of this review. However, a basic consideration of key decision points in the OOHC system suggests that, beyond an increase in the number of reports and investigation, the key drivers of OOHC numbers for any child protection system includes: 1) number of entries to care; 2) length of stay in care (longer stays will increase the overall census); and 3) returns to care. Considering these factors together, crude projections indicate a continuing trend of increased numbers of children in OOHC, particularly for Aboriginal and Torres Strait Islander children (SNAICC et al., 2016).

OOHC can provide important and lifesaving support to children and youth experiencing abuse and neglect. However, concerns about the health and wellbeing of children placed in care are numerous and well-documented (Gypen et al., 2017; Evans et al., 2016; Maclean et al., 2016; Strijbosch et al., 2015; Braciszewski et al., 2012). These extend to youth transitioning to adulthood from OOHC who experience high rates of teen pregnancy, unemployment, crime victimisation, homelessness and incarceration (Brännström et al., 2016; Courtney et al., 2014; Naccarato et al., 2010; Dworsky & Courtney, 2010; Courtney & Dworsky, 2006; Cashmore & Paxman, 2006; Cashmore et al., 2006; Courtney et al., 2001).

Given these challenges faced by children and youth in OOHC, it is of great importance to ensure that the services provided within OOHC settings are of high quality and informed by current best evidence. Despite the utilisation of a broad range of different OOHC arrangements over the last hundred years, the research information available to policymakers, organisational leaders and practitioners to guide decision-making can be scarce and is often not synthesised in meaningful ways, making it difficult to apply in real-world settings.

2.3. Utilising this Evidence and Gap Map (EGM)

This report and its associated documents form an EGM. It is not a full review but a mapping of the literature that provides an overview of the evidence existing in particular areas of OOHC. EGMs can also be a useful tool for developing a strategic approach to building the evidence base in a particular sector such as OOHC, homelessness or social housing. People working in policy and practice can be overwhelmed by the available evidence when it is scattered around different databases, journals, websites and the grey literature. An EGM provides an overview of the existing evidence in a certain field.

With this in mind, NSW FACS plans to use evidence and gap maps to

- facilitate informed judgment and evidence-based decision making in policy and practice. By providing a user-friendly tool for accessing evidence, policy makers and practitioners will be able to explore the findings and quality of the existing evidence on a topic quickly and efficiently.

- facilitate strategic use of research funding and enhance the potential for future evidence synthesis by identifying key gaps in the available evidence, thus indicating where future research should be focused.

Users of this EGM should have the following in mind when utilising this EGM:

- The EGM on OOHC is provided as an attachment to this report. In it, references highlighted in red indicate that this publication is a primary study, whereas references highlighted in black are systematic reviews
- When accessing the evidence for a particular area, systematic reviews provide a comprehensive overview of several studies addressing the same research question. They will be a good access point to get a 'lay of the land' for the evidence within a particular area, whereas primary studies are more helpful to understand the effectiveness of particular interventions.
- Both primary studies and systematic reviews may be of varying quality. In this EGM, two assessment methods have been used to indicate this quality, AMSTAR ratings have been given to systematic reviews, and the JADAD scale has been used with primary studies. For both scales a higher score indicates better quality. Importantly, however, the use of such scales without consideration of context and the research question being posed should be avoided. Even studies with high scores may have fatal flaws when considering a specific use context. They are simply provided here as a quick indication of study quality that does not extend to applicability.
- For all studies, data have been extracted for a number of variables (target population, intervention, comparison condition, outcomes). This information is provided as part of two additional attachments, one focusing on data included in primary studies and one on data included in systematic reviews. When trying to understand the particular focus of a study included in the EGM, these tables may be of guidance to the EGM user.
- Finally, the full understanding of the details in a particular study can only be gained by reading the full study report. The full texts of all studies included in the EGM have been provided to NSW FACS and can be requested by EGM users.

2.4. The structure of this report

In the following section the general methodology behind any EGM is presented briefly, followed by an overview of how it was operationalised for this particular EGM on OOHC. We describe the results derived from literature searches and screening in section 3, which follows the overarching structure of the EGM intervention and outcome categories. The findings and their implications are discussed in section 4, which also provides guidance on how to use this EGM and points to some of its limitations.

Detailed information about the technical aspects in developing this EGM, including the particular search strategies applied, studies included and excluded, and assessment tools utilised can be found in the comprehensive appendices included in the backend of this report.

The EGM itself and a detailed data extraction sheet summarising different aspects of each primary study and systematic review have been provided separately in the form of excel spreadsheets. These will be integrated into an electronic version of the EGM, which will be made available for NSW FACS stakeholders together with this report.

3. Methodology

In this section, we briefly introduce the method of evidence and gap mapping in general terms before operationalising it for the concrete OOHC EGM project.

3.1. Evidence and Gap Maps (EGMs)

Evidence and Gap Maps – or EGMs - provide a visual overview of the availability of evidence for a particular sector - in this case, OOHC. EGMs are tools to consolidate what we know and do not know about 'what works' in a given area by mapping out existing and ongoing systematic reviews and impact evaluations; and by providing a graphical display of areas with strong, weak or non-existent evidence on the effect of interventions or initiatives.

EGMs are useful for policymakers and practitioners looking for evidence to inform policies and programs. For donors and researchers, these maps can inform a strategic approach for commissioning and conducting research. EGMs are not intended to provide recommendations or guidelines for policy and practice, but are meant to be sources that inform policy development and guidelines for practice.

The methods for conducting EGMs draw on the principles and methodologies adopted in existing evidence mapping and synthesis products. In general, they are developed over six phases:

- **Phase 1: Defining the scope**

The first step in producing an EGM is to set the scope by developing a framework, which represents the universe of interventions, initiatives and outcomes in the topical area to be covered. The rows of the framework cover all relevant interventions in this particular sector, while the columns will include all practice and policy relevant outcomes. The table below reflects this basic structure for any EGM.

Table 2: A generic Evidence and Gap Map (EGM) structure

	Outcome 1	Outcome 2	Outcome 3	Outcome 4
Intervention 1				
Intervention 2				
Intervention 3				

Studies to be included in an EGM will then be placed in the appropriate cells reflecting the correct combination of interventions tested and outcomes measured. Studies can be placed in an EGM multiple times thereby ensuring that all interventions and outcomes covered are captured in the map.

- **Phase 2: Setting study inclusion criteria**

In phase two, the types of evidence to be included in the EGM are determined. EGMs mainly rely on two types of studies: 1) systematic reviews that critically appraise and synthesize all the available evidence in an area; 2) impact evaluations that carefully test effectiveness using rigorous experimental designs.

- **Phase 3: Searching for studies and assessing inclusion**

In phase three, a strategy for searching and identifying studies to be included in the EGM is developed. Databases are selected, inclusion and exclusion criteria defined and screening processes

described. The methods for doing so draw on methods of systematic searching commonly used for systematic reviews and overviews of reviews, although the broad scope of an EGM may sometimes necessitate some adaptations. The search effort depends on the time and resources available, as well as the intended use of the EGM.

- **Phase 4: Coding and critical appraisal**

This phase involves the systematic coding and extraction of data using a structured format. Studies are coded according to relevant intervention and outcome categories. The quality of the included systematic reviews and impact evaluations is also appraised. Depending on the purpose of the EGM and the needs of funders, other categories may also be relevant, including geographical scope of the evidence, inclusion criteria of systematic reviews, and information about intervention effectiveness.

- **Phase 5: Reporting**

Reporting is the focus of phase 5. In most cases, the EGM itself is supplemented with more traditional report formats summarising and explaining the information included in the EGM. More advanced report formats also involve the graphical visualisation of the EGM on websites, enabling the active use of the EGMS through different user groups or even the public. This may include the provision of user-friendly summaries of each included study and of overarching trends identified through the EGM development.

- **Phase 6: Dissemination**

The further dissemination of results derived through an EGM may include presentations for selected target groups – e.g. policy makers; workshops to create familiarity with an EGM and its usability in daily practice among key stakeholders; the development of fact sheets and plain language summaries synthesising the essence of the EGM; and other activities promoting the active use of the EGM.

3.2. Structure of this Evidence and Gap Map (EGM)

In developing the intervention and outcome categories for this EGM, we utilised two different pre-defined outcome frameworks:

- The NSW Human Services Outcomes Framework (FACSAR, 2016)
- The NSW Quality Assurance Framework (Mildon et al., 2015)

While the FACSAR framework builds on seven categories of outcomes (home; health; education & skills; economic; safety; social & community; and empowerment) applicable across the different domains in which FACS operates (e.g. social housing), the Quality Assurance Framework (QAF) was particularly developed for out-of-home care settings as a tool to support an outcome-focused service delivery through measurement of individual outcomes.

The QAF provided clear descriptions of its different outcome domains for a child and youth population and thereby was a valuable expansion of the FACSAR framework. This is mirrored in the figure below, which displays the overall EGM structure utilised for this project. Intervention categories listed in the left-hand column were developed based on the Australian National Standards for OOHC (Commonwealth of Australia, 2011).

Table 3: The Evidence and Gap Map (EGM) Structure

FACS outcome domains	Home/Safety		Education & Skills / Economic	Health		Social & Community / Empowerment	
QAF outcome categories	SAFETY	PERMANENCY	COGNITIVE FUNCTIONING	PHYSICAL HEALTH & DEVELOPMENT	MENTAL HEALTH	SOCIAL FUNCTIONING	CULTURAL AND SPIRITUAL IDENTITY
Description	Protection from abuse & neglect / maltreatment occurrence	Permanency / stability in living conditions; restrictiveness of living conditions; maintenance of relationships; transition to adulthood	Academic achievements; school engagement; problem solving and decision-making skills	Overall health; BMI; health-related risk avoidance behaviours	Emotional intelligence; self-efficacy; motivation; self-control; pro-social behaviour; positive outlook; coping; internalising / externalising behaviours; trauma symptoms	Social competence; social connections and relationships; social skills; adaptive behaviours	TBD
Type of out-of-home care							
General Foster Care							
Intensive / Treatment Foster Care							
Residential Care (also: Group / Congregate / Voluntary Care; Guardianship)							
Kinship Care							
Supported Independent Living							
Supported Family Group Home							
Temporary / Respite / Shelter / Short term care							
Unspecified care type							
Out-of-Home Care prevention							

3.3. Criteria for considering studies for this Evidence and Gap Map (EGM)

3.3.1. Population

To be included, studies had to focus on children aged 0-18, who were in OOHC (defined below). Studies including persons over 18 years were included only if the majority of the population was within this age limit.

We also included studies on carers of children in OOHC living arrangements, if the main objective of the study was to assess outcomes of the children.

3.3.2. Interventions: Out-of-Home Care (OOHC)

We included studies that investigated different types of OOHC. The definitions for the included OOHC living arrangements are based on the Australian National Standards for OOHC (Commonwealth of Australia, 2011) and listed below.

- General foster care:

This type of OOHC refers to all situations "where placement is in the home of a carer, who is receiving a payment and supervision from a state or territory for caring for a child". In this living arrangement, children and young people are placed with carers and receive standard supervision and support.

- Intensive or Treatment foster care:

This type of living arrangement comprises an additional component to general foster care wherein the child and their carers are receiving an intensive intervention that is aimed at managing and improving the child's behaviour and wellbeing. To qualify for intensive/treatment foster care, the intervention had to target children and young people who have experienced severe trauma due to abuse, neglect, or other forms of maltreatment, who consequently have developed behaviours that require additional interventions and skills from carers. A range of interventions qualify for intensive or treatment foster care, with the most prevalent being Multidimensional Treatment Foster Care (MFTC).

- Residential care:

Residential care includes all situations "where placement is in a residential building, whose purpose is to provide placements for children and where there are paid staff, and includes facilities where there are rostered staff and where staff are offsite". This includes group care and congregate care.

- Kinship care:

This living arrangement describes settings "where the caregiver is a family member or a person with a pre-existing relationship to the child". Kinship care may or may not be funded, or in some circumstances can be funded at a rate that is lower than non-related foster care.

- Supported Independent Living:

Supported independent living refers to situations where the child or young person is living independently in the community and receiving some form of support, i.e. private boarding arrangements. This living arrangement is only suitable for older youth.

- Supported family group homes:

In this type of OOHC, "placement is in a residential building, which is owned by an authority, and which are typically run like family homes, have a limited number of children, and are cared for around the clock by resident carers".

- Temporary care:

Temporary care includes a range of short-term living arrangements focused on providing acute support to children and youth, e.g. respite care, crisis accommodation, and some forms of youth shelter. The key criterion is that the placement is temporary, often in response to a crisis that can be resolved in a short period of time.

- OOHC Prevention:

Based on an interest in understanding the prevalence of evidence for interventions aiming to prevent out-of-home care placements for children imminently at risk of being placed, we sourced studies covering this type of intervention within the searches conducted. The most prevalent was Multisystemic Therapy (MST), an intensive family- and community-based treatment programme for chronic and potentially violent juvenile offenders. It is important to note that the search terms applied to source studies did not include prevention specific terminology – we only included those studies identified through our regular out-of-home care search strategy. The evidence summarised for OOHC prevention may therefore be incomplete and may not represent the entire range of evidence for interventions aiming to prevent care placement of children and youth. This is particularly the case for universal and early intervention services where effects have only been observed in the long-term and the interventions were not specifically or exclusively designed to prevent placement in OOHC (e.g., Nurse Family Partnerships).

- Mixed / Unspecified / Unclear care type:

Finally, some articles included all types of OOHC living arrangements without differentiation. When specific information that allowed to accurately categorise the article was lacking, studies were placed under this OOHC category.

We excluded studies involving children who were legally and permanently adopted.

3.3.3. Comparisons

We included any OOHC intervention reported above compared with:

- The same intervention expanded with an additional component
- An alternative Intervention (e.g., other type of OOHC or placement alternative that involves a program or service)
- No intervention (e.g. children/youth living at home)

3.3.4. Outcomes

We included studies that reported child outcomes that could be categorised within the Quality Assurance Framework (QAF) outcome categories integrated into the EGM template (as per our description above). The definition of each outcome category is provided in table 4 below.

Based on our findings, we expanded the framework with one outcome category, *family functioning*, to be able to report on additional relevant outcomes that emerged from included studies.

Apart from the outcomes that were pre-defined through the EGM outcome structure, we also tracked findings that emerged across different interventions or different outcome categories. Through this process, several cross-cutting themes emerged, which are presented separately in the results section.

Table 4: The domains of the NSW Human Services Outcomes Framework

FACS outcome domains	QAF outcome categories
Home / Safety	Safety Children and young people have the opportunity and support needed to ensure that they are physically and psychologically safe and free from maltreatment.
	Family Functioning Children and young people live in an environment in which carers predominantly use positive parenting skills and encourage cohesion among family members.
	Permanency Children and young people have permanency and stability in their living situations, and the continuity of family relationships and connections is preserved.
Education & Skills / Economic	Cognitive functioning Children and young people have the opportunity and support needed to maximise their intellectual ability and functioning and to achieve educational success to their fullest potential.
Health	Physical health and development Children and young people have the opportunity and support needed to maximise their physical health, strength, and functioning.
	Mental Health Children and young people have the opportunity and support needed to manage their mental health and wellness.
Social & Community / Empowerment	Social functioning Children and young people have the opportunity and support needed to cultivate a strong and resilient self-identity, to develop supportive and nurturing relationships, and to feel hopeful about life and the future.
	Cultural and spiritual identity Children and young people have the opportunity, encouragement and support needed to engage with, and develop, their own cultural, ethnic, and spiritual identity.
Prevention*	Prevention of OOHC placement Children and young people who are identified as being at risk of OOHC remain with their natural birth family. e.g. Multi Systematic Therapy (MST)

* The outcome domain 'prevention' is not part of the original outcome framework. It was included due to a particular interest in mapping the evidence on pathways towards reducing the intake of young people in OOHC and increasing the likelihood of successful family reunification

3.3.5. Study designs

We included randomised controlled trials (RCTs), trials with quasi-experimental designs and systematic reviews published in peer reviewed journals or the Campbell Collaboration. Only systematic reviews that could be replicated (i.e. that explicitly stated the search strategy and the inclusion and exclusion criteria for someone else to reproduce the results) were considered under the systematic review category.

We only selected English language articles published in peer-reviewed journals for inclusion. We did not search for grey literature and excluded conference abstracts, dissertations, reports, book chapters, editorials and opinion pieces. No limitations were put on publication years.

3.4. Search methods

An information specialist searched the following 15 electronic databases in September 2016. To reduce publication and retrieval bias, we did not restrict our search by language, date or, publication status. A comprehensive list of databases searched and the search strategy used can be found in appendix A.

1. Medline (Ovid)
2. Embase (Ovid)
3. PsycInfo (Ovid)
4. Cochrane Central Register of Controlled Trials (CENTRAL)(Ovid)
5. CINAHL (Ebsco)
6. Education Resources Information Center (ERIC) (Ebsco)
7. International Bibliography of the Social Sciences (IBSS) (ProQuest)
8. Applied Social Science Index and Abstracts (ASSIA) (ProQuest)
9. Sociological Abstracts (ProQuest)
10. Web of Science including Social Sciences Citation Index and Conference Proceedings Citation Index- Social Science & Humanities
11. Australian Family & Society Abstracts Database (FAMILY) (Informit)
12. Families and Society Collection (Informit)
13. Attorney-General's Information Service (AGIS plus Text) (Informit)
14. Australian Criminology Database (CINCH) (Informit)
15. Campbell Collaboration

In addition, we contacted OOHC experts to inquire about relevant publications.

3.5. Data collection and analysis

Data extraction

One author initially screened titles and abstracts, excluding those that were obviously irrelevant. Subsequently, two review authors (BA or LP) independently screened titles and abstracts, to identify relevant trials or systematic reviews. The agreed citations were retrieved in full text, and screened by LP. Disagreements were resolved through discussion among review authors.

Two review authors (LP and SR) independently extracted study data using a standardised data extraction form specifically designed for this map.

- The following data were extracted for RCTs and quasi-experimental studies:
  - The year of publication; country the trial was conducted; trial / study design; population; sample size; information about the intervention(s); information about the comparison condition; outcomes reported; and a brief description of the results.
- The following data were extracted for systematic reviews:
  - The year of publication; whether a meta-analysis was conducted; objectives; population; intervention; comparison population or intervention (when available); outcomes; number of included studies; country of origin of included studies; study designs of included studies; results (brief description on both qualitative and quantitative).

An overview of these extracted data is provided with Appendix G, which is kept as a separate '.xls' file.

Study quality assessment

One reviewer (LP) assessed the quality of primary studies (RCTs and quasi-experimental trials) using the Jadad scale. The Jadad scale is included in appendix E.

The Jadad scale is a simple, five-point, three-question scale that is widely used to quickly assess the quality of clinical trials. The three questions are directed at randomisation process of the participants, the blinding of participants and the investigators and information on drop-outs from the trial. Additional points are added or deducted based on the appropriateness of the randomisation and the blinding processes. The maximum score a trial can get is five.

If follow-up studies of a trial did not report the randomisation procedure but the initial publication did, we gave one point for randomisation even if the follow up study did not report procedures a second time. The same guideline was adopted for blinding and drop-outs. All primary studies were included in the EGM irrespective of their Jadad score. When examining a primary study, users of the evidence and gap map can include the Jadad score in their interpretation of the findings from the study.

One reviewer (SR) assessed the quality of systematic reviews using "A Measurement Tool to Assess Systematic Reviews" (AMSTAR) tool, which is provided with appendix F.

The AMSTAR tool is an 11-item checklist used to assess the methodological quality of systematic reviews. In using the AMSTAR, specific questions (e.g. the search strategy used to identify studies, criteria defined to include or exclude studies, or the procedures with which the quality of included were assessed) are answered with ‘yes’, ‘no’, ‘can’t answer’ or ‘not applicable’. The number of ‘yes’ answers a systematic review receives is summarised and can lead to an AMSTAR score between 0 and 11. There is no particular cut off value defined for the AMSTAR that would help to further remove systematic reviews of low quality from the included studies. All originally included systematic reviews were kept in the EGM even though they may have received low AMSTAR ratings. When identifying a systematic review of particular interest, users of the EGM can refer to the AMSTAR rating as a supplement to their interpretation of review findings.

All Jadad and AMSTAR ratings for included studies are listed in the data extraction file that has been provided with appendix G.

4. Results

4.1. Results of the search

The search of electronic databases was conducted between the 9th and 13th of September 2016. It yielded 5,821 citations. Additional 75 citations were retrieved by contacting experts in the field of OOHC. From these 5,896 citations, 2,641 duplicates were removed. The titles and abstracts for the remaining 3,255 references were screened and 2,974 references excluded. 281 references remained, and for these, full texts were retrieved for further analysis. From this literature, further 163 articles were excluded because a detailed examination of their content showed that they did not meet the inclusion criteria for study designs and / or did not cover any of the outcome categories that had been pre-defined for this evidence and gap map.

The final sample of literature included in the evidence and gap map (N=121) contained 93 primary studies and 28 systematic reviews. An overview of this search is provided with appendix B. Included studies are listed in appendix C.

After having conducted all searches, we received information on one relevant study published after the search date (Vandivere et al. 2017), and one additional relevant grey publication recommended by an expert in the field (Valentine et al. 2015). Both were included.

A list of studies that were excluded during the latter stages of the selection process appears in appendix D. The EGM itself, with all studies located according to intervention type and outcomes, is provided as a separate file with appendix H.

4.1.1. Primary studies

We identified 93 primary studies published in different geographical regions with the U.S. featuring in 70% of the included studies (72 studies).

Other study countries were: Romania (n=8), the UK (n=7), Sweden (n=4), the Netherlands (n=1) and Norway (n=1). No studies were conducted in Australia or New Zealand.

Figure 1 illustrates the geographical distribution of the studies. The characteristics of these studies are summarised in appendix C.

Apart from five studies that used quasi-experimental designs, all other studies were RCTs or used data from RCTs for further analysis.

In ten studies, the intervention was primarily directed at carers of children or included both carers and children (Chamberlain 2008, Chamberlain 1992, Herbert 2007, Price 2012, Price 2015, Bywater 2011, Herbert 2007, Macdonald 2005, Minnis 2001, N'zi 2016). In all other studies, the intervention was primarily directed at children.

The quality of primary studies was mixed. An overview of Jadad scores is provided in table 5.

Table 5: Jadad assessment for primary studies

Jadad score	5	4	3	2	1	0
No. of primary studies (N=93)	0	0	16	43	29	5
% of N=93	0%	0%	17.1%	46.2%	31.2%	5.5%

A higher Jadad score indicates higher study quality, with 5 being the highest possible score. The distribution of studies across possible Jadad scores shows that the majority of studies (63.3%) received a medium score (2-3). A considerable proportion of studies – more than one third - got a generally low score (0-1), and no studies received 4 or 5 points. The latter is due to the absence of blinding in almost all applied social science studies and does not warrant undue concern. On the other hand, only 20 studies (21%) reported their method of randomisation, which can be a considerable source of bias. All studies reported other appropriate methodology.

4.1.2. Systematic Reviews

We identified 28 systematic reviews, which fulfilled the inclusion criteria. Of these, eight performed a meta-analysis. The remaining twenty provided a narrative summary of their results.

The systematic reviews were of varying quality. Each of the 28 SRs included in this report were given an AMSTAR rating out of a possible 11 points, where a higher score indicates better quality.

The AMSTAR ratings for all included systematic reviews are summarised in table 6 below.

Three systematic reviews, by two different authors, obtained a perfect score, while the remaining studies varied from very low quality (score of 2) to moderate quality (scores of 8 or 9).

When interpreting systematic reviews in the EGM, it is strongly recommended that the quality rating attributed to each systematic review is carefully considered since conclusions drawn may be a result of poor methodology rather than solid findings.

Table 6: AMSTAR Ratings for included Systematic Reviews

AMSTAR criteria	1	2	3	4	5	6	7	8	9	10	11	Valid 'yes' responses (N/%)	
Systematic Reviews including randomised controlled and controlled trials only (N=4)													
Donkoh (2006)	Y	Y	Y	Y	Y	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Y	6	100%
Downes (2016)	Y	Y	N	N	N	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	N	2	33%
Littell (2005)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	11	100%
Macdonald (2008)	Y	Y	Y	Y	Y	Y	Y	Y	Not applicable	Y	Y	10	100%
Systematic Reviews including randomised controlled, controlled trials and observational, comparative studies (N=15)													
Al (2012)	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	9	82%
Everson-Hock (2011)	Y	N	Y	Y	N	Y	Y	Y	Y	N	N	7	64%
Everson-Hock (2012)	Y	N	Y	Y	N	Y	Y	Y	Not applicable	N	Y	7	70%
Hahn (2005)	N	Y	Y	Y	N	Y	Y	N	Not applicable	N	Y	6	60%
Hermenau (2016)	Y	N	Y	Y	N	Y	Y	Y	Y	N	Y	8	73%
Kerr (2014)	Y	N	Y	Y	N	Y	Y	N	Not applicable	N	N	5	50%
Kinsey (2013)	Y	N	Y	N	Y	Y	Y	Y	Y	N	Y	8	73%
Lin (2014)	Y	N	N	Y	N	Y	Y	Y	Not applicable	N	N	5	50%
Maclean (2016)	Y	Y	Y	Y	N	Y	Y	Y	Not applicable	N	N	7	70%
Montgomery (2006)	Y	N	Y	Y	Y	Y	Y	Y	Not applicable	N	N	7	70%
Van Andel (2014)	Y	N	Y	N	N	Y	N	N	Y	N	N	4	36%

Van der Stouwe (2014)	Y	N	Y	Y	N	Y	Y	Y	Y	Y	N	8	73%
Winokur (2014)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	11	100%
Winokur (2009)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	11	100%
Ziviani (2012)	Y	N	Y	Y	N	Y	Y	Y	Y	N	Y	8	73%
Systematic reviews of other study designs including studies that did not report the designs of included studies (N=9)													
Goemans 2016)	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	9	82%
Goemans (2015)	N	Y	Y	Y	N	Y	N	N	Y	Y	N	6	55%
Heerde (2012)	Y	N	N	N	N	Y	N	N	Not applicable	N	N	2	20%
Heerde (2016)	Y	Y	N	N	N	Y	N	N	Y	Y	Y	6	55%
Hiles (2013)	Y	N	Y	Y	Y	N	N	N	Not applicable	N	N	4	40%
Knorth (2008)	N	N	N	Y	N	Y	N	N	N	N	N	2	22%
Liabo (2013)	Y	N	Y	Y	N	Y	Y	N	Y	N	Y	7	64%
Rock (2015)	Y	Y	N	N	N	N	Y	Y	Not applicable	N	N	4	40%
Thompson (2016)	Y	N	Y	Y	N	Y	N	N	Not applicable	N	N	4	40%

4.2. Evidence

4.2.1. Amount of evidence by Out-of-Home-Care (OOHC) type

Figure 2 displays the amount of evidence by intervention type, based on the classification structuring of the OOHC EGM. It is important to note that primary studies and systematic reviews may cover several outcomes within one study and therefore can be appear several times within each of the OOHC categories. Therefore, in the following we differ between the unique studies registered for each OOHC category, and their (at times multiple) appearances under different outcome categories.

Based on this understanding, in figure 2, the blue bars display the number of publications of RCTs and quasi-experimental trials that appear collectively under each OOHC type. The orange bars display the number of unique primary studies under each OOHC category. The blue bars are always taller than orange bars because some primary studies appear under more than one OOHC category.

In a similar way, the grey bars display the number of systematic reviews that appear collectively under each OOHC type. The yellow bars display the number of unique systematic reviews under each OOHC category. The grey bars are usually taller than the yellow bars because some systematic reviews cover more than one OOHC category and are more often included multiple times.

If a study compared two OOHC types, (e.g. general foster care group compared to institutionalised group), it appears twice and counted twice; both under general foster care as well as residential care.

If a study consisted of only one type of OOHC in both intervention and comparison groups and compared an additional intervention with standard care (e.g. an additional educational programme for children in general foster care (intervention group) compared to children in general foster care that received "care as usual / no additional education programme" (control group), the study appears only once under general foster care.

If a study consisted of a mix of OOHC types in both intervention and comparison groups and compared an additional intervention with standard care (e.g. an additional educational programme for children in general foster care and /or kinship care (intervention group) compared to children in general foster care and / or kinship care that received "care as usual / no additional education programme" (control group), the study appears under mixed / unspecified care types.

Intensive / treatment foster care

The type of OOHC living arrangement with the highest amount of evidence is intensive / treatment foster care (33 primary studies and nine reviews).

Treatment Foster Care is used to describe specifically designed placements with carers tailored to provide support to both youth and their caregivers and, at times, families. A high quality systematic review within this category (Macdonald & Turner, 2008) highlights "*The evidence may be subject to bias given the involvement of programme developers in the research teams responsible for all included studies. On the basis of this review, nothing can be said about the costs and benefits of what is a relatively costly service. Furthermore, it is not possible to make statements about TFC effectiveness vis-a-vis other composite interventions*" (p.2).

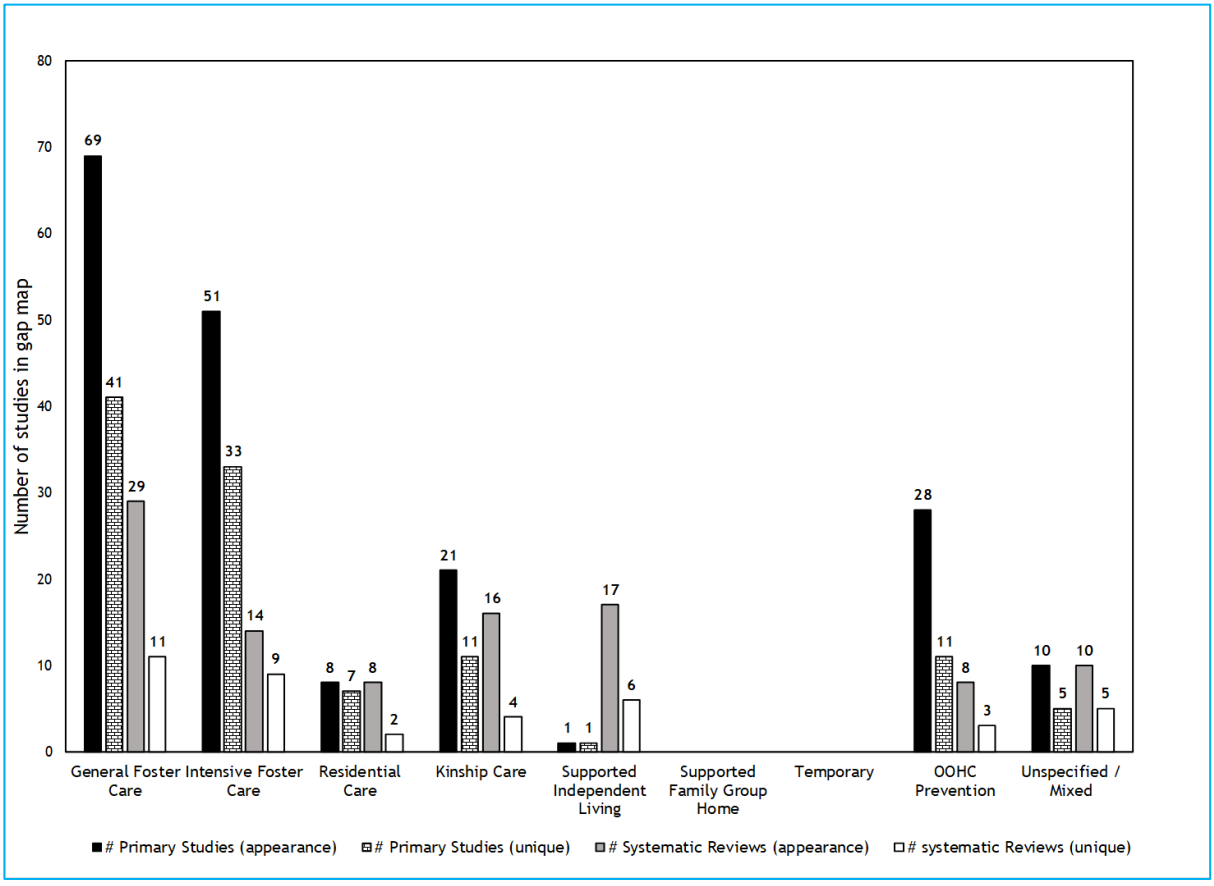
One of the reasons for the apparently high volume of evidence in intensive foster care is the number of follow-up studies for a single RCT. For instance, six studies (Harold 2013, Kerr 2014, Kerr 2009, Poulton 2014, Rhoades 2014 and van Ryzin 2012) have been published around the same cohort of 166 girls in Oregon, USA. In addition, three more studies (Chamberlain 2007, Leve 2007, Leve 2013) have been published on a cohort of 81 girls that feature among the previous seven studies, resulting in multiple representations of participants. Another two publications (Chamberlain 1998, Eddy 2004) report on the same study cohort (79 boys) in Oregon, USA and another five publications (Fisher 2007a, Fisher 2007b, Fisher 2008, Fisher 2009, Fisher 2011), reported various follow-up and

outcome results of the same 117 foster pre-schoolers, conducted in the same geographical region. Two Swedish studies also report on the same study population (Hansson 2012, Bergström 2015). These 18 publications represent just four samples, but result in ballooning the ultimate number of studies under the treatment foster care category.

General Foster Care

The second largest amount of evidence exists for general foster care with 41 primary studies and eleven systematic reviews. One contributory factor for the high number of primary studies in general foster care is the number of follow up publications on the Bucharest Early Intervention Project. We identified seven publications (Nelson 2007, Fox 2011, Humphreys 2015a, Humphreys 2015b, Almas 2015, Bick 2015, Gavita 2012) on the cohort of 136 children that were originally randomised to receive foster care or remained under the care of the institution. These publications were also categorised under residential care and formed the entire evidence base for residential care in the map.

Figure 2: Amount of evidence by type of OOHC



Intensive foster care also includes Treatment Foster Care and Multi-Dimensional Treatment Foster Care (MTFC). Residential care also includes Group care and congregate care. Intensive foster care also includes Treatment Foster Care and Multi-Dimensional Treatment Foster Care (MTFC).

Out-of-Home-Care (OOHC) Prevention

The third highest number of studies - eleven primary studies, three systematic review - appears for interventions aimed at preventing OOHC, in particular Multisystemic Therapy (MST), a manualised evidence-based program, which has been researched since 1986 (Strouwe et al., 2014) and therefore is one of the most examined and tested interventions in this field.

Multisystemic Therapy is covered through two systematic reviews (Littell et al., 2005; van der Strouwe et al., 2014) that come to slightly different conclusions. While Littell highlights that MST is

not superior when compared with usual services within the field of conduct disorder, juvenile incarceration and out-of-home care placement, van der Strouwe emphasises its effectiveness for juveniles under 15 and identifies small but significant effects across several outcomes. However, both systematic reviews provide limited insights into MST's effectiveness in preventing out-of-home care placements for youth. It is important to note that Littell's study was conducted about 10 years prior to van der Strouwe, so findings of small effect may be more accurate.

A third systematic review (Al et al., 2012) synthesises findings from twenty studies testing in-home family preservation programs and concludes that "… intensive family preservation programs did have a medium and positive effect on family functioning, but were generally not effective in preventing out-of-home placement …" (p.1476)

Kinship Care

Eleven primary studies and four systematic reviews that reported on kinship care type were identified for this EGM. Of the systematic reviews included in this category it is worth highlighting the studies by Winokur et al. (2009 & 2014). Both achieved an AMSTAR score of 11. The 2014 publication is an update of the 2009 systematic review and both present kinship care as a viable OOHC option for children. Winokur synthesised a large number of observational and other studies that did not meet the criteria for this review, but did this to very high standard in both the original review and the update.

Independent Supported Living

This OOHC category included studies focused on interventions aimed at supporting the transition of youth and young adults out of OOHC, which – in different ways - is the focus of all six systematic reviews included in this category. Their findings are further described below.

Mixed / unspecified Out-of-Home Care

Four primary studies compared the effectiveness of different OOHC types across their intervention and control conditions. They are categorised under the unspecified / mixed category. Six primary studies with mixed client populations were also included under this OOHC type. These primary studies assessed the impact of a specialised intervention on children in OOHC and did not compare the effect of OOHC types with each other. Four systematic reviews included either children from any type of OOHC system or did not explicitly state which type of OOHC populations were considered for inclusion. One review (Liabo et al., 2013) focuses on interventions delivered to carers, children or professionals to support school attendance of OOHC children and youth. A second review (Maclean et al., 2016) examines developmental health and wellbeing of children, who have been maltreated and are in either OOHC or in-home care. Ziviani et al. (2012) assesses interventions for children and young people in OOHC with behavioural issues related to or secondary to a disability. This review is also the only review covering an OOHC target population with disabilities. Finally, Everson-Hock et al. (2012) synthesise evidence on the effectiveness of additional training and support provided to carers on the health and well-being of children in different types of OOHC.

Gaps

Compared to all other types of OOHC, the amount of evidence for the effectiveness of independent living arrangements is small. Furthermore, no studies could be identified that examine the impact of supported family group homes and temporary OOHC living arrangements on child safety, permanency or wellbeing. As well, few effectiveness studies exist that examine respite or acute OOHC arrangements.

4.2.2. Amount of evidence by Quality Assurance Framework (QAF) outcome category

Figure 3 displays the amount of evidence by QAF outcome category based on the classification of outcomes in the framework presented in table 2 above.

If a study reported more than one outcome (e.g. safety as well as mental health related outcomes), it was reported twice – as part of each of these categories. If a study reported outcomes relevant for three outcome categories, it appears three times and is placed under each outcome category.

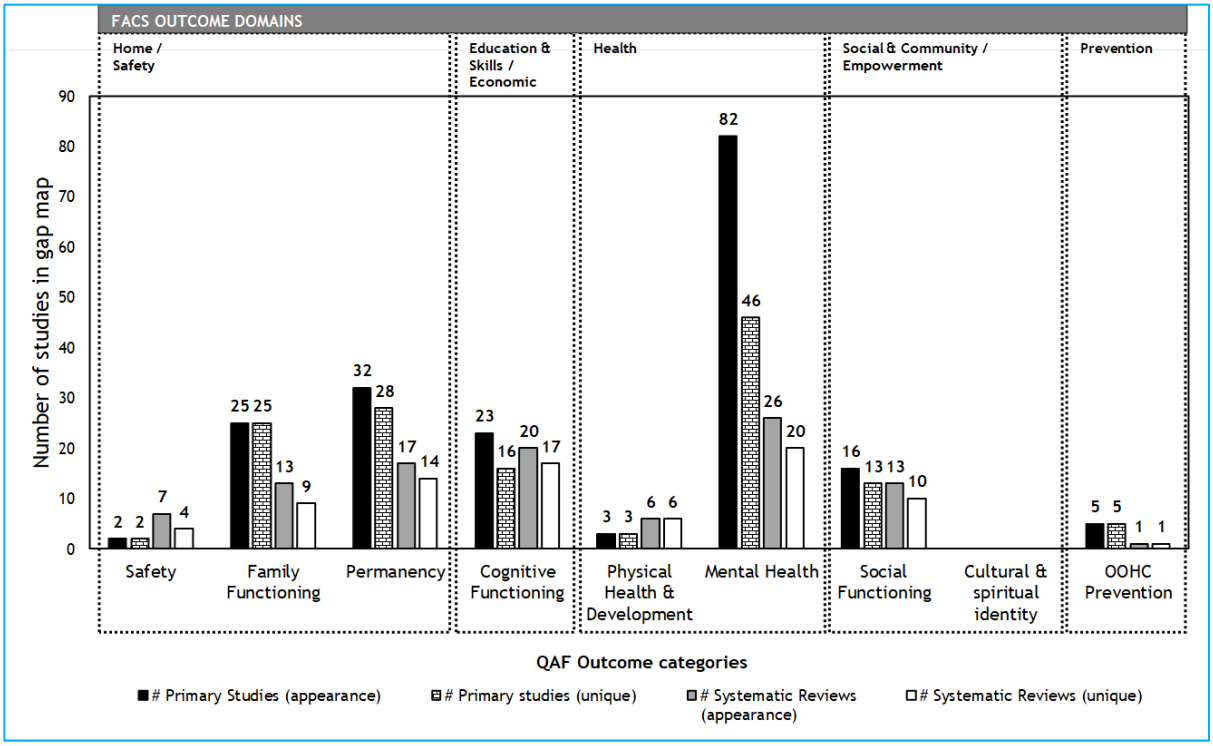
If a study reported only one outcome but contained more than one OOHC type (e.g. externalising behaviour for both general foster care and MTFC populations), the study was reported under the mental health category, for both general foster care and MTFC.

Similar to the figure for evidence by OOHC type, highlighted in blue is the number of times the published RCTs and quasi-experimental trials that reported relevant outcomes under each of these outcome categories. The number of unique systematic reviews identified to report an outcome on the other hand is indicated in orange.

As some primary studies reported outcomes that were classified under more than one category, they appear more than once in the map. This increases the number of 'appearances' as indicated in blue colour in figure 3.

Indicated in grey, is the number of times the included systematic reviews reported relevant outcomes under different outcome categories. These numbers are generally higher than the number of unique systematic reviews that reported outcomes in that outcome category – as indicated in yellow in figure 3.

Figure 3: Amount of evidence by NSW Human Services Outcomes Framework domain category



The outcome category with the most volume of evidence is mental health. Eighty-two studies reported one or more outcomes relevant for mental health. The evidence base for the mental health theme covers a large knowledge base including behavioural health (internalising,

externalising and general behaviours), psychiatric issues, emotional intelligence, motivation, self-efficacy, self-control and positive outlook. This category stands out from other categories due to its comparatively large amount of available evidence.

There is considerable amount of evidence available for several other outcome categories. Family functioning, permanency (both categories under the "home/safety" outcome domain), and cognitive functioning - including academic performance, cognitive and social functioning (i.e. social competence, social connections and relationships, social skills, and behaviours) - feature prominently. Sometimes, a disproportionately large number of systematic reviews were identified compared to primary studies available under the same theme (e.g. family functioning, cognitive functioning and, safety) because the scope of some of the systematic reviews covered more than one theme resulting in it being categorised under several themes.

A particular topic within the field of permanency is interventions aiming at supporting the transition of youth into OOHC. Six systematic reviews with a focus on this topic could be identified (Donkoh et al., 2006; Montgomery et al., 2006; Everson-Hock et al., 2011; Heerde et al., 2012 & 2016; Hilles et al., 2013). However, Donkoh et al. (2006) was an early Cochrane Collaboration 'empty review' using stringent inclusion criteria (i.e., it could not identify any controlled studies that met the inclusion criteria). The absence of high-quality study designs within this area of research is also mirrored in the other systematic reviews, which all point to mixed results of different interventions aiming to help youth in their transition phase.

Three studies (Dozier 2008, Dozier 2006, Nelson 2013) reported outcomes of biochemical tests as a proxy for stress that foster children experience in OOHC (e.g. serum cortisol). Another study (Bick 2015) reported outcomes related to radiographic imaging of brains of children that were randomised to foster care and to institutional care.

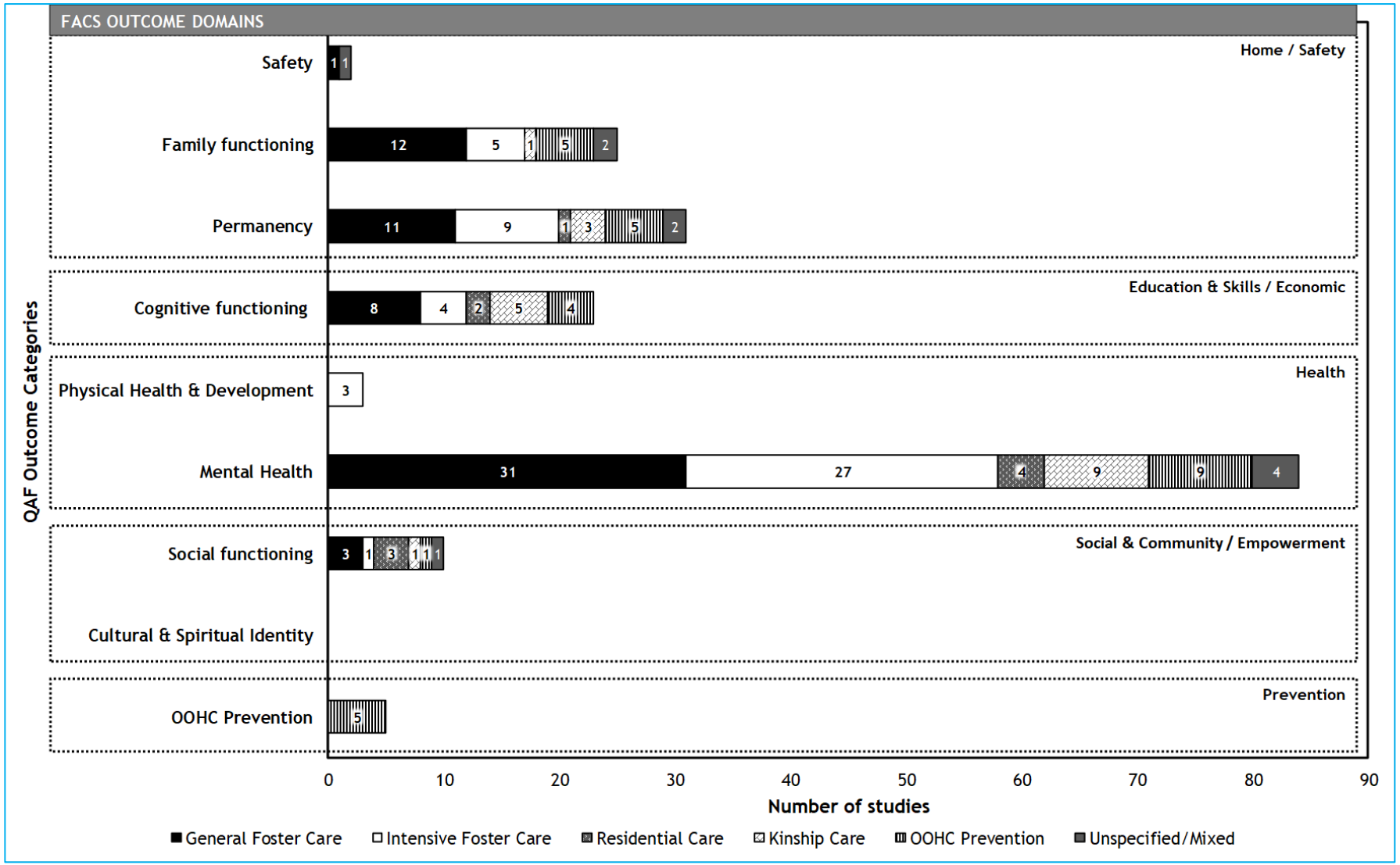
In ten studies (Chamberlain 1992, Bywater 2011, Herbert 2007, Macdonald 2005, Minnis 2001, N'Zi 2016, Linares 2006, Price 2012, Price 2015, Chamberlain 2008), caregivers also received some component of the intervention. This was primarily delivered through a parenting programme aimed at improving the knowledge and skill set of the foster parents or health programme to address mental health related topic (i.e. caregiver stress).

A gap exists for outcomes related to the cultural and spiritual identity of children. No studies could be identified within this area, most likely because it is not often a focus of interventions and may be seen as an element of engagement rather than as a specific outcome.

4.2.3. Amount of primary studies by type of OOHC and NSW Human Services Framework outcome category

When looking at the distribution of evidence across interventions and outcomes simultaneously, the evidence appears as primarily concentrated within foster care (both general and intensive) and focused on mental health outcomes. This is reflected in figure 4 below.

Figure 4: Amount of primary studies (trials) by NSW Human Services Outcomes Framework and QAF outcome category and OOHC type



Intensive foster care includes Treatment Foster Care and Multi-Dimensional Treatment Foster Care (MTFC).

In the following we briefly characterise the outcomes covered within each of the outcome categories.

Home / Safety

The home and safety outcome domain included three types of outcomes, related to:

- Safety (i.e. protection from abuse and neglect, maltreatment occurrence)
- Family functioning (attachment, caregiver-child relationship, parenting skills and family cohesion)
- Permanency (stability in living conditions, restrictiveness of living conditions, maintenance of relationships and transition to adulthood)

Two primary studies reported outcomes related to safety. Twenty-five studies reported outcomes related to family functioning. The most common outcomes reported for this category are parenting practices, and support and cohesion. Twenty-eight studies reported outcomes for permanency; nineteen on stability-related outcomes in current living arrangements, and three reported adoption likelihood or permanency.

Education & Skills

We identified sixteen studies that reported outcomes related to **cognitive functioning**. These reported on e.g. academic competence, verbal comprehension, or cognitive flexibility. One reported outcomes related to IQ.

Health

Within health, we differed between outcomes related to:

- Physical health and development (i.e. overall health, BMI, health-related risk avoidance behaviour)
- Mental health (i.e. emotional intelligence, self-efficiency, motivation, self-control, pro-social behaviour, positive outlook, coping, internalising and/or externalising behaviour, trauma symptoms)

We identified three primary studies that reported outcomes related to **physical health** and development. Two studies reported outcomes on risk sexual behaviour or pregnancy.

Forty-six primary studies reported **mental health** related outcomes, the by far largest outcome category in this EGM. Twenty-nine studies reported behaviour-related outcomes (internalising and/or externalising behaviour or behaviour in general); thirteen studies reported outcomes related to delinquency or criminal activity; and nine reported outcomes related to psychological or psychiatric disorders, including depression, ADHD and psychotic symptoms.

Social and Community

Outcomes related to **social functioning** describe children's social competence, their social connections and relationships, social skills and their adaptive behaviours. We identified thirteen studies within this outcome category, with outcomes reported varying widely. They related to social engagement, social-emotional competence, engagement, positive reinforcement, social functioning, and sense of coherence.

We could not identify any studies that measure outcomes related to children's **cultural and spiritual identity** and for example assess whether and to what degree Aboriginal and Torres Strait Islander children or children from culturally and linguistically diverse backgrounds placed in out-of-home care succeed in maintaining connections to family and culture.

Study quality

The quality of primary studies was mixed, with the majority of the 93 included studies receiving low (0-1) to moderate (2-3) Jadad scores. Five studies did not receive a single point; 29 studies received one point; 43 studies received two points. Finally, 16 studies received three points, the highest score provided to any primary study included in the EGM.

As highlighted before, the absence of higher Jadad scores (4-5) may be explained by the fact that the precondition for receiving such higher scores - full blinding – can be challenging to ensure in social science studies. However, the share of 16 out of 93 studies (17%) with a Jadad score of 3 can still be considered low, pointing to a need to improve the quality of primary studies in out-of-home care.

If a study was a follow up study of an included study, and only one of the publications reported on randomisation procedures, the quality of all study reports was assessed based on this information.

4.2.4. Amount of systematic reviews by outcome and OOHC type

The 28 systematic reviews are primarily distributed across six outcome domains with 'mental health', 'family functioning', 'cognitive functioning' and 'social functioning' being the domains with the largest amounts of evidence. The distribution of systematic reviews across outcomes and interventions are summarised in figure 5.

Home / Safety

Seven systematic reviews count **permanency** amongst their focus outcomes (Everson-Hock et al., 2012; Lin 2014; Macdonald & Turner, 2008; Rock et al., 2015; van der Strouwe et al., 2014; Winokur et al., 2009 & 2014; Ziviani et al., 2012). Outcomes related to permanency include e.g. the length of stay within OOHC, placement stability and changes, and an intervention's ability to prevent OOHC and ensure that children and youth can remain with their biological families. Across the reviews covering this topic, only Winokur (2009 & 2014) utilises a meta-analysis and based on findings from six studies documents that youth in kinship care had better placement stability when compared with youth in foster care. The remaining reviews do not identify significant results related to permanency in included studies (please note: while the Winokur reviews are of exceptional quality, the studies upon which they are build are not limited to systematic reviews. Therefore, causal attribution with respect to care type is limited).

Four systematic reviews discuss the impact of OOHC on **family functioning** and family relations (Winokur et al., 2009 & 2014; Al, 2012; Downes et al., 2016), three of which include a meta-analysis. Within the field of OOHC prevention Al et al. (2012) conclude that in-home family preservation programs may have a positive effect on family life, while Winokur et al. (2009 & 2014) concludes that kinship care's positive impact on family functioning identified in some studies is not statistically significant when assessed through a meta-analysis. The final systematic review (Downes et al., 2016) with an interest in family functioning focused on care farming – an approach to OOHC that involves human-animal interaction and the utilisation of animal-assisted therapies. However, this systematic review was empty as no eligible studies could be identified.

Education & Skills

Outcomes related to the **cognitive functioning** of children and youth – including their cognitive development but also school and educational performance and achievement – were a focus of several systematic reviews (Goemans et al., 2016; Hermenau et al., 2016; Knorth et al., 2008; Liabo et al., 2013; Maclean et al., 2016; Montgomery et al., 2006; Thompson et al., 2016; Winokur et al., 2009 & 2014). Two of these have a particular interest in educational interventions within OOHC settings, one of which examines interventions aimed at supporting children in out-of-home care to stay in school or improve their attainment (Liabo et al. 2013), while the other is centred on the concept of 'natural mentoring' among adolescents in OOHC (Thompson et al., 2016).

Two of the systematic reviews included outcomes related to youth's cognitive functioning in a meta-analysis. Winokur et al. (2009 & 2014) in assessing the relationship between kinship care and 'repeating a grade' finds no significant educational outcomes. The systematic review by Goemans et al. (2016) compares the developmental outcomes of children in foster care with those of children at risk, who stayed at home and with the general population. For children's cognitive development, the authors find no significant difference between children at risk who remained at home and youth placed in foster care. However, children in OOHC had significantly lower levels of cognitive functioning when compared to the general population.

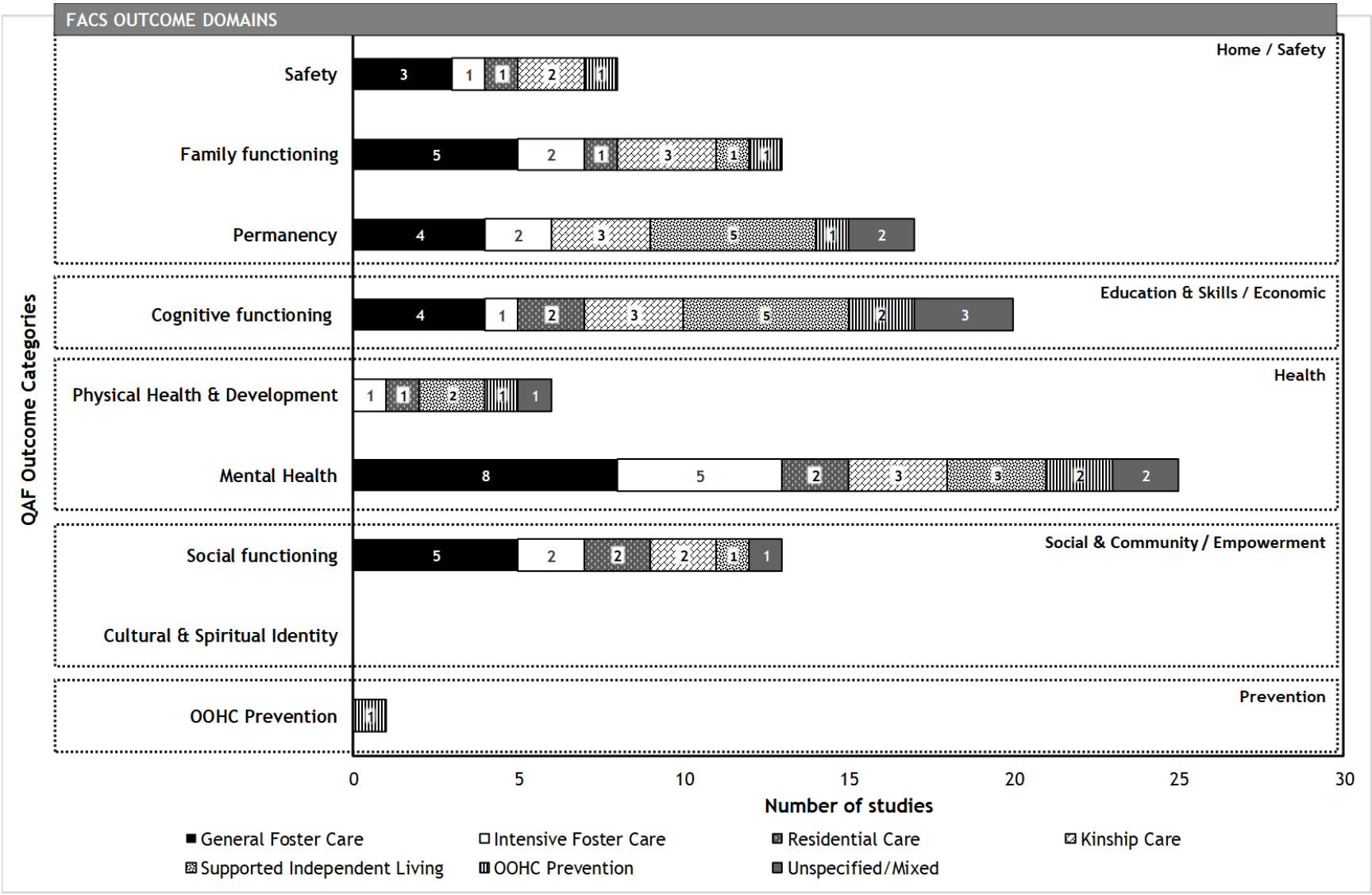
Health

The systematic reviews assessing **mental health** outcomes include very different types of interventions. While some have a broad scope and include 'Out-of-Home Care' or 'residential care' services in general (Knorth et al., 2008; van Andel et al., 2014; Ziviani, 2012; Maclean et al., 2016), others focus on more narrowly defined types of OOHC such as kinship care (Winokur et al., 2014; Lin et al., 2014), Treatment Foster Care (Hanh et al., 2005) and attachment theory based interventions embedded within OOHC (Kerr et al., 2016). Two systematic reviews focus on the context of caregiving and synthesise findings related to the training and support provided to carers in OOHC settings (Everson-Hock, 2012; Hermenau, 2016). While the majority of these systematic reviews included narrative summaries of outcomes, three utilised meta-analyses to assess the effectiveness of OOHC on mental health outcomes (Winokur et al., 2014; van Andel et al. 2014; Knorth et al., 2008), all of which found positive outcomes for their respective formulations of care type.

For the effectiveness of Multisystemic Therapy in reducing substance abuse, Littell et al. (2005) document non-significant findings whereas van der Strouwe highlight small but significant effects of MST. Finally, Heerde (2012) highlights an increased misuse of substances for youth transitioning out of OOHC and into adulthood.

Seven systematic reviews include outcomes related to the **physical health** of children in OOHC in their analysis (Everson-Hock et al., 2011; Heerde et al., 2012; Hermenau et al., 2016; Littelle et al., 2005; Macdonald & Turner, 2008; Maclean et al., 2016; van der Strouwe et al., 2014). All of these focus solely on the misuse of substances – no other physical health factors are mentioned. For three systematic reviews, no studies targeting this outcome can be sourced (Macdonald & Turner, 2008; Everson-Hock et al., 2011; Hermenau et al., 2016).

Figure 5: Number of systematic reviews (SR) by type of OOHC and outcome domains



Social and Community

The **social functioning** of children and youth refers to their social and relational sills and competencies, their access to social support and their daily living skills. These outcomes are covered by six systematic reviews (Goemans et al., 2015 & 2016; Hermenau et al., 2016; Kerr et al., 2014; Knorth et al., 2008; Maclean et al., 2016). Only one of these includes social functioning in a meta-analysis and measures the development of youth's adaptive functioning over time (Goemans et al., 2015). This study is a longitudinal examination of the developmental outcomes of children aged 0-18 in foster care that concludes that children in general do not improve their functioning while in foster care. For children's level of adaptive functioning the authors could not find a significant difference between time points. However, studies with larger sample sizes and time frames spanning longer than 1 year showed "development towards more negative adaptive functioning" (p.10). Similar to Winokur's kinship studies, however, the SR is based mostly on observational studies, limiting causal inference.

Gaps

No systematic review could be identified synthesising studies with a focus on the impact of OOHC on children and youth's **cultural and spiritual identity**.

Very limited information is provided for the relationship between OOHC placements and child and youth safety. With a focus on kinship care, Winokur et al. (2009 & 2014) are the only authors covering outcomes related to safety, operationalised as 'institutional abuse / re-abuse'. Based on three studies included in the 2014 publication, they conclude that children in foster care were more likely to experience institutional abuse than children in kinship care. No other findings related to safety could be identified across systematic reviews.

Finally, closely linked to the permanency outcome highlighted above, very few findings were related to the prevention of OOHC. Even though the systematic reviews identified for this EGM included interventions particularly developed to prevent OOHC (Al et al., 2012; Littell et al., 2005; van der Strouwe et al., 2014), only one points to small effects in favour of Multisystemic Therapy.

In relation to particular outcomes, findings related to the physical health of children and youth in OOHC appear narrowly focused on the misuse of substances whereas the general health of children is barely covered.

5. Discussion

5.1. Summary of the Evidence

This Evidence and Gap Map presents an overview of current best evidence on the impact of different types of OOHC on a broad range of child and youth outcomes, including safety, permanency, health and wellbeing. Ninety-three primary studies and 28 systematic reviews could be identified, of which the latter include 717 studies together[1].

The largest amount of evidence exists in the area of general and intensive foster care and related to mental health outcomes, covering children and youth's emotional intelligence, self-efficacy, coping skills, internalising and externalising behaviours.

Among the different other interventions covered by this EGM, most evidence exists for interventions aiming to prevent OOHC and for kinship care. The evidence base for interventions aiming to support youth through independent living arrangements and in their transition out of OOHC is rather sparse.

Next to mental health outcomes, the child and youth outcomes of greatest interest across primary studies and systematic reviews are the social and cognitive functioning of children in OOHC, and the permanency of their living arrangements.

Included in this review are randomised-controlled trials and systematic reviews, of which the latter could cover any type of study design and in many cases included non-randomised studies. While the focus on study designs at some of the highest levels of the evidence hierarchy ensures that knowledge included in this EGM is of a certain level of quality, the assessment of systematic reviews and primary studies also shows that this quality still varies and should be considered when accessing the EGM. 7Seventy-eight percent of all primary studies received 1 or 2 out of 5 possible points on the Jadad scale indicating a low to moderate methodological quality of the included studies. Similarly, the average AMSTAR score achieved across systematic reviews is 6, with three systematic reviews achieving the full score of 11. This too points to a moderate quality of the evidence gathered.

5.2. Knowledge Gaps

This EGM points to a number of areas with substantial gaps of knowledge about 'what works' in OOHC.

Nurturing the spiritual and cultural identity of children in OOHC

The largest knowledge gap identified through this EGM is the lack of studies examining interventions aiming to maintain and develop the cultural and spiritual identity of children and youth in OOHC. Given the overrepresentation of Aboriginal and Torres Strait Islander children in OOHC in Australia (SNAICC et al., 2016), this outcome is of particular importance in this country. The role of cultural identity for child wellbeing has been documented in the literature (Ruiz-Casares et al., 2013; Colquhoun & Dockery, 2012), and the integration of indigenous culture through Aboriginal and Torres Strait Islander child-rearing practices and community-led services and solutions should therefore be a natural element of service design in Australia. However, policy developers and service providers will not find any guidance in the scientific literature on what works best, and how indigenous culture can be integrated into the design and delivery of services most effectively. This is particularly concerning when considering that – if recent conditions for the

[1] Some of which may be duplicates as we did not systematically track whether primary studies were included multiple times across different systematic reviews.

growth of OOHC populations remain the same – the number of Aboriginal and Torres Strait Islander children is expected to triple over the next twenty years (SNAICC et al., 2016). The examination of the effectiveness of culturally sensitive, competent, and sustainable services and interventions is therefore more pertinent than ever.

Transitioning out of OOHC

The transition to independent living and adulthood for children and young people in OOHC has been an important topic in the child welfare literature for some time. Despite the scholarly attention paid to the topic, Everson-Hock (2011) says it best when she states, "The literature reviewed offers no reliable conclusions on the effectiveness of transition support services at this time due to variations in research quality and because few formal evaluations of existing transition support services have been conducted, resulting in mixed evidence in terms of positive, negative and neutral impact on outcomes" (p. 778). Even though this conclusion was drawn in a systematic review from 2011, it appears to be valid still given the limited number of rigorous studies in this area since that time. The knowledge about interventions that can support youth and emerging adults in their transition out of OOHC effectively and create stability around important areas such as housing, education and employment but also social support and service access is far too scarce. This is particularly the case for youth with complex needs (e.g., severe behavioural challenges and/or disabilities).

Enhancing the education of children in OOHC

A substantial lack of knowledge also exists for outcomes related to supporting the cognitive development and educational achievements of children in OOHC. Given that former OOHC populations struggle with both educational outcomes and employment when compared to the general population, this evidence gap is particularly pertinent. The call for improved research about effective ways to improve the educational outcomes for children and youth in OOHC and to enhance their access to and success in higher levels of education has been made for some time (Forsman & Vinnerljung, 2012; Evans et al., 2017). Even though OOHC placement does not appear to damage children's educational achievements, neither does it adequately support children academically (Higgins et al., 2015). Identifying ways to effectively provide this support within OOHC settings is an important item for a research agenda.

Integrating evidence-based practice in OOHC

Beyond manualised programs such as Treatment Foster Care (TFC and TFC-O), this EGM found very few examples of integrating evidence-based practices within OOHC. This gap is surprising given that the literature has pointed to several pathways to improve OOHC through greater integration of evidence-based practice (Thompson et al., 2017; James et al., 2017; Lee et al., 2017; Boel-Studt et al., 2016; James et al., 2013 & 2015).

Understanding the costs of OOHC services

No systematic review in the peer reviewed literature was identified that reported cost effectiveness of OOHC interventions. Two primary studies reported costs associated with OOHC services (Bywater 2011, Minnis 2001). Another study (Lynch 2014) produced a cost benefit analysis comparing regular foster care and MTFC. Given the resources spent each year on OOHC an important area for conducting substantial research supporting decision-making in practice and policy. The grey literature, which was not searched in this EGM, may be a source of information. There are a number of high quality, state and/or federally funded organisations such as the Washington State Institute of Public Policy (www.wsipp.wa.gov) that have done meta-analytic reviews of the costs of several high profile manualised interventions and services.

5.3. Cross-cutting themes

Three themes emerged from the studies included in this EGM that did not automatically align with child outcomes but went across primary studies and systematic reviews as areas of interest. These were service utilisation, the role of support to carers as a mediator for positive outcomes for children and youth in OOHC, and the quality of OOHC research.

Service utilisation

Service utilisation represents any measure of the frequency or intensity with which children and caregivers access social services or health care. Children and youth's health and wellbeing while in OOHC may depend on their ability to access and utilise services outside their daily living arrangements, e.g. in the form of mental health or health services.

Two primary studies (Pratt 2015, Linares 2012) and four systematic reviews reported on service utilisation. The two systematic reviews by Winokur et al. (2009 & 2014) were able to conduct meta-analyses on this outcome. In the 2009 article, a meta-analysis on 9 studies demonstrated that children in foster care were more likely to receive mental health services than children in kinship care. These findings were replicated in their 2014 update of the 2009 review, which included 13 studies in the meta-analysis.

Maclean (2016) compared children in OOHC to children who remained at home, and found that children in OOHC were more likely to use services. The authors caution that the difference may simply be the result of children in OOHC having higher needs for services and support. One final systematic review (Lin, 2014) evaluated the effectiveness of different programs for kinship families. They found that the Kinship Navigator Program significantly increased the ability of carers to access services.

No studies could be identified that measured whether and how the level of access and utilisation of services outside of the OOHC setting impacted child outcomes.

Support for caregivers

While 'support' of caregivers can be about the financial compensation of carers of children in OOHC, especially foster carers, the literature increasingly discusses effective pathways to support carers in their care practice – e.g. through basic and advanced training, regular supervision, peer groups, respite care and other forms of support. Providing these types of support has shown to increase retention rates for foster carers (Thomsen et al., 2016) and may enable foster carers to participate in the therapeutic treatment of the children and youth who live with them (Dorsey et al., 2014) and improve both service and clinical outcomes (Greeno et al., 2015 & 2016).

Two primary studies (Chamberlain 1992, Gavita 2012) reported on parental support programmes that were aimed at improving skills, encouraging fostering and improving child outcomes. Both document positive findings from these interventions.

Two systematic reviews (Everson-Hock 2012, Hermenau 2016) reported the effects of structural interventions and caregiver training on child development. Hermenau et al. (2016) conclude that "… caregiver trainings, structural changes, and enriched caregiving environments in child care institutions have beneficial effects on the child's emotional, social and cognitive development …" (p.15) and highlight the stable effects of adequate training over time. Everson-Hock et al. (2012) on the other hand is less optimistic about the impact of training on child outcomes and points to mixed effects of training for foster carers based on a systematic review of five randomised controlled trials and one prospective cohort study.

Enhancing high quality OOHC research – in Australia

A third cross-cutting theme emerging from the majority of studies across different intervention types and outcome domains is the quality of the evidence.

Firstly, the quality of the research is mixed and there is a need to strengthen the evidence base further through rigorous study designs and methods. A greater number of well-conducted, well-documented RCTs that use reliable and valid outcome measures are needed to fill in the gaps identified in this EGM. These can then be used to populate authoritative systematic reviews and associated meta-analyses.

Secondly, the studies included in this EGM are primarily international, with very little research conducted in Australia and New Zealand. The notable absence of high quality studies conducted in this region is both a call to action and an opportunity to contribute to the international push for evidence upon which to make crucial policy and practice decisions.

5.4. Core considerations for EGM use

Given the mixed quality and quantity of evidence contained in this EGM, users should access the evidence included with caution.

A solid starting point for understanding the evidence within a given area is a systematic review, especially when conducted with a high level of methodological rigour. Five of these are included in this EGM and provide guidance within the areas of Kinship Care (Winokur et al., 2009 & 2014), Treatment Foster Care (Macdonald & Turner, 2008), and OOHC prevention (Littell et al., 2005; van der Stouwe et al., 2014). Other systematic reviews will be helpful, too in gaining a broad understanding of what works in OOHC.

Primary studies, on the other hand, offer the possibility of understanding particular interventions, their content and the way they are delivered. They also help users of evidence with detailed information about the outcomes achieved for different types of participants in a trial. In this way, evidence of interest detected through a systematic review can be further unravelled by examining concrete trial data.

We caution EGM users against interpreting outcomes from single randomised controlled trials included in this EGM as a solid evidence base. A single study, especially when including only a small sample size, may point to promise within a practice – but the intervention applied and the outcomes achieved may not automatically translate into a different context and may not be applicable for different target populations. Often a much broader testing of interventions is needed before it can be considered effective.

When viewing the evidence, it is also important to keep in mind that primary studies differ from each other in the following way: Firstly, in some studies the outcomes of two different OOHC types are compared. Often, the therapeutic content or the philosophy with which OOHC is provided in these studies remains undescribed and it is unclear what is actually provided. The comparison or control intervention, in other words, is a black box. Secondly, a large number of studies (n=42) compared populations in similar types of OOHC, embedded a particular intervention within this setting and assessed its impact. While it might be tempting to treat the setting as effective, it is the intervention that is being tested - not the placement type. The type of care is merely the setting in which the intervention was delivered.

Finally, it is important to keep in mind that the production of knowledge is a continuous and dynamic process, even in OOHC. Since the literature searches for this EGM were conducted at least one new systematic review of relevance has been published (Gypen et al., 2017) comparing the outcomes of 32 primary studies for children in foster care. This points to the need to regularly update this EGM to ensure its relevance over time.

Taken together, this means that the OOHC EGM should be used as gateway for exploring particular aspects of the evidence base for OOHC. A full appraisal of evidence should always include a critical examination of the studies included, and this should be combined with further contextual evidence in order to best inform decisions where uncertainty exists (which are almost always the case).

5.5. Limitations

There are several limitations in this map that are worth noting. The studies we included were systematic reviews, RCTs and controlled trials that are highly ranked in the evidence hierarchy. However, the feasibility of conducting randomised controlled trials of public health interventions can be challenging compared with other study designs.

One obvious challenge is that RCTs are expensive and require high levels of investigator control over recruitment, randomisation procedures, and the treatment and control conditions. These can be overcome but a poorly executed RCT is no substitute for a well-conducted study that falls somewhere lower on the evidence hierarchy.

Another major challenge is that ethics precludes the use of RCTs if they deny a particular service to a population when that service is required or is known to be helpful. This challenge can, and is, generally overcome by testing additions to required interventions (not the intervention itself). Nonetheless, there are times when other forms of controlled approaches are necessary but are not included in this review unless they were part of a systematic review that included non-RCTs (e.g., Winokur 2009; 2014).

Another issue is the inability to blind participants and investigators (or professionals that deliver the intervention), which generally prevents the use of double-blind studies – a mainstay of high quality RCTs in such fields as medicine and experimental psychology. This is reflected in the truncated quality assessment scores on the Jadad scale. Also, many RCTs did not report how they generated their allocation sequence, preventing us from assessing this important criterion (i.e., if an inappropriate method was used, one point is deducted and the correct method gets one additional point).

Funding of RCTs should require registration with a trial registry and should comply with high quality reporting guidelines such as found at the Equator Network (https://www.equator-network.org). Another observation is that many studies compared an intervention with "care as usual" (or standard care), whereas there are often other high quality services that children/youth/families might receive in actual practice. More comparative effectiveness trials are needed to sort out the effectiveness of what is actually done with what could be done better.

All of these challenges, and others, influence the quality and ultimate usefulness of the systematic reviews that contain primary studies. Conclusions from reviews can only be as accurate as the primary studies they contain.

We included only English language publications due to resource constraints and could have missed relevant non-English studies. The same reason precluded us from searching grey literature sources that could have included relevant synthesised evidence (i.e. government reports, reviews). We could also have missed important observational studies, as we restricted our search to systematic reviews, RCTs and quasi-experimental studies. Even though observational studies are ranked below RCTs in the hierarchy of evidence, these types of studies can be well-conducted and may well be the most informative source of evidence for certain questions, particularly those where RCTs are impractical.

5.6. Conclusions

This evidence and gap map on OOHC presents available evidence – in the form of randomised controlled trials, and systematic reviews – related to different types of OOHC. The largest amount of evidence exists for outcomes related to mental health and for general and treatment foster care.

However, the quality of this evidence is moderate – and at times low. The OOHC EGM should therefore be used as a gateway for *exploring* particular aspects of the evidence base for OOHC. An exploration that should always be followed by further critical examination of the studies included, and combined with additional evidence related to the particular context in which change is intended to be introduced.

Several gaps identified through this EGM warrant the conduct of further research.

Firstly, there is a notable absence of high quality OOHC studies conducted in Australia and New Zealand. This is a highly unfortunate gap, and it should translate into a call to action to contribute to the international push for evidence in OOHC, thereby enabling evidence-informed policy and practice decisions in the long term.

Secondly, of particular importance for Australia is the need to build a knowledge base for how to integrate indigenous culture into the design and delivery of services in OOHC settings. Such integration will provide improved opportunities for Aboriginal and Torres Strait Islanders children and youth to develop, maintain and strengthen their cultural and spiritual identity.

Other highly pertinent research questions yet to be answered for OOHC settings relate to the enhancement of educational outcomes for children and youth, and their effective transition into adult life. Also, the effective integration of evidence-based practice in OOHC and the cost-effectiveness of different approaches to OOHC require increased research efforts.

Finally, more evidence is required to better understand (a) how to ensure that children and youth in OOHC access and utilise the services they need, and (b) how to support the carers of children and youth in OOHC effectively.

Users of this EGM should also keep in mind that the production of knowledge is a continuous and dynamic process, and that new studies are published regularly. To maintain the relevance of this EGM, it should be updated at regular intervals. Furthermore, this EGM can lead to the production of additional EGMs focusing on designated areas covered by this map, e.g. transitioning out of OOHC or supporting carers, thereby providing more detailed insights into the evidence base for OOHC.

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Appendix A Electronic Database Search Strategy

Medline (Ovid)

Run Date: 13th September 2016
File: Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily and Ovid MEDLINE(R) 1946 to Present

1	child*.mp.
2	adolescen*.mp.
3	(boy or boys).mp.
4	(girl or girls).mp.
5	teen*.mp.
6	schoolchild*.mp.
7	(preschool* or "pre school*").mp.
8	infant*.mp.
9	toddler*.mp.
10	baby.mp.
11	babies.mp.
12	young person*.mp.
13	young people*.mp.
14	youth.mp.
15	youths.mp.
16	or/1-15 [POPULATION]
17	(residential adj3 care).mp.
18	(foster* adj3 (care or carer or carers or parent or parents)).mp.
19	(home based adj3 care).mp.
20	relative care.mp.
21	social care.mp.
22	(out of home adj3 care).mp.
23	group care.mp.
24	congregate care.mp.
25	voluntary care.mp.
26	volunteer* care.mp.
27	(shared family adj3 care).mp.
28	(temporary adj3 care).mp.
29	(shelter adj3 care).mp.

30 (support* adj3 living).mp.

31 group home*.mp.

32 fictive kin.mp.

33 looked after children.mp.

34 looking after children.mp.

35 ward of the state.mp.

36 guardianship.mp.

37 adoption.ti,kw,hw.

38 supported accommodation.mp.

39 family based residential treatment.mp.

40 (foster* adj6 (treatment or special* or therapeutic or medical or family or families)).mp.

41 ((kin or kinship) adj3 (care* or caring or foster* or placement*)).mp.

42 ((family or families or relative) adj3 (placement* or substitute*)).mp.

43 (relative adj3 foster*).mp.

44 (custodial grandparent* or custodial grand parent*).mp.

45 (foster* adj3 child*).mp.

46 permanency plan*.mp.

47 institutional care.mp.

48 state care.mp.

49 ((support* or social or community or independent) adj1 (home* or housing or house or houses or accommodation or facility or facilities or living)).mp.

50 or/17-49 [INTERVENTION]

51 16 and 50

52 randomized controlled trial.pt.

53 controlled clinical trial.pt.

54 (randomized or randomised or randomly).tw.

55 clinical trials as topic/

56 (trial or trials).ti.

57 or/52-56 [RCT DESIGN FILTER]

58 57 and 51 [RCT's]

59 limit 51 to systematic reviews

60 ((systematic adj1 review*) or metaanalysis or meta analysis).mp.

61 60 and 51

62 61 or 59 [SYSTEMATIC REVIEWS]

63 62 or 58 [POPULATION AND INTERVENTION AND PUBLICATION TYPE]

Embase (Ovid)

Run Date: 13th September 2016
File: Embase Classic + Embase 1947 to 2016 September 13

Note: Conference abstracts removed through limit in this database.

1	child*.mp.
2	adolescen*.mp.
3	(boy or boys).mp.
4	(girl or girls).mp.
5	teen*.mp.
6	schoolchild*.mp.
7	(preschool* or "pre school*").mp.
8	infant*.mp.
9	toddler*.mp.
10	baby.mp.
11	babies.mp.
12	young person*.mp.
13	young people*.mp.
14	youth.mp.
15	youths.mp.
16	or/1-15
17	(residential adj3 care).mp.
18	(foster* adj3 (care or carer or carers or parent or parents)).mp.
19	(home based adj3 care).mp.
20	relative care.mp.
21	social care.mp.
22	(out of home adj3 care).mp.
23	group care.mp.
24	congregate care.mp.
25	voluntary care.mp.
26	volunteer* care.mp.
27	(shared family adj3 care).mp.
28	(temporary adj3 care).mp.
29	(shelter adj3 care).mp.
30	(support* adj3 living).mp.
31	group home*.mp.
32	fictive kin.mp.
33	looked after children.mp.

34 looking after children.mp.

35 ward of the state.mp.

36 guardianship.mp.

37 adoption.ti,kw,hw.

38 supported accommodation.mp.

39 family based residential treatment.mp.

40 (foster* adj6 (treatment or special* or therapeutic or medical or family or families)).mp.

41 ((kin or kinship) adj3 (care* or caring or foster* or placement*)).mp.

42 ((family or families or relative) adj3 (placement* or substitute*)).mp.

43 (relative adj3 foster*).mp.

44 (custodial grandparent* or custodial grand parent*).mp.

45 (foster* adj3 child*).mp.

46 children institutional care.mp.

47 child institutional care.mp.

48 permanency plan*.mp.

49 institutional care.mp.

50 state care.mp.

51 ((support* or social or community or independent) adj1 (home* or housing or house or houses or accommodation or facility or facilities or living)).mp.

52 or/17-51

53 16 and 52

54 (randomized or randomised or randomly).tw.

55 clinical trials as topic/

56 (trial or trials).ti.

57 ((systematic adj1 review*) or metaanalysis or meta analysis).mp.

58 57 and 53

59 limit 53 to (randomized controlled trial or controlled clinical trial)

60 54 or 55 or 56

61 60 and 53

62 61 or 59

63 limit 53 to (meta analysis or "systematic review")

64 58 or 63

65 64 or 62

66 limit 65 to conference abstract

67 65 not 66

PsycInfo (Ovid)

Run Date: 13th September 2016
File: PsycINFO 1806 to July Week 4 2016

#	Searches
1	child*.mp.
2	adolescen*.mp.
3	(boy or boys).mp.
4	(girl or girls).mp.
5	teen*.mp.
6	schoolchild*.mp.
7	(preschool* or "pre school*").mp.
8	infant*.mp.
9	toddler*.mp.
10	baby.mp.
11	babies.mp.
12	young person*.mp.
13	young people*.mp.
14	youth.mp.
15	youths.mp.
16	or/1-15
17	(residential adj3 care).mp.
18	(foster* adj3 (care or carer or carers or parent or parents)).mp.
19	(home based adj3 care).mp.
20	relative care.mp.
21	social care.mp.
22	(out of home adj3 care).mp.
23	group care.mp.
24	congregate care.mp.
25	voluntary care.mp.
26	volunteer* care.mp.
27	(shared family adj3 care).mp.
28	(temporary adj3 care).mp.
29	(shelter adj3 care).mp.
30	(support* adj3 living).mp.
31	group home*.mp.
32	fictive kin.mp.
33	looked after children.mp.

34 looking after children.mp.

35 ward of the state.mp.

36 guardianship.mp.

37 adoption.ti,kw,hw.

38 supported accommodation.mp.

39 family based residential treatment.mp.

40 (foster* adj6 (treatment or special* or therapeutic or medical or family or families)).mp.

41 ((kin or kinship) adj3 (care* or caring or foster* or placement*)).mp.

42 ((family or families or relative) adj3 (placement* or substitute*)).mp.

43 (relative adj3 foster*).mp.

44 (custodial grandparent* or custodial grand parent*).mp.

45 (foster* adj3 child*).mp.

46 children institutional care.mp.

47 child institutional care.mp.

48 permanency plan*.mp.

49 institutional care.mp.

50 state care.mp.

51 ((support* or social or community or independent) adj1 (home* or housing or house or houses or accommodation or facility or facilities or living)).mp.

52 or/17-51

53 16 and 52

54 (randomized or randomised or randomly).tw.

55 (trial or trials).ti.

56 ((systematic adj1 review*) or metaanalysis or meta analysis).mp.

57 53 and (54 or 55 or 56)

58 limit 53 to ("0830 systematic review" or 1200 meta analysis)

59 limit 53 to ("0430 follow-up study" or "0450 longitudinal study" or "0453 retrospective study" or "2000 treatment outcome/clinical trial")

60 59 and (control* or random* or trial* or placebo or blind* or double-blind* or arms or evidence).mp.

61 57 or 58 or 60

Note: PsycInfo does not have a limit to randomized controlled trial as a publication type limit. A range of strategies were undertaken (lines 54-55, 59-60) to attempt to identify all RCT's

Cochrane Central Register of Controlled Trials (CENTRAL) (Ovid)

Run Date: 13th September 2016

File: EBM Reviews - Cochrane Central Register of Controlled Trials August 2016
Note: As the study design is implicit in the inclusion of records in this file, no design filter was applied to the search.

1	child*.mp.
2	adolescen*.mp.
3	(boy or boys).mp.
4	(girl or girls).mp.
5	teen*.mp.
6	schoolchild*.mp.
7	(preschool* or "pre school*").mp.
8	infant*.mp.
9	toddler*.mp.
10	baby.mp.
11	babies.mp.
12	young person*.mp.
13	young people*.mp.
14	youth.mp.
15	youths.mp.
16	or/1-15
17	(residential adj3 care).mp.
18	(foster* adj3 (care or carer or carers or parent or parents)).mp.
19	(home based adj3 care).mp.
20	relative care.mp.
21	social care.mp.
22	group care.mp.
23	congregate care.mp.
24	voluntary care.mp.
25	volunteer* care.mp.
26	(shared family adj3 care).mp.
27	(temporary adj3 care).mp.
28	(shelter adj3 care).mp.
29	(support* adj3 living).mp.
30	group home*.mp.
31	fictive kin.mp.
32	looked after children.mp.
33	looking after children.mp.
34	ward of the state.mp.

35 guardianship.mp.

36 adoption.ti,kw,hw.

37 supported accommodation.mp.

38 family based residential treatment.mp.

39 (foster* adj6 (treatment or special* or therapeutic or medical or family or families)).mp.

40 ((kin or kinship) adj3 (care* or caring or foster* or placement*)).mp.

41 ((family or families or relative) adj3 (placement* or substitute*)).mp.

42 (relative adj3 foster*).mp.

43 (custodial grandparent* or custodial grand parent*).mp.

44 (foster* adj3 child*).mp.

45 permanency plan*.mp.

46 institutional care.mp.

47 state care.mp.

48 ((support* or social or community or independent) adj1 (home* or housing or house or houses or accommodation or facility or facilities or living)).mp.

49 or/17-48

50 16 and 49

CINAHL (EBSCO)

Run Date: 13th September 2016
File: EBSCOhost Research Databases Search Screen - Advanced Search Database – CINAHL
All searches conducted in Boolean/Phrase Search mode

S52 s51 and s17

S51 S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32 OR S33 OR S34 OR S35 OR S36 OR S37 OR S38 OR S39 OR S40 OR S41 OR S42 OR S43 OR S44 OR S45 OR S46 OR S47 OR S48 OR S49 OR S50

S50 (support* or social or community or independent) n1 (home* or housing or house or houses or accommodation or facility or facilities or living)

S49 "state care"

S48 "institutional care"

S47 "permanency plan*"

S46 foster* n3 child*

S45 custodial grandparent* or custodial grand parent*

S44 relative n3 foster*

S43 (family or families or relative) n3 (placement* or substitute*)

S42 (kin or kinship) n3 (care* or caring or foster* or placement*)

S41 foster* n6 (treatment or special* or therapeutic or medical or family or families)

S40 "family based residential treatment"

S39	"supported accommodation"
S38	TI adoption OR SU adoption
S37	guardianship
S36	"ward of the state"
S35	"looking after children"
S34	"looked after children"
S33	"fictive kin"
S32	"group home*"
S31	support* n3 living
S30	shelter n3 care
S29	temporary n3 care
S28	"shared family" n3 care
S27	"volunteer* care"
S26	"voluntary care"
S25	"congregate care"
S24	"group care"
S23	"out of home" n3 care
S22	"social care"
S21	"relative care"
S20	"home based" n3 care
S19	foster* n3 (care or carer or carers or parent or parents)
S18	residential n3 care
S17	s12 and s16
S16	s13 or s14 or s15
S15	systematic n1 review* or metaanalysis or "meta analysis" or PT (systematic review) or PT (meta analysis)
S14	TI trial*
S13	randomised or randomized or randomly or PT (randomized controlled trial)
S12	s1 or s2 or s3 or s4 or s5 or s6 or s8 or s9 or s10 or s11
S11	"young person*" or "young people*" or youth or youths
S10	baby or babies
S9	toddler*
S8	infant*
S7	preschool* or "pre school*"
S6	schoolchild*
S5	teen*
S4	girl or girls

S3 (boy or boys)

S2 adolescen*

S1 child*

ERIC (EBSCO)

Run Date: 13th September 2016
File: EBSCOhost Research Databases Search Screen - Advanced Search Database – ERIC

S52 s51 and s17

S51 S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32 OR S33 OR S34 OR S35 OR S36 OR S37 OR S38 OR S39 OR S40 OR S41 OR S42 OR S43 OR S44 OR S45 OR S46 OR S47 OR S48 OR S49 OR S50

S50 (support* or social or community or independent) n1 (home* or housing or house or houses or accommodation or facility or facilities or living)

S49 "state care"

S48 "institutional care"

S47 "permanency plan*"

S46 foster* n3 child*

S45 custodial grandparent* or custodial grand parent*

S44 relative n3 foster*

S43 (family or families or relative) n3 (placement* or substitute*)

S42 (kin or kinship) n3 (care* or caring or foster* or placement*)

S41 foster* n6 (treatment or special* or therapeutic or medical or family or families)

S40 "family based residential treatment"

S39 "supported accommodation"

S38 TI adoption OR SU adoption

S37 guardianship

S36 "ward of the state"

S35 "looking after children"

S34 "looked after children"

S33 "fictive kin"

S32 "group home*"

S31 support* n3 living

S30 shelter n3 care

S29 temporary n3 care

S28 "shared family" n3 care

S27 "volunteer* care"

S26 "voluntary care"

S25 "congregate care"

S24 "group care"

S23 "out of home" n3 care

S22 "social care"

S21 "relative care"

S20 "home based" n3 care

S19 foster* n3 (care or carer or carers or parent or parents)

S18 residential n3 care

S17 s12 and s16

S16 s13 or s14 or s15

S15 systematic n1 review* or metaanalysis or "meta analysis"

S14 TI trial*

S13 randomised or randomized or randomly

S12 s1 or s2 or s3 or s4 or s5 or s6 or s8 or s9 or s10 or s11

S11 "young person*" or "young people*" or youth or youths

S10 baby or babies

S9 toddler*

S8 infant*

S7 preschool* or "pre school*"

S6 schoolchild*

S5 teen*

S4 girl or girls

S3 (boy or boys)

S2 adolescen*

S1 child*

International Bibliography of the Social Sciences (IBSS) (ProQuest)

Run Date: 9th September 2016

S1 Child* or adolescen* or infant* or youth* or teen* or young or preschool* or “pre school*”

S2 randomized or randomised or randomly or trial* or systematic n/1 review* or “meta analysis” or metaanalysis

S3 S1 AND S2

S4 (residential or foster* or “out of home” or “home based” or temporary or shelter) n/3 care

S5 “institutional care” or “state care” or “permanency plan*”

S6 (kin or kinship) n/3 (care* or caring or placement*)

S7 (family or families or relative) n/3 (placement* or substitute*)

S8 foster* n/3 (relative or child*)

S9 foster* N/6 (treatment OR special* OR therapeutic OR medical OR family OR families)

S10 (support* or social or community or independent) n/1 (home* or housing or house or houses or accommodation or facility or facilities or living)

S11 S3 AND S4

S12 S3 AND S5

S13 S3 AND S6

S14 S3 AND S7

S15 S3 AND S8

S16 S3 AND S9

S17 S3 AND S10

S18 "social care" or "group care" or "group home*" or "fictive kin" OR guardianship or "custodial grandparent*" or "custodial grand parent*"

S19 S3 AND S18

[Note: The ProQuest search system timed out and produced error messages when trying to combine the search strategy that was designed in Ovid. Some simplifications to the population and intervention terms were introduced to get the search to run. Results from lines S11-S17 and S19 were retrieved separately, added to a marked list to identify duplicates and exported to EndNote from the marked list. 56 records in total were retrieved.]

Applied Social Science Index and Abstracts (ASSIA) (ProQuest)

Run Date: 9th September 2016

S1 Child* or adolescen* or infant* or youth* or teen* or young or preschool* or “pre school*”

S2 (randomized or randomised or randomly or systematic n/1 review* or “meta analysis” or metaanalysis) OR ti(trial*)

S3 S1 AND S2

S4 (residential or foster* or “out of home” or “home based” or temporary or shelter) n/3 care

S5 “institutional care” or “state care” or “permanency plan*”

S6 (kin or kinship) n/3 (care* or caring or placement*)

S7 (family or families or relative) n/3 (placement* or substitute*)

S8 foster* n/3 (relative or child*)

S9 foster* N/6 (treatment OR special* OR therapeutic OR medical OR family OR families)

S10 (support* or social or community or independent) N/1 (home* or housing or house or houses or accommodation or facility or facilities or living)

S11 "social care" or "group care" or "group home*" or "fictive kin" OR guardianship or "custodial grandparent*" or "custodial grand parent*"

S12 S3 AND S4

S13 S3 AND S5

S14 S3 AND S6

S15 S3 AND S7

S16 S3 AND S8

S17 S3 AND S9

S18 S3 AND S10

S19 S3 AND S11

[Note: The ProQuest search system timed out and produced error messages when trying to combine the search strategy that was designed in Ovid. Some simplifications to the population and intervention terms were introduced to get the search to run. Results from lines S11-S17 and S19 were retrieved separately, added to a marked list to identify duplicates and exported to EndNote from the marked list. 56 records in total were retrieved.]

Sociological Abstracts (ProQuest)

Run Date: 9th September 2016

S1 Child* or adolescen* or infant* or youth* or teen* or young or preschool* or “pre school*”

S2 (randomized or randomised or randomly or systematic n/1 review* or “meta analysis” or metaanalysis) OR ti(trial*)

S3 S1 AND S2

S4 (residential or foster* or “out of home” or “home based” or temporary or shelter) n/3 care

S5 (kin or kinship) n/3 (care* or caring or placement*)

S6 (family or families or relative) n/3 (placement* or substitute*)

S7 foster* n/3 (relative or child*)

S8 foster* N/6 (treatment OR special* OR therapeutic OR medical OR family OR families)

S9 (support* or social or community or independent) n/1 (home* or housing or house or houses or accommodation or facility or facilities or living)

S10 "social care" or "group care" or "group home*" or "fictive kin" OR guardianship or "custodial grandparent*" or "custodial grand parent*" or “institutional care” or “state care” or “permanency plan*”

S11 S3 AND S4

S12 S3 AND S5

S13 S3 AND S6

S14 S3 AND S7

S15 S3 AND S8

S16 S3 AND S9

S17 S3 AND S10

[Note: The ProQuest search system timed out and produced error messages when trying to combine the search strategy that was designed in Ovid. Some simplifications to the population and intervention terms were introduced to get the search to run. Results from lines S11-S17 and S19 were retrieved separately, added to a marked list to identify duplicates and exported to EndNote from the marked list. 56 records in total were retrieved.]

Web of Science (including Science Citation Index, Social Science Citation Index, Conferences Citation Index)

Run Date: 15th September 2016

Files: SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI

37 #1 AND #35 AND #36

36 TS=("randomized controlled trial") OR TS=("randomised controlled trial") OR TS=(randomised OR randomized OR randomly) OR TI=(trial or trials) OR TS=(systematic near/1 review*) OR TS=(metaanalysis or "meta analysis")

35 #30 OR #31 OR #32 OR #33 OR #34

34 TS=(support* near/1 home*) OR TS=(support* near/1 housing) OR TS=(support* near/1 house) OR TS=(support* near/1 houses) OR TS=(support* near/1 accommodation) OR TS=(support* near/1 facility) OR TS=(support* near/1 facilities) OR TS=(support* near/1 living)

33 TS=(social near/1 home*) OR TS=(social near/1 housing) OR TS=(social near/1 house) OR TS=(social near/1 houses) OR TS=(social near/1 accommodation) OR TS=(social near/1 facility)OR TS=(social near/1 facilities) OR TS=(social near/1 living)

32 TS=(community near/1 home*) OR TS=(community near/1 housing) OR TS=(community near/1 house) OR TS=(community near/1 houses) OR TS=(community near/1 accommodation) OR TS=(community near/1 facility) OR TS=(community near/1 facilities) OR TS=(community near/1 living)

31 TS=(independent near/1 home*) OR TS=(independent near/1 housing) OR TS=(independent near/1 house) OR TS=(independent near/1 houses) OR TS=(independent near/1 accommodation) OR TS=(independent near/1 facility) OR TS=(independent near/1 facilities) OR TS=(independent near/1 living)

30 #29 OR #28 OR #27 OR #26 OR #25 OR #24 OR #23 OR #22 OR #21 OR #20 OR #19 OR #18 OR #17 OR #16 OR #15 OR #14 OR #13 OR #12 OR #11 OR #10 OR #9 OR #8 OR #7 OR #6 OR #5 OR #4 OR #3 OR #2

29 TS= ("state care")

28 TS= ("institutional care")

27 TS= ("permanency plan*")

26 TS= (foster* near/3 child*)

25 TS= ("custodial grandparent*" or "custodial grand parent*")

24 TS= (relative near/3 foster*)

23 TS=(relative near/3 placement*) OR TS=(relative near/3 substitute*)

22 TS=(families near/3 placement*) OR TS=(families near/3 substitute*)

21 TS=(family near/3 placement*) OR TS=(family near/3 substitute*)

20 TS= (kinship near/3 care*) OR TS= (kinship near/3 caring) OR TS= (kinship near/3 foster) OR TS= (kinship near/3 placement*)

19 TS= (kin near/3 care*) OR TS= (kin near/3 caring) OR TS= (kin near/3 foster) OR TS= (kin near/3 placement*)

18 TS=(foster* near/6 treatment) OR TS=(foster* near/6 special*) OR TS=(foster* near/6 therapeutic) OR TS=(foster* near/6 medical) OR TS=(foster* near/6 family) OR TS=(foster* near/6 families)

17 TS= ("family based residential treatment")

16 TITLE: (adoption)

# 15	TS=("group home*") OR TS=("fictive kin") OR TS=("looked after children") OR TS=("looking after children") OR TS=("ward of the state") OR TS=(guardianship)
# 14	TS= (shelter near/3 care)
# 13	TS= (temporary near/3 care)
# 12	TS= ("shared family"near/3 care)
# 11	TS= ("volunteer* care")
# 10	TS= ("voluntary care")
# 9	TS= ("congregate care")
# 8	TS= ("group care")
# 7	TS= ("out of home" near/3 care)
# 6	TS= ("social care")
# 5	TS= ("relative care")
# 4	TS= ("home based" near/3 care)
# 3	TS=(foster* near/3 care) OR TS=(foster* near/3 carer) OR TS=(foster* near/3 carers) OR TS=(foster* near/3 parent) OR TS=(foster* near/3 parents)
# 2	TS= (residential near/3 care)
# 1	TS=(child*) OR TS=(adolescen*) OR TS=(boy or boys) OR TS=(girl or girls) OR TS=(teen*) OR TS=(schoolchild*) OR TS=(preschool* or "pre school*") OR TS=(infant*) OR TS=(toddler*) OR TS=(baby or babies) OR TS=("young person*" or "young people*") OR TS=(youth or youths)

Australian Family & Society Abstracts Database (FAMILY) (Informit)

Run Date: 16th September 2016

1	(child* OR adolescen* OR boy OR boys OR girl OR girls OR teen* OR schoolchild* OR preschool* OR (pre ! school*) OR infant* OR toddler* OR baby OR babies OR (young ! person*) OR (young ! people))
2	(Adopted OR Adoption OR adoptive OR Community ! accommodation OR Community ! facilit* OR Community ! home* OR Community ! hous* OR Community ! living OR Congregate ! care OR Custodial ! grandparent OR (Family % substitut*) OR Fictive ! kin OR Foster* OR Group !2 care OR Group !2 home OR Group !2 hous* OR Group !2 homes OR Guardian* OR Home ! based ! care OR (Home % support*) OR Independent %2 accommodation OR Independent %2 facilit* OR Independent %2 home OR Independent %2 homes OR Independent %2 hous* OR Independent %2 living OR Institutional ! care OR Kin ! care OR Kinship ! care OR Living ! support OR (Looked ! after ! children) OR (Looking ! after ! children) OR (Out ! of ! home ! care) OR Permanency ! plan OR Placement OR Relative ! care OR Residential ! care OR Residential ! treatment OR (Shared ! family ! care) OR Shelter ! care OR Social ! care OR Social ! hous* OR State ! care OR state %3 ward OR Substitute ! family OR Support* ! accommodation OR Support* ! facilit* OR Support* % home OR Support* % homes OR Support* % hous* OR Support* % living OR Temporary ! care OR voluntary ! care OR volunteer ! care)
3	((Randomised ! controlled ! trial*) OR (Randomized ! controlled ! trial*) OR clinical !2 trial* OR (Random* AND control*) OR meta-analysis OR meta ! analysis OR metaanalysis OR systematic ! review*)
4	1 AND 3

5 2 AND 4

Families and Society Collection (Informit)

Run Date: 15th September 2016

1 (Adopted OR Adoption OR adoptive OR Community ! accommodation OR Community ! facilit* OR Community ! home* OR Community ! hous* OR Community ! living OR Congregate ! care OR Custodial ! grandparent OR (Family % substitut*) OR Fictive ! kin OR Foster* OR Group !2 care OR Group !2 home OR Group !2 hous* OR Group !2 homes OR Guardian* OR Home ! based ! care OR (Home % support*) OR Independent %2 accommodation OR Independent %2 facilit* OR Independent %2 home OR Independent %2 homes OR Independent %2 hous* OR Independent %2 living OR Institutional ! care OR Kin ! care OR Kinship ! care OR Living ! support OR (Looked ! after ! children) OR (Looking ! after ! children) OR (Out ! of ! home ! care) OR Permanency ! plan OR Placement OR Relative ! care OR Residential ! care OR Residential ! treatment OR (Shared ! family ! care) OR Shelter ! care OR Social ! care OR Social ! hous* OR State ! care OR state %3 ward OR Substitute ! family OR Support* ! accommodation OR Support* ! facilit* OR Support* % home OR Support* % homes OR Support* % hous* OR Support* % living OR Temporary ! care OR voluntary ! care OR volunteer ! care)

2 (child* OR adolescen* OR boy OR boys OR girl OR girls OR teen* OR schoolchild* OR preschool* OR (pre ! school*) OR infant* OR toddler* OR baby OR babies OR (young ! person*) OR (young ! people))

3 ((Randomised ! controlled ! trial*) OR (Randomized ! controlled ! trial*) OR clinical !2 trial* OR (Random* AND control*) OR meta-analysis OR meta ! analysis OR metaanalysis OR systematic ! review*)

4 1 AND 2 AND 3

Attorney-General's Information Service (AGIS plus Text) (Informit)

Run Date: 15th September 2016

1 (child* OR adolescen* OR boy OR boys OR girl OR girls OR teen* OR schoolchild* OR preschool* OR (pre ! school*) OR infant* OR toddler* OR baby OR babies OR (young ! person*) OR (young ! people))

2 (Adopted OR Adoption OR adoptive OR Community ! accommodation OR Community ! facilit* OR Community ! home* OR Community ! hous* OR Community ! living OR Congregate ! care OR Custodial ! grandparent OR (Family % substitut*) OR Fictive ! kin OR Foster* OR Group !2 care OR Group !2 home OR Group !2 hous* OR Group !2 homes OR Guardian* OR Home ! based ! care OR (Home % support*) OR Independent %2 accommodation OR Independent %2 facilit* OR Independent %2 home OR Independent %2 homes OR Independent %2 hous* OR Independent %2 living OR Institutional ! care OR Kin ! care OR Kinship ! care OR Living ! support OR (Looked ! after ! children) OR (Looking ! after ! children) OR (Out ! of ! home ! care) OR Permanency ! plan OR Placement OR Relative ! care OR Residential ! care OR Residential ! treatment OR (Shared ! family ! care) OR Shelter ! care OR Social ! care OR Social ! hous* OR State ! care OR state %3 ward OR Substitute ! family OR Support* ! accommodation OR Support* ! facilit* OR Support* % home OR Support* % homes OR Support* % hous* OR Support* % living OR Temporary ! care OR voluntary ! care OR volunteer ! care)

3 ((Randomised ! controlled ! trial*) OR (Randomized ! controlled ! trial*) OR clinical !2 trial* OR (Random* AND control*) OR meta-analysis OR meta ! analysis OR metaanalysis OR systematic ! review*)

4 1 AND 3

5 2 AND 4

Australian Criminology Database (CINCH) (Informit)

Run Date: 15th September 2016

1 (child* OR adolescen* OR boy OR boys OR girl OR girls OR teen* OR schoolchild* OR preschool* OR (pre ! school*) OR infant* OR toddler* OR baby OR babies OR (young ! person*) OR (young ! people))

2 (Adopted OR Adoption OR adoptive OR Community ! accommodation OR Community ! facilit* OR Community ! home* OR Community ! hous* OR Community ! living OR Congregate ! care OR Custodial ! grandparent OR (Family % substitut*) OR Fictive ! kin OR Foster* OR Group !2 care OR Group !2 home OR Group !2 hous* OR Group !2 homes OR Guardian* OR Home ! based ! care OR (Home % support*) OR Independent %2 accommodation OR Independent %2 facilit* OR Independent %2 home OR Independent %2 homes OR Independent %2 hous* OR Independent %2 living OR Institutional ! care OR Kin ! care OR Kinship ! care OR Living ! support OR (Looked ! after ! children) OR (Looking ! after ! children) OR (Out ! of ! home ! care) OR Permanency ! plan OR Placement OR Relative ! care OR Residential ! care OR Residential ! treatment OR (Shared ! family ! care) OR Shelter ! care OR Social ! care OR Social ! hous* OR State ! care OR state %3 ward OR Substitute ! family OR Support* ! accommodation OR Support* ! facilit* OR Support* % home OR Support* % homes OR Support* % hous* OR Support* % living OR Temporary ! care OR voluntary ! care OR volunteer ! care)

3 ((Randomised ! controlled ! trial*) OR (Randomized ! controlled ! trial*) OR clinical !2 trial* OR (Random* AND control*) OR meta-analysis OR meta ! analysis OR metaanalysis OR systematic ! review*)

4 1 AND 3

5 2 AND 4

Campbell Collaboration

Full Text: “foster care" or kinship or "out of home"

Appendix B Databases searched and search results

Database	N Records
1. Medline (Ovid)	1,046
2. Embase (Ovid)	955
3. PsycInfo (Ovid)	959
4. Cochrane Central Register of Controlled Trials (CENTRAL)(Ovid)	748
5. CINAHL (Ebsco)	426
6. Education Resources Information Center (ERIC) (Ebsco)	157
7. International Bibliography of the Social Sciences (IBSS) (ProQuest)	56
8. Applied Social Science Index and Abstracts (ASSIA) (ProQuest)	200
9. Sociological Abstracts (ProQuest)	45
10. Web of Science incl. Social Sciences Citation Index and Conference Proceedings Citation Index - Social Science & Humanities	1,167
11. Australian Family & Society Abstracts Database (FAMILY) (Informit)	16
12. Families and Society Collection (Informit)	2
13. Attorney-General's Information Service (AGIS plus Text) (Informit)	1
14. Australian Criminology Database (CINCH) (Informit)	6
15. Campbell Collaboration	37
16. Expert recommendations	75
Sub Total	5,896
Duplicates (removed)	2,641
TOTAL	**3,255**
Full texts retrieved for screening	281
FINAL INCLUDED	**121** **[28 systematic reviews]** **[93 primary studies]**

Appendix C Included study list

C.1 Primary studies

#	Citation	Country	Jadad score	N/study design	Type of OOHC	Comparator	Major themes / outcomes
1	Almas AN, Degnan KA, Walker OL, et al. The Effects of Early Institutionalization and Foster Care Intervention on Children's Social Behaviors at Age 8. Soc. 2015;24(2):225-239.	Romania	3	136 RCT (follow up - Nelson 2007)	General foster care	Residential care	Health/physical health and development/speech reticence Social & community/social functioning/social engagement/ peer interaction/ conversational competence/ social withdrawal/task orientation)
2	Bergström M, Höjman L. Is multidimensional treatment foster care (MTFC) more effective than treatment as usual in a three-year follow-up? Results from MTFC in a Swedish setting. Eur J Soc Work. 2015; 19(2):219-235.	Sweden	2	46 Further analysis of a RCT (see Hanson et al. 2012)	MTFC	Treatment as usual (could include residential care, foster care, or home-based interventions)	Home/ Permanency/ stability in living conditions, homelessness Health/ Physical Health & development/ substance abuse Health/ Mental Health/ criminality, behaviour
3	Bick J, Zhu T, Stamoulis C, Fox NA, Zeanah C, Nelson CA. Effect of early institutionalization and foster care on long-term white matter development: a randomized clinical trial. Jama, Pediatr. 2015; 169(3):211-219.	Romania	1	69 RCT (follow up - Nelson 2007)	General foster care	(1) Residential care (2) Never institutionalized children	Other/ Fractional Anisotropy (FA), Mean Diffusivity (MD), Radial Diffusivity (RD), and Axial Diffusivity (AD)
4	Bruce J, McDermott JM, Fisher PA, Fox NA. Using behavioral and electrophysiological measures to assess the effects of a preventive intervention: a preliminary study with preschool-aged foster children. Prev Sci. 2009; 10(2):129-140.	USA	1	34 The sample was recruited from a larger randomized efficacy trial	MTFC	Community comparison group	Health/ Mental Health/ behaviour
5	Butler S, Baruch G, Hickey N, Fonagy P. A randomized controlled trial of multisystemic therapy and a statutory therapeutic intervention for young offenders. J Am Acad Child Adolesc Psychiatry. 2011; 50(12):1220-1235 e1222.	UK	3	108 RCT	Multisystemic Therapy (MST)	Individually tailored range of interventions	Health/ Mental health/ delinquency Home/ Family functioning

#	Citation	Country	Jadad score	N/study design	Type of OOHC	Comparator	Major themes / outcomes
6	Bywater T, Hutchings J, Linck P, et al. Incredible Years parent training support for foster carers in Wales: a multi-centre feasibility study. Child Care Health Dev. 2011; 37(2):233-243.	UK	3	46* [foster carers] RCT	The Incredible Years (IY) basic parenting programme for foster carers	General foster care	For foster carers: Health/ Mental health/ depression For children: Health/ Mental health/ child behaviour and emotional problems Cross-cutting themes/ Cost(s) and/or effectiveness/ carer and looked after children's health and social care costs
7	Chamberlain P, Leve LD, Degarmo DS. Multidimensional treatment foster care for girls in the juvenile justice system: 2-year follow-up of a randomized clinical trial. J Consult Clin Psychol. 2007; 75(1):187-193.	USA	2	81 Girls RCT	MTFC	Community based group care	Health/ Mental Health/ Delinquency
8	Chamberlain P, Moreland S, Reid K. Enhanced services and stipends for foster parents: effects on retention rates and outcomes for children. Child Welfare. 1992; 71(5):387-401.	USA	0	72 children Number of foster carers not reported* Experimental trial	General Foster care $ 70 per month extra ingredients (not described)	Not described	Cross-cutting theme - Support of caregivers Health/ Mental health/ behaviour
9	Chamberlain P, Price J, Leve LD, Laurent H, Landsverk JA, Reid JB. Prevention of behavior problems for children in foster care: outcomes and mediation effects. Prev Sci. 2008; 9(1):17-27.	USA	2	359 foster parents* 359 children RCT	MTFC training for foster carers	Caseworker services as usual for foster carers	Social & community/ social functioning/ positive reinforcement and discipline behaviours Health/ Mental Health/ Child behaviour problems
10	Chamberlain P, Reid JB. Comparison of two community alternatives to incarceration for chronic juvenile offenders. J Consult Clin Psychol. 1998; 66(4):624-633.	USA	2	79 Boys RCT	MTFC	Group care	Health/ Mental health/ delinquency
11	Clark HB, Prange ME, Lee B, Boyd L, McDonald BA, Stewart ES. Improving adjustment outcomes for foster children with emotional and behavioral disorders: Early findings from a controlled study on individualized services. Journal of Emotional and Behavioral Disorders. 1994; 2(4):207-218.	USA	3	132 RCT	General foster care + Fostering Individualized Assistance Programme	General foster care	Health/ mental health/ externalising & internalising behaviour

#	Citation	Country	Jadad score	N/study design	Type of OOHC	Comparator	Major themes / outcomes
12	Dorsey S, Pullmann MD, Berliner L, Koschmann E, McKay M, Deblinger E. Engaging foster parents in treatment: a randomized trial of supplementing trauma-focused cognitive behavioral therapy with evidence-based engagement strategies. Child Abuse Negl. 2014; 38(9):1508-1520.	USA	2	47 General foster care (n=29; 61.7%) Kinship care (n=16; 34%) Fictive kin (n=2; 4.3%) RCT	(General foster / Kinship / Fictive kin care) + Trauma-focused Cognitive Behavioural Therapy + Evidence-based engagement strategies (TF-CBT + E)	(General foster / Kinship / Fictive kin care) Trauma-focused Cognitive Behavioural Therapy (TF-CBT)	Health/ Mental Health/ depression/ internalising and externalising behaviour
13	Dozier M, Lindhiem O, Lewis E, Bick J, Bernard K, Peloso E. Effects of a Foster Parent Training Program on Young Children's Attachment Behaviors: Preliminary Evidence from a Randomized Clinical Trial. Child Adolesc Social Work J. 2009; 26(4):321-332.	USA	2	46 RCT	General Foster care + Attachment and Biobehavioral Catch-up Intervention (ABC)	General Foster care + Developmental Education for Families (DEF); an educational programme	Health/ Mental Health/ behaviour
14	Dozier M, Peloso E, Lewis E, Laurenceau JP, Levine S. Effects of an attachment-based intervention on the cortisol production of infants and toddlers in foster care. Dev Psychopathol. 2008; 20(3):845-859.	USA	2	141 RCT	General Foster care + Attachment and Biobehavioral Catch-up Intervention (ABC)	General Foster care + Developmental Education for Families (DEF) + Never-been in foster care comparison group	Health/ Mental Health/ stress (serum cortisol level)
15	Dozier M, Peloso E, Lindhiem O, et al. Developing Evidence-Based Interventions for Foster Children: An Example of a Randomized Clinical Trial with Infants and Toddlers. Journal of Social Issues. 2006; 62(4):767-785.	USA	2	60 RCT	General Foster care + Attachment and Biobehavioral Catch-up Intervention (ABC)	General Foster care + Developmental Education for Families (DEF)	Health/ Mental Health/ behaviour, stress (serum cortisol level)
16	Eddy J, Whaley RB, Chamberlain P. The Prevention of Violent Behavior by Chronic and Serious Male Juvenile Offenders: A 2-Year Follow-up of a Randomized Clinical Trial. Journal of Emotional and Behavioral Disorders. 2004; 12(1):2-8.	USA	2	79 boys Follow-up of an RCT	MTFC	Group care	Health/ Mental Health/ violent offences
17	Evans ME, Armstrong MI, Kuppinger AD. Family-centred intensive case management: a step toward understanding individualized care. Journal of Child and Family Studies. 1996; 5(1):55-65.	USA	2	42 RCT	Treatment foster care	General foster care	Home/ Safety/ Family functioning/ Family Adaptability and Cohesion

#	Citation	Country	Jadad score	N/study design	Type of OOHC	Comparator	Major themes / outcomes
18	Farmer EM, Burns BJ, Wagner HR, Murray M, Southerland DG. Enhancing "usual practice" treatment foster care: findings from a randomized trial on improving youths' outcomes. Psychiatr Serv. 2010; 61(6):555-561.	USA	1	247 RCT	Treatment foster care	General foster care	Health/ Mental health/ emotional symptoms, conduct problems, in attention hyperactivity, peer problems, pro-social behaviour Social & Community/ Social functioning/ problematic behaviour (in past 24 hours) Home/ Safety/ family involvement
19	Fisher PA, Burraston B, Pears K. The early intervention foster care program: permanent placement outcomes from a randomized trial. Child Maltreat. 2005; 10(1):61-71.	USA	2	90 RCT	The Early Intervention Foster Care Programme (EIFC)	Regular Foster Care (RFC) [services as usual condition]	Health/ Mental Health/ behaviour Home/ Permanency/ placements
20	Fisher PA, Kim HK. Intervention effects on foster preschoolers' attachment-related behaviors from a randomized trial. Prev Sci. 2007; 8(2):161-170.	USA	1	117 RCT	MTFC-P (Multidimensional Treatment Foster Care Programme for Pre-schoolers)	Regular Foster care	Health/ Mental Health/ Attachment-related behaviour
21	Fisher PA, Kim HK, Pears KC. Effects of Multidimensional Treatment Foster Care for Pre-schoolers (MTFC-P) on reducing permanent placement failures among children with placement instability. Children and Youth Services Review. 2009; 31(5):541-546.	USA	1	117 Secondary analysis of a data from a RCT (see Fisher 2007)	MTFC-P	Non-maltreated community children	Home/ Permanency/ permanency outcomes
22	Fisher PA, Stoolmiller M. Intervention effects on foster parent stress: associations with child cortisol levels. Dev Psychopathol. 2008; 20(3):1003-1021.	USA	2	117 RCT	MTFC-P	Regular Foster Care (RFC) / Community comparison condition (non-foster care)	Health/ Mental Health/ caregiver stress*
23	Fisher PA, Stoolmiller M, Gunnar MR, Burraston BO. Effects of a therapeutic intervention for foster preschoolers on diurnal cortisol activity. Psychoneuroendocrinology. 2007; 32(8-10):892-905.	USA	2	117 RCT	MTFC-P	Regular Foster Care (RFC)	Health/ Mental Health/ behaviour Home/ Permanency/ placement disruptions
24	Fisher PA, Stoolmiller M, Mannering AM, Takahashi A, Chamberlain P. Foster placement disruptions associated with problem behavior: mitigating a threshold effect. J Consult Clin Psychol. 2011; 79(4):481-487.	USA	2	117 RCT	MTFC-P	Regular Foster Care (RFC)	Health/ Mental Health/ behaviour Home/ Permanency/ placement disruptions

#	Citation	Country	Jadad score	N/study design	Type of OOHC	Comparator	Major themes / outcomes
25	Fox NA, Almas AN, Degnan KA, Nelson CA, Zeanah CH. The effects of severe psychosocial deprivation and foster care intervention on cognitive development at 8 years of age: findings from the Bucharest Early Intervention Project. J Child Psychol Psychiatry. 2011; 52(9):919-928.	Romania	3	105 (analysed) (136 allocated) (follow up - Nelson 2007) RCT	General foster care	Residential care	Education & skills/ cognitive functioning/ IQ
26	Gavița OA, David D, Bujoreanu S, Tiba A, Ionuțiu DR. The efficacy of a short cognitive-behavioral parent program in the treatment of externalizing behavior disorders in Romanian foster care children: Building parental emotion-regulation through unconditional self- and child-acceptance strategies. Children and Youth Services Review. 2012; 34(7):1290-1297.	Romania	2	97 RCT	General foster care + Short Enhanced Cognitive Behavioural Parent Training (CEBPT) to foster parents	General foster care + Waitlist control	Home/ Permanency/ placement stability Health/ Mental Health/ behaviour Home/ Family Functioning/ discipline
27	Geenen S, Powers LE, and Phillips LA, et al. Better futures: a randomized field test of a model for supporting young people in foster care with mental health challenges to participate in higher education. J Behav Health Serv Res. 2015; 42(2):150-171.	USA	2	67 RCT	(General Foster care / Kinship care) + Better Futures Project	(General Foster care / Kinship care) + Typical services (community as usual)	Health/ Mental Health/ hope, empowerment, mental health recovery) Home/ permanency/ transition to adulthood (transition planning/ self-determination)
28	Geenen S, Powers LE, Powers J, et al. Experimental Study of a Self-Determination Intervention for Youth in Foster Care. Career Development and Transition for Exceptional Individuals. 2013; 36(2):84-95.	USA	2	123 RCT	General Foster care + TAKE CHARGE programme	General Foster care + Business as usual (typical educational services)	Home/ permanency/ transition to adulthood (transition planning/ self-determination) Education & Skills/ Cognitive functioning/ school performance, credits, homework completion, drop-outs Health/ Mental Health/ behaviour
29	Green JM, Biehal N, and Roberts C, et al. Multidimensional Treatment Foster Care for Adolescents in English care: randomised trial and observational cohort evaluation. Br J Psychiatry. 2014; 204(3):214-221.	UK	3	34 RCT	MTFC	Usual care	Health/ Mental Health/ behaviour, delinquency Education & skills/ Cognitive functioning/ education outcomes
30	Haight W, Black J, Sheridan K. A Mental Health Intervention for Rural, Foster Children from Methamphetamine-involved Families: Experimental Assessment with Qualitative Elaboration. Child Youth Serv Rev. 2010; 32(10):1146-1457.	USA	1	15 RCT General Foster care (73%) Kinship care (27%)	(General Foster care / Kinship care) + Life Story Intervention (LSI) programme	(General Foster care / Kinship care) + Waitlist group	Health/ Mental Health/internalising and externalising behaviour, PTSD Education & Skills/ Cognitive functioning/ verbal and cognitive abilities

#	Citation	Country	Jadad score	N/study design	Type of OOHC	Comparator	Major themes / outcomes
31	Hansson K, Olsson M. Effects of multidimensional treatment foster care (MTFC): Results from a RCT study in Sweden. Children and Youth Services Review. 2012; 34(9):1929-1936.	Sweden	2	46 RCT	MTFC	Treatment as usual (could include residential care, foster care, or home-based interventions)	Health/ Mental Health/ psychological symptom load Social & Community/ Social functioning/ sense of coherence
32	Harold GT, Kerr DC, Van Ryzin M, DeGarmo DS, Rhoades KA, Leve LD. Depressive symptom trajectories among girls in the juvenile justice system: 24-month outcomes of an RCT of Multidimensional Treatment Foster Care. Prev Sci. 2013; 14(5):437-446.	USA	3	166 girls RCT	MTFC	Services as usual (group care)	Health/ Mental health/ depression
33	Henggeler SW, Pickrel SG, Brondino MJ. Multisystemic treatment of substance-abusing and dependent delinquents: outcomes, treatment fidelity, and transportability. Ment Health Serv Res. 1999; 1(3):171-184.	USA	2	118 RCT	MST	Usual services	Prevention/ OOHC prevention Health/ Physical Health & development/ health related risk-avoidance behaviour Health/ Mental Health/ delinquency
34	Henggeler SW, Rowland MD, Halliday-Boykins C, et al. One-year follow-up of multisystemic therapy as an alternative to the hospitalization of youths in psychiatric crisis. Journal of the American Academy of Child and Adolescent Psychiatry. 2003; 42(5):543-551.	USA	3	160 RCT	MST	Hospitalisation and usual services	Prevention/ OOHC prevention Home/ Safety/ permanency/ stability in living conditions, family functioning Health/ Mental Health/ positive outlook
35	Herbert M, Wookey J. The Child Wise Programme: a course to enhance the self-confidence and behaviour management skills of foster carers with challenging children. Adoption & Fostering. 2007; 31(4):27-37.	UK	2	117 Foster carers* Quasi-experimental	General foster care + Child Wise Programme	Waitlist control	Home/ Family Functioning/ understanding of the application of basic behavioural principals with children (for carers) Health/ Mental health/ child behaviour
36	Holden EW, O'Connell SR, Liao Q, et al. Outcomes of a randomized trial of continuum of care services for children in a child welfare system. Child welfare. 2007; 86(6):89-114.	USA	1	157 Quasi-experimental	Residential care + Connecticut Title IV-E Waiver Programme through Lead Service Agency (LSA)	Residential care + service as usual	Health/ Mental Health/ behaviour, delinquency
37	Humphreys KL, Gleason MM, Drury SS, et al. Effects of institutional rearing and foster care on psychopathology at age 12 years in Romania: follow-up of an open, randomised controlled trial. Lancet Psychiatry. 2015; 2(7):625-634.	Romania	2	110 (follow up - Nelson 2007) RCT	General Foster care	Residential care	Health/ Mental health/ internalising symptoms (i.e. depression, fear, worrying and ruminative thoughts), externalising symptoms (i.e. angry/ irritable mood etc.), Attention deficit hyperactivity disorder (ADHD)

#	Citation	Country	Jadad score	N/study design	Type of OOHC	Comparator	Major themes / outcomes
38	Humphreys KL, McGoron L, Sheridan MA, et al. High-Quality Foster Care Mitigates Callous-Unemotional Traits Following Early Deprivation in Boys: A Randomized Controlled Trial. J Am Acad Child Adolesc Psychiatry. 2015; 54(12):977-983.	Romania	2	114 (follow up - Nelson 2007) RCT	General Foster care	Residential care	Health/ Mental health/ Callous-unemotional (CU) traits/ externalising symptoms
39	Kerr DC, DeGarmo DS, Leve LD, Chamberlain P. Juvenile justice girls' depressive symptoms and suicidal ideation 9 years after Multidimensional Treatment Foster Care. J Consult Clin Psychol. 2014; 82(4):684-693.	USA	3	166 girls RCT	MTFC	Group care (services as usual)	Health/ Mental health/ depression, suicidal ideation
40	Kerr DC, Leve LD, Chamberlain P. Pregnancy rates among juvenile justice girls in two randomized controlled trials of multidimensional treatment foster care. J Consult Clin Psychol. 2009; 77(3):588-593.	USA	3	166 girls RCT	MTFC	Group care (services as usual)	Health/ Mental Health/ delinquency Health/ Physical health and development/ pregnancy rates, sexual activity
41	Kim HK, Leve LD. Substance use and delinquency among middle school girls in foster care: a three-year follow-up of a randomized controlled trial. J Consult Clin Psychol. 2011; 79(6):740-750.	USA	3	100 girls RCT	Regular foster care (36.5% with a relative and 63.5% non-relative foster parent) + Middle School Success (MSS) intervention	Regular foster care (31.3% with a relative and 68.8% non-relative foster parent)	Health/ physical health and development/ substance abuse Social and community empowerment/ social functioning/ prosocial behaviour
42	Kim HK, Pears KC, Leve LD, Chamberlain PC, Smith DK. Intervention Effects on Health-Risking Sexual Behavior Among Girls in Foster Care: The Role of Placement Disruption and Tobacco and Marijuana Use. J Child Adolesc Subst Abuse. 2013; 22(5):370-387.	USA	1	100 Girls RCT	General foster care + Middle School Success intervention (MSS) programme	General foster care	Health/ Physical health and development/ substance abuse/ risky sexual behaviour Home/ Permanency/ stability in living conditions
43	Laurent HK, Gilliam KS, Bruce J, Fisher PA. HPA stability for children in foster care: mental health implications and moderation by early intervention. Dev Psychobiol. 2014; 56(6):1406-1415.	USA	2	177 RCT	MTFC	Regular Foster care Community comparison group	Health/ Mental health/ behaviour, stress
44	Leathers SJ, Spielfogel JE, Gleeson JP, Rolock N. Behavior problems, foster home integration, and evidence-based behavioral interventions: What predicts adoption of foster children? Children and Youth Services Review. 2012; 34(5):891-899.	USA	0	31 Foster children 25 foster parents Quasi-experimental	Treatment foster care + parenting programme	Treatment foster care + treatment as usual	Home/ Permanency/ foster home integration, likelihood of adoption Health/ Mental health/ externalising, internalising, psychotropic medication use

#	Citation	Country	Jadad score	N/study design	Type of OOHC	Comparator	Major themes / outcomes
45	Lee K. Head Start's Impact on Cognitive Outcomes for Children in Foster Care. Child Abuse Review. 2016; 25(2):128-141.	USA	1	162 Secondary analysis of data of a RCT	General foster care + Head Start programme	General foster care	Education & skills/ Cognitive functioning/ Maths scores
46	Letourneau EJ, Henggeler SW, Borduin CM, et al. Multisystemic therapy for juvenile sexual offenders: 1-year results from a randomized effectiveness trial. J Fam Psychol. 2009; 23(1):89-102.	USA	2	67 RCT	MST	Treatment as usual	Health/ Physical Health & development/ substance use, sexual behaviour Health/ Mental Health/ behaviour, externalising and internalising symptoms, delinquency Home/ Permanency/ stability in living conditions
47	Leve LD, Chamberlain P. A randomized evaluation of multidimensional treatment foster care: effects on school attendance and homework completion in juvenile justice girlds. Res Soc Work Pract. 2007; 17(6):657-663.	USA	2	81 girls RCT	MTFC	Group care	Health/ Mental health/ delinquency Education & skills/ Cognitive functioning/ educational engagement
48	Leve LD, Chamberlain P, Reid JB. Intervention outcomes for girls referred from juvenile justice: effects on delinquency. J Consult Clin Psychol. 2005b; 73(6):1181-1185.	USA	2	103 girls RCT	MTFC	Community-based group care	Health/ Mental Health/ Delinquency
49	Leve LD, Kerr DC, Harold GT. Young Adult Outcomes Associated with Teen Pregnancy Among High-Risk Girls in an RCT of Multidimensional Treatment Foster Care. J Child Adolesc Subst Abuse. 2013; 22(5):421-434.	USA	1	81 girls RCT	MTFC	Group care	Health/ Physical health & Development/ pregnancies, substance use
50	Leve LD, Chamberlain P. Association with delinquent peers: intervention effects for youth in the juvenile justice system. J Abnorm Child Psychol. 2005a; 33(3):339-347.	USA	1	153 RCT	MTFC	Group care	Health/ Mental health/ behaviour
51	Lewis-Morrarty E, Dozier M, Bernard K, Terracciano SM, Moore SV. Cognitive flexibility and theory of mind outcomes among foster children: preschool follow-up results of a randomized clinical trial. J Adolesc Health. 2012; 51(2 Suppl):S17-22.	USA	0	57 Secondary analysis of data of a RCT	General foster care + Attachment and Biobehavioral Catch-up	(1) General foster care (2) Non-Foster Care Control Group	Educational skills/ cognitive functioning/ cognitive flexibility, theory of mind task performance
52	Linares LO, Li M, Shrout PE. Child training for physical aggression? Lessons from foster care. Children and Youth Services Review. 2012; 34(12):2416-2422.	USA	2	94 RCT	General Foster Care + Child Training intervention	General Foster Care	Health/ Mental Health/ aggression, psychiatric disorders, self-control Cross-cutting theme: service utilisation (mental health)

#	Citation	Country	Jadad score	N/study design	Type of OOHC	Comparator	Major themes / outcomes
53	Linares LO, Montalto D, Li M, Oza VS. A promising parenting intervention in foster care. J Consult Clin Psychol. 2006; 74(1):32-41.	USA	1	64 children 128 parents RCT	Parenting course	Usual care	Home/ Family Functioning/ discipline, problem solving, flexibility) Health/ Mental health/ externalising behaviours
54	Love SM, Koob JJ, Hill LE. The effects of using community mental health practitioners to treat foster children: Implications for child welfare planners. The Scientific Review of Mental Health Practice: Objective Investigations of Controversial and Unorthodox Claims in Clinical Psychology, Psychiatry, and Social Work. 2008; 6(1):31-39.	USA	2	46 RCT	General Foster care + Mental health care at entry	General Foster care	Health/ Mental Health/ anxiety, depression, self-esteem, behaviour
55	Lynch FL, Dickerson JF, Saldana L, Fisher PA. Incremental net benefit of early intervention for preschool-aged children with emotional and behavioral problems in foster care. Children and Youth Services Review. 2014; 36:213-219.	USA	1	Randomised (n=137) Participated & analysed (n=117) RCT	MTFC	Regular Foster care	Cross-cutting theme: Cost(s) and/or effectiveness
56	Maaskant AM van Rooij FB, Overbeek GJ, Oort FJ, Hermanns JMA. Parent training in foster families with children with behavior problems: Follow-up results from a randomized controlled trial. Children and Youth Services Review. 2016; 70:84-94.	Netherlands	3	88* RCT	General Foster care + Parent Management Training Oregon (PMTO)	General Foster care	Caregivers: Health/ Mental Health/ behaviour, stress Child: Health/ Mental Health/ behaviour
57	Macdonald G, Turner W. An Experiment in Helping Foster-Carers Manage Challenging Behaviour. The British Journal of Social Work. 2005; 35(8):1265-1282.	UK	2	117* RCT	General Foster care + Cognitive behavioural training programme	General Foster care	Caregivers: Education & Skills/ Cognitive functioning/ knowledge Child: Health/ Mental Health/ behaviour
58	McMillen JC, Narendorf SC, Robinson D, et al. Development and piloting of a treatment foster care program for older youth with psychiatric problems. Child Adolesc Psychiatry Ment Health. 2015; 9:23.	USA	2	14 RCT with qualitative inquiry (mixed methods)	Treatment Foster Care for Older Youth (TFC-OY)	Treatment as usual (TAU)	Qualitative inquiry on the programme itself, and a wide variety of issues spanning from mental health symptoms, functional indicators etc.
59	Mersky JP, Topitzes J, Grant-Savela SD, Brondino MJ, McNeil CB. Adapting Parent-Child Interaction Therapy to Foster Care: Outcomes from a Randomized Trial. Res Soc Work Pract. 2016; 26(2):157-167.	USA	2	102 RCT	General foster care	Wait-list control	Health/ Mental health/ internalising symptoms (i.e. depression, fear, worrying and ruminative thoughts), externalising symptoms (i.e. angry/ irritable mood etc.)

#	Citation	Country	Jadad score	N/study design	Type of OOHC	Comparator	Major themes / outcomes
60	Mersky JP, Topitzes J, Janczewski CE, McNeil CB. Enhancing foster parent training with parent-child interaction therapy: Evidence from a randomized field experiment. Journal of the Society for Social Work and Research. 2015; 6(4):591-616.	USA	2	129 foster parent-child dyads RCT	General foster care	Wait-list control	Health/ Mental health/ internalising symptoms (i.e. depression, fear, worrying and ruminative thoughts), externalising symptoms (i.e. angry/ irritable mood etc.)
61	Minnis H, Pelosi AJ, Knapp M, Dunn J. Mental health and foster carer training. Arch Dis Child. 2001; 84(4):302-306.	UK	2	Families; n=121 Children; n=182 (entered trial) families; n=121 children; n=182 RCT	General Foster care + extra training for foster carers on communication and attachment	General Foster care	Health/ Mental health/child psychopathology (e.g. behaviour, emotional issues, peer problems, conduct problems, hyper-activity) Cross-cutting theme/ costs of Foster care
62	N'Zi A M, Stevens ML, Eyberg SM. Child Directed Interaction Training for young children in kinship care: A pilot study. Child Abuse Negl. 2016; 55:81-91.	USA	2	14 caregivers RCT	Kinship care	Wait-list control	For children: Health/ mental health/ disruptive behaviour/ discipline For caregiver: Health/ mental health/ depression, parenting stress
63	Nelson CA, 3rd, Zeanah CH, Fox NA, Marshall PJ, Smyke AT, Guthrie D. Cognitive recovery in socially deprived young children: the Bucharest Early Intervention Project. Science. 2007; 318(5858):1937-1940.	Romania	3	136 RCT	General Foster care	Residential care	Education & skills/ cognitive functioning/ cognitive development Health/ Mental Health/ behaviour
64	Nelson EM, Spieker SJ. Intervention Effects on Morning and Stimulated Cortisol Responses Among Toddlers in Foster Care. Infant Ment Health J. 2013; 34(3). (see Spieker et al. 2012 below)	USA	1	46 RCT (subsample) General Foster care: 37.5% Biological parents: 37.5% Living with a family member: 25%	(General foster/ kinship) + Promoting First Relationships (PFR) intervention	(General foster/ kinship) + Early Education Support (EES)	Health/ Mental Health/ stress (serum cortisol levels)
65	Ogden, Terje, Hagen, Kristine A. Multisystemic Treatment of Serious Behaviour Problems in Youth: Sustainability of Effectiveness Two Years after Intake. Child-and-Adolescent-Mental-Health. 2006; 11(3):142-149.	Norway	2	75 RCT	Multisystemic therapy (MST)	Care as usual	Home/ Permanency Health/ Mental Health/ behaviour

#	Citation	Country	Jadad score	N/study design	Type of OOHC	Comparator	Major themes / outcomes
66	Painter K. Multisystemic Therapy as Community-Based Treatment for Youth With Severe Emotional Disturbance. Res Soc Work Pract. 2009; 19(3):314-324.	USA	1	950 pre-post quasi-experimental design with a non-equivalent comparison group	Multisystemic therapy (MST)	Care as usual	Health/ Physical Health & development/ substance use, Health/ Mental Health/ behaviour, delinquency
67	Pears KC, Fisher PA, Bronz KD. An Intervention to Promote Social Emotional School Readiness in Foster Children: Preliminary Outcomes From a Pilot Study. School Psych Rev. 2007; 36(4):665-673.	USA	1	24 children entering kindergarten RCT	General Foster care + Therapeutic playgroups	General Foster care	Health/ Mental Health/ behaviour, emotional regulation, social problems
68	Pears KC, Fisher PA, Bruce J, Kim HK, Yoerger K. Early elementary school adjustment of maltreated children in foster care: The roles of inhibitory control and caregiver involvement. Child Development. 2010; 81(5):1550-1564.	USA	0	177 A subsample of children from a RCT	General foster care	Community comparison group	Education skills/ cognitive functioning/ academic competence Social and Community/ Social functioning/ Social-Emotional competence (prosocial behaviour, emotional regulation, behaviour regulation)
69	Pears KC, Fisher PA, Kim HK, Bruce J, Healey CV, Yoerger K. Immediate Effects of a School Readiness Intervention for Children in Foster Care. Early Educ Dev. 2013; 24(6):771-791.	USA	1	192 RCT	General Foster Care + Kids in Transition to School (KITS) programme	General Foster Care	Education & Skills/ Cognitive functioning/ literacy skills Health/ Mental Health/ behaviour, emotional regulation Social & Community/ Social Functioning/ social skills
70	Pears KC, Kim HK, Fisher PA. Effects of a school readiness intervention for children in foster care on oppositional and aggressive behaviors in kindergarten. Children and Youth Services Review. 2012; 34(12):2361-2366.	USA	1	192 families RCT	General foster care + Head Start	General foster care	Health/ mental health/ aggressive, oppositional classroom behaviour Social & community/ social functioning/ aggressive, oppositional classroom behaviour
71	Poulton R, Van Ryzin MJ, Harold GT, et al. Effects of multidimensional treatment foster care on psychotic symptoms in girls. J Am Acad Child Adolesc Psychiatry. 2014; 53(12):1279-1287.	USA	3	166 girls RCT	MTFC	Group care	Health/ Mental Health/ Psychotic symptoms
72	Powers LE, Geenen S, Powers J, et al. My life: Effects of a longitudinal, randomized study of self-determination enhancement on the transition outcomes of youth in foster care and special education. Children and Youth Services Review. 2012; 34(11):2179-2187.	USA	1	69 RCT	Mixed: General foster care Kinship care	Foster Care Independent Living Programme	Home/ permanency/ transition to adulthood (independent living/ transition planning/self-determination)

#	Citation	Country	Jadad score	N/study design	Type of OOHC	Comparator	Major themes / outcomes
73	Pratt ME, Lipscomb ST, Schmitt SA. The effect of head start on parenting outcomes for children living in non-parental care. Journal of Child and Family Studies. 2015; 24(10):2944-2956.	USA	1	181 This study utilized data from the first year of the Head Start Impact Study (HSIS) - RCT	Head start programme	Community control group	Cross-cutting themes/ service utilisation
74	Price JM, Chamberlain P, Landsverk J, Reid JB, Leve LD, Laurent H. Effects of a foster parent training intervention on placement changes of children in foster care. Child Maltreat. 2008; 13(1):64-75.	USA	2	700 foster families (children+ parents) RCT	KEEP (Keeping foster and kinship parents trained and supported)	Usual child welfare casework services	Home/ permanency/ stability in living conditions
75	Price JM, Roesch S, Walsh NE. Effectiveness of the KEEP Foster Parent Intervention during an Implementation Trial. Child Youth Serv Rev. 2012; 34(12):2487-2494.	USA	1	700* RCT	MTFC (parenting training programme)	Service as usual	Health/ Mental Health/behaviour
76	Price JM, Roesch S, Walsh NE, Landsverk J. Effects of the KEEP Foster Parent Intervention on Child and Sibling Behavior Problems and Parental Stress During a Randomized Implementation Trial. Prev Sci. 2015; 16(5):685-695.	USA	1	335* RCT	MTFC + KEEP (Keeping Foster Parents Trained and Supported) foster parent training intervention)	Routine parent training and group support provided by local service agencies.	Health/ Mental Health/behaviour, parent stress levels
77	Reddy SD, Negi LT, Dodson-Lavelle B, et al. Cognitive-Based Compassion Training: A Promising Prevention Strategy for At-Risk Adolescents. Journal of Child and Family Studies. 2013; 22(2):219-230.	USA	1	71 RCT	General Foster Care + Cognitively- Based Compassion Training (CBCT)	General Foster Care	Health/ Mental Health/ behaviour, emotional issues, depression, anxiety, self-mutilation, loving kindness, compassion, joy, and acceptance toward self and others
78	Rhoades KA, Leve LD, Harold GT, Kim H, Chamberlain P. Drug Use Trajectories After a Randomized Controlled Trial of MTFC: Associations with Partner Drug Use. J Res Adolesc. 2014; 24(1):40-54.	USA	1	166 girls (original study-RCT)	MTFC	Treatment as usual	Health/ Physical Health & development/ health related risk avoidance behaviour/ drug use
79	Rowland MD, Halliday-Boykins CA, Henggeler SW, et al. A randomized trial of multisystemic therapy with Hawaii's Felix class youths. Journal of Emotional & Behavioral Disorders. 2005; 13(1):13-23.	USA	2	31 RCT	Multi Systematic Therapy (MST)	Usual services	Health/ Physical Health & development/ health related risk avoidance behaviour/ drug use Health/ Mental Health/delinquency, internalising and externalising behaviour Home/ Family functioning/ family adaptability and cohesion

#	Citation	Country	Jadad score	N/study design	Type of OOHC	Comparator	Major themes / outcomes
80	Sinclair I, Parry E, Biehal N, et al. Multi-dimensional Treatment Foster Care in England: differential effects by level of initial antisocial behaviour. European Child and Adolescent Psychiatry. 2016; 25(8):843-852.	UK	0	171 RCT + case control [the data were combined]	MTFC	Treatment as usual	Health/ Mental health/ emotional functioning Social & Community/ Social functioning
81	Smith DK, Leve LD, Chamberlain P. Preventing Internalizing and Externalizing Problems in Girls in Foster Care as they Enter Middle School: Immediate Impact of an Intervention. Prevention science: the official journal of the Society for Prevention Research. 2011; 12(3):269-277.	USA	2	100 girls RCT (Foster parents: 71% Kinship care: 28%)	(General foster / kinship care) + An intervention targeting the prevention of internalizing and externalizing problems for girls for provided in summer	(General foster / kinship care)	Health/ Mental Health/ internalising and externalising behaviour
82	Spieker SJ, Oxford ML, Fleming CB. Permanency Outcomes for Toddlers in Child Welfare Two Years After a Randomized Trial of a Parenting Intervention. Child Youth Serv Rev. 2014; 44:201-206.	USA	1	210 RCT	Mixed: (1) Biological parent (~28%) (2) Kin (~32.5%) (3) Foster parent (~44%) + Promoting First Relationships® (PFR) programme	Mixed: (1) Biological parent (~25.7%) (2) Kin (~33.3%) (3) Foster parent (~41%) + Early Education Support	Home/ permanency/ stability in living conditions
83	Spieker SJ, Oxford ML, Kelly JF, Nelson EM, Fleming CB. Promoting First Relationships: Randomized Trial of a Relationship-Based Intervention for Toddlers in Child Welfare. Child Maltreatment. 2012; 17(4):271-286.	USA	2	210 RCT	Mixed: (1) Biological parent (~28%) (2) Kin (~32.5%) (3) Foster parent (~44%) + Promoting First Relationships® (PFR) programme	Mixed: (1) Biological parent (~25.7%) (2) Kin (~33.3%) (3) Foster parent (~41%) + Early Education Support	Caregiver: Home/ Family functioning Child: Health/mental health/internalising & externalising problems, emotional regulation Social & community/ social functioning/ security/ engagement/ competence
84	Sprang G. The Efficacy of a Relational Treatment for Maltreated Children and their Families. Child and Adolescent Mental Health. 2009; 14(2):81-88.	USA	1	53 parent-child dyads RCT	General Foster care + Attachment and Biobehavioural Catch-up Intervention (ABC)	General Foster care	Child: Health/mental health/ behaviour Home/ Safety/ protection from abuse and neglect Caregiver: Health/ Mental Health/ stress

#	Citation	Country	Jadad score	N/study design	Type of OOHC	Comparator	Major themes / outcomes
85	Stein TJ, Gambrill ED. Facilitating Decision Making in Foster Care: The Alameda Project. Social Service Review. 1977; 51(3):502-513.	USA	1	428 Quasi-experimental (volunteered group + randomised group)	General Foster care + The Alameda project	General Foster care	Home/ Permanency/ permanency
86	Sundell K, Hansson K, Lofholm CA, Olsson T, Gustle LH, Kadesjo C. The Transportability of Multisystemic Therapy to Sweden: Short-Term Results From a Randomized Trial of Conduct-Disordered Youths. J Fam Psychol. 2008; 22(4):550-560.	Sweden	3	156 RCT with a mixed factorial design RCT	Multi Systematic Therapy (MST)	Treatment as usual	Health/ Mental health/ Internalizing symptoms, delinquency, behaviour
87	Taussig HN, Culhane SE. Impact of a mentoring and skills group program on mental health outcomes for maltreated children in foster care. Arch Pediatr Adolesc Med. 2010; 164(8):739-746.	USA	2	156 RCT	General Foster care + Received a 9-month mentoring and skills group programme	General Foster care + Received an assessment of their cognitive, educational, and mental health functioning	Health/mental health/ internalising and externalising behaviour, trauma symptoms, coping, self-competence Home/ Family functioning/ social support (family, peers, caregivers, mentors)
88	Taussig HN, Culhane SE, Garrido E, Knudtson MD. RCT of a mentoring and skills group program: placement and permanency outcomes for foster youth. Pediatrics. 2012; 130(1):e33-39.	USA	1	61 RCT	General foster care + Fostering Healthy Futures	General foster care	Home/ Permanency/ placement changes, permanency
89	Tibu F, Humphreys KL, Fox NA, Nelson CA, Zeanah CH. Psychopathology in young children in two types of foster care following institutional rearing. Infant Ment Health J. 2014; 35(2):123-131.	Romania	1	136 (allocated) (follow up - Nelson 2007) RCT	General foster care	Children in government sponsored foster care (GSFC)	Health/ Mental health/ Internalizing symptoms/ externalising symptoms/ ADHD
90	Van Ryzin MJ, Leve LD. Affiliation with delinquent peers as a mediator of the effects of multidimensional treatment foster care for delinquent girls. J Consult Clin Psychol. 2012; 80(4):588-596.	USA	2	166 Girls RCT (see Poulton 2014)	MTFC	General Care	Health/ Mental Health/ Delinquency
91	Westermark PK, Hansson K, Olsson M. Multidimensional treatment foster care (MTFC): Results from an independent replication. Journal of Family Therapy. 2011; 33(1):20-41.	Sweden	3	35 RCT	MTFC	Treatment as usual	Health/ Mental Health/ behaviour

#	Citation	Country	Jadad score	N/study design	Type of OOHC	Comparator	Major themes / outcomes
92	Valentine EJ, Skemer M, Courtney ME (2015). Becoming Adults; One year impact findings from the youth villages transition living evaluation. Manpower Demonstration Research Corporation. Manpower Demonstration Research Corporation.	USA	3	1322 RCT	Transitional Living Services	Other social services	Home & Safety/ Permanency/ transition to adulthood
93	Vandivere S, Malm KE, Allen TJ, Williams SC, McKlindon Z. A randomised controlled trial of family finding: A relative search and engagement intervention for youth lingering in foster care. Evaluation Review. 2007. 1-26.	USA	3	568 RCT	Family finding service	Traditional family welfare services	Home & Safety/ Permanency/ permanent placements

C.2 Systematic Reviews

	Citation	AMSTAR Rating	Meta analysis (Y/N)	N studies included	Type of OOHC	Major themes/outcomes
1	Al CM, Stams GJJ, Bek MS, Damen EM, Asscher JJ, van der Laan PH. A meta-analysis of intensive family preservation programs: Placement prevention and improvement of family functioning. Children and Youth Services Review. 2012; 34(8):1472-1479.	9	Y	20	OOHC Prevention	Home & Safety / Family functioning / family functioning OOHC Prevention
2	Donkoh C, Underhill K, Montgomery P. Independent living programmes for improving outcomes for young people leaving the care system. Cochrane Database Syst Rev. 2006(3):CD005558.	6	NA	0	Mixed / Unspecified	Home & Safety / Permanency / transitioning out of OOHC (No studies were found that met the inclusion criteria)
3	Downes MJ, Lakhani A, Maujean A, Macfarlane K, Kendall E. Evidence for Using Farm Care Practices to Improve Attachment Outcomes in Foster Children: A Systematic Review. British Journal of Social Work. 2016; 46(5):1241-1248.	2	NA	0	General foster care	Home & Safety / Family functioning / attachment
4	Everson-Hock ES, Jones R, Guillaume L, et al. Supporting the transition of looked-after young people to independent living: a systematic review of interventions and adult outcomes. Child Care Health Dev. 2011; 37(6):767-779.	7	N	7	Mixed / Unspecified	Education & Skills / Cognitive functioning / educational attainment Health / Mental Health / problem behaviour, delinquent behaviour, psychosocial functioning Home & safety / Permanency / transitioning out of OOHC Health / Physical Health & Development / health-related risk-avoidance behaviour
5	Everson-Hock ES, Jones R, Guillaume L, et al. The effectiveness of training and support for carers and other professionals on the physical and emotional health and well-being of looked-after children and young people: a systematic review. Child Care Health Dev. 2012; 38(2):162-174.	7	N	6	Mixed / Unspecified	Home & safety / Permanency / placement stability Health / Mental Health / emotional health and wellbeing, behavioural problems
6	Goemans A, van Geel M, Vedder P. Over three decades of longitudinal research on the development of foster children: a meta-analysis. Child Abuse Negl. 2015; 42:121-134.	6	Y	31	General foster care	Health / Mental Health / behaviour problems (internalizing and externalizing) Social & Community / Social functioning / adaptive functioning
7	Goemans A, van Geel M, van Beem M, Vedder P. Developmental Outcomes of Foster Children: A Meta-Analytic Comparison With Children From the General Population and Children at Risk Who Remained at Home. Child Maltreat. 2016; 21(3):198-217.	9	Y	29	General foster care Kinship care	Education & Skills / Cognitive functioning / cognitive functioning Health / Mental Health / behaviour problems (internalizing and externalizing) Social & Community / Social functioning / adaptive functioning
8	Hahn RA, Bilukha O, Lowy J, et al. The effectiveness of therapeutic foster care for the prevention of violence: a systematic review. Am J Prev Med. 2005; 28(2 Suppl 1):72-90.	6	N	5	Intensive / Treatment foster care	Health / Mental Health / violent outcomes, psychiatric diagnoses of conduct disorder, externalizing behaviour, arrest, incarceration

	Citation	AMSTAR Rating	Meta analysis (Y/N)	N studies included	Type of OOHC	Major themes/outcomes
9	Heerde JA, Hemphill SA, Broderick D, Florent A. Associations between leaving out-of-home care and post-transition youth homelessness: A review. Developing Practice. 2012(32):36-52.	2	N	15	Mixed / Unspecified	Home & safety / Permanency / transitioning out of OOHC Health / Mental Health / problem behaviour, delinquent behaviour, psychosocial functioning Health / Physical Health & Development / health-related risk-avoidance behaviour
10	Heerde JA, Hemphill SA, Scholes-Balog KE. The impact of transitional programmes on post-transition outcomes for youth leaving out-of-home care: a meta-analysis. Health Soc Care Community. 2016; 24:24.	6	Y	19	Mixed / Unspecified	Health / Physical Health & Development / health-related risk-avoidance behaviour Home & safety / Permanency / transitioning out of OOHC
11	Hermenau K, Goessmann K, Rygaard NP, Landolt MA, Hecker T. Fostering Child Development by Improving Care Quality: A Systematic Review of the Effectiveness of Structural Interventions and Caregiver Trainings in Institutional Care. Trauma Violence Abuse Rev J. 2016; 12:12.	8	N	24	Residential care	Home & Safety / Family Functioning / caregiving or institutional quality, attachment Health / Physical Health Health / Mental Health Education & Skills / Cognitive functioning Social & Community / Social Functioning
12	Hiles D, Moss D, Wright J, Dallos R. Young people's experience of social support during the process of leaving care: A review of the literature. Children and Youth Services Review. 2013; 35(12):2059-2071.	4	N	47	Mixed / Unspecified	Home & safety / Permanency / transitioning out of OOHC Social & Community / Social functioning / adaptive functioning Home & Safety / Family Functioning / supportive relationships, relationship with birth family
13	Kerr L, Cossar J. Attachment interventions with foster and adoptive parents: A systematic review. Child Abuse Review. 2014; 23(6):426-439.	5	N	13	General foster care Intensive / Treatment foster care	Health / Mental Health / emotional functioning, behavioural functioning Social & Community / Social Functioning / relational functioning
14	Kinsey D, Schlosser A. Interventions in foster and kinship care: A systematic review. Clinical Child Psychology and Psychiatry. 2013; 18(3):429-463.	2	Y	30	General foster care Intensive / Treatment foster care	Home & Safety / Safety Home & Safety / Family Functioning Home & Safety / Permanency Health / Mental Health
15	Knorth EJ, Harder AT, Zandberg T, Kendrick AJ. Under one roof: A review and selective meta-analysis on the outcomes of residential child and youth care. Children and Youth Services Review. 2008; 30(2):123-140.	2	Y	110	Residential care	Education & Skills / Cognitive Functioning / cognitive skills Health / Mental Health / problem behaviour (internalizing and externalizing), delinquent behaviour, psychosocial functioning Social & Community / Social Functioning / social skills and competence
16	Liabo K, Gray K, Mulcahy D. A systematic review of interventions to support looked-after children in school. Child & Family Social Work. 2013; 18(3):341-353.	7	N	11	Mixed / Unspecified	Education & Skills / Cognitive Functioning / school and academic

	Citation	AMSTAR Rating	Meta analysis (Y/N)	N studies included	Type of OOHC	Major themes/outcomes
17	Lin C-H. Evaluating services for kinship care families: A systematic review. Children and Youth Services Review. 2014; 36:32-41.	4	N	13	Kinship care	Home & Safety / Permanency Home & Safety / Family Functioning Health / Mental Health Other / Service utilisation
18	Littell, J.H., Popa, M., Forsythe, B. (2005). Multisystemic Therapy for Social, Emotional, and Behavioral Problems in Youth Aged 10-17, Campbell Systematic Reviews, 2005:1	11	Y	8	Multisystemic Therapy (MST)	Health / Mental Health / behaviour, psychological functioning, criminal offence Education & Skills / Cognitive Functioning / school attendance Health / Physical Health / health related risk avoidance behaviour/ drug use
19	Macdonald, G., & Turner, W. (2008). Treatment foster care for improving outcomes in children and young people. *The Cochrane Library*	10	N	5	Treatment Foster Care (TFC)	Health / Mental Health/ behaviour, psychological functioning, psycatric symptoms, problem solving Home & Safety / Permanency / Placement stability Education & Skills / Cognitive Functioning / educational achievements, school attendance Social & Community / Social Functioning/ interpersonal functioning Health / Physical Health/ health related risk avoidance behaviour/ drug use
20	Maclean MJ, Sims S, O'Donnell M, Gilbert R. Out-of-home care versus in-home care for children who have been maltreated: A systematic review of health and wellbeing outcomes. Child Abuse Review. 2016:No Pagination Specified.	7	N	11	Mixed / Unspecified	Education & Skills / Cognitive Functioning / cognitive and language skills, academic achievements, school attendance and engagement, employment Health / Physical Health / Health Health / Mental Health / mental health and behaviour, risky behaviour (criminal justice, drug and alcohol use, suicide attempts, risky sexual behaviour and teenage births, health risk behaviour, running away) Social & Community / Social Functioning / daily living skills, social support Other / service use
21	Montgomery P, Donkoh C, Underhill K. Independent living programs for young people leaving the care system: The state of the evidence. Children and Youth Services Review. 2006 (28). 1435-1448.	4	N	7	Supported independent living	Home & Safety / Permanency / transition to adulthood
22	Rock S, Michelson D, Thomson S, Day C. Understanding foster placement instability for looked after children: A systematic review and narrative synthesis of quantitative and qualitative evidence. British Journal of Social Work. 2015; 45(1):177-203.	4	N	58	General foster care	Home & Safety / Permanency / placement instability (incidence of placement breakdown, frequency of placement moves)

	Citation	AMSTAR Rating	Meta analysis (Y/N)	N studies included	Type of OOHC	Major themes/outcomes
23	Thompson AE, Greeson JK, Brunsink AM. Natural mentoring among older youth in and aging out of foster care: A systematic review. Children and Youth Services Review. 2016; 61:40-50.	4	N	38	General foster care	Education & Skills / Cognitive Functioning / academic Health / Mental Health / positive wellbeing, behaviour, psychosocial
24	Van Andel HW, Grietens H, Strijker J, Van der Gaag RJ, Knorth EJ. Searching for effective interventions for foster children under stress: A meta-analysis. Child & Family Social Work. 2014; 19(2):149-155.	4	Y	19	General foster care	Home & Safety / Family Functioning / Parenting skills Health / Mental Health / problem behaviour
25	van der Stouwe, T., Asscher, J. J., Stams, G. J. J., Deković, M., & van der Laan, P. H. (2014). The effectiveness of Multisystemic Therapy (MST): a meta-analysis. *Clinical psychology review*, *34*(6), 468-481	8	Y	22	Multisystemic Therapy (MST)	Health / Mental Health/ behaviour, psychological functioning, criminal offence, Delinquency, Psychopathology Education & Skills / Cognitive Functioning/ skills and cognition Health / Physical Health/ health related risk avoidance behaviour/ substance use Home & Safety / Permanency/ Out-of-home placement Other: Family factors; Peer factors
26	Winokur M, Holtan A, Valentine D. Kinship care for the safety, permanency, and well-being of children removed from the home for maltreatment. Cochrane Database Syst Rev. 2009(1):CD006546.	11	Y	62	General foster care Kinship care	Home & Safety / Permanency / placement stability (number of placements, re-entry, length of placement), permanency (reunification, adoption, guardianship) Home & Safety / Family Functioning / family relations (problem solving, tolerance, commitment, conflicts) Home & Safety / Safety / re-abuse (substantiated abuse, institutional abuse) Education & Skills / Cognitive Functioning / educational attainment (graduation, grades, test scores) Health / Mental health / mental health (psychiatric illness, psychopathological conditions, well being) Social & Community / Social Functioning / behavioural development (behaviour problems, adaptive behaviours) Other / service utilisation
27	Winokur M, Holtan A, Batchelder KE. Kinship care for the safety, permanency, and well-being of children removed from the home for maltreatment. Cochrane Database Syst Rev. 2014;1:CD006546.	11	Y	102	General foster care Kinship care	Home & Safety / Permanency / placement stability, permanency Home & Safety / Family Functioning / family relations Home & Safety / Safety / re-abuse Education & Skills / Cognitive Functioning / educational attainment Health / Mental Health / behavioural development, mental health Other / service utilisation

	Citation	AMSTAR Rating	Meta analysis (Y/N)	N studies included	Type of OOHC	Major themes/outcomes
28	Ziviani J, Feeney R, Cuskelly M, Meredith P, Hunt K. Effectiveness of support services for children and young people with challenging behaviours related to or secondary to disability, who are in out-of-home care: A systematic review. Children and Youth Services Review. 2012; 34(4):758-770.	8	N	4	Mixed / Unspecified	Home & Safety / Permanency Education & Skills / Cognitive Functioning / school Health / Mental Health / behaviour, delinquency Other / caregiver outcomes (emotional and psychological functioning, knowledge, abuse, attitudes

Appendix D Excluded study list

D.1 Primary studies

Abrams LS, Shannon SKS, Sangalang C. Transition services for incarcerated youth: A mixed methods evaluation study. Children and Youth Services Review. 2008; 30(5):522-535.
Allen B, Timmer SG, Urquiza AJ. Parent-Child Interaction Therapy as an attachment-based intervention: Theoretical rationale and pilot data with adopted children. Children and Youth Services Review. 2014; 47:334-341.
Blome WW. What happens to foster kids: Educational experiences of a random sample of foster care youth and a matched group of non-foster care youth. Child & Adolescent Social Work Journal. 1997; 14(1):41-53.
Brosnan R, Carr A. Adolescent conduct problems. Carr, Alan [Ed] (2000) What works with children and adolescents?: A critical review of psychological interventions with children, adolescents and their families (pp 131-154) xii, 364 pp Florence, KY, US: Taylor & Frances/Routledge; US. 2000:131-154.
Brown CH, Chamberlain P, Saldana L, Padgett C, Wang W, Cruden G. Evaluation of two implementation strategies in 51 child county public service systems in two states: results of a cluster randomized head-to-head implementation trial. Implement Sci. 2014; 9:134.
Chamberlain P, Brown CH, Saldana L. Observational measure of implementation progress in community based settings: the Stages of Implementation Completion (SIC). Implement Sci. 2011; 6:116.
Chamberlain P, Roberts R, Jones H, Marsenich L, Sosna T, Price JM. Three collaborative models for scaling up evidence-based practices. Adm Policy Ment Health. 2012; 39(4):278-290.
Courtney ME. Reentry to foster care of children returned to their families. Social service review. 1995; 69(2):226-241.
Crampton DS, Usher CL, Wildfire JB, Webster D, Cuccaro-Alamin S. Does community and family engagement enhance permanency for children in foster care? Findings from an evaluation of the family-to-family initiative. Child Welfare. 2011; 90(4):61-77.
Crettenden A, Wright A, Beilby E. Supporting families: Outcomes of placement in voluntary out-of-home care for children and young people with disabilities and their families. Children and Youth Services Review. 2014; 39:57-64.
Decaluwe B, Jacobson SW, Poirier M-A, Forget-Dubois N, Jacobson JL, Muckle G. Impact of Inuit customary adoption on behavioral problems in school-age Inuit children. American Journal of Orthopsychiatry. 2015; 85(3):250-258.
Dixon J, Biehal N, Green J, Sinclair I, Kay C, Parry E. Trials and tribulations: Challenges and prospects for randomised controlled trials of social work with children. British Journal of Social Work. 2014; 44(6):1563-1581.
Evans ME, Armstrong MI, Dollard N, Kuppinger AD, Huz S, Wood VM. DEVELOPMENTAL AND EVALUATION OF TREATMENT FOSTER-CARE AND FAMILY-CENTERED INTENSIVE CASE-MANAGEMENT IN NEW-YORK. Journal of Emotional and Behavioral Disorders. 1994; 2(4):228-239.
Fernandez E, Lee J-S. Accomplishing family reunification for children in care: An Australian study. Children and Youth Services Review. 2013; 35(9):1374-1384.
Fox S, Ashmore Z. Multisystemic Therapy as an Intervention for Young People on the Edge of Care. British Journal of Social Work. 2015; 45(7):1968-1984.
Greeson JK, Garcia AR, Kim M, Thompson AE, Courtney ME. Development & maintenance of social support among aged out foster youth who received independent living services: Results from the Multi-Site Evaluation of Foster Youth Programs. Children and Youth Services Review. 2015; 53:1-9.
Harold GT, DeGarmo DS. Concerns regarding an evaluation of MTFC-A for adolescents in English care. The British Journal of Psychiatry. 2014; 205(6):498.
Henggeler SW, Pickrel SG, Brondino MJ. Multisystemic treatment of substance-abusing and dependent delinquents: outcomes, treatment fidelity, and transportability. Ment Health Serv Res. 1999; 1(3):171-184.
Hine KM, Moore KJ. Family Care Treatment for dispersed populations of children with behavioral challenges: The design, implementation, and initial outcomes of an evidence-informed treatment. Children and Youth Services Review. 2015; 58:179-186.
Holden E, O'Connell SR, Connor T, et al. Evaluation of the Connecticut Title IV-E Waiver Program: Assessing the effectiveness, implementation fidelity, and cost/benefits of a continuum of care. Children and Youth Services Review. 2002; 24(6-7):409-430.
Holland S, Faulkner A, Perez-del-Aguila R. Promoting stability and continuity of care for looked after children: a survey and critical review. Child & Family Social Work. 2005; 10(1):29-41.
Holtan A, Ronning JA, Handegard BH, Sourander A. A comparison of mental health problems in kinship and nonkinship foster care. European child & adolescent psychiatry. 2005; 14(4):200-207.
Horwitz SM, Hurlburt MS, Cohen SD, Zhang J, Landsverk J. Predictors of placement for children who initially remained in their homes after an investigation for abuse or neglect. Child Abuse & Neglect. 2011; 35(3):188-198.
Horwitz SM, Owens P, Simms MD. Specialized assessments for children in foster care. Pediatrics. 2000; 106(1 Pt 1):59-66.
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Iglehart AP. Adolescents in foster care: predicting readiness for independent living. Children and Youth Services Review. 1994; 16(3/4):159-169.

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Jones-Karena J. Functioning and adjustment of children in kinship care versus nonrelative foster family care placements. 1998.

Jonkman CS, Schuengel C, Lindeboom R, Oosterman M, Boer F, Lindauer RJ. The effectiveness of Multidimensional Treatment Foster Care for Preschoolers (MTFC-P) for young children with severe behavioral disturbances: study protocol for a randomized controlled trial. Trials. 2013; 14:197.

Juffer F, Bakermans-Kranenburg MJ, van IMH. The importance of parenting in the development of disorganized attachment: evidence from a preventive intervention study in adoptive families. Journal of Child Psychology & Psychiatry & Allied Disciplines. 2005; 46(3):263-274.

Kerns SE, Pullmann MD, Negrete A, et al. Development and Implementation of a Child Welfare Workforce Strategy to Build a Trauma-Informed System of Support for Foster Care. Child Maltreat. 2016; 21(2):135-146.

Leathers SJ. Placement disruption and negative placement outcomes among adolescents in long-term foster care: the role of behavior problems. Child Abuse & Neglect. 2006; 30(3):307-324.

Leathers SJ, Falconnier L, Spielfogel JE. Predicting family reunification, adoption, and subsidized guardianship among adolescents in foster care. American Journal of Orthopsychiatry. 2010; 80(3):422-431.

Lee BR, Ebesutani C, Kolivoski KM, et al. Program and practice elements for placement prevention: A review of interventions and their effectiveness in promoting home-based care. American Journal of Orthopsychiatry. 2014; 84(3):244-256.

Leve LD, Harold GT, Chamberlain P, Landsverk JA, Fisher PA, Vostanis P. Practitioner review: Children in foster care--vulnerabilities and evidence-based interventions that promote resilience processes. J Child Psychol Psychiatry. 2012; 53(12):1197-1211.

Linares L, Li M, Shrout PE, Brody GH, Pettit GS. Placement shift, sibling relationship quality, and child outcomes in foster care: A controlled study. J Fam Psychol. 2007; 21(4):736-743.

Macdonald GM, Turner W. Treatment foster care for improving outcomes in children and young people. Cochrane Database Syst Rev. 2008(1):CD005649.

Mezey G, Robinson F, Campbell R, et al. Challenges to undertaking randomised trials with looked after children in social care settings. Trials. 2015; 16:206.

Miklowitz DJ. Delinquency, depression, and psychosis among adolescents in foster care: What holds three heads together? Journal of the American Academy of Child & Adolescent Psychiatry. 2014; 53(12):1251-1253.

Miller KA. Exploring placement instability among young children in the multidimensional treatment foster care preschool study. Dissertation Abstracts International: Section B: The Sciences and Engineering. 2008; 68(10-B):6974.

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Appendix E AMSTAR

AMSTAR = A measurement tool to assess the methodological quality of systematic reviews

#	Criteria	Rating
1	Was an 'a priori' design provided? The research question and inclusion criteria should be established before the conduct of the review. Note: Need to refer to a protocol, ethics approval, or pre-determined/a priori published research objectives to score a "yes."	□ Yes □ No □ Can't answer □ Not applicable
2	Was there duplicate study selection and data extraction? There should be at least two independent data extractors and a consensus procedure for disagreements should be in place. Note: 2 people do study selection, 2 people do data extraction, consensus process or one person checks the other's work.	□ Yes □ No □ Can't answer □ Not applicable
3	Was a comprehensive literature search performed? At least two electronic sources should be searched. The report must include years and databases used (e.g., Central, EMBASE, and MEDLINE). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. Note: If at least 2 sources + one supplementary strategy used, select "yes" (Cochrane register/Central counts as 2 sources; a grey literature search counts as supplementary).	□ Yes □ No □ Can't answer □ Not applicable
4	Was the status of publication (i.e. grey literature) used as an inclusion criterion? The authors should state that they searched for reports regardless of their publication type. The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status, language etc. Note: If review indicates that there was a search for "grey literature" or "unpublished literature," indicate "yes." SIGLE database, dissertations, conference proceedings, and trial registries are all considered grey for this purpose. If searching a source that contains both grey and non-grey, must specify that they were searching for grey/unpublished lit.	□ Yes □ No □ Can't answer □ Not applicable
5	Was a list of studies (included and excluded) provided? A list of included and excluded studies should be provided. Note: Acceptable if the excluded studies are referenced. If there is an electronic link to the list but the link is dead, select "no."	□ Yes □ No □ Can't answer □ Not applicable
6	Were the characteristics of the included studies provided? In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. Note: Acceptable if not in table format as long as they are described as above.	□ Yes □ No □ Can't answer □ Not applicable
7	Was the scientific quality of the included studies assessed and documented? 'A priori' methods of assessment should be provided (e.g., for effectiveness studies if the author(s) chose to include only randomized, double-blind, placebo controlled studies, or allocation concealment as inclusion criteria); for other types of studies alternative items will be relevant. Note: Can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, etc., or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).	□ Yes □ No □ Can't answer □ Not applicable
8	Was the scientific quality of the included studies used appropriately in formulating conclusions? The results of the methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. Note: Might say something such as "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7.	□ Yes □ No □ Can't answer □ Not applicable
9	Were the methods used to combine the findings of studies appropriate? For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, I2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Note: Indicate "yes" if they mention or describe heterogeneity, i.e., if they explain that they cannot pool because of heterogeneity/variability between interventions.	□ Yes □ No □ Can't answer □ Not applicable

#	Criteria	Rating
10	Was the likelihood of publication bias assessed? An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). Note: If no test values or funnel plot included, score "no". Score "yes" if mentions that publication bias could not be assessed because there were fewer than 10 included studies.	□ Yes □ No □ Can't answer □ Not applicable
11	Was the conflict of interest included? Potential sources of support should be clearly acknowledged in both the systematic review and the included studies. Note: To get a "yes," must indicate source of funding or support for the systematic review AND for each of the included studies.	□ Yes □ No □ Can't answer □ Not applicable

Source: Shea et al. BMC Medical Research Methodology 2007 7:10 doi: 10.1186/1471-2288-7-10. Additional notes (in italics) made by Michelle Weir, Julia Worswick, and Carolyn Wayne based on conversations with Bev Shea and/or Jeremy Grimshaw in June and October 2008 and July and September 2010.

Appendix F Data Extraction Sheet

The data extraction sheet for all included primary studies and systematic reviews has been provided as a separate file (EGM OOHC Data Extraction.xls file).

Appendix G An OOHC Evidence and Gap Map

The OOHC Evidence and Gap Map with all included primary studies and systematic reviews located according to intervention type and child outcomes has been provided as a separate file (OOHC EGM.xls file).

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Our mission

We are dedicated to using the best evidence in practice and policy to improve the lives of children, families and communities facing adversity.

How we achieve this

We work with a diverse range of key stakeholders who want to achieve social impact for children and families facing adversity. We bring specialist skills in:

- Supporting sustained change in the behaviour of systems, organisations and individuals. We put a strong emphasis on supporting and strengthening the core components of effective program implementation.
- Providing knowledge translation to policymakers, and relevant stakeholders, so they can access – and use – research for evidence-informed decision-making.
- Program design – selecting and creating evidence-informed programs and services to achieve outcomes for children, family and communities.
- Conducting rigorous evaluations, and assessing the long-term effect of outcomes.

Working with us

Through national and international collaborations, we conduct a range of activities to achieve our mission.

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