



# Rapid evidence assessment of case management with vulnerable families

This report, prepared by the Parenting Research Centre, synthesises the literature in which case management models have been evaluated with vulnerable families.

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### **Disclaimer**

The Parenting Research Centre (PRC) does not endorse any particular model presented here. The searches were conducted in May 2015 and publications predating 2000 were not considered. Readers are advised to consider new evidence arising since the publication of this review.

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# Key definitions

<p><b>Case management</b></p>	<p>Case management is a pervasive social service intervention intended to assist individuals and or families with a wide range of challenges in accessing needed services (Rapp, Van Den Noortgate, Broekaert, &amp; Vanderplasschen, 2014). Case management is not a profession in itself, but a fluid and dynamic practice that involves many disciplines and continues to develop (Stanton, Swanson, Sherrod, &amp; Packa, 2005). NSW FACS defines case management as ‘the process of assessment, planning, implementation, monitoring and review’ in their policy document on case management for out-of-home care. Case management aims to ‘strengthen outcomes for both families and children and young people through integrated and coordinated service delivery’ (NSW Family and Community Services, 2013).</p> <p>Case management is known by various names such as casework, care coordination and case coordination. For the purpose of this report, the term case management is used.</p>
<p><b>Child protection</b></p>	<p>Child protection involves services that provide assistance, care, and protection to children who are suspected of being or are vulnerable to being neglected or harmed.</p> <p>In Australia, state and territory governments are responsible for the operation of child protection services. Departments of child protection organise investigations into allegations of child abuse or neglect to determine the level of involvement that is required to ensure the safety of the child in question.</p> <p>Retrieved from: <a href="http://www.aihw.gov.au/child-protection/">http://www.aihw.gov.au/child-protection/</a></p>
<p><b>Differential response</b></p>	<p>Differential response is a way of responding to reports of child abuse and neglect that allows for the assessment of families’ situations and identification of their needs, and which recognises the benefit of responding differently to different types of reports. It typically uses two response categories: an investigation response (IR) and an alternative (assessment/family assessment) response (AR). IR involves evidence gathering and a formal determination of whether child maltreatment has occurred, and is generally used for reports of severe maltreatment. AR is usually applied in low-risk and moderate-risk cases and does not require a formal determination of child abuse or neglect.</p> <p>Source: US Department of Health &amp; Human Services (<a href="https://www.childwelfare.gov/pubs/issue-briefs/differential-response/">https://www.childwelfare.gov/pubs/issue-briefs/differential-response/</a>)</p>
<p><b>Intensive case management</b></p>	<p>Intensive case management services provide intensive support to people with high needs. There is a high level of contact and an intense relationship with the young person and their family. Its main aim is to reduce high-risk behaviour and increase stability for the youth, and it includes intensive outreach and support, extended hours of service availability, and after-hours crisis support and intervention.</p> <p>In this report different case management approaches use different definitions of ‘intense’; however, most involve some kind of addition to or increased availability of regular services.</p>

	<p>In the NSW context, intensive case management is provided by Intensive Family Support and Intensive Family Preservation services, in which service providers coordinate services to provide after-hours case worker support (24 hour availability in the first 12 weeks) and monitor child safety and ROSH.</p> <p>Intensive Family Support/Intensive Family Preservation are Community Services' second highest and highest-intensity programs. They work with families in crisis, whose children are at high or imminent risk of removal and placement in out-of-home care (OOHC).</p> <p>Source: VIC Department of Human Services (<a href="http://www.dhs.vic.gov.au">www.dhs.vic.gov.au</a>); NSW Department of Community Services (<a href="http://www.community.nsw.gov.au">www.community.nsw.gov.au</a>)</p>
<b>Intervention</b>	<p>In this review 'intervention' is defined as any process of intervening (specifically, any case management process or practice or equivalent approach) on people, groups, or entities in an experimental study. In controlled trials, the word is used to describe the regimens in all comparison groups including treatment as usual (TAU), usual-service, and no treatment groups.</p> <p>Source: Cochrane organisation (<a href="http://community.cochrane.org/glossary">http://community.cochrane.org/glossary</a>)</p>
<b>Model</b>	<p>In this report we use the term 'model' to refer to practices, interventions, services, reforms or initiatives of case management.</p>
<b>Outcomes</b>	<p>An outcome is defined as a measurable change or benefit to a child or other family member. It may be either an increase in a desired behaviour (for example, improved parenting practice) or a decrease in an undesired behaviour (such as reduced child protection notifications). It may also refer to an improvement in circumstances or psycho-emotional measures (such as reduction in scores of depression or anxiety). Outcomes may be focused on the child, parent, whole family or the service providers and system.</p>
<b>Service brokerage</b>	<p>The service brokerage model is a strictly time-limited version of case management in which case workers help clients identify their needs and access appropriate services, generally in only one or two contacts (Vanderplasschen, Wolf, Rapp, &amp; Broekaert, 2007).</p>
<b>Wraparound</b>	<p>Wraparound (in the Australian context) is used to refer to individualised services which meet the needs — identified during assessment and case planning — of the child or young person in care or otherwise accessing services. Source: NSW Department of Community Services (April 2007)</p> <p>In the US context, wraparound is conceived of as an intensive care planning and management process which requires that care planning, services, and supports, should be individualised, family-driven, culturally competent, and community based. Collaborating agencies must adhere to key principles in order to successfully implement wraparound. Source: <a href="http://nwi.pdx.edu/wraparound-basics/#whatiswraparound">http://nwi.pdx.edu/wraparound-basics/#whatiswraparound</a></p>

# 1. Executive summary

## 1.1. Overview

The purpose of this report is to synthesise the literature in which case management models have been evaluated with vulnerable families. Case management is a social service intervention intended to assist individuals and/or families with a wide range of challenges in accessing needed services (Rapp et al., 2014). Case management is not a profession in itself, but a fluid and dynamic practice that involves many disciplines and continues to develop (Stanton et al., 2005).

Case management is known by various names such as casework, care coordination and case coordination. For the purposes of this report the term case management is used to cover all these terms.

Case management is more likely to be utilised in environments where the needs of the target population are complex and the service system is fragmented and has limited resources (Halfon, Berkowitz, & Klee, 1993). Vulnerable children and families' needs are complex because they are 'at-risk' of numerous negative outcomes, such as exposure to violence, other types of victimisation, adverse health outcomes, and higher rates of mortality (Fuller & Nieto, 2014). Families that are more likely to receive case management from child protection include families with allegations of environmental neglect (lack of adequate food, shelter, or clothing) or emotional abuse, and substance-exposed infants.

Although well utilised and viewed as an important service enhancement, there is a paucity of theoretical models and research on case management (Arnold, Walsh, Oldham, & Rapp, 2007; Schwartz, Baker, Mulvey, Kevin, & Plough, 1997).

## 1.2. Methods

This report employed a rapid evidence assessment (REA) methodology to identify evaluations of case management models. REAs are reviews that accelerate or streamline traditional systematic review processes, facilitating the synthesis of evidence in an area within a shorter time-frame (Ganann, Ciliska, & Thomas, 2010). REAs use systematic review methods to search and evaluate the literature, but the search may be less comprehensive than in a full systematic review. REAs are particularly useful when there is uncertainty about the effectiveness of a policy or service, or when a decision on evidence-based practice is needed within months. REAs are increasingly recognised as a superior alternative to traditional literature reviews when time and staffing limitations make a systematic review impractical.

An REA methodology was used to identify evaluations of case management models for vulnerable children and families. Ten academic databases were searched. Studies evaluating with any form of comparison or control group were eligible for inclusion. Only English language publications dated from the year 2000 onwards were sought. Books, theses and conference papers were not included. Full details of the methodology are available in the body of this report and in the Appendix.

### 1.3. Findings

#### Key findings

- Twenty-nine publications covering 22 case management models were identified.
- The models were divided into three groups based on intervention types: for vulnerable families in the early parenting years (n = 4); for families with complex needs (n = 8); and in services for children and youth (n = 8).
- The most frequently reported activities undertaken in the case management models were: assessment, monitoring of cases, coordination of services, provision of information and education, referral to services, direct service provision and therapy, provision of 'support' in general, development of individualised plans, linkage of families to services, and case planning.
- There were some positive and promising findings from some studies into case management in all three groups.
- On the whole, however, the evidence for case management was mixed as some studies were not sufficiently rigorous and some studies found no benefit for case management models.

Twenty-nine publications (four reviews and 25 individual evaluations) covering 22 case management models were identified. Studies were categorised into three groups according to the type of interventions: *case management for vulnerable families in the early parenting years* (four studies addressing four case management models); *case management for families with complex needs* (one review and 10 studies addressing eight models); and *case management in services for children and youth* (three reviews and 11 studies addressing eight models).

The search identified one systematic review, three non-systematic reviews, and several controlled evaluations of case management models, including seven randomised controlled trials (RCTs) comparing outcomes for groups of clients who were receiving case management to groups of clients who were not receiving case management but still received treatment or services as usual (TAU).

The search identified four RCTs comparing outcomes of groups of clients receiving case management with groups of clients who received more than just usual services (for example, an alternate treatment or service such as the provision of information) but with no case management component.

There were also two RCTs comparing a new case management model to a standard or previously used case management model. In conjunction with the systematic reviews, the RCTs identified in this REA provide us with the best available information regarding the effectiveness of case management for vulnerable families.

The remaining evaluations used a range of non-randomised designs, including allocating to intervention depending on service capacity (i.e., not at random), comparison to a matched community sample, and comparison of retrospectively determined high and low intensity case management levels. All compared a case management model to some alternative form of intervention, whether a different form of case management, treatment as usual, or an information-only control.



The systematic review, which included other service models in addition to case management, found that there was no evidence to support the use of case management as an alternative to inpatient mental health care for children and young people.

A non-systematic but comprehensive review provided only limited support for intensive casework services to reduce foster care placements. Two further narrative reviews provided limited and very mixed support for wraparound care for youth.

Intensive case management models generally have some benefit for case management in early parenting with vulnerable families, although results are mixed. They perform well for families with complex needs as evaluated by individual studies, although there is some evidence to the contrary from a narrative review showing no benefit or minimal benefit. Intensive case management models for child and youth services generally did not perform better than alternative interventions (including standard case management) or TAU.

For families with complex needs, case management models which were not intensive but used specialised case managers also showed some promise, although trials were of lower methodological quality, and outcomes were mixed.

These models also had mixed results in child and youth services. Case management which is delivered neither intensively nor by specialist case workers could perform as well as more intensive versions for both families with complex needs and child and youth services, and had potential economic benefits for services as well.

Wraparound approaches were not well supported, and could be significantly more expensive than services as usual.

Generally, the RCTs provide *some initial indications* of the potential benefits of case management for some outcomes. However, several studies included in this REA found that there was an effect for only some assessed outcomes, and other studies found no benefit for families involved in the case management model compared to alternative interventions such as providing information or education, or to services as usual.

Due to these mixed findings, it is not possible at this stage to speculate as to the effectiveness of case management broadly or to the effectiveness of a particular case management model, over and above any other intervention, new or standard, children and families may receive. It is important to distinguish case management as a method of maximising access to and individualisation of services from case management as a 'stand-alone' intervention.

Despite the lack of clear evidence for effectiveness of case management, this REA was able to identify some of the more frequently reported activities undertaken as part of case management models. These are not necessarily effective features of case management and have not been identified as essential; rather, they were reported in at least six models and may be activities more often undertaken in case management. The activities of case management included:

- assessment
- monitoring of cases
- coordination of services
- provision of information and education

- referral to services
- direct service provision and therapy
- 'support' in general
- development of individualised plans
- linkage of families to services
- case planning.

Assessment, in particular, was utilised in most models. The types of assessments undertaken included: substance abuse assessment, risk assessment, needs assessments, psychosocial assessment, and vocation and employment assessments. Just over half of the models that used client assessments utilised standard assessment tools. These allow for more reliable and accurate assessments and facilitate more appropriate service planning.

Some of the systems and structures that were identified to support case management were: protocols and manuals for case management and associated services, sharing of information between case manager and other service providers and agencies, funding allocated to support case management and cases.

Few details regarding duration, intensity, and immediacy of case management and manager caseload and qualifications were reported, and from what information was provided, it seems that there is great variability in these aspects of case management models. Little information about case manager supervision was provided, however some models indicated that training was provided to case managers.

Only three of the studies eligible for inclusion in this review considered the cost-effectiveness of their models, and their evidence was mixed. One study found that a case management approach was less expensive than the alternative at follow-up, although there was no initial difference in cost. In another study, the authors argued that the success of their model has the potential for economic savings due to reduced demand for future services, but this assumption was not tested. Finally, a third study found that a particular case management model (wraparound) is significantly more expensive than treatment as usual.

#### 1.4. Implications

While this review presents some indications of the benefits of case management, from the information available there is still not a clear indication of its effect on service processes or outcomes for vulnerable families. This is not to suggest that case management lacks merit; it simply lacks definitive evidence of benefit at this point. A number of practices were identified in this review that may be central to good case management including assessment, coordination of and referral and linkage to services, case monitoring and planning, development of individualised plans, and provision of information, education support and direct services. However, since the literature includes no indication of which of these practices are more or less effective, it is not possible to point at any of these practices as particularly effective or important. Therefore, any attempt at applying a specific case management model or establishing a systematic case management work culture should be embedded in a structure of continuous quality improvement (CQI) (Blumenthal & Kilo, 1998; Lorch

& Pollak, 2014; Rubenstein et al., 2014) and the local implementation of case management practices should be continuously evaluated for its success at value-adding for an agency and its clients.

It is also important to keep in mind that case management practices will always be an organising *structure* wrapped around a range of clinical services. In this sense, case management is a service *delivery* practice that depends on the quality of the service itself. Case management does not work on its own — in order to be successful for different target populations it needs to be combined with high quality evidence-based services.

This means that, firstly, case management requires there to be services available in the community — case management alone does not have the potential to close service gaps — and, secondly, that case management has the *potential* to be useful when it is used in conjunction with interventions and services that have established evidence demonstrating their effectiveness. Providing good case management where the underlying services are not effective would be unlikely to lead to any benefits for vulnerable families.

## 1.5. Conclusions and recommendations

This REA identified several case management models that have been evaluated with vulnerable families, including families in the early years of parenting, families with complex needs, and children and young people. Various features of case management for vulnerable families have been identified; individual and family assessment, often with the use of standardised assessment tools, was the most frequently reported feature of case management.

Due to insufficient evidence and poor reporting of details of case management, it was not possible to obtain a clear picture of *good* case management for vulnerable families. Further evidence on the effectiveness of case management in general, and of the constituents of case management, may be available in other fields of human services research. Given that case management is a process designed to facilitate the delivery of underlying services and interventions to families, it is critical that the effectiveness of these services and interventions is well established and monitored as well as any case management component.

In addition to ensuring the evidence base of underlying services, there is a need to build the evidence base for case management. This involves clearly defining the desired outcomes of the case management process and assessing what forms of case management work best and in which circumstances.

### Key messages

- Case management is a service delivery practice designed to facilitate and coordinate services that are delivered to families and children.
- There is currently *insufficient evidence* to suggest that case management is effective for improving child, parent or family outcomes. This is not to suggest that case management lacks merit; however, it lacks definitive evidence at this point. In addition, there is currently *insufficient information* to determine what good case management involves.
- Any attempt at applying a specific case management model or establishing a systematic case management work culture should be embedded in a structure of continuous quality improvement (CQI), and the local implementation of case management practices should be continuously evaluated for its success at value-adding for an agency and its clients.
- Case management is an organising *structure* wrapped around a range of clinical services. It is a service *delivery* practice that depends on the quality of the service itself. Case management does not work on its own — in order to be successful for different target populations it needs to be combined with high quality evidence-based services
- There is a need to build the evidence base for case management, on top of the evidence for services. Rigorous evaluations of services and case management for vulnerable families are required to determine what works, in which circumstances, and for which outcomes.
- Evidence about case management may be available in other fields.

## 2. Introduction

### 2.1. Purpose and structure of this report

The purpose of this report is to synthesise the literature in which case management models have been evaluated with vulnerable families. The focus of this report is on the structures of collaboration, coordination and communication involved in the *case management process*, rather than on the underlying clinical practices, services or programs delivered to families. Methodology used to review the literature is presented in the next chapter of this report, followed by findings of the review, then discussion of the results including implications of the findings for the service context and limitations of the review.

### 2.2. What is case management?

Case management is a pervasive social service intervention intended to assist individuals and or families with a wide range of challenges in accessing needed services (Rapp et al., 2014). It is not a profession in itself, but a fluid and dynamic practice that involves many disciplines and continues to develop (Stanton et al., 2005).

Case management is known by various names such as casework, care coordination and case coordination. For the purposes of this report the term case management is used to cover all these terms.

Case management had its beginnings at least a century ago when it emerged at the same time as the field of social work (National Association of Social Workers [NASW], 2012). Arising out of increased poverty and social problems as a result of industrialisation, urbanisation, immigration and population growth, the need for charities and assisted housing resulted in the start of case management and the discipline of social work (National Association of Social Work, 2012).

It is viewed as a means of increasing service quality and outcomes whilst decreasing costs (Brown, 2009), and as a low-cost enhancement to programs as opposed to a program in itself (Schwartz et al., 1997). The Case Management Society of America (CMSA), which is a certification entity for professional case managers in the health field, gives as a definition of case management: “a collaborative process of assessment, planning, facilitation, care coordination, evaluation, and advocacy for options and services to meet an individual’s and family’s comprehensive health needs through communication and available resources to promote quality cost effective outcomes” (Case Management Society of America [CMSA], 2010). Case managers are viewed as ‘brokers and guides who assist clients dealing with a range of circumstances, who navigate the network of various services available to meet their needs and achieve stability in their lives’ (Bender et al., 2015, p.36). In one study 12% of a random sample of 10,000 social workers in the United States of America (USA) stated that they spent at least half their time on case management activities (Whitaker, Weismiller, Clark, & Wokers, 2006).

According to New South Wales (NSW) Family and Community Services (2013), the process of case management is interactive and dynamic, with an emphasis on: building relationships with the child or young person and their family to facilitate change; developing partnerships and joint planning with other agencies involved in

the care and wellbeing of the child or young person; and ongoing analysis, decision-making and record-keeping to ensure that the identified needs of the child or young person are being met.

### 2.3. Case management for vulnerable children and families

Case management has been adapted to address the needs of many vulnerable populations and is a common form of service delivery in social services, education and disability. Case management is more likely to be utilised in environments where the needs of the target population are complex and the service system is fragmented and has limited resources (Halfon et al., 1993). Vulnerable children and families are 'at-risk' for numerous negative outcomes, such as exposure to violence, other types of victimisation, adverse health outcomes, and higher rates of mortality.

Case management is not a service itself but is a way of organising and coordinating the people and organisations that are involved in service delivery and receipt of services. Case managers typically work collaboratively with vulnerable individuals and families, supporting them in obtaining services to address their specific complex needs.

Case management in child welfare takes a number of forms, including use within a treatment model or as a brokerage service to facilitate participation in services. It can be delivered to the children themselves, to the parent, or to the family as a whole.

Although well utilised and viewed as an important service enhancement, there is a paucity of theoretical models and rigorous research on case management (Arnold et al., 2007; Schwartz et al., 1997).

## 3. Methodology

This report used a rapid evidence assessment (REA) methodology to locate relevant literature. REAs are reviews that accelerate or streamline full systematic reviews, facilitating the synthesis of evidence in an area within a shorter time-frame (Ganann et al., 2010). Systematic reviews remain the most rigorous method of reviewing the evidence associated with effective interventions. They provide the most comprehensive and objective view of the literature because they: locate grey and unpublished data, employ blind double-rating of findings, provide information about the risk of bias of those findings, and where possible give a statistical meta-analysis to combine data from included studies.

However, systematic reviews can be costly in terms of the time and personnel required, taking at least a year to identify, extract and analyse all relevant studies (Hemingway & Brereton, 2009). REAs can provide quick summaries of what is already known about a topic or intervention, and usually take between two and six months. REAs use systematic review methods to search and evaluate the literature, but the search may be less comprehensive than a full systematic review. As a consequence, REAs may miss some studies or data and may not fully assess study bias or effectiveness. REAs are particularly useful when there is uncertainty about the effectiveness of a policy or service, or when a decision on evidence-based practice is needed within months.

REAs are increasingly recognised as a superior alternative to traditional literature reviews when time and staffing limitations make a systematic review impractical. REAs retain the elements of rigorous search and impartial inclusion decisions. REAs are necessarily less comprehensive than systematic reviews and generally do not employ double-blind ratings of included studies or statistical analyses of extracted data.

Examples of methods used to make reviews more rapid include placing limitations by language or date of publication, limiting the range of electronic databases searched, and limiting geographical context or setting to ensure that evidence gathered can be readily applied to the context of interest. Study designs, populations and intervention types can also be limited depending on the research question. These limitations mean that the volume of literature to be synthesised can be reduced to a manageable level given time constraints, while retaining the objectivity and transparency of inclusion characteristic of systematic reviews.

Full details of the methods used in this REA can be found in the Appendix to this report.

### 3.1. Research questions

This REA addressed the following questions:

1. What is the evidence of the effectiveness for case management models that aim to improve various outcomes for vulnerable families, including families receiving targeted prevention and early intervention (PEI), families receiving intensive services, and services to young people aged over 12 years?
  - a. What are the major components and processes involved in these case management models? For example – populations, target outcomes, entry and

exit, activities undertaken, dose, staffing, resource requirements, performance measures.

- b. How do components vary across different types of services (PEI, intensive services, youth) and according to child age?

2. What systems and structures support the identified case management models?

## 3.2. Search strategy

### 3.2.1. Academic database search

A systematic search of the following academic databases was conducted: PsycInfo, MEDLINE, Embase and Embase Classic, Social Work Abstracts, Education Resources Information Center (ERIC), Cumulative Index to Nursing and Allied Health (CINAHL), Applied Social Sciences Index and Abstracts (ASSIA), Sociological Abstracts, The Cochrane Library, and the Campbell Library.

The search was limited to the years 2000 onwards and to the English language. This was in order to capture more recent models that are assumed to be better aligned with current local service structures and practice.

### 3.2.2. Study selection

Studies were included if they had case management (or a similar relevant term) for vulnerable families as the main focus of investigation and were evaluated with a controlled study design. These were predominantly randomised controlled designs or RCTs in which clients were randomly allocated to either the case management intervention or a control or comparison condition; but evaluations comparing client outcomes pre- and post-intervention plus a comparison group, without random allocation, were also included. Grey literature was excluded, as were studies where the target of case management was adult clients only, with no family involvement.

Studies where participants are randomly allocated to intervention or control give the best indication that any changes observed in client outcomes are due to an intervention rather than due to chance. If allocation is not random – for example if clients considered most likely to benefit are allocated to the intervention, or conversely if the more challenging cases are preferentially assigned to the new treatment being evaluated – it can be harder to tell if the intervention really was effective. These less rigorous evaluation designs can still give an indication of current practice, but in order to address the first of the research questions, which includes consideration of the effectiveness of case management models, it was necessary to determine models' demonstrated significant changes in outcomes for clients, compared with treatment or services as usual.

In the interest of obtaining a broad range of case management models, studies that compared a case management model to any form of control or comparison condition were considered. This included: treatment or services as usual or standard care (TAU), alternative or different treatment or services, and alternative forms of case management.



### 3.3. Data extraction

For each eligible study, information relating to the features of case management — such as the activities case managers engaged in, personnel, resources, intensity of services, and outcomes — was extracted.

### 3.4. Data analysis and synthesis

The initial intention of this REA was to answer specific questions targeting aspects of case management, including timeliness and appropriateness of assessment, services and referrals, and impact of case management of efficiency of service outcomes. However, the detail of information regarding case management models, their structures, activities and outcomes reported in the included studies did not allow for an assessment against these specific questions. Instead, a narrative analysis of the studies and features of the case management models is presented.

Summaries of activities undertaken in case management and other features of case management are provided. As these individual constituents of case management are not evaluated separately in studies, it is not possible to report on their effectiveness as separate features of case management. The overall effectiveness of case management interventions is reported in terms of significant changes to outcomes for children and families in order to give a sense of the general strength of evidence in relation to this field. Analysis of the studies included in the REA identified three categories of case management, into which the studies have been sorted: case management for early parenting with at-risk families; case management for families with complex needs; and case management for children and youth. Study findings are presented within these three categories.

## 4. Results

Twenty-nine publications, including four reviews, met the inclusion criteria for this REA. They covered 22 individual models of case management, as well as those considered as part of general models of case management in the reviews. Refer to the Appendix for full numbers of studies identified in the search process.

Eligible studies were identified evaluating models of case management for vulnerable families in the early parenting years, case management for families with complex needs, and case management in services for children and youth. Two of these studies were conducted in Australia (Cameron, Lee, Strickland, & Livingston, 2012; Grace & Gill, 2014), one was conducted in Germany (Goldbeck, Laib-Koehnemund, & Fegert, 2007) and the remainder were conducted in the USA.

An additional group of papers reported evaluations of interventions that involve a case management *component*, but this latter group was excluded from these results. Case management was not a major focus of these studies, and their design does not allow either for a description of case management methods or for a determination of any effect attributable to those methods.

The following section provides a narrative synthesis of the studies included in this REA. Studies are categorised into three groups according to the type of interventions they evaluate: *case management for vulnerable families in the early parenting years* (four studies addressing four case management models); *case management for families with complex needs* (one review and ten studies addressing eight models); and *case management in services for children and youth* (three reviews and 11 studies addressing 10 models).

This synthesis describes the evaluations, the populations receiving services and case management, what case management involved, and the extent of the evidence according to the evaluations. Where this information is not reported below, it is because it could not be ascertained from the published evaluations. In most cases detailed information about what was involved in case management was not provided. For example, authors would state that individual case plans would be created but not give specific details.

### 4.1. The features of case management

This section summarises what the case management models identified in this REA involved. The nature of case management was fairly consistent across all studies. This is no doubt because case management is a process designed to support the underlying varied interventions families receive to address their specific needs. Although all models provided some degree of information about case management, few provided extensive details or descriptions of these reported features. Of the included models, Karatekin, Hong, Piescher, Uecker, and McDonald (2014) provided the most comprehensive information about case management, and it also included several of the commonly mentioned features of case management that were involved in the models included in this REA. A description of the model in Karatekin et al. (2014) appears below.

### **Case management model described in Karatekin et al. (2014)**

In Karatekin et al. (2014), case management was described as a means to help families 'learn how to access various resources in the community' (p. 19).

Following an intake *assessment* to determine suitability for the program and to gather *information* about the family's circumstances, case managers were reported to work in collaboration with families to develop a strength-based *plan to address needs*.

The case managers also assisted families to *coordinate* services they received and reduce service duplication.

Colocation of services and *formal agreement* between services were designed to facilitate access in this model.

Case managers also assisted families to meet the daily living needs such as getting to appointments and taking the children to school.

*Referrals* were provided where services were not co-located.

The case managers also had a role in *teaching* life skills such as budgeting to families.

Contact with families was maintained via home visits and telephone and families process in therapy and attendance at services was *monitored*, as were case plans.

Case managers also met with other service providers working with the families.

This model did not follow a structured manual and participation duration was variable, depending on need.

The various features of case management that were collated from the studies in this REA included: activities case managers engaged in; staffing; immediacy of case management commencement; intensity and duration of case management; caseload; and supports or systems that were put in place to facilitate the case management role. These details are not designed to highlight what is *effective* in case management but instead present a picture of *what case management for vulnerable families looks like*. Tables 1 - 4 list the features of case management for the included models. In general, it was difficult to determine what authors meant by the case management activities or what was involved. Where authors did specify we have summarised below.

#### **4.1.1. Activities of case management**

The activities involved in a minimum of two case management models are listed below and expanded upon in Table 1 and in the following sections.

- Assessment
- Monitoring of cases
- Coordination of services
- Provision of information and education
- Referral to services

- Direct service or therapy delivery
- Support in general
- Development of an individualised plan
- Assistance with linkages to or access to services
- Case planning
- Outreach
- Advocacy
- Service brokerage
- Counselling
- Crisis planning and management
- Differential response based on risk or need
- Appointment reminders
- Coaching
- Discussion of family history or experiences

### **Assessment**

The first activity referred to in the case management process in Karatekin et al. (2014) was the most commonly reported activity in this REA of case management models: assessment. Nearly all models ( $n = 20$ ) involved some form of assessment. Of these 20 models, 12 utilised standardised assessment tools or measures. The forms of assessment undertaken as part of case management included: substance use assessment ( $n = 7$ ), needs assessment ( $n = 6$ ), risk assessment ( $n = 4$ ), psychosocial assessment ( $n = 3$ ), and vocational and employment assessment ( $n = 2$ ). Other assessment included assessments of family problems, violence and exposure to violence, housing stability, and developmental assessment.

### **Monitoring of cases**

Few details of what monitoring entailed were provided in the included studies. However, where they were provided, monitoring involved reviewing progress toward goals, checking for relapse and crises, revisiting plans, and checking access to and use of services.

### **Coordination of services**

Coordination of services on behalf of the families was another feature of several models. It was unclear how coordination was achieved in many cases, however some studies mentioned case managers attending meetings and contacting services/clinicians.

### **Referral to services**

In other models, case managers selected services for clients and referred them to services. Some indicated that referral involved providing clients with service information, but the referral process was not well described.

## Assistance with linkages to or access to services

A step beyond referral to services, in some models the case manager role involved assisting clients to make contact with services and to access services, a task involving higher levels of hands-on assistance.

**Table 1: Activities of case management reported in the models included in this REA**

Activities	Description	Number of models (N = 22)
Assessment	Assessment took various forms, sometimes with the use of a standardised and valid assessment tool. The types of assessments used involved: substance use, needs, risk, psychosocial, vocational, employment, family problems, violence and exposure to violence, housing stability, and developmental assessments.	20
Monitoring of cases	Monitoring of cases involved reviewing progress toward goals, checking for relapse and crises, revisiting plan, and checking access to and use of services	11
Coordination of services	Coordination of services involved attending meetings and contacting services or clinicians that provided services.	10
Provision of information and education	Information and education included: parenting skills, employment training, information about child development, and information about the impact of intimate partner violence.	9
Referral to services	Some case managers selected services for families and then referred families to services. Some indicated that referral involved providing clients with service information.	8
Direct service or therapy delivery	Direct services and therapies were also reported to be provided by case managers, however little details were evident.	8
Support	Typically referred to emotional support, listening and understanding.	7
Development of an individualised plan	Individualised plans or goals plans were typically developed in collaboration with families and focused on plans for safety, goals for individuals and families, and objectives for therapy.	7
Assistance with linkages to or access to services	A step beyond referral to services, in some models the case manager role involved assisting clients to make contact with services and to access services, a task involving higher levels of hands-on assistance.	7
Case planning	Case planning involved organising how, when and by whom each family would be supported.	6
Outreach	Outreach involved the case manager making contact with families in an attempt to engage them in services or supports.	4

Activities	Description	Number of models (N = 22)
Advocacy	Advocacy involved case managers representing the needs and interest of families in meetings or with other service providers or groups.	4
Service brokerage	A strictly time-limited version of case management in which case workers helped clients identify their needs and access appropriate services, generally in only one or two contacts.	3
Counselling	Counselling was provided by some case managers but details were not evident.	3
Crisis planning and management	Crisis planning and management involved making plans in the event that the family faced a crisis in the future, and also dealing with crises as they arose.	3
Differential response based on risk or need	Differential response involved the assessment of need or risk and provision of different services or supports according to the assessment findings.	2
Appointment reminders	Some case managers contacted families to remind them of service appointments.	2
Coaching	Coaching was provided by some case managers but details were not provided.	2
Discussion of family history or experiences	Details of questioning involved in discussion of family history and experiences were not clear. Given that assessments were used in most models these types of discussions may have been involved in more models than indicated here.	2

### **Provision of information and education**

Another activity of case management in several models was the provision of information and education. While the nature of these was not always indicated, some examples of information and education included: parenting skills, employment training, information about child development, and information about the impact of intimate partner violence.

### **Direct service or therapy delivery**

Direct services and therapies were also reported to be provided by case managers, however little details were evident.

### **Support in general**

One activity of case management that was referred to in just under one-third of the models was 'support'. Where indicated, this typically referred to emotional support, listening and understanding.

## **Case planning**

Case planning, such as organising how each family would be supported, was also referred to as a feature of case management.

## **Development of individualised plans or goals**

Some models involved the development of individualised plans or goals for families or individuals. In most models, these plans were developed in collaboration and consultation with families, and they focused on plans for safety, goals for individuals and families, and objectives for therapy.

## **Advocacy**

Provision of advocacy was another role of the case manager in some models. This involved case managers representing the needs and interest of families in meetings or with other service providers or groups.

## **Outreach**

Outreach to families was another activity of case management, in which the case manager made contact with families in an attempt to engage them in services or supports.

## **Other activities**

Additional activities undertaken by case managers in fewer models included: service brokerage; counselling; crisis planning and management; differential response based on risk or needs; appointment reminders; coaching; and discussion of family history or experiences.

### **4.1.2. Case manager training, qualifications, supervision and caseload**

Information about caseload, and case manager qualifications and supervision was scarce (see Table 2). The REA revealed no clear picture of caseload or qualification requirements. Some models indicated that nursing, social work, addiction counselling, or clinician qualifications were required, but most provided no guidance. Training in case management or activities of case management was indicated in relation to several models; however, details were not clear. Where indicated, this involved training in activities such as assessment procedures or in model-specific requirements.

**Table 2: Training, qualifications, supervision and caseloads of case managers reported in the models included in this REA**

<b>Case manager training and qualifications</b>	<b>Number of models (N = 22)</b>	<b>Case load</b>	<b>Number of models (N = 22)</b>
Training in case management	8	8 clients/families	2
Supervision	3	3 – 11 clients/families	1
Licensed clinicians	2	12 – 20 clients/families	1
Nurse	1	20 clients/families	1
Master’s-level social worker plus clinician	1	--	--
Master’s-level counsellor	1	--	--
Master’s-level addiction counsellor	1	--	--

#### 4.1.3. Immediacy, intensity and duration of case management

There was little clear information about intensity, duration, immediacy (time between intake or referral and commencement of case management) of case management. Simultaneously, the limited information reflects diversity in the immediacy, intensity and duration of case management (see Table 3).

**Table 3: Immediacy, intensity and duration of case management reported in the models included in this REA**

<b>Immediacy</b>	<b>Number of models (N = 22)</b>	<b>Intensity</b>	<b>Number of models (N = 22)</b>	<b>Duration</b>	<b>Number of models (N = 22)</b>
Within 4 weeks (sooner for more urgent cases)	1	24/7	2	4 months	3
Within 6 – 8 weeks	1	Weekly	2	6 months	2
--	--	Bi-weekly	1	90 days	1
--	--	--	--	12 – 24 months	1
--	--	--	--	24 months	1



#### 4.1.4. Supporting structures and systems

Although only limited details were provided, there were some indications of systems and structures in place to support the case management role. These include: the use of protocols and manuals for case management and associated services to facilitate consistent and clear implementation of services as intended; sharing of information between case manager and other service providers and agencies to ensure that details of cases are made available to relevant practitioners; the use of standardised assessment tools as mentioned above to ensure more reliable, valid and accurate assessments of risks and needs; funding allocated to support case management and cases to increase capacity to provide services as needed; the use of models that have a theoretical basis to ensure that there is a relevant grounding underpinning the work; and formal or informal agreements for working together between case managers and community agencies to ensure that the roles, responsibilities and rights of different agencies and personnel are clearly articulated and agreed upon. These supporting systems and structures are listed in Table 4, along with the number of case management models in which their use is reported.

**Table 4: Supporting structures and systems involved in case management reported in the models included in this REA**

Supporting structures and systems	Number of models (N = 22)
Standardised assessment tools	12
Use of protocols or manuals	6
Allocation of funding to the program or cases	4
Information sharing between case managers/agencies	2
Based on a theoretical foundation	2
Formal or informal agreements to work with agencies	1

#### 4.2. The evidence for case management models

The following section provides a summary of the case management model evaluations that were identified in this REA. Information about the types of case management assessed, study designs used, and an overview of main findings are presented. During the analysis of the included studies, it was found that the studies fitted into these three groups of case management models, based on different services delivered to three distinct populations:

- Case management in the early parenting years targets pregnant women and new mothers
- Case management for complex families caters for families with multiple and complex concerns, typically involved in child protection services
- Case management for children and young people targets child and youth with identified problems, rather than families where the parent may also have identified concerns or vulnerabilities.

#### 4.2.1. Case management in the early parenting years with vulnerable families

This REA identified four evaluations reporting four case management models targeting the early years of parenting in vulnerable families (refer to Table 5). Services commenced during the ante-natal period or soon after birth.

**Table 5: List of eligible studies of case management in the early parenting years for vulnerable families**

Author (year)	Title
Curry, Durham, Bullock, Bloom, and Davis (2006)	Nurse case management for pregnant women experiencing or at risk for abuse
Sangalang (2006)	Teenage mothers in parenting programs: Exploring welfare outcomes during early transition to parenthood
Jansson, Svikis, Breon, and Cieslak (2005)	Intensity of case management services: Does more equal better for drug-dependent women and their children?
Jansson, Svikis, and Beilenson (2003)	Effectiveness of child case management services for offspring of drug-dependent women

Two studies assessed the effectiveness of two separate models for substance-abusing women in the early years of parenting (Jansson et al., 2003; Jansson et al., 2005).

Jansson et al. (2003) assessed the effectiveness of the Reaching Families Early Model, which provides a single point of service system entry and intensive home visits for drug dependent women. Mothers of children exposed to drugs in utero were retrospectively assigned to either a high or low intensity intervention group; thus there was no randomisation and no control condition for this study. Children were on average two years old at baseline. The high intensity condition involved at least five home visits by a case manager, whereas four or fewer visits were received in the low intensity case management group. Both groups received substance abuse treatment and parenting education. Women receiving higher intensity of case management were less likely to report recent drug use and were more likely to be in treatment; this was also associated with a higher likelihood of the mother-infant dyad remaining intact.

A second RCT compared routine case management with intensified case management for a similar population assigned to treatment upon birth of their baby (Jansson et al., 2005). Both groups of women received case management as part of a newborn care and drug treatment. The Intensified group also received bi-weekly telephone or in-person contact from a case manager, with the purpose of providing assessment, planning, service linkages, monitoring and advocacy. This evaluation found that women in the intensive condition stayed in substance abuse treatment for longer postpartum, but there was no difference in the percentage in active treatment at four-month follow-up. However, although self-reported recent substance and alcohol use did not differ, women in the more intensive condition were less likely to test positive for cocaine use.

The findings of these two studies on case management for substance abusing new mothers suggest that intensive case management may result in better engagement and outcomes than standard case management for this population.

Two additional early parenting case management models used with an early parenting target group were identified in this REA.

Using a multisite RCT design, Curry et al. (2006) evaluated a Nurse Case Manager (NCM) program called the Connections Intervention for pregnant women at high risk for or experiencing physical abuse. In addition to receiving information to raise awareness about abuse and information about services, women in the NCM group received assessment, an individualised plan, and regular contact with the NCM. This study found that case management participants' stress decreased significantly, however control participants' stress also decreased significantly so this improvement could not be attributed to the case management intervention.

Sangalang (2006) evaluated North Carolina's Adolescent Parenting Program, which used case management to strengthen preventive services for first-time pregnant and parenting adolescents. Findings suggest that this program helped eligible mothers receive welfare assistance in the short term, but it did not influence the likelihood of longer welfare dependence after 36 months. The authors evaluated the treatment against a matched comparison group with no randomisation to intervention versus control, reducing confidence that the results were due to case management rather than to chance.

Taken together, the findings of the evaluations for case management in early parenting with vulnerable families suggest that there may be some benefit to intensive case management for substance abusing mothers. However, little benefit of case management on parent or child outcomes were observed in the intervention for pregnant women as risk of abuse or for new adolescent mothers.

#### 4.2.2. Case management for families with complex needs

One review and 10 evaluations of eight case management models for families with complex needs were identified (refer to Table 6). These families typically had multiple concerns or vulnerabilities and many were involved in child protection services or out-of-home care.

**Table 6: List of eligible studies of case management for families with complex needs**

Author (year)	Title
Winokur, Ellis, Drury, and Rogers (2015)	Answering the big questions about differential response in Colorado: Safety and cost outcomes from a randomized controlled trial
Karatekin et al. (2014)	An evaluation of the effects of an integrated services program for multi-service use families on child welfare and educational outcomes of children
Douglas-Siegel and Ryan (2013)	The effect of recovery coaches for substance-involved mothers in child welfare: impact on juvenile delinquency
Antle, Christensen, Van Zyl, and Barbee (2012)	The impact of the Solution Based Casework (SBC) practice model on federal outcomes in public child welfare

Author (year)	Title
Congdon (2010)	Evaluating the effectiveness of infant mental health enhanced case management for dependency populations
Morgenstern et al. (2009)	Improving 24-month abstinence and employment outcomes for substance-dependent women receiving temporary assistance for needy families with intensive case management
Goldbeck et al. (2007)	A randomized controlled trial of consensus-based child abuse case management
Morgenstern et al. (2006)	Effectiveness of intensive case management for substance-dependent women receiving temporary assistance for needy families
Ryan, Marsh, Testa, and Louderman (2006)	Integrating substance abuse treatment and child welfare services: Findings from the Illinois alcohol and other drug use waiver demonstration
Evans et al. (2003)	An experimental study of the effectiveness of intensive in-home crisis services for children and their families
Lindsey, Martin, and Doh (2002)	The failure of intensive casework services to reduce foster care placements: An examination of family preservation services

Studies identified in this category evaluated a range of intensive case management models for families with complex needs. In an RCT, Ryan et al. (2006) compared an intensive case management model using recovery coaches to a treatment as usual (TAU) control, for parents involved in temporary custody hearings who had also been referred for substance abuse treatment. Recovery coaches provided case management in addition to substance abuse services. The recovery coach intensive case management was more successful at achieving family reunification, and parents had a significantly higher rate of substance abuse service use, than TAU.

In a subsequent RCT evaluation of this model, Douglas-Siegel and Ryan (2013) found that after taking other predictors into account, youth whose mothers participated in the intervention were significantly less likely to have a subsequent juvenile arrest than those whose mothers received services-as-usual.

For women with substance dependence, who were also on welfare benefits, an RCT showed that another intensive case management approach was beneficial, with significantly higher treatment initiation, engagement, and retention compared to usual treatment control (Morgenstern et al., 2006, 2009). Clients were more likely to be abstinent at 15-month and 24-month follow-up, and were more likely both to be employed and to be employed full-time.

Intensive case management, as exemplified in the preceding studies, was effective across a range of parent and child outcomes. Case management which was not intensive but which used specialised case managers also showed some promise, although studies described below were of lower methodological quality and not all showed significant findings.

For example, children receiving services for abuse and/or neglect were randomly assigned to an enhanced case management model delivered by case managers with specialised Early Intervention training or treatment as usual (Congdon, 2010). Those children receiving enhanced case management had more service referrals and occasions of service, and success at meeting treatment goals, than the control group. They also improved significantly on some developmental outcomes, but these were not measured for the control group so it is not clear to what extent the improvements were attributable to the case management intervention.

The Partnerships for Family Success program (Karatekin et al., 2014), which linked a case manager with a team from local government human services, showed improved child maltreatment outcomes which were maintained over two years. However, this latter study was of relatively low methodological quality because it utilised a matched community sample rather than a randomised controlled trial.

An RCT of expert-assisted case management, in which case workers were contacted by a child protection expert within four weeks of reporting a case of child abuse, made no difference to child protection case workers' risk assessments, proportion of closed cases, degree of certainty, or satisfaction with institutional collaboration and made no difference to child or legal guardian involvement (Goldbeck et al., 2007).

Specialised versions of case management are not always needed; standard case management may perform equally well. Using an RCT, Evans et al. (2003) compared case management to alternative interventions for children experiencing a psychiatric crisis and their families. Children were randomly assigned to one of three interventions: Crisis Case Management, a fairly intensive intervention delivered outside the home; Home-Based Crisis Intervention, which was similar but delivered in the home; or Enhanced Home-Based Crisis Intervention, which involved service provider training in cultural competence. The study authors indicated the Home-Based Crisis Intervention had previously been established as standard care for this study setting. Findings indicated that Crisis Case Management performed just as well at improving child and family outcomes as Home-Based Crisis Intervention or Enhanced Home-Based Crisis Intervention. There was no significant difference across the three models, therefore it is not clear which was the important factor for successfully maintaining children in the community.

In a non-randomised study of child welfare cases, Antle et al. (2012) compared outcomes for Solutions Based Casework (SBC) according to how well SBC was implemented (high vs low adherence to SBC implementation principles). SBC principles are: (1) that each case requires full partnership with the family; (2) that the partnership for protection should focus on the family's everyday patterns of life; and (3) that solutions should target prevention skills. SBC assessments frame and locate problems within the family life cycle. They build on solution-focused tenets that families both need encouragement to combat discouragement from other sources, and possess unrecognised skills that can be used to anticipate and prevent child maltreatment.

Analyses found that factors related to the SBC principles described above were strong predictors of client safety, permanency, and wellbeing. Intake and investigation factors predicted overall safety; case management and planning factors predicted overall wellbeing.

Finally, a case management approach may be more economical in the long term. In an RCT, a family assessment response to families referred to child protection services, where low-risk and moderate-risk families' needs and strengths were assessed without making a determination of maltreatment, was found to be as effective at preventing harm as an investigative response (Winokur et al., 2015). While there was no difference in initial costs, the family assessment response was considered less expensive at follow up.

Findings regarding intensive case management from individual evaluations should be viewed in conjunction with those from an earlier narrative review (Lindsey et al., 2002) which found that intensive casework services were not effective in reducing foster care placements. Intensive casework services as defined in the review by Lindsey et al. differ from traditional casework approaches in terms of:

- Caseloads (2-5 versus 30-40 families)
- Duration and frequency (short term and predetermined but daily contact versus open ended weekly or monthly contact)
- Focus on family systems and crisis intervention rather than on child protection.

Intensive services provide a broad array of services and supports, and are available out of hours (often 7 days a week and 24 hours a day), they are available and in families' homes.

The authors argue that the apparent success shown in studies of intensive case management for family preservation is due to poor research methodology; and a focus on small and short-term improvement in measures of family function in preference to measures of placement prevention. However, it is also suggested that there have been barriers to the successful implementation of intensive casework services, which include:

- One-size-fits-all service approach
- Limited intervention period
- Inability to target children in imminent need of placement
- Failure to address systemic issues such as poverty.

It should be noted that the Lindsey review (Lindsey et al., 2002) was not a systematic review. Findings were based on 36 outcome studies which were identified in relevant academic databases, but did not have a published search strategy. However, the authors stratified the outcome studies according to the methodological rigour and gave most weight to findings from the most rigorous designs. In this group, intensive family preservation services performed worse than control in three of four studies and the remaining group found no statistically significant difference from control. The remaining 32 studies were of poor methodological quality, but also found no advantage for intensive family preservation services in terms of preventing out-of-home placement.

In summary, recent individual evaluations of case management for families with complex needs suggest that intensive case management is a useful model, with randomised controlled trials showing significant improvements in outcomes for parents and children. Case management models which were not intensive but which used specialised case managers also showed some promise, although trials were of

lower methodological quality and outcomes were mixed. Case management which is delivered neither intensively nor by specialist case workers had perform as well as more intensive versions, and has potential economic benefits for services as well.

However, this should be considered in conjunction with the review by Lindsey ((Lindsey et al.,2002), which showed minimal or no benefit of intensive case management for a particular group of families, those in which children had been maltreated and were at risk of being placed in out-of-home care.

#### 4.2.3. Case management in services for children and youth

This REA identified 14 studies, including three reviews and 11 evaluations of 10 models, of case management in services for children and young people (refer to Table 7). These models centred on children or young people who had identified problems and were accessing services. Their parents/family did not have any known vulnerabilities, other than the fact that they were parents of troubled children. For example, the focus of some services was not on parents with mental health problems, but rather on young people with mental health concerns.

**Table 7: List of eligible studies of case management in services children and youth**

Author (year)	Title
Grace and Gill (2014)	Improving outcomes for unemployed and homeless young people: Findings of the YP4 clinical controlled trial of joined up case management
Balcazar et al. (2012)	Improving the transition outcomes of low-income minority youth with disabilities
Cameron et al. (2012)	Improving case management outcomes for young people
Walter and Petr (2011)	Best practices in wraparound: a multidimensional view of the evidence
Shepperd et al. (2009)	Alternatives to inpatient mental health care for children and young people
Suter and Bruns (2009)	Effectiveness of the wraparound process for children with emotional and behavioral disorders: A meta-analysis
Cheng, Wright, Markakis, Copeland-Linder, and Menvielle (2008)	Randomised trial of a case management program for assault-injured youth
Dembo, Wareham, Poythress, Cook, and Schmeidler (2006a)	The impact of arbitration intervention services on arbitration program completion
Dembo, Wareham, Poythress, Cook, and Schmeidler (2006b)	The impact of arbitration intervention services on psychosocial functioning
Zun, Downey, and Rosen (2006)	The effectiveness of an ED-based violence prevention program

Author (year)	Title
Bickman, Smith, Lambert, and Andrade (2003)	Evaluation of a Congressionally mandated wraparound demonstration
Carney and Buttell (2003)	Reducing juvenile recidivism: Evaluating the wraparound services model
Godley, Godley, Dennis, Funk, and Passetti (2002)	Preliminary outcomes from the assertive continuing care experiment for adolescents discharged from residential treatment
Meisel (2001)	Relationships and juvenile offenders: the effects of intensive aftercare supervision

This REA identified one high quality, Cochrane Collaboration systematic review by Shepperd et al. (2009). This was a review of the organisational structures and therapeutic approaches of alternatives to inpatient mental health care for children and young people. Only high-quality studies were included, i.e. randomised controlled trials, well designed controlled before-after studies, and interrupted time series with data collection at three or more time points before and after interventions. The systematic review identified eight relevant models, including a case management model, but no eligible studies that evaluated the case management model were identified. With no eligible case management studies included in the review, Shepperd et al. (2009) reported no operational characteristics of these models, and no assessment of their effectiveness was available.

A review with meta-analysis (Suter & Bruns, 2009) of the effectiveness of the wraparound process for children with emotional and behavioural disorders defined wraparound as 'a team-based, collaborative process for developing and implementing individualised care plans for youth with SEBD and their families' (p337). There are 10 'active ingredients' of wraparound:

1. Planning is grounded in family members' perspectives
2. Team members are agreed upon by the family and have formal and informal relationships
3. Natural sources of support for the family are sought out
4. Team members collaborate on developing, implementing, and assessing the wraparound plan
5. The team operates in the most inclusive, responsive, accessible, and least restrictive context possible
6. Wraparound process demonstrates respect for the values, culture, preferences, and beliefs of the child and family
7. Wraparound plans are individualised
8. Wraparound processes and plans are strengths-based
9. The wraparound team provides unconditional support, regardless of challenges or setbacks
10. Wraparound plans are tied to observable indicators of success.



The meta-analysis of seven controlled outcome studies of wraparound which met selection criteria for this review found that wraparound had effects on outcomes ranging from medium negative to large positive, depending on the measure used. It supports the view that wraparound can potentially yield better outcomes for youth with SEBD, compared to usual services. However, only a very small proportion of the estimated 1000 US wraparound programs generated information that could be included in the review. Seven studies out of the 36 identified in a previous narrative review by the same authors met inclusion criteria. The authors argue that wraparound shows modest evidence of efficacy and effectiveness, but does not currently meet criteria for an evidence-based intervention; better evidence of both efficacy and effectiveness would be needed.

A more recent, non-systematic review of best practice in wraparound (Walter & Petr, 2011) noted the same shortcomings in method as Suter and Bruns (2009): lack of comparison with alternative approach or services as usual, small sample sizes, etc. In fact, only three studies of effectiveness published in the 10 years prior to conducting the review used experimental designs. The authors suggest that current knowledge of best practice is weak, but they make the following recommendations (similar to the 10 active ingredients in the Suter and Bruns (2009) review) based on an analysis of how interventions meet the theoretical values of wraparound:

- Wraparound values 'least restrictive alternative' for clients, but it is not clear if it meets this goal
- There is mixed success at realising the ecological stance and self-determination: inclusion of natural nonprofessional supports and agency/state administrators is rare
- Youths and families are included but rarely if ever lead meetings; increasing this would increase both self-determination and family-centred practice until consumers could eventually become their own resource coordinators
- Parent advocates or family partners should be included on team
- Advocacy should go beyond individual cases and move towards furthering social justice by working towards system change.

The authors conclude that empirical support for wraparound's effectiveness is limited, but it does have potential for growth if there is an increased effort to operationalise key components and processes and improve interventions' fidelity to the model.

In addition to these reviews, this REA identified two evaluations of wraparound models. In a US study (Bickman et al., 2003) authors compared wraparound care for child and youth mental health patients with treatment as usual. This care employed 'the principles of unconditional care, flexible funding, child and family centred services, and interagency collaboration' (Bickman et al., 2003, p. 137) that was familiar from the wraparound model. Although there was a comparison group for this evaluation, assignment to TAU comparison was not random, with participants who refused to participate in or who were ineligible for the wraparound condition assigned to TAU. Discontinuity of care rates were lower for the wraparound group, but functioning improved in both wraparound and control. Mental health outcomes were comparable across conditions, with no significant change over time for either group, and problem behaviours remained the same in both conditions at six-month follow-

up. Of note, wraparound was significantly more expensive than treatment as usual, due to expensive traditional care and the addition of non-traditional services.

A higher quality, randomised trial of wraparound services for delinquent youth in court-ordered treatment (Carney & Buttell, 2003) found no difference between wraparound and 'treatment as usual' on arrests or incarceration during the duration of the program, or on subsequent offences at 6, 12, or 18 months after the completion of the program. However, the wraparound group missed school less often and were suspended less often, ran away from home less frequently, were less assaultive and were less likely to be picked up by police. Youths in the 'treatment as usual' group were, however, more likely to have a job.

Intensive case management with children and young people has been evaluated for a range of services and vulnerabilities, with varying degrees of support.

It was used with youth entering a Juvenile Diversion program, in which youth were randomly assigned to intensive case management or usual services. Youth receiving intensive case management were slightly but significantly more likely to complete the program (Dembo et al., 2006a). At one-year follow-up, there was no significant difference in rates of drug use or self-reported rates of delinquency (Dembo et al., 2006a).

In an RCT, Cheng et al. (2008) compared intensive case management for youth presenting to hospital with peer assault injury with an information-only control. The primary goal of the intervention was to increase service use for psychosocial needs and decrease barriers to care. Satisfaction with the intervention was high, but there was no significant effect on service utilisation, or on reported fighting, fight injury, or weapon carrying at three-month follow-up, even when comparison was changed to 'high dose' (>5 case management calls) intervention clients.

In another RCT, Meisel (2001) compared intensive aftercare services for youth after discharge from secure facilities, where an initial intense contact with a case manager gradually reduced over duration of post-discharge placement, with standard case management. Both groups reported favourable experiences and good outcomes. Participation in the intensive version was significantly related to stronger relationships with the case manager, but there were no other significant differences.

Another way of enhancing case management, other than increasing intensity, is to use case managers who are specialists in a relevant discipline. Again, the effectiveness of this kind of case management with children and young people varied.

For youth who attended inpatient or outpatient treatment at a youth drug and alcohol service, clinical case management (CCM) – using case managers who were clinicians with relevant experience – did not significantly reduce substance use compared with case management as usual (CMAU) (Cameron et al., 2012). There was a reduction in anxiety from severe to the high end of moderate for clients in the CCM group with no reduction for the CMAU group; however it is doubtful that the reduction observed regarding the CCM group was clinically significant. There were no clinically significant changes for depression or stress and a slight though not significant reduction in distress for the CCM group. There was no randomisation to intervention or CMAU for this study, just a comparison of outcomes across two drug and alcohol services.

Youth discharged from residential treatment for alcohol or other substance use disorders – who received assertive continuing care with an assigned case manager trained in the Adolescent Community Reinforcement Approach specific to substance use and adolescents – were compared in an RCT to youth who received usual care with no case management (Godley et al., 2002). The case management group was found to have longer abstinence until next marijuana use and was more likely to still be abstaining at three months. There was no difference for alcohol abstinence, but youths in the intervention decreased their percentage of days using alcohol compared to usual care. This difference was not significant for marijuana use.

Unenhanced case management models, again, have met with mixed success in a range of services. Zun et al. (2006) used an RCT to compare outcomes for a group that received case management plus assessment to the outcomes of a group that received a brochure about services. Both groups of youth were victims of interpersonal violence, excluding child abuse, sexual assault, or intimate partner violence. There was significantly reduced self-reported injury of treatment participants, but no change in other study outcomes such as self-reported arrests or state-reported incarcerations.

Youth with a disability who participated in a case management program to improve transition to employment or post-secondary education (Balcazar et al., 2012) were significantly more likely to secure and keep employment and receive higher wages; or alternatively to enrol in post-secondary education. However, participants were not randomly allocated to intervention/control but rather compared with a matched comparison sample.

Unemployed and homeless young people were participants in an RCT of joined up versus standard services. The joined-up services involved intensive client-centred case management, with direct service provision and service brokering via a single point of contact. This test of a real-life implementation of joined up service provision found no statistically significant effect of treatment (Grace & Gill, 2014). Both groups had improvements to their personal circumstances, but there was no advantage to receiving joined-up service delivery compared to standard services that did not involve joined-up delivery.

In summary, evidence from non-systematic reviews and two individual evaluations was mixed at best, for the wraparound approach with child and youth service. There were some improvements on some outcomes, such as service continuity, compared to TAU, but there were usually no significant improvements on more important outcomes such as mental health measures and measures of function. Wraparound could also be significantly more expensive than TAU.

Intensive case management models for child and youth services generally did not perform better than usual services, although satisfaction with the model was high. Models that used a single case manager who was expert in a relevant discipline was also effective in some evaluations and for some outcomes, but not others. A similar picture emerged for unenhanced case management models. Intervention was more often preferable to control in lower quality study designs than in higher quality randomised designs; however the findings of the latter are more reliable.

## 5. Discussion

### 5.1. Summary of findings

#### Key findings

- Twenty-nine publications of 22 case management models were identified.
- The models were divided into three groups of case management based on intervention types: for vulnerable families in the early parenting years (n = 4); for families with complex needs (n = 8); and in services for children and youth (n = 8).
- The most frequently reported activities undertaken in the case management models were: assessment, monitoring of cases, coordination of services, provision of information and education, referral to services, direct service provision and therapy, provision of 'support' in general, development of individualised plans, linkage of families to services, and case planning.
- There were some positive and promising findings from some studies into case management in all three groups.
- On the whole, however, the evidence for case management was mixed as some studies were not sufficiently rigorous and some studies found no benefit for case management models.

This REA identified 29 evaluations (including four reviews) of case management models. These models were evaluated for families receiving *case management for vulnerable families in the early parenting years* (four studies addressing four case management models); *case management for families with complex needs* (one review and 10 studies addressing eight models); and *case management in services for children and youth* (three reviews and 11 studies addressing 10 models).

Families who received services were experiencing a range of vulnerabilities, including but not limited to: families at risk of or experiencing child abuse; families who had been referred to child protection services; pregnant women at risk of or experiencing abuse; families where one or both parents has substance use problems; youth in contact with the juvenile justice system; youth with disability or mental health or substance use problems; and youth experiencing homelessness, unemployment, or peer violence.

There was a broad range of age groups covered in this REA, from infants to older youth and adults, and also a range of service types. These included child protection, child welfare, and alcohol and other drug services, juvenile justice, hospitals (emergency departments, paediatric units, prenatal services), and domestic violence services and courts. This mix of age groups and service types makes it difficult to comment on the effectiveness of case management for specific target groups.

This REA identified a considerable number of reasonably rigorous evaluations of case management models, including seven RCTs with TAU, four RCTs with alternate treatment, three RCTs with case management alternatives and one systematic review. In conjunction with the identified systematic reviews, these

studies provide us with the best available information regarding the effectiveness of case management for vulnerable families. Generally, they provide *some initial indications* of the potential benefits of case management. Congdon (2010), Winokur et al. (2015), and Carney and Buttell (2003) all found a mixture of positive effects for some, but not all assessed outcomes, while Carney and Buttell (2003), Morgenstern et al. (2006), and Douglas-Siegel and Ryan (2013) suggest only positive effects on outcomes. Jansson (2003) also suggests that more intensive case management may have benefits on some outcomes. Other studies (Cheng et al., 2008; Curry et al., 2006; Dembo et al., 2006a, 2006b; Evans et al., 2003; Goldbeck et al., 2007; Zun et al., 2006) found no differences between case management and control conditions.

Notably, most instances where positive benefits of some kind were observed were in studies where the control participants received TAU rather than an alternative service. This finding may suggest that receiving any additional assistance could be of equal benefit to receiving case management, as for most of these models improvements were observed regardless of allocation to case management or an alternative. Conversely, in some studies the comparison was between case management as usual and a more intensive or enhanced form of case management. In those cases, a lack of significant difference between treatment groups does not necessarily mean that the case management model is ineffective — merely that case management as usual was sufficient to achieve good outcomes.

Intensive case management models generally have some benefit for case management in early parenting with vulnerable families, although results are mixed. They perform well for families with complex needs as evaluated by individual studies, although there is some evidence to the contrary from a narrative review showing no or minimal benefit. Intensive case management models for child and youth services generally did not perform better than control.

For families with complex needs, case management models which were not intensive but which used specialised case managers also showed some promise, although trials were of lower methodological quality and outcomes were mixed. These models also had mixed results in child and youth services. Case management which is delivered neither intensively nor by specialist case workers could perform as well as more intensive versions both for families with complex needs and for child and youth services, and they had potential economic benefits for services as well.

Wraparound approaches were not well supported, and could be significantly more expensive than services as usual. The four studies which were eligible for this REA gave only limited evidence of effectiveness. The highest quality review of wraparound approaches found that they had a range of effects, both negative and positive, on outcomes; and a less rigorous but more recent review found that current knowledge of best practice in wraparound is weak and that evidence for its effectiveness is limited. Two individual evaluations of wraparound services found that it performed no differently from treatment as usual on the majority of outcome measures and was significantly more expensive.

While informative, single studies such as those included in this REA are unable to provide strong evidence for effectiveness, as findings require replication. Systematic reviews are ideally positioned to provide indications of effectiveness. There was one systematic review included here (Shepperd et al., 2009), however it did not identify any eligible case management models for inclusion. Due to these mixed findings, it is not possible at this stage to speculate as to the effectiveness of case management

broadly or to the effectiveness of a particular case management model, over and above any other intervention that children and families may receive. It is important to distinguish case management as a method of maximising access to and individualisation of services from case management as a 'stand-alone' intervention.

Despite the lack of clear evidence for the overall effectiveness of case management, this REA was able to identify some of the more frequently reported activities undertaken as part of case management models. The activities of case management commonly involved: assessment, monitoring of cases, coordination of services, referral to services, provision of information and education, direct service provision and therapy, 'support', development of individualised plans, linkage of families to services, and case planning. These have not been identified as essential components of case management and are not necessarily effective features, but were reported in several studies and may be activities more often undertaken in case management.

Assessment was by far the most frequently cited activity undertaken by case managers in studies included in this REA, with nearly all indicating that they included this initial step in client engagement in the service provision process. Just over half of the models that used assessments used standardised assessment tools. The use of standardised tools is important because, for example, they allow for a more reliable, valid and accurate assessment of risk, needs and concerns, for example. A reliable and valid assessment lays the foundation for the shaping of service planning for families, and helps to ensure that services underlying the case management process are suited to the needs of individuals and families.

Few details regarding duration, intensity, and immediacy of case management were reported and from what information was provided, it seems that great variability exists. For example, interventions might commence any time from within four weeks to within eight weeks of client entry or notification; intensity could range from 24-hour access to four times per month; and duration could be anywhere from four to 24 months. Findings of the REA do not pinpoint any particular preferred timing for or level of intervention.

Similarly, the low level of reporting of case manager caseload, qualifications, and supervision makes it difficult to form a picture of staffing requirements. There were indications that training was provided or required in some of the models, and that caseloads and case management activities were specified, however details were not clear.

Case management has been seen as a low-cost enhancement of programs and as a means of improving service quality while decreasing costs (Schwartz et al., 1997; Brown, 2009). Only three of the studies eligible for inclusion in this REA considered the cost-effectiveness of their models Bickman et al. 2003; Jansson et al. 2003; Winokur et al., 2014). Family assessment responses in child protection (Winokur et al., 2014) produced no initial cost savings compared to the traditional investigative response, but were less expensive at follow up. Jansson et al. (2003) argued that the success of their model has the potential for economic efficacy due to reduced demand for future services, but this assumption was not tested. On the other hand, Bickman et al. (2003) found that wraparound is significantly more expensive than treatment as usual. At this stage, there is little clear evidence regarding whether case management represents cost savings or deficits in the immediate or long term.

The limited access to clear conclusions about what constitutes effective case management in the research literature has implications for the implementation of case management practices. Effective implementation of any process or practice requires a good understanding of 'what' needs to be implemented, as well as 'how' it should be implemented. The available information in the studies included in this REA lacks sufficient clarity and detail regarding 'what' is involved in case management. This presents a problem for determining how case management can best be implemented in a way that produces good outcomes for service systems and vulnerable families. Given the statistic mentioned early in this report that 12% of social workers in the USA spend at least half their time on case management activities (Whitaker et al., 2006), there is a clear need to clarify the role of effective case managers, the activities involved in case management and the resources required to support high quality case management.

## 5.2. Gaps in the evidence

In this REA, which retrieved studies where a case management model was the focus of the evaluation, we found several gaps in the evidence base for case management.

One of the most serious gaps was the limited description of most case management models. It can be difficult to extract sufficient detail to allow models to be tested, replicated, and implemented by others.

Related to this, there was generally no investigation of the role of particular case management elements, apart from some comparison of outcomes for clients who received higher versus lower levels of an intervention. If a case management model is shown to be effective overall, it is not clear whether any component is crucial to that effectiveness; or alternatively whether the model must be implemented in its entirety. This gap can be overcome to some extent by comparing case management models with treatment or services as usual, given that nearly all participants received an intervention or some kind of contact with services; but this relies on good specification of all elements of both the model and treatment as usual.

Very few studies were of case management in Australia (Cameron et al, 2012; Grace & Hill, 2014; 2005 being exceptions) and there were none specifically addressing Indigenous or Culturally and Linguistically Diverse populations in Australia or elsewhere. One model in a multi-model comparison (Evans et al., 2003) included service provider training in cultural competence, but this was not a major factor in other models. Only three studies (Bickman et al 2003; Jansson et al 2003; Winokur et al, 2014) considered the economic effectiveness of their models, either by direct cost comparison between the model and alternative measure, or by arguing that there would be reduced need for other high-cost services such as foster care if their model were effective.

While most populations of interest in the NSW context were covered – for example at-risk families, families where children have been or are at risk of being in out-of-home care – there was inadequate coverage of several vulnerable groups. There did not seem to be any models that directly targeted parents with an intellectual disability or parents with a mental illness, although these parents may have been included in models for generally at-risk families. Children and youth with a mental illness were one of the client groups seen in this literature, but not children and young people specifically identified as being at risk of suicide or for problematic sexual behaviours.

No studies were identified which evaluated case management models for refugee or immigrant populations, which may be of particular relevance for future practice.

### 5.3. Implications of the REA findings

The findings of this REA need to be considered in the context of a variety of factors, such as the circumstance of the families who receive the services, the community and political context, and the organisations, services and service providers who deliver services.

The provision of case management to vulnerable families is a complex matter. Vulnerable families typically present with multiple concerns and are involved in an array of services that target various child and parent outcomes. This means that coordinating services, referrals, assessments and so on, may involve contact with service providers from different disciplines, who might have differing perspectives on interventions and objectives for the family. These different services may have individual protocols and requirements for working with families that conflict with the requirements of other services. Case managers may face challenges such as not being able to access services for clients where they are not mandated, dealing with differing thresholds for statutory involvement, a lack of quality services to meet the array of family needs, challenges engaging families who are facing considerable crises, and dealing with a complex and potentially fragmented service system.

Although the core functions of case management remain consistent across disciplines and client groups, several characteristics of the approach vary across its implementation. Characteristics that frequently differ include targeted outcomes (e.g. reduction in out-of-home placements, reduction in reports of abuse, improving parenting skills), practice model (intensive, outreach, clinical etc.), and location on the continuum of care (e.g. used at entry; as aftercare etc. (Rapp et al., 2014).

Given this complexity, it is important to base both the services provided to vulnerable families and the case management practices that surround these services on the best available evidence. Understanding the value-adding function of case management and how to support its implementation in the welfare system, therefore, is an important endeavour if we are to ensure that vulnerable children and their families receive appropriate support and services to achieve the best possible outcomes.

While this REA presents some indications of the benefits of case management, there is still not a clear indication of its effect on service processes or outcomes for vulnerable families from the information available. This is not to suggest that case management lacks merit, it just lacks definitive evidence at this point. A number of practices were identified in this REA that may be central to good case management including assessment, coordination of and referral and linkage to services, case monitoring and planning, development of individualised plans, and provision of information, education support and direct services. However, since the literature includes no indication of which of these practices are more or less effective, it is not possible to point at any of these practices as particularly effective or important.

The implication of the research gaps outlined in the previous section is that not only do we not know what constitutes effective case management in general, we also do not know what case management requires when working with these specific, often highly vulnerable, populations. Furthermore, there is no clear sense of the costs of case management and how the expenditure relates to outcomes achieved. Given the



fact that there is a quite strong belief in the practice field that case management is important and cost effective, this gap is of concern.

Therefore, any attempt to apply a specific case management model or establish a systematic case management work culture should be embedded in a structure of continuous quality improvement (CQI) (Blumenthal & Kilo, 1998; Lorch & Pollak, 2014; Rubenstein et al., 2014). Approaching a case management project through CQI lenses can guide agencies in clearly defining the problems they want to solve and target groups they want to reach with a case management solution.

Simultaneously, CQI helps define systems of indicators to monitor and data points to measure in order to constantly assess whether the agency by implementing the case management intervention achieves the intended outcomes, or whether the intervention – or the implementation process – needs to be adjusted.

Taken together, this means that due to the lack of evidence for case management practices the local implementation of case management practices should be continuously evaluated for their value-adding function for an agency and its clients.

Simultaneously, it is important to keep in mind that case management practices always will be an organising structure wrapped around a range of clinical services. In this sense, case management is a service *delivery* practice that depends on the quality of the service itself. And in this sense it has been criticised for being a complex treatment approach whose sole function is to enable another complex intervention (i.e., counselling) to take place (Oldham, Kellett, Miles, & Sheeran, 2012).

Implicit in this criticism is the argument that case management does not work on its own; it is a process rather than an intervention in its own right, and in order to be successful for different target populations it needs to be combined with high quality evidence-based services. This means that, firstly, case management requires there to be services available in the community – case management, in other words will not have the potential to close service gaps – and, secondly, that case management has the *potential* to be useful when it is used in conjunction with interventions and services that have established evidence that demonstrates their effectiveness; when it is used as a vehicle to support underlying practices and as a means of ensuring that families are linked with these appropriate and effective services. Providing good case management where the underlying services are not effective would be unlikely to lead to any benefits for vulnerable families.

#### 5.4. Limitations

Several limits were imposed on this REA in order to streamline processes and make this review rapid. Only English language publications were included and books, conference presentations and theses were excluded. Authors were not contacted to obtain further studies or data, and grey literature was not sought. Only publications dated from the year 2000 onwards were included, in order to identify models more relevant to the current context. It is possible that some relevant studies may have been missed due to these limits.

Furthermore, studies reported here were limited only to those reporting models of case management. While a considerable number of models were identified, there were some studies excluded because they reported case management as a smaller component of the study, rather than a model. These studies may have provided a small degree of additional information about case management.

Another limitation of this REA is that insufficient reporting of details in the included publications restricts the synthesis of case management models.

Finally, it should also be emphasised that this REA focused on case management models that have been evaluated with *vulnerable families* and found that the evidence remains unclear. The evidence for case management practices applied in other social service areas may be stronger, and a possible way forward for the field could be to draw on evidence more broadly for case management. For example, evidence for case management and information about what is involved in case management may be available in sectors such as substance abuse, health, nursing or adult disability.

## 5.5. Conclusion

This REA identified several case management models that have been evaluated with vulnerable families, including families in the early years of parenting, families with complex needs, and children and young people. Various features of case management for vulnerable families have been identified, with individual and family assessment being the most frequently reported feature of case management. Due to insufficient evidence and poor reporting of details of case management, obtaining a clear picture of *good* case management for vulnerable families was not possible. Further evidence on the effectiveness of case management in general and evidence on the constituents of case management may be available in other fields of human services research. Given that case management is a process designed to facilitate the delivery of underlying services and interventions to families, it is critical that the effectiveness of practice is well established and monitored in addition to any underlying case management. In addition to ensuring the evidence base of underlying services, there is a need to build the evidence base for case management. This means clearly defining the desired outcomes of the case management process and assessing what forms of case management work best and in which circumstances.

### Key messages

- Case management is a service delivery practice designed to facilitate and coordinate services that are delivered to families and children.
- There is currently insufficient evidence to suggest that case management is effective for improving child, parent or family outcomes. This is not to suggest that case management lacks merit; however it lacks definitive evidence at this point. In addition, there is currently insufficient information to determine what good case management involves.
- Any attempt at applying a specific case management model or establishing a systematic case management work culture should be embedded in a structure of continuous quality improvement (CQI), and the local implementation of case management practices should be continuously evaluated for its success at value-adding for an agency and its clients.
- Case management is an organising structure wrapped around a range of clinical services. It is a service delivery practice that depends on the quality of the service itself. Case management does not work on its own — in order to be successful for different target populations it needs to be combined with high quality evidence-based services.
- There is a need to build the evidence base for case management, on top of the evidence for services. Rigorous evaluations of services and case management for vulnerable families are required to determine what works, in which circumstances, and for which outcomes.
- Evidence about case management may be available in other fields.

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