Models, theoretical design and formal evaluation of integrated specialist community health service provision for the first 2000 days: a scoping review

Helen Jean Nelson, Bethany Angus, Ailsa Munns, Sarah Ong, Sharyn Burns

ABSTRACT

Objective This scoping review identifies evidence for design, models and evaluation of integrated care service provision for families and children in the first 2000 days, in the context of community-based specialised health, education and welfare services.

Design Scoping review following the Joanna Briggs scoping review method.

Data sources Medline, CINAHL, Cochrane and PsycINFO. Grey literature used a manual search of original articles, and snowball technique to identify government and policy documents relevant to Australia.

Eligibility criteria for selecting studies Inclusion criteria were ‘population’ of prebirth to age 5; ‘concept’ of design, models and delivery of integrated specialist care for children and families; and ‘context’ of community-based specialised health, education and welfare services. Medical Subject Heading (MeSH) and free text searches were conducted in electronic database sources. Limits January 2010 to October 2022, full text, English language, human.

Data extraction and synthesis Data were extracted independently by two authors using a piloted data extraction table and presented in table and narrative form.

Results Full text of 11 articles were reviewed, domains were coded using four domains of a framework identified in one reviewed article to maintain consistency of reporting: ‘governance,’ ‘leadership,’ ‘organisational culture and ethos,’ and ‘front-line interdisciplinary practice.’ A fifth domain was identified, ‘access.’

Conclusions Services providing integrated care for families in the early years will ideally be based on values generated through codesign with families and the community. Considerations include sound governance and leadership, shared vision, and commitment to providing accessible and culturally safe family-centred care.

INTRODUCTION

An international health research priority on the first 2000 days of life (prebirth to age 5) stems from understanding that this period of development is critical to lifetime health, social and economic outcomes. At this age, there is profound pruning and shaping of brain pathways, setting the path for ongoing development.

Early interventions help outcomes of health, behaviour and learning, and promote equity. In contrast, children of this age who are deprived from timely interventions are more likely to experience unfair developmental differences that continue over their life. This is a focus in the literature on the burden of risk for children in poor and middle-income countries, however, this burden extends to children and families in higher-income countries through inequitable access to care.

Access to healthcare has been identified as a priority to reduce inequity in Australia and internationally. Within an ecological systems framework, social inequity impacts child development in high-income countries. This framework, originally proposed by Bronfenbrenner, focuses on each child as the centre of their environment surrounded by systems that influence development. Each system is nested inside another, for example, children are nested within layers of family, community, national and international policies, and historical systems that contribute to development and equity. Inequity is defined as ‘unfair or ethically problematic differences’ in developmental outcomes through factors including family income or adversity, and policy. These differences in outcomes...
are ‘systematic and preventable’ and relate to social determinants of health. For example, social and economic policy shapes how resources that support access to early intervention for children and families are distributed. The WHO makes three recommendations towards increasing health equity: (1) a social policy emphasis on early child development and protection for children and women; (2) governance that is dedicated to equity and (3) research evaluation to understand enablers and barriers for sustained action. Community-level factors important to equity include access to safe physical and social environments, access to early childhood services and sound governance. Each child has a right of equitable access to health and psychosocial care. Many children, however, face inequity because their families experience great difficulty in accessing specialist care for their child’s developmental needs. There is an international health policy focus on reducing inequity by increasing access to integrated, community-based health services for young children and their families. As reported in our scoping review protocol, a preliminary search found a persisting gap in research evidence for effective and sustainable integrated intervention for children and families in the early years. The overarching objective of this scoping review was to explore and identify evidence in the field of integrated care service provision for families and children in the first 2000 days.

**Review question**

‘What models, theoretical design and methods of formal evaluation are used for integrated specialist community-based health service provision for the first 2000 days?’

**Inclusion criteria**

Inclusion criteria are ‘population’ of the first 2000 days prebirth to age 5; ‘concept’ of design, models and delivery of integrated specialist care for children and families; and ‘context’ of community-based specialised health, education and welfare services.

Evidence sources were extracted through an electronic database search in three stages: (1) keyword searches using MeSH terms and free text searches restricted to title and abstract in Medline and CINAHL. (2) Database search using revised search terms in Medline, CINAHL, Cochrane, PsycINFO. Limits January 2010 to October 2022, full text, English language, human. International sources were included in data extraction. (3) Grey literature including manual search of original articles. A snowball technique used to identify grey literature included international sources, resulting in government and policy documents relevant to Australia.

**METHODS**

**Search strategy**

The search strategy is reported in a scoping review protocol. Scopus database was unavailable at the time of the search (online supplemental file 1—search logbook). This scoping review follows the Joanna Briggs Institute Manual for Evidence Synthesis, including a Preferred Reporting Items for Systematic Reviews Meta-Analyses (PRISMA) flow chart.

**Source of evidence screening and selection**

Title and abstract were screened independently by HJN and BA; any disagreement was resolved by AM. Full text was reviewed independently by HJN and BA; where HJN and BA were unsure, the decision to include was made by consensus of AM and SB. All authors agreed on the final articles for inclusion. Reasons for exclusion of any article were documented. The search is documented using a PRISMA flow chart (figure 1). Search results were managed in EndNote V.X20 software and stored in Open Science Framework.

**Data extraction**

A data extraction table was piloted. Two authors (HJN and BA) independently extracted data using the template. In an iterative process, the two authors met at regular intervals to discuss the usefulness of the data extraction and the template was updated.

**Analysis and presentation of results**

Content analysis used a deductive method to analyse data and code text into an overarching framework that was identified during the scoping search. The four domains each represent characteristics of effective integrated service provision: (1) governance, (2) leadership, (3) organisational culture and ethos and (4) ‘front-line’ interdisciplinary practice and team building (p.41). Frequency counts of the number of articles relevant to each field were illustrated by one or two text examples. Fit of text examples into domains and subdomains were coded by HJN with expert review by BA, AM, SO and SB. Consistent with the scoping reviews, analysis was descriptive. Qualitative data were managed using NVivo V.12 software. Results were discussed in narrative form, with a focus on governance, policy and practice, and evaluation of integrated specialist healthcare in early childhood.

The concept of ‘governance’ was guided by the a priori International Organization for Standardization (ISO) framework. The primary aim of governance is to guide the purpose of an organisation within ‘a meaningful reason to exist’ with ethical values, social integrity and to be sustainable over time.

**Patient and public involvement**

This scoping review is part of a formative study for a non-government organisation in Western Australia, conducted...
in response to issues of access to services identified by community consultation.\textsuperscript{15}

SEARCH RESULTS

Inclusion and sources of evidence

In total, 345 references were identified, 330 in electronic database searches and 15 in the grey literature. On removal of duplicate records, 277 references remained. Of these, 11 articles were kept for review of full text; a reason for exclusion of the remaining articles is documented in figure 1. Eight of the articles described a research evaluation, while three were reviews.

Review findings

Findings are presented with an overview of common factors included in definitions of integrated care, followed by identified results for each sub question of the scoping review. These are: (1) the theoretical framework or logic model that guided understanding and evaluation of interventions; (2) the factors that supported or challenged effective delivery of integrated care for children prebirth to age 5 years and their families and (3) outcomes used to evaluate interventions. Sociodemographic data is defined in online supplemental appendix table 1.

Integrated care was defined in 8 of 11 identified references (table 1). Most frequently, the definition included either a single point of care or accountability providing family support combined with early childhood health-care and education.\textsuperscript{19–22} An alternative definition was a community of practice, with coordination of care for the family by one key worker.\textsuperscript{23} A common approach included shared philosophy with providers working together at management, programme implementation and service delivery levels, pooled funding and shared measurement of outcomes.\textsuperscript{17,24,25}

Question 1: what theoretical frameworks or logic models are used to guide understanding and evaluation of interventions?

Of the 11 identified references, 5 were guided by a theoretical framework, 4 used an ecological systems approach\textsuperscript{17,20–22} and 1 used ‘communities of practice theory’.\textsuperscript{23} The focus of this theory is on workplace culture.

Figure 1  PRISMA flow chart. PRISMA, Preferred Reporting Items for Systematic Reviews Meta-Analyses. IMCI = Integrated Management of Childhood Illness
of ‘collective learning towards a shared goal’, allowing specialists to share knowledge and coordinate care among different professions.

Only one of the identified references referred to the use of a programme logic model. In this report, the logic model reflected conceptual and actual work over many years to develop and refine a model of school-based integrated care for disadvantaged children and their families (table 2).

Question 2: what factors support or challenge the effective delivery of integrated specialist care for children and families prebirth to age 5?

Data were extracted relevant to ‘components that support or challenge the delivery of integrated care specific to the first 2000 days’ in the four domains of the a priori framework: governance, leadership, organisational culture and ethos, and front-line interdisciplinary practice. A fifth domain of ‘access’ was identified (online supplemental appendix table 2).

### Table 1 Definition of integrated care

<table>
<thead>
<tr>
<th>Definition</th>
<th>Logic model</th>
</tr>
</thead>
<tbody>
<tr>
<td>No definition</td>
<td>‘Integration of services under a single provider… enabling families to be referred seamlessly to the services that meet their needs’</td>
</tr>
<tr>
<td>Single provider</td>
<td>‘An integrated family centre, combining parenting support, health services and early childhood care and education … to support children, their families, and their community’</td>
</tr>
<tr>
<td>Wider</td>
<td>Integration includes shared philosophy and vision with formal agreements by agencies; primary focus ‘on shared outcomes responding meaningfully to the community with a partnership approach’; ‘pooled funding administered for a common approach’</td>
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</tbody>
</table>

### Table 2 Use of a programme logic model

<table>
<thead>
<tr>
<th>Logic model</th>
<th>A programme logic model. Evaluation is included as ‘Child progress and achievement in the education system’ (p.40).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service delivery model with no process to evaluate intervention 2 manuscripts</td>
<td>‘Service delivery vehicle principles and dose elements were described in a logic model’ (p.4) and transformed into a request for proposals issued to community agencies. The ‘service delivery logic model’ is referred to but not shown.</td>
</tr>
<tr>
<td>A model for service provision, it includes primary and secondary prevention strategies but is not a logic model.</td>
<td></td>
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</tbody>
</table>

#### Governance

Results are presented by the four subdomains of governance in the ISO model: value generation, strategy, oversight and accountability. Value generation: Integrated care is supported by clear governance structure with shared values and philosophy generated using active codesign with parents and community members for service planning, implementation, service delivery and evaluation. Strategy: The strategic value of a shared framework was discussed in two contexts. First, a framework for policy and service design, including support from different levels of government. A challenge to this is conflicting government priorities and shifts in policy direction. Second, a clearly articulated research framework should specify outcomes and how they will be achieved using mixed methods research approaches. Oversight: Sustainable service delivery is supported by interprofessional respect and challenged by shifting government priorities. It can be challenged by inequitable working conditions and unbalanced power relations among professional staff. Accountability: The overarching model of integrated support through a one-stop service comes at increased cost. Short-term funding can create insecurity in employment, worker stress and transitory staff with an associated loss of knowledge.

#### Leadership

Three subdomains were identified in relation to leadership: accountability, recognition and strategies. Accountability is supported as leaders promote a team culture of reflective practice, professional development and a learning community. A challenge to accountability is managing the complex scale of an integrated service and responding quickly to identified needs, and tensions related to professional collaboration. Integrated service delivery is supported as leaders recognise and show value for the strengths and potential strengths of staff, trust
staff, encourage autonomy and innovation, and celebrate success. Leadership strategies that support integrated services include encouragement of practitioners to share knowledge and respect the values and priorities of others, as well as being prepared to take risks and bend rules as they learn from the breadth of experience of other professionals.

Organisational culture and ethos

Refers to the shared values, clear sense of purpose and patterns of behaviour of people who work in the organisation. Two subdomains were identified: cultural safety and shared vision. Cultural safety of care is supported by a strengths-based approach to care, and a willingness of staff to engage in ongoing enquiry and self-reflection as a basis for decision making. For Australian Aboriginal peoples, community consultation helped form a clear vision for the centre, including culturally safe facilities. In one setting, this included provision of holistic services and programmes, including an outdoor space with a fire pit for families to sit around while yarning or story telling. Holistic services included information and advocacy, help with accessing services and records, and capacity building. Programmes included early years education, playgroups, language and culture, domestic violence support and prevention, breakfast and nutrition programmes, and a library space. Staff capacity to work with families and communities with a shared vision is critical.

Front-line interdisciplinary practice

Five subdomains were identified: community workers, coordination between programmes, key worker, staffing, and working with families. Community workers or peer support workers encouraged engagement of parents with the service, reduced stigma and increased the sense of connection to other parents with similar circumstances. Coordination between programmes supported a better use of available resources by addressing several risk areas rather than providing single interventions in silos. This requires a willingness of staff to embrace new roles and responsibilities, engage in professional learning, contribute with mutual respect and recognition of different expertise, priorities and common values. Successful coordination between programmes is supported by community trust and can be challenged by an increased workload for service coordinators. A key worker is able to support parent engagement, providing a sense of security from building a long-term relationship with the same service provider. The single point of accountability can reduce the complexity faced by families in negotiating different priorities of professionals. Interdisciplinary care is supported by recruitment, induction and ongoing professional development of staff, supporting a shared ethos and strong working relationships. In working with families, a family-centred and trauma informed approach supports integrated care.

Access

Two subdomains were identified: access and one-stop shop. Access is simplified for families when services and support are integrated across different sectors. Fami- lies may experience barriers to access related to transport, language or lack of trust due to a history of ongoing trauma and cultural history. A one-stop shop joins and connects programmes and services to support access to ‘programmes, services, training and employment opportunities in culturally relevant ways’. Access is supported by the provision of many single entry points, for example, soft entry through universal services that are inclusive of all people across the social gradient with targeted care for those who have greater needs. Other factors that support access are a culturally safe physical environment with green space on a public transport route or with transport assistance.

Question 3: which outcomes are used to evaluate interventions?

Interventions were evaluated using action research, qualitative and quantitative methods. Drummond et al used action research cycles with qualitative analysis. Qualitative data were also obtained through case studies, thematic analysis of storytelling by Australian Aboriginal peoples, and interviews with parents. Quantitative measures included: (1) education outcomes such as language and social skills, school readiness, attendance; (2) Australian Early Development Census measures and academic performance; (2) evaluations to assess family concerns and family linkage to health services, parent engagement using purposively developed measures; (3) cost-effectiveness and efficient use of resources and (4) pre–post quantitative analysis using validated measures administered by clinicians, health-related quality of life, and Ages and Stages Questionnaire (table 3).

DISCUSSION

Eleven articles met the inclusion criteria of ‘population’ prebirth to age 5; ‘concept’ of design, models and delivery of integrated specialist care for children and families; and ‘context’ of community-based specialised health, education and welfare services. Findings are discussed by each of the three subquestions: (1) use of a theoretical framework and logic model to guide the intervention and evaluation; (2) supports or challenges to effective delivery of integrated care and (3) outcomes used to evaluate interventions.

1. Theoretical framework and logic model: A theoretical framework guides how new knowledge is processed; a logic model shows relationships between different parts of the implementation and research strategy. An ecological systems approach was the most frequently named theoretical framework in reviewed references. One article presented a programme logic model. Programme logic models give

a visual representation of the theory behind anticipated change.29 To increase transparency, rigour and sustainability of new interventions, research implementation logic models are recommended.29 30 These include a description of the intervention, assumptions behind it, how it will be implemented, anticipated supports or challenges, outcomes and outcome indicators.29 30 Bronfenbrenner7 defined development as a lasting change in how children perceive and deal with their environment and over time contribute to the development of others. The most sound evidence base for child development will be informed by longitudinal research using an implementation logic model.31

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<th>Table 3</th>
<th>Included outcome measures</th>
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| Ah Chee et al (2016)21 Research | Health—attribution rate at age 1, infant mortality rate. Education—expressive language and social skills, preschool attendance, confidence and school readiness (Abecedarian approach). Rates reported as %.
| Clark and Jackiewicz (2014)20 Research | Australian Early Development Index measures of developmental vulnerability. Academic progress until the end of preprimary measured by the University of Western Australia (State reported Performance Indicators in Primary School).
| Drummond et al (2016)27 Research | Action research using a template to describe development of intervention, the ‘Template for Intervention Description and Replication’. Qualitative analysis was published separately. Primary outcome=no of total family linkages to health and social services as defined by an author created tool called ‘Family Services Inventory.’ Linkages were subdivided: basic needs, family challenges (eg, parole), child development, healthcare, other services.
| Kelly and Knowles (2015)23 Research | Qualitative feedback as two case studies.
| Moore (2021)22 Webpage review | Tools to identify parent concerns, for example, Parental Evaluation of Development Status (referred to Glascoe et al, 2016)41 or Parent Engagement Resource (referred to Moore et al, 2012).43

We begin by looking at the importance of governance to effective delivery of care.

**Governance**

WHO10 recommend good governance as the foundation of successful action to promote health equity. Attributed to good governance was meaningful participation by community members who are most marginalised when setting priorities for policy, service delivery and evaluation. The inclusion of community members with other community stakeholders promotes ‘trust, reciprocity and social accountability’.10 Consistent with this emphasis, we identified shared vision as a main category that underlies strategy and supports delivery of integrated care. In the domain of governance, shared vision is achieved through creation of values and codesign of services in partnership with community members.22 24 25 Governance is also supported when leaders use a sound theoretical foundation to advocate for the shared vision, and to guide strategic planning and decision-making,17 demonstrating respect and value for ‘diverse professional contributions’.24 Consistent with the ecological systems framework, this governance support is ideally set in political leadership including policies that promote equity, and contributed to at all levels of governance.33 This must, however,
be matched with active engagement with professionals, local community and families.23

A challenge of governance is inconsistent use of the word ‘integrated’ to describe colocation of services.20 22 24 Colocated multidisciplinary services do not necessarily collaborate to coordinate care.23 24 When run in parallel they can impede integration through overlap and lack of communication.21 Mawson contrasted colocation and integration in his description of a successful community-based initiative as a ‘fully integrated approach managed by one team of people’.31 Similarly, Ah Chee et al19 found that integration under a single provider enabled seamless referral of families to services that met their needs. Challenges to this include shifts in the direction of government structure, policy and funding, including an increased cost of providing truly integrated care.17 24 25 Sustained integrated service provision in the early years is supported by political vision and a funding commitment to addressing inequities in child health through early intervention.39 It is challenged by changing political priorities and short term funding rotations.31 32 Central to reducing the harm of intergenerational trauma and increasing health equity is funding at a level that allows staff time to listen and develop relationships with families.10

Leadership and organisational culture and ethos
At these levels, integration is supported by promoting shared understanding and accountability, and recognising the contribution made by each profession and each person. Shared understanding requires strong relationships, and leaders must be aware of the potential for these to be hindered by power imbalances among different professions.17 22 24 In contrast, staff who are secure in their professional identity benefit as their knowledge is increased through interprofessional working relationships, helping to sustain community trust and partnership.17 Integrated care is supported as leaders build a supportive culture of shared responsibility for families.25 Consistent with findings regarding governance, organisational culture and ethos is similarly supported by collective ownership of a shared vision, with ‘trust, openness and an expectation of being heard’.17

Front-line interdisciplinary practice
Front-line practice is supported as professionals work together, empowering families in a common goal of meeting the self-defined needs of the family.22 A key worker can help provide a stable base of support for the family, increasing the cost-effectiveness and sustainability of specialist care.20 23 For example, the key worker provides a structured interface between services and this supports sharing of information so that families do not have to keep retelling their story.25 Cultural safety is facilitated by trauma informed care22 and including respected community workers alongside specialist care.25 There is an increasing focus on the importance of cultural safety and trauma informed care in promoting equity for children and families.25 36 Cultural safety is promoted through reflective practice as healthcare providers seek to understand their own assumptions, power and bias, and measured through increase in health equity.36 In contrast, a focus on acquiring cultural knowledge can result in ‘othering’ of people who are seen as different, resulting in power imbalanced relationships.36 The harm of othering occurs as responsibility for problems is placed on people rather than the systems and structures that lead to inequity.37 Likewise, the aim of trauma informed care is to provide relationally secure care through understanding the impact of trauma on development, and integrating this knowledge into the entire culture of a workplace.38

Access
A one-stop model that is built from the ground up to be relevant to the community and culturally safe, with multiple soft entry points, supports equitable access, giving tiered support to families who are most in need. For example, through supported playgroups that target a particular need,22 or a welcoming library space.21 A challenge to access is related to families experience of feeling judged, unsafe or misunderstood.22 In high-income countries, there is a need to increase accessibility of services for families who are vulnerable through social circumstances including intergenerational poverty and trauma, and racism.2 33 Rather than being a result of personal decisions or ability, the vulnerability experienced by these families is frequently due to ecological systems of unequal power structures, from policies at government and organisational level to socially constructed attitudes that result in relational violence to others.33 For this reason, access is supported by respectful partnerships with families in care.31 22

3. Outcomes used to evaluate interventions: Outcomes were reported using qualitative and quantitative methods. In one intervention, a purposely designed tool, the ‘Family Services Inventory’, was used to guide measurement and reporting of total family linkages to health and social services.27 The ‘Core Care Conditions for Children and Families’ template39 was designed to evaluate how well child and family needs were met in centres dedicated to integrated care. This template defined conditions of optimal care but did not define measurement strategy. The authors recommended that interventions have a clear practice framework and programme logic model that names outcomes and evaluation strategy.32

Strengths and limitations
Consistent with the scoping review method, the purpose of this review was to map evidence, clarify definitions and key characteristics of integrated care provision for children and families in the first 2000 days, and overview how research has been conducted relevant to integrated care in the first 2000 days.16 40 It did not address the effectiveness of specific interventions as grades of effectiveness are typically reviewed during systematic reviews.16 40 Search criteria included an international focus, however, the
CONCLUSIONS AND RECOMMENDATIONS

References identified in this scoping review supported design of integrated specialist care for families and children prebirth to age 5 provided in a one-stop service with soft entry to encourage access. The review identified and built on an existing model to provide evidence for service provision. ‘Governance’ includes values generated through a shared vision in codesign with families, guided by a sound theoretical framework, and with a structured approach to data sharing and outcome evaluation. ‘Leadership’ involves a participative approach, promoting trust and equal power relationships among different professions. ‘Organisational culture and ethos’ stresses the importance of cultural safety and shared vision. And ‘front-line interdisciplinary practice’ emphasises peer workers and professional staff committed to working together using trauma informed care and respect for the inherent dignity of each person, staff or family member. A fifth domain ‘access’ was identified with a focus on the provision of a service built from the ground up to be accessible to as many as possible. An ongoing requirement for structured research evaluation was consistently identified, preferably based on a sound logic model.

Contributors HJN conceived of the study in conjunction with AM, SO and SB. HJN, BA, AM and SB independently performed screening. HJN and BA independently performed data extraction. HJN performed initial data analysis and BA, AM and SB critically assessed data analysis. All authors read and approved the final manuscript. HJN is responsible for the overall content as guarantor.

Funding This work was funded by Carey Community Resources.

Competing interests This work is being conducted as part of a formatative study for Carey Community Resources, a non-government organisation.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Not applicable.

Ethics approval This scoping review is one part of a three-part study to match integrated specialist service provision for the early years to community priorities. Ethics approval was obtained for a community consultation (Curtin University Human Research Ethics approval HRE2021-0546) and was not necessary for the scoping review.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are stored in Open Science Framework and available on reasonable request.

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REFERENCES


29 Smith JD, Li DH, Rafferty MR. The implementation research logic model: a method for planning, executing, reporting, and synthesizing implementation projects. *Implementation Sci* 2020;15:84.


**Supplementary file**

**SEARCH LOGBOOK**

**19.11.2021 – First search**

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<th>Search engine</th>
<th>Search</th>
<th>Returns</th>
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|                              | Medline 19.11.2021 | ((Infant or Child, Preschool) and Delivery of Health Care, Integrated and (Child Health Services or Community health services)).sh. limit 2 to (english language and humans and yr="2010 -Current" and "all child (0 to 18 years)") | = 158 results
|                              | Medline 25.11.2021 | ((Infant or Child, Preschool) and Delivery of Health Care, Integrated and (Child Health Services or Community health services) and Child development).sh. limit 4 to (english language and humans and yr="2010 -Current" and "all child (0 to 18 years)") | 10 returns – all in original search and not downloaded |
|                              |               | ((Infant or Child, Preschool) and Delivery of Health Care, Integrated and (Health Services Needs and Demand) and Child Development Services and Community Health Services).sh. | 0 returns                                                                 |
|                              |               | ((Infant or Child, Preschool) and Delivery of Health Care, Integrated and Child development services).sh. | 0 returns                                                                 |

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<th>Keyword searches</th>
<th>Search engine</th>
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|                  | Medline       | ((Early childhood or Early child* or Maternal) and child and (Integrated and Care) and (Community health or Community health service)).ab. limit 4 to (english language and humans and yr="2010 -Current" and "all child (0 to 18 years)") | Abstract = 14 results
|                  | CINAHL (MW)   | MW "Health Care Delivery, Integrated" AND MW ("Child MW in Subject Heading (Abstract or Title search does not give returns)
- "Health service" OR 'Community Health Service' AND MW ("Child, Preschool" OR "Infant")

Limits Academic Journals, Language English, All child, 2010-2021, Abstract available

= 78 results
Note:
1) "Child Health Services" includes “Child Day Care.”
2) “Community health Services” includes “Community Networks”, “Family Services”, “Maternal Health Services”, “Preventive Health Care” including “School Health Services”

CINAHL – the following terms were identified through CINAHL:
Health Care Delivery, Integrated AND Community Health Services OR Child Health Services AND Child, Preschool OR Infant

CINAHL Search: https://search-ebSCOHOST.com.pklibresources.health.wa.gov.au/login.aspx?direct=true&db=ccm&bquery=MW+%26quot%3bHealth+Care+Delivery%2c+Integrated%26quot%3b+AND+MW+(+%26quot%3bChild+health+service*%26quot%3b+OR+%26quot%3bCommunity+Health+Services%26quot%3b+)+AND+MW+(+%26quot%3bChild%2c+Preschool%26quot%3b+OR+%26quot%3bInfant%26quot%3b)+AND+DT1&clv0=201001-202112&type=1&searchMode=And&site=ehost-live&ssl=y

Notes after review of titles and abstracts Search 1 (HN)
Exclude:
• Integrated Community Case Management (ICCM) or Integrated Management of Childhood Illness (IMCI). Reason - articles refer to managing pneumonia, malaria, or diarrhoea aimed at reducing under-five mortality (Chopra et al. 2012. doi: 10.1136/archdischild-2011-301191; Gera et al. 2016. doi: 10.1002/14651858.CD010123.pub2)
• Community-based clinics for children with medical complexity that are integrated with a tertiary hospital (e.g. Cohen et al. 2012. doi: 10.1186/1472-6963-12-366)

Discussed inclusion of:
1. Florida’s children with special health care needs (CSHCN) enrolled in public insurance programs (Medicaid)
2. Complex care for kids Ontario search terms

20.11.2021 – Second search
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<td>29 returns</td>
<td>Cochrane reviews 1 return</td>
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<td>“Effective practice and health care systems” + Delivery of healthcare services + “Child health” 2010-2021</td>
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<td>Adding rapid diagnostic tests to community-based programmes for treating malaria</td>
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<td>Version published: 08</td>
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<td>September 2022</td>
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<table>
<thead>
<tr>
<th>PsychInfo MeSH</th>
<th>Search Content</th>
<th>Retrieved Content</th>
<th>Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>((Infant or Child, Preschool) and Delivery of Health Care, Integrated and (Child Health Services or Community Health Services)).mh. limit 5 to (human and english language and yre=&quot;2010 -Current&quot;)</td>
<td><a href="https://ovidsp-dc2-ovid-com.pklibresources.health.wa.gov.au/ovid-a/ovidweb.cgi">https://ovidsp-dc2-ovid-com.pklibresources.health.wa.gov.au/ovid-a/ovidweb.cgi</a></td>
<td>26 returns</td>
<td>No returns</td>
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<tr>
<td>PsychInfo Abstract or Title</td>
<td>((Early childhood or Early child* or Maternal) and child and (Integrated and Care) and (Child Health Services or Community health services)).ab. ((Early childhood or Early child* or Maternal) and child and Integrated and (Child Health Services or Community health)).ab. limit to (human and english language and yre=&quot;2010 -Current&quot;)</td>
<td>3 returns, (when I replaced care with special* there were 0 returns) 16 returns 0 returns</td>
<td>No returns</td>
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<tr>
<td>Scopus</td>
<td>Not available</td>
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Grey Literature – snowball technique identified 15 manuscripts:
1 (NHS in UK)
2 (WHO, UNICEF)
And 12 from Australia
## APPENDIX

### Table 1. Sociodemographic and health conditions of children in primary studies.

<table>
<thead>
<tr>
<th>Research objectives</th>
<th>Country, Number of participants</th>
<th>Age of children, Parents included?</th>
<th>Presenting conditions of children</th>
<th>Specialist services that are integrated</th>
<th>Community context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ah Chee et al. (2016) 19 Research</td>
<td>Inferred rather than stated: “Congress Board has focused on improving the developmental outcomes of Aboriginal children” (p.8).</td>
<td>Australia Number of participants not stated</td>
<td>Pre-birth to age 3, parents and children</td>
<td>Aboriginal children who may grow up in environments of poverty, substance abuse, low school attendance, and social exclusion.</td>
<td>Child and family services, centre-based educational day care, health care. Nurse home visits, case management. Play groups. Non-profit NGO located in Alice Springs, central Australia (rural context). Aboriginal community-controlled health service.</td>
</tr>
<tr>
<td>Drummond et al. (2016) 26 Research</td>
<td>Compare two community-based service delivery strategies designed to increase use of existing health and social service programs.</td>
<td>Canada 1168 families</td>
<td>Included ages 0-12 years (mean age 6 years) and families</td>
<td>Low-income families in Canada with at least one child less than 12 years of age.</td>
<td>Social worker, service delivery vehicle supervisors, family workers from service agencies. Partnership of 12 community-based / government organisations.</td>
</tr>
<tr>
<td>Kelly &amp; Knowles (2015) 23 Research</td>
<td>Evaluation of an integrated care team in one community.</td>
<td>Australia Two case studies were presented</td>
<td>Age of children not stated. Families were included.</td>
<td>Specific to early years for children and families, often with multiple complex issues in the family.</td>
<td>Not specifically stated. Family concerns including schooling, equipment, housing, child protection, developmental delay and disorders, health. Independent community service organisation. Integrated care team, key workers provided a single interface point for families.</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Year</td>
<td>Research Type</td>
<td>Focus</td>
<td>Participants</td>
</tr>
<tr>
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<tr>
<td>Lee-Hammond (2013)</td>
<td>Consult with members of an Aboriginal community about access to children’s services: community preferred services and ways to access.</td>
<td>Research</td>
<td>Australia Qualitative study, 33 participants.</td>
<td>Focus was on provision of integrated care centres for parents and young children in metropolitan region of Western Australia.</td>
<td>The community requested interagency support through “a joined-up service connecting programs and services” (p. 62).</td>
</tr>
<tr>
<td>Moore (2021b)</td>
<td>Identify common elements, benefits, and requirements to implement integrated early learning service models.</td>
<td>Literature review</td>
<td>Australia Webpage review of international and Australian models.</td>
<td>“Needs of all children and families” but with a goal to support those who experience socioeconomic vulnerability (p.10).</td>
<td>Focus on education services: “long day care, high quality early learning programs. And family support programs” (p. 9).</td>
</tr>
<tr>
<td>Munns et al. (2019)</td>
<td>Identify models of community-based integrated service hubs for families; explore enablers and challenges to service provision.</td>
<td>Literature review</td>
<td>Australia Literature review of international and Australian models.</td>
<td>A range of national and international models of integrated service hubs for families with young children.</td>
<td>Community health services providing universal and specialist support, including professional and non-professional health care providers.</td>
</tr>
<tr>
<td>Press et al. (2012)</td>
<td>Identify processes that support successful and sustainable models of integrated care including professional learning requirements that support quality of care and equity.</td>
<td>Research</td>
<td>Australia 94 integrated early childhood education centres</td>
<td>Early childhood education and care, birth to age 8. An email survey to service providers, site visit of some services, focus groups with staff or families.</td>
<td>Early childhood educators and care professionals including welfare and health care providers, but with a focus on childcare.</td>
</tr>
<tr>
<td>Schmeid et al. (2010)</td>
<td>Assess the impact of integration across universal health services, approaches that ensure continuity of care between</td>
<td>Literature review</td>
<td>Australia Literature search, international and Australian examples.</td>
<td>A focus on “the needs of women and their families, particularly those that are vulnerable” (p.3518)</td>
<td>Midwives Child and family health nurses General practitioners</td>
</tr>
<tr>
<td>Authors</td>
<td>Title</td>
<td>Methodology</td>
<td>Population</td>
<td>Disciplines and Factors</td>
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<tr>
<td>Van der Ham et al. (2013)</td>
<td>Assess if interagency collaboration increased the capacity to provide early intervention and treatment to mothers and their babies.</td>
<td>Research</td>
<td>Australia - Queensland 21 mothers</td>
<td>disciplines and factors that facilitate or hinder collaboration.</td>
<td></td>
</tr>
<tr>
<td>Zhou et al. (2019)</td>
<td>Evaluate effectiveness of a nurturing care intervention to reduce the prevalence of suspected developmental delay after 2 years.</td>
<td>Research</td>
<td>China – rural Pre 2953 parent/child dyads, post 2845 Children 0-35 months and caregiver</td>
<td>disciplines and factors that facilitate or hinder collaboration.</td>
<td></td>
</tr>
</tbody>
</table>

Australia and internationally.
A day program with clinicians from Government organisations.

Mothers diagnosed with depression, anxiety, bipolar affective disorder, schizo-affective disorder.

Mothers and their babies aged 6 weeks to 6 months at intake.

Adult mental health, Infant mental health, Community child health.

Maternal and child health and child protection professionals.

40 intervention villages with high poverty, and 43 comparison villages.

Government led intervention. At each village an Early Child Development center at a school or kindergarten was staffed by a volunteer.
Table 2. Components that support or challenge the delivery of integrated care in the first 2000 days.

<table>
<thead>
<tr>
<th>Domain</th>
<th>Example from review findings - supports</th>
<th>Domain</th>
<th>Example from review findings - challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Governance</strong></td>
<td></td>
<td><strong>1. Governance</strong></td>
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</tr>
<tr>
<td><strong>1.1 VALUE GENERATION</strong></td>
<td>“The elements requiring value creation and value generation required to fulfil purpose” (ISO)</td>
<td><strong>1.1 Lack of shared vision</strong></td>
<td>Early years services that are notionally regarded as having been integrated are in fact merely co-located</td>
</tr>
<tr>
<td>1.1.1 Shared vision</td>
<td>9 text / 5 manuscripts&lt;br&gt;17 20 22 24 25</td>
<td>1.1.1 Lack of shared vision</td>
<td>Early years services that are notionally regarded as having been integrated are in fact merely co-located</td>
</tr>
<tr>
<td></td>
<td>A shared vision and achievable goals provide a platform for building shared responsibility and accountability between service providers</td>
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<tr>
<td></td>
<td>Help staff to clearly articulate the vision and purpose in providing an integrated service, and the way to achieve their goals</td>
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<tr>
<td><strong>1.1.2 Community voice</strong></td>
<td>12 text / 5 manuscripts&lt;br&gt;17 20-22 25</td>
<td>1.1.2 Community voice</td>
<td>Degree of staff capacity to work with clients and communities with a shared vision is critical - this aspect is not usually addressed</td>
</tr>
<tr>
<td></td>
<td>Design the facility and decide on services to be provided in partnership with families from the community, include views on how to meet the challenges they face</td>
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<tr>
<td><strong>1.2 STRATEGY</strong></td>
<td>“Directing and engaging strategies in accordance with the value generation model” (ISO)</td>
<td><strong>1.2 Decision making challenges</strong></td>
<td>Conflicting national and international policies, workforce strategies, and government funding</td>
</tr>
<tr>
<td>1.2.1 Decision making</td>
<td>6 text / 3 manuscripts&lt;br&gt;17 22 26</td>
<td>1.2.1 Decision making challenges</td>
<td>Conflicting national and international policies, workforce strategies, and government funding</td>
</tr>
<tr>
<td></td>
<td>Collaborations that are multilevel and multisectoral</td>
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<td></td>
<td>Support of the vision by facilitating change and embedding change through strategic planning and decision-making</td>
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<tr>
<td><strong>1.2.2 IT and data</strong></td>
<td>Establish common IT systems and data sharing</td>
<td><strong>1.2.2 IT and data challenges</strong></td>
<td>Undefined and unstructured interfaces between services result in inadequate sharing of information (p.383), and families having to keep retelling their story (p.385)</td>
</tr>
<tr>
<td>1.2.2 IT and data</td>
<td>9 text / 5 manuscripts&lt;br&gt;17 20 22 24 25</td>
<td>1.2.2 IT and data challenges</td>
<td>Undefined and unstructured interfaces between services result in inadequate sharing of information (p.383), and families having to keep retelling their story (p.385)</td>
</tr>
<tr>
<td></td>
<td>There is a need for robust outcome data, including data for “intersectoral activities, program evaluation and cost effectiveness” (p. 27)</td>
<td></td>
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</tr>
<tr>
<td><strong>1.2.3 Leadership</strong></td>
<td>A sound theoretical foundation and ongoing support helps leaders advocate for change. Leaders are instrumental in vision building and generate a sense of possibility about making a difference to children’s lives and a commitment to families</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.3 Leadership</td>
<td>4 text / 3 manuscripts&lt;br&gt;17 22 24</td>
<td>1.2.3 Leadership challenges</td>
<td>An interdisciplinary approach can present challenges, as it requires strong relationships among staff and sound operational guidelines, with sound managerial qualifications</td>
</tr>
<tr>
<td></td>
<td>A sound theoretical foundation and ongoing support helps leaders advocate for change. Leaders are instrumental in vision building and generate a sense of possibility about making a difference to children’s lives and a commitment to families</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1.3 OVERSIGHT</strong></td>
<td>“Overseeing organisational performance and ensuring that the organisation fulfils all expectations” (ISO)</td>
<td><strong>1.3 Risk governance challenges</strong></td>
<td>Lack of respect for the work of other providers leads to reduced trust</td>
</tr>
<tr>
<td>1.3.1 Risk governance</td>
<td>4 text / 2 manuscripts&lt;br&gt;17 24</td>
<td>1.3.1 Risk governance challenges</td>
<td>Lack of respect for the work of other providers leads to reduced trust</td>
</tr>
<tr>
<td></td>
<td>Have in place procedures for managing conflict, with emphasis on joint sharing of risk and reward</td>
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### 1.4 ACCOUNTABILITY

#### 1.4.1 Social responsibility

- Clarity, agreement, and commitment at all levels on roles and responsibilities
- Overarching model of governance is ready access to ‘multiple supports through a single door’

#### 1.4.2 Viability and performance over time

- A coherent, structured, long-term approach to process and outcome evaluation is required to build on international evidence
- Links and partnerships with universities and training institutions to give practicum opportunities, and pathway programs for inter-professional practices

#### 1.4.2.1 Evidence

- A participative approach to leadership, in which practitioners contribute meaningfully

#### 1.4.2.2 Funding

- Supervision and staff development that maintains high quality of care, continuity, and stability

### 2. Leadership

#### 2.1 Accountability

- Supervision and staff development that maintains high quality of care, continuity, and stability

#### 2.2 Recognition

- Recognition of and valuing diverse professional contributions

### 1.3.1.1 Power relations

Difficulties can arise when some professions are more powerfully positioned within that organisation than others and this remains unchallenged. Inequitable pay and working conditions for staff.
<table>
<thead>
<tr>
<th>2.3 Strategies</th>
<th>Build a supportive culture to facilitate integration of professional groups, and shared responsibility for support to families</th>
<th>2.3 Strategies - challenges 1 text / 2 manuscripts</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 text / 2 manuscripts 17 25</td>
<td>Fund a “whole-of-service coordinator” who is skilled in managing change, takes a long-term view, is open to new ideas, and builds trust. Ideally with a formal qualification 17</td>
<td>Poor intervention fidelity 26</td>
</tr>
<tr>
<td>2 text / 2 manuscripts 17 26</td>
<td>Recognise and, if necessary, take steps to address the risk that meeting face-to-face may further entrench or exacerbate professional stereotyping, prejudice and hierarchies 17</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Organisational culture and ethos 3.1 Culturally safe</th>
<th>Universal and inclusive service base with availability of non-stigmatising and inclusive core services to all families</th>
<th>3.1 Culturally safe - challenges 1 text / 1 manuscript 22</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 text / 8 manuscripts 17 19-22 24-26</td>
<td>Preparedness to engage in ongoing enquiry and reflection as a basis for decision making 17</td>
<td>A barrier to culturally safe care is a lack of willingness by practitioners to reflect on and understand their own cultural values and the potential for these to contribute to a harmful power imbalance in relationships 22</td>
</tr>
<tr>
<td>3.1.1 Culturally safe for Aboriginal people</td>
<td>Aboriginal community workers to care for families alongside specialist staff</td>
<td>3.1.1 Culturally safe for Aboriginal people - challenges 2 text / 2 manuscripts 19 21</td>
</tr>
<tr>
<td>8 text / 5 manuscripts 19-22 25</td>
<td>Include elders and other community members in the development of curriculum and service provision and governance 21</td>
<td>A challenge is to engage families who have faced historical abuse and marginalisation 19</td>
</tr>
<tr>
<td>3.2 Shared vision</td>
<td>A strong sense of collective ownership, characterized by excitement, optimism, enthusiasm, passion, and trust, openness and an expectation of being heard* (p.46) 17</td>
<td>3.1 Shared vision - challenges 2 text / 2 manuscripts 17 25</td>
</tr>
<tr>
<td>10 text / 4 manuscripts 17 20 22 24</td>
<td>An interdisciplinary approach can present challenges, and it requires strong relationships among staff 25</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Frontline interdisciplinary practice</th>
<th>Including respected community workers alongside specialist care, facilitate acceptance and cultural safety</th>
<th>4.1 Community workers - challenges 1 text / 1 manuscript 26</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 text / 3 manuscripts 22 25 28</td>
<td>Poor intervention fidelity was reported in a program that was led by trained community workers 26</td>
<td></td>
</tr>
<tr>
<td>4.1 Community workers</td>
<td>A consistent approach to screening allows children and families to be referred to the programs that best meet their needs 19</td>
<td>Retaining specialist expertise while crossing disciplinary borders and reconciling tensions arising from different professional beliefs, knowledge bases and practices 17</td>
</tr>
<tr>
<td>4.2 Coordination between programs</td>
<td>Teams of different multidisciplinary professionals working together with common goal to improve outcomes, identify and analyse problems, define 23 24 27</td>
<td>Multidisciplinary team meetings considered to be time consuming; feelings of professional anxiety; perceptions of status can inhibit participation; difficulty voicing opinions for</td>
</tr>
</tbody>
</table>
### 4.3 Key worker
12 text / 5 manuscripts

**Joint working goals, assume joint responsibility for actions and interventions.**

- Having a key worker is user-friendly, less intrusive, holistic, and person-centred, reduces duplication, is cost-effective, efficient, more desirable to families, and has sustainable outcomes.

**Fear of being ridiculed or lacking authority; overt and covert resistance by team members.**

- Liaison person can keep professionals distanced and leave the liaison as the "repository of information."

**4.3 Key worker - challenges**

1 text / 1 manuscript

- Increased workload – particularly for coordinators.

**4.4 Staffing**

15 text / 3 manuscripts

**Staff trained in trauma informed care and family centred practice.**

- Induction and retention are supported by recruiting staff who are committed to working within the ethos; are reflexive and flexible; have a secure professional identity and feel safe about developing it.

**Increased workload – particularly for coordinators.**

- An interdisciplinary approach can present challenges, and it requires strong relationships among staff and sound operational guidelines, with sound managerial qualifications.

**4.4 Staffing - challenges**

5 text / 2 manuscripts

- A bad service experience can make a parent feel judged and unsupported, whereas a good service experience helps them to feel confident in their parenting (p.27).

**5. Access**

16 text / 4 manuscripts

**Community wide early intervention activities supported delivery of services.**

- Built from the ground up to be usable and accessible by as many people as possible, with tiered support for families with additional needs.

**Parallel streams of service provision impedes access for families.**

- Families with the greatest needs may make least use of services because of a lack of trust, confidence, easy access, or perceived power imbalances due to cultural differences.

**5.1 Access**

6 text / 4 manuscripts

**Respect for people’s inherent human dignity. Helping parents feel in control, capable, empowered, and valued. Practical services that help parents meet their self-defined needs, rather than being prescriptive.**

**5.2 One-stop**

8 text / 4 manuscripts

**A "one-stop-shop" facilitates interagency collaboration and “realistic, acceptable, and timely client-centred” care (p.22).**

**Families with the greatest needs may make least use of services because of a lack of trust, confidence, easy access, or perceived power imbalances due to cultural differences.**