Life Course Centre

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WORKING PAPER SERIES

TOWARD A COMPREHENSIVE EARLY CHILDHOOD DEVELOPMENT SYSTEM: EVIDENCE-BASED STRATEGIES FOR IMPLEMENTATION

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No. 2022-15

August 2022

Australian Government Australian Research Council

The University Of Queensland Australia

The University of Western Australia

The University of Sydney

The University of Melbourne

NON-TECHNICAL SUMMARY

Australia faces deep and persistent socioeconomic inequality and disadvantage that continue to produce significant disparities in the early development of children and subsequently have long-lasting implications for the health, wellbeing, and prosperity of these young people. Past decades of research have demonstrated that acting during these early years to address these inequalities of outcomes are of significant benefit, cost effective and important for promoting the overall health of the population. The question now is not whether to invest, but how best to invest for the greatest impact. How can government work best to lead, strategise, prepare, roll out and sustain innovative evidence-based policy and programming to support optimal child development?

Frameworks to support and promote early childhood development (ECD) have outlined several key domains of focus: early learning and care, child and maternal health services, child development services, child safety services, child-focused community services, and family-focused government expenditure and fiscal policy. However, core challenges to the implementation of such frameworks are (a) the disjointed and siloed nature of service planning and delivery amongst the various line agencies and non-governmental organisations, and (b) provision of services that fail to reach their target clients due to perceived barriers to access.

This report provides a framework for the establishment, maintenance, evaluation and scaling up of a whole-of-government system to optimise early childhood development. The framework presented here outlines global evidence from research on large-scale government efforts to develop cross-sectoral national initiatives to improve child health and wellbeing. This framework builds on five phases: establishment of visionary leadership, exploration, preparation, implementation, and continuation. This five-phase model is derived from available evidence on whole-of-government multi-sectoral coordination and integration to achieve widespread improvement in policy and service to benefit children and families.

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ABSTRACT

Australia faces continuing deep socioeconomic inequality and deep disadvantage evident in the early years of life and casting a shadow over long-term health, wellbeing, and prosperity. The past decades have given rise to a body of evidence that demonstrates the benefit and cost effectiveness for promoting health and wellbeing to address these inequities and to improve outcomes over the life course. Promotion of early childhood development (ECD) requires a broad policy architecture to maximise the investment in several domains: early learning and care, child and maternal health services, child development services, child safety services, child-focused community services, and family-focused government expenditure and fiscal policy. Core challenges to this agenda are (a) the disjointed and siloed nature of service planning and delivery amongst the various line agencies and non-governmental organisations, and (b) provision of services that fail to reach their target clients due to perceived barriers to access. This report provides a framework for the establishment, maintenance, evaluation and scaling up of a whole-of-government system to optimise early childhood development. The framework presented here outlines global evidence from research on large-scale government efforts to develop cross-sectoral national initiatives to improve child health and wellbeing. This framework builds on five phases: establishment of visionary leadership, exploration, preparation, implementation, and continuation.

Keywords: Early years, implementation science, socioeconomic inequality, multi-sectoral intervention, policy framework

Suggested Citation: Runions, K., Cahill, R., and Markham, R. (2022). 'Toward a Comprehensive Early Childhood Development System: Evidence-Based Strategies for Implementation', Life Course Centre Working Paper Series, 2022-15. Institute for Social Science Research, The University of Queensland.

Executive Summary

Australia faces continuing deep socioeconomic inequality and deep disadvantage evident in the early years of life and casting a shadow over long-term health, wellbeing and prosperity. The past decades have given rise to a body of evidence demonstrating the importance and benefit of acting during the early years to address these inequities and to improve outcomes over the life course. Investment in early human development has been shown to be cost-effective for promoting the health and wealth of nations and their citizens. The evidence is clear that the first years of life are an optimal time to intervene with nurturing care to ensure long term benefits to individuals and the nation as a whole.

The question now is not whether to invest, but how best to invest for the greatest impact. How can government work best to lead, strategise, prepare, roll out and sustain innovative evidence-based policy and programming to support optimal child development?

Promotion of early childhood development (ECD) requires a broad policy architecture to maximise the investment in several domains: early learning and care, child and maternal health services, child development services, child safety services, child-focused community services, and family-focused government expenditure and fiscal policy. Core challenges to this agenda are (a) the disjointed and siloed nature of service planning and delivery amongst the various line agencies and non-governmental organisations, and (b) provision of services that fail to reach their target clients due to perceived barriers to access.

This report provides a framework for the establishment, maintenance, evaluation and scaling up of a whole-of-government system to optimise early childhood development. The framework presented here outlines global evidence from research on large-scale government efforts to develop cross-sectoral national initiatives to improve child health and wellbeing. This framework builds on five phases: establishment of visionary leadership, exploration, preparation, implementation, and continuation.

1. Visionary Leadership: Given the scope of establishing a whole-of-government early childhood system, credible, capable, articulate, and committed leadership is crucial. That leadership must be sensitive to the temporary disruptions to the labour of an existing workforce already doing its best. Such leadership can negotiate the shared vision for the final system and the theory of change to get there. This vision is important in getting buy in from key stakeholders, and in ensuring equitable and lasting outcomes.

2. Exploration: This phase involves surveying the current state of early childhood policies and service, and laying the ground for collective action. This includes building alliances with key stakeholders including line agencies, service providers, policy makers and researchers. This phase also entails developing metrics: establishing what data can serve to provide a baseline and follow-up measures to evaluate the impact of modifications to the system, both in terms of child and family outcomes and also in service access and reach. Finally, the exploration phase includes examination of the current policies for ECD to determine whether they are purpose fit to meet the needs of children and families, and to examine the current budgetary commitments toward optimal early child development.

3. Preparation: Before implementation of new system components, this phase addresses several key areas for preparation. First, meaningful and thorough engagement with the community is crucial to ensure the voices of families who may benefit most from the changes are heard. This is an active phase requiring concerted efforts at social mobilisation and promoting advocacy from those who will most benefit from the new system. Second, an innovative governance structure is presented to ensure meaningful and sustainable intersectoral collaboration. Third, as development of the impacted workforce is integral in ensuring changes are accepted and acted upon as intended, planning for changes in remuneration, professional development and supervision is important.

4. Implementation: With visionary leadership and key alliances in place, metrics established, and meaningful consultation and consideration of clients and workforce needs completed, implementation of fundamental strategies for optimising early child development can occur. Evidenced fundamental strategies for the Australian context include universal antenatal and postnatal care, early childhood education and care and early school years provision, as well as targeted sustained nurse home visiting and parenting programs. Implementation of key strategies should be conducted within a continuous quality improvement framework to ensure the quality of services and support to families.

5. Continuation. Evaluation analyses arising from the metrics established in the early phases will determine whether the new system is meeting its targets. Where the new system is working, planning for sustainability is required. Strategic planning must address how to secure funding, maintain political support and partnerships, identify organisational capacity, evaluate and adapt to local conditions, and communicate the positive impacts. Once sustainability is demonstrated, scaling up can be considered, to expand the access, reach and impact for families and children.

This five-phase model is derived from available evidence on whole-of-government multi-sectoral coordination and integration to achieve widespread improvement in policy and service to benefit children and families. As such, it reflects best practice understandings of the key signposts for reforming the early child development systems. But such change is by its scope bound to require patience, persistence, and a commitment that extends beyond electoral cycles. Fortunately, the potential gains are so large and so important that the effort is more than justified. Australia's children deserve no less.

1. Early Childhood Development Systems to Ensure All Fulfill their Potential

Globally, the last two decades has seen a growing body of evidence across a range of disciplines that demonstrates the significance of early childhood for a range of outcomes over the life course. Governments internationally are increasingly mindful of the role of early childhood development in determining the health and wealth of nations. In the context of wealthy nations like Australia, growing policy interest in early childhood development (ECD) has been fueled by awareness that many of society's most challenging contemporary issues among adults have their roots in early childhood and that this is when they are best addressed [1].

Another impetus to policy action has been that stark social and economic inequalities apparent in Australia have been substantially shown to have their origins in early childhood environments, where among other things, they create the conditions for intergenerational cycles of deep disadvantage [2]. Over one in five children in Australia are developmentally vulnerable at school entry [3]. Stark inequalities in child wellbeing exists in Australia, most notably for Aboriginal children [4]. International experience shows that these inequities have significant long-term costs – socially and economically; with government provision of universal health and education programs offering only partial and costly bulwarks against the pervasive impact of early life disadvantage [5].

Consequently, more progressive investments in early human development are a cost-effective strategy for affluent nations, serving to build fairer, more just, and healthier societies [6]. The weight of evidence for this includes econometric studies, which make clear that in most cases, the earlier in the life course investments are made, the greater the impact (e.g., [7, 8]. The biological evidence also supports this, showing that the human brain is most acutely primed to develop foundational psychosocial and cognitive skills in the first four years of life. Put simply, early childhood is the time to act [1].

Thus, there is compelling evidence and widespread agreement that early childhood is a vital period of development – for individual children and for communities and nations at large [8-11]. However Australian data shows that too many children are falling through gaps [2, 12, 13] which cannot easily be plugged by the individual efforts of families, health workers and early childhood teachers working in isolation. Integrated services hold the promise to overcome barriers to effective promotion of optimal early childhood development [14, 15]. A more systematic platform of services, advice, support and intervention (when required or requested) is needed that fits the Australian context.

The question is, therefore, how should we best invest in early childhood development for maximal payoff? How can governments best work to ensure that early childhood development (ECD) is maximized? How can good ideas be brought to scale within communities of need? This report frames a process for implementation of sustainable systems for optimizing early childhood development.

As a first step, it is useful to consider the social ecology of child development. Figure 1 provides a simplified schematic of the influential social-ecological model developed by Urie Bronfenbrenner [16]. The system in the model that is closest to the child – the parents, family, and kin – has been the most closely attended to and researched. But the model also suggests that the capacity of parents to provide nurturing care will be affected by the conditions, opportunities and hazards in their local neighborhoods and communities (e.g., [17, 18]. This social-ecological framework also points to cultural norms and expectations as shaping what can happen in a family and community.

Beyond the proximal influence of family, community and culture, Bronfenbrenner's model also identifies governments as an important influence on a child's social ecosystem, providing direction, laws, policies, economic incentives, and services that determine the opportunities available to families and communities that best support them to provide nurturing care.

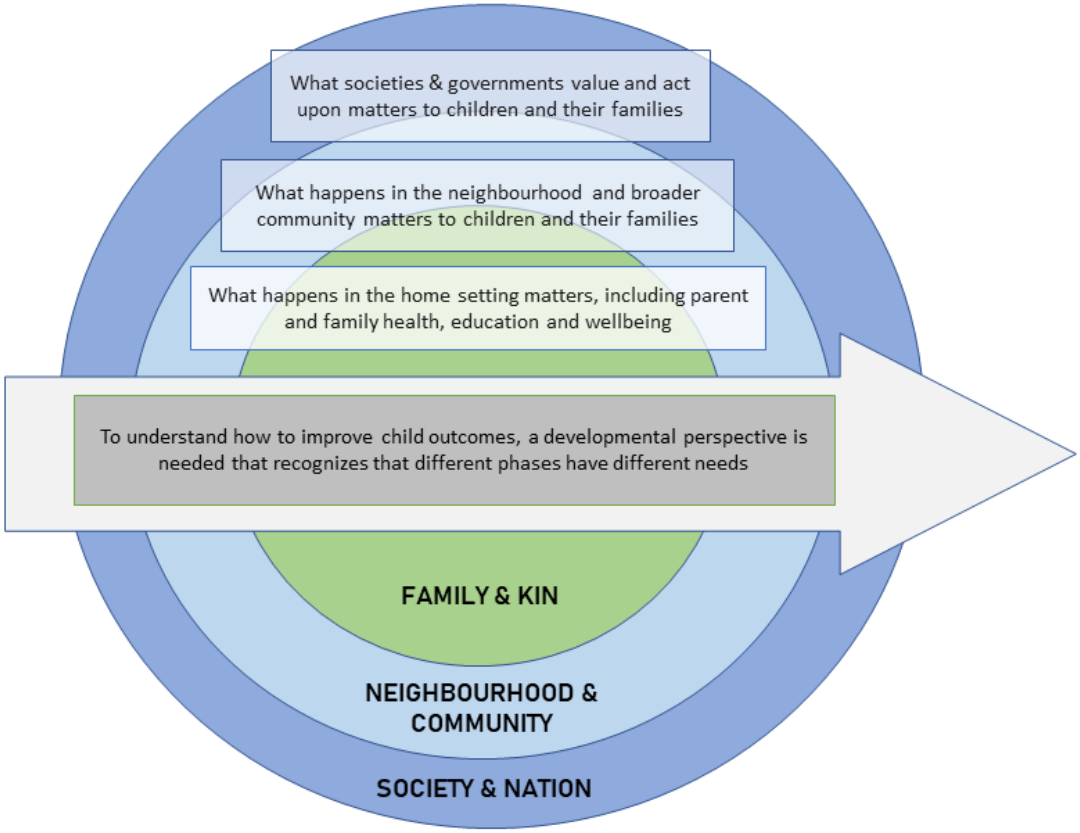

Figure 1. A Social-Ecological Framework of Child Development. Adapted from Bronfenbrenner, 1979

As noted, the family has been the dominant focus of research for the vast bulk of the 20th Century, with the role of neighborhood and community in shaping child development only becoming prominent in the 1990's. Consequently, the evidence on how large-scale system changes can work to improve ECD is not extensive. The following sections focus on consolidating this body of literature to elucidate current perspectives of how an optimally functioning early years development system can be achieved. The specific focus of this report is what steps government should take to partner across sectors to foster the creation, implementation, and sustainability of such a system.

2. A Broad Policy Architecture for Promoting Early Childhood Development

Ensuring the best outcomes for children requires action that cuts across traditionally distinct government and sectoral domains. Specifically, it implicates:

· Early learning and care (ELC) services (e.g., childcare and preschool)

- Child and maternal health services (e.g., antenatal care; child mental health services)
- Child development service (e.g., disability support)
- Child safety services (e.g., child protection and family counselling)
- Child-focused community services (e.g., toy libraries; playgroups)
- Economic policy directed at poverty, disadvantage, and social inequity.

These domains resonate with the Nurturing Care Framework adopted by the World Health Organization [19], which offers a sound general investment architecture for achieving large returns in health and wellbeing across the lifespan [20-22].

The Nurturing Care Framework suggests investments should scaffold a range of components in the caregiving environment, including those in the immediate family as well as aspects in the broader community, such as general beliefs, attitudes and behaviors related to caregiving [23]. Thus, the Framework points to the necessity to frame effective policies to support caregiving by harmonizing a comprehensive suite of inter-sectoral actions (see Figure 3).

Notably, a broad range of demonstrably effective interventions have been developed to promote better developmental outcomes [23]. These span the different levels of the social ecology surrounding the child [16], including the home environment, community/neighborhood context, and at the macro-level where local, state, and federal government decision-making strongly influences what happens within community and family settings.

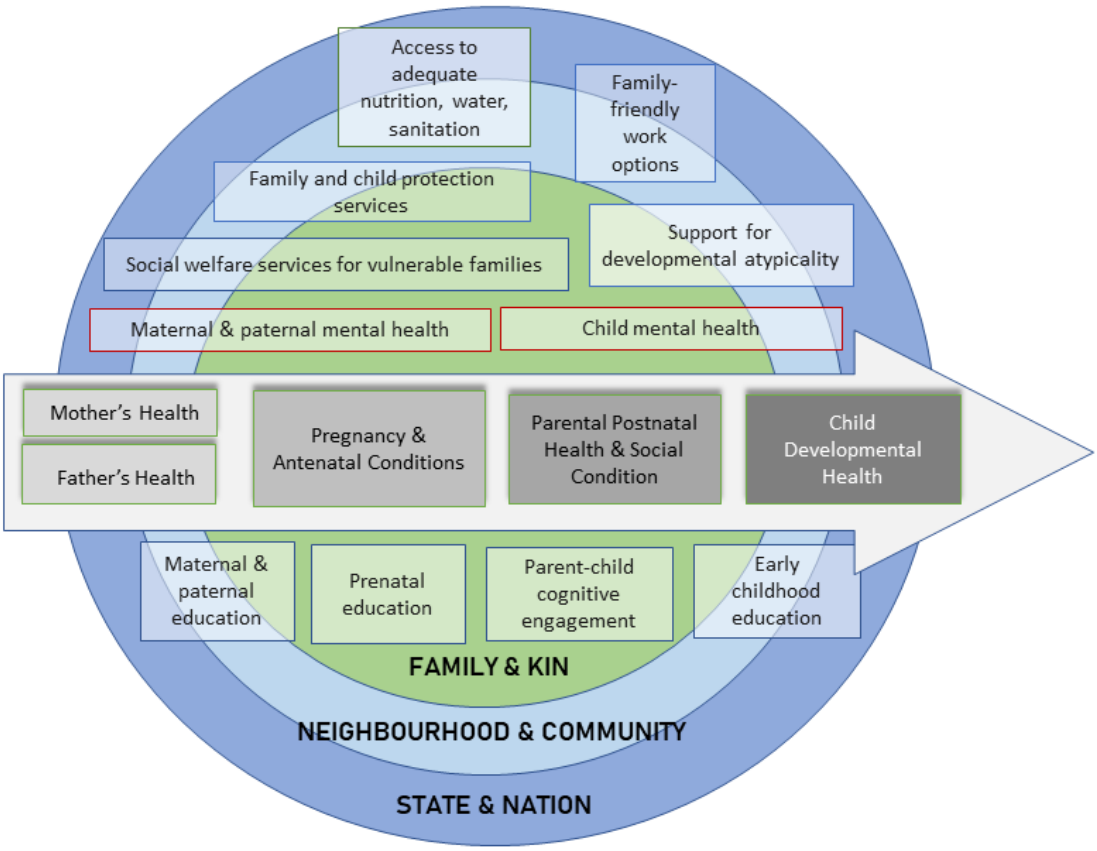

Figure 3. A Framework for Promoting Early Childhood Developmental Health

Ultimately, a point of emphasis in applying the *Nurturing Care* Framework as a guide to policy is that a broad range of family, community and societal levers of support must be addressed to ensure the different needs of children are met across the developmental continuum from conception through and into school and beyond are met. A second point of emphasis is to plan and implement policies in a coordinated way rather than as a piecemeal sequence of offerings.

The challenge in seeking to do this is the context of the current siloed nature of health, education, child protection and social services policy making. The next section presents an evidence-informed framework for planning, implementing, evaluating, sustaining, and scaling up such an ECD system.

3. A Framework for Coordinating Early Childhood Development Policy and Services

The establishment, maintenance, evaluation and scaling up of a whole-of-government early childhood development system is an ambitious goal with clear challenges. The research literature on ECD system development suggests the challenges can be framed at five levels.

First, a vision for how an ECD system might best operate must be present. This is especially true regarding how the various sectors and domains implicated in a comprehensive ECD system might work together. This gap impedes leadership, and feeds into 'turf wars' between sectors, who may not see how their efforts fit together. An inclusive vision is needed that aids all participating sectors understand how they may contribute to this system and the synergies that may arise from a coordinated, holistic, ECD system.

Second, the current contextual landscape needs to be mapped for existing strengths as well as for gaps in services. This includes (a) budgets, laws and policies, (b) potential stakeholders to bring into alliance, and (c) the landscape of metrics needed to plan and to evaluate implementation.

Third, preparation for effective implementation is required. This is a tripartite challenge: (a) engaging with the community to ensure proposals reflect the interests and priorities of children and families as well as the concerns of frontline staff; (b) ensuring effective governance of an ECD system, and (c) scoping and planning workforce implications and requirements.

Fourth, specific programs and strategies to be implemented must be identified and modelled along with ensuring there are systems for quality improvement through evaluation as well as mechanisms for reviewing the growing evidence base to ensure consideration is given to new program and options.

Finally, such a system, even if showing promise, requires its own cycle of review and strategy renewal if it is to lead to sustainable gains. This entails responding to the ongoing challenges identifying aspects of the new system that are working well along with those that are not and addressing how more children and families might benefit from it.

Based on these considerations, a general model for building an effective ECD system is presented in Figure 4. This provides a schematic guide to setting up a national or state ECD System.

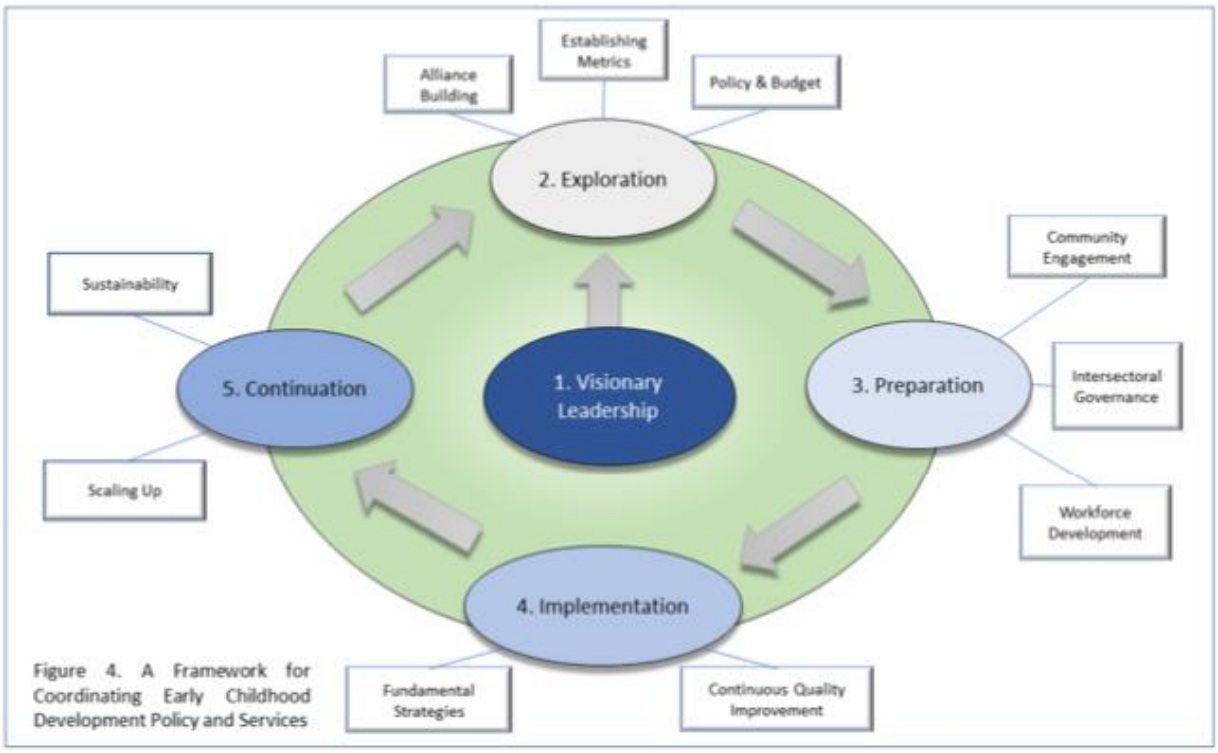

Figure 4. A Framework for Coordinating Early Childhood Development Policy and Services

The next sections of this report scope the evidence on effective practice at each of the nodes of the above framework, addressing visionary leadership, exploration of the current landscape, strategies for preparing the governance, workforce, and end-users of such a system, key considerations during implementation, and evidence of what works for sustaining and scaling up preliminary successes in establishing the system.

4. Visionary Leadership

4.1. Leadership

Not surprisingly, successful implementation of ECD systems requires leaders who are "persistent, well connected, credible, able to mobilise resources and can articulate a clear vision" (p. 549 [24]). Leadership of ECD systems needs to exist at multiple levels, including the political as well as at the level(s) of the specific agencies involved in the system [24, 25]. Within the political hierarchy, this includes recognition and promotion of the initiative at the highest levels of government, for example via a national plan of action [25]. Sectoral leadership is also needed to interpret whether existing services have the collective scope and effectiveness to implement such a plan [25]. This can be a long and hard process, and one which is vulnerable to electoral cycles and oscillating ideological priorities.

Leadership in the ECD sector needs to be sensitive to the disruption that will arise as changes are introduced down the line to people already doing their best. Thus, models of leadership should emphasise humility and recognition of the expertise of followers, creating a climate of trust and fairness as sectoral hallmarks. Servant leadership [26, 27], for instance, may provide a useful leadership philosophy for orchestrating the complex changes needed to achieve a comprehensive ECD system.

4.2. Establishing a Shared Vision

One of the challenges to advancing ECD is ensuring a shared vision as to "how early childhood development is understood and conceptualised, including the definition of early childhood development, reliable and valid measures, and effective intervention strategy" (p. 7 [10]): A shared view should not only include what parties are required 'at the table', but also how effectiveness can be determined, equity can be assured, and successes sustained.

The need for a shared vision also extends to the domains/elements to focus energy on, and whether the interventions within or across the particular sectors should be targeted or universal [25]. Targeting services depends upon an understanding of the prevalence of key outcomes, as well as key risk and protective factors, and a clear delineation of whom and what is to be targeted. Ideally, deep population-level data should be available to inform such decisions. Thus, a priority in achieving a shared view will be groundwork on data availability, systems for exchange of data, and data literacy.

Establishing of a systems level Theory of Change (TOC) may also be a useful foundation for ECD systems establishment [25]. A TOC describes how and why a set of actions are expected to lead to desired changes and this can help to make sense and harmonise collective programs of work with children, families and communities [25].

5. Exploration: Understanding the Current State

Prior to implementing any changes to system components, it is imperative to audit the existing infrastructure for early childhood development in the relevant jurisdiction(s). This includes understanding budgets, laws, and policies and whether these require reformed to facilitate operations in a new ECD system. Auditing should also include key stakeholder mapping and consideration as to how stakeholders should be engaged into a sustainable coalition. Collation of data sources to provide a picture of the 'baseline' ECD functioning of the jurisdiction should also form part of a current state audit.

5.1. Alliance Building

Services, supports and programs for supporting early childhood development are known to be commonly fragmented [28] with departmental siloes and little coordination being commonplace. Experience suggests that successful ECD reform involves partnerships between government policymakers, frontline leadership from the sectors implicated, researchers, and the communities who will be affected by change [25].

In establishing such broad alliances, leadership needs to be considered as arising from peer-to-peer learning that establishes 'communities of practice' [25]. Effective development and adaptation of an ECD system also requires a rich understanding of the informal practices and implicit understandings of the on-the-ground context. This can only be garnered at a local level via investments in communication with those at the frontline of service delivery as well as via community engagement.

Coordination across multiple sectors, is, of course, challenging due to the large number of stakeholders required, who may hold diverging priorities [24]. Such coalitions involve "bringing multiple community stakeholders together around a shared agenda focused on addressing complex socio-economic challenges collaboratively" (p.164 [29]). A systematic review of the evidence base provides an overview of the antecedents of sustainable coalitions for community health [30]. (See Table 1.)

Finally, a variety of research capacities can inform the process, across a wide range of domains of research knowledge and expertise, including "statistics from controlled trial interventions […], causal understanding from developmental biology, the technical craft of implementation science, practical lessons from experiences with service delivery systems across sectors, and the on-the-ground insights from community leaders and families" (p.15 [31]). Population-level quantitative researchers along with those skilled in interviewing and interpretation of data derived from qualitative research can play valuable roles.

Table 1. Antecedents of Sustainable Coalitions for Community Health [30]	
Efforts to build human capital, including knowledge and skill building, leadership training, content training, and dedicated budget allocations and technical assistance for these efforts	Dedicated efforts to establish and maintain diverse partnerships that encourage transparencies, power-sharing, responsibilities and risks
Development of long-term online infrastructure for sharing of ideas and materials and on-line training information to enhance the coalition's efficiency and communications	Availability of a wide-range of modes of participation for coalition members and other stakeholders (e.g., community-change agents; data collection; consulting)
Support for local champions who are empowered to provide input, collaborate with local groups to engender a coordinated, system-wide approach	Establishment and maintenance of sufficient cash and in-kind support from government and other stakeholders, with a business and marketing plan
Assessment of community needs and assets and capacity to respond to such data to reduce barriers as they are identified	Meaningful incentives or high visibility gains in the public goods resulting from the collaboration (e.g., providing incentives upon achievement of demonstrated commitment from local supporters)
Positive, respective, diverse working environment with no turf wars or ego problems dominating	Clear proactive planning for sustainability
Clear mission statements and shared aims (see also [32]	Formative evaluation of progress along a timeline
Assessing community readiness and promoting the mission and aims widely	

5.2. Establishing Metrics

To ensure that changes have had the desired impact, measurement is essential, with reliable and valid metrics required for evaluating new ECD initiatives. Prior to any reforms to an ECD system, establishment of 'baseline' measures of functioning and key intermediate outcomes (e.g., parental functioning) are needed. Metrics must reflect the delivery of services (process) as well as their impacts on children and their families and resultant outcomes. At the child and family level, ideal metrics will reflect a model of health and wellbeing, including the presence of opportunities for early learning, safety and security and responsive caregiving.

Other metrics should also be established to reflect systems navigation and use by families. For example, how many families access what is currently provided? Are these families content with their experience? What families in need do not access services and why?

5.2.1. The State of Families and Children: Measuring Outcomes

Among the outcomes for ECD, physical health is generally most easily quantified. For example, data on birthweight, immunisation coverage, child mortality and morbidity and demographic patterns of inequities in such data tend to be relatively easily accessed.

Opportunities for early learning, however, tend to be more difficult to quantify during the early childhood period. An valuable asset for Australia in this regard is the Australian Early Development Census (AEDC) [33, 34], an offshoot of the Canadian Early Development Instrument [35, 36]. AEDC data are collected during the first years of schooling—around the age of five yar—and are based on teacher reports of children's physical health and wellbeing, social competence, emotional maturity, language and cognitive development, and communication skills/general knowledge. Such data provide a snapshot of community-level functioning and rates of developmental vulnerability that can be of great value in planning of services and hold potential for capturing improvements deriving from system changes. In Australia, this data has been collected every three years since 2009. The snapshot provided by the AEDC, however, does not provide insight into domains of ECD like child protection and safety, disability and developmental atypicality.

The AEDC snapshot also cannot speak to **intermediary outcomes** that contribute to children's outcomes. A robust theory of change will have specified the mechanisms of change that they seek to change to result in improved final outcomes. This will highlight any additional measures related to early development that should be routinely collected as part of any proposed systemic reform. In some cases, discussions with services within an ECD system will reveal that routine data collections are already undertaken that meet identified needs.

5.2.2. Evaluating the Status of Service Provision

In looking at the current state of ECD in a jurisdiction, consideration of access and reach of existing services will help thinking about how they are performing [13].

Access refers to ease with which families who might benefit from a service can actually make use of that service, or conversely, how readily services can make themselves available within easy reach – geographically, culturally and financially – of the families they are intended to serve. Geographic location is a common issue, especially in rural, regional and remote regions of Australia. But even within metropolitan areas, lack of transport options (e.g., poorly integrated and infrequent public transit) means that many families cannot easily access desired services. Residential instability may also affect some users' capacity to continue using services. Affordability is also an important factor in access, if services are inaccessible to some because of fees to access the service.

Another common problem in the ECD sector is the **Reach** of existing programs. This refers to programs that, while available to the public, are not always taken up by those eligible to use them. In some cases, this may be due to lack of awareness of the service. It is not uncommon for families who might be better supported to have no idea of the support options available to them [37]. Stigma is another source of service-refusal [37]. In other cases, there may be a perception that a program is not culturally sensitive or secure [38]. Some parents of children with special education needs or disability may also lack faith in the capacity of a service to work well with their child [37], speaking to poor service reputation in the broader community.

In developing new ECD systems, service usage is a key intermediary outcome. Mapping which services are currently being used and by whom is essential to understanding coverage and equity in utilization of those services. An Australian exemplar of the sort of baseline data that is needed is the Young Minds Matter Survey of Child and Adolescent Mental Health and Wellbeing, which provided population-level

information not only on the prevalence of mental disorders, but to describe access to available services and barriers.

The Longitudinal Study of Australian Children (LSAC) provides another exemplar of assessing service usage. Beginning in 2004, the LSAC is a nationally representative survey of Australian children including a birth cohort of over 5000 infants [39, 40]. The LSAC provided some index of service usage for by families [2], including antenatal care, home visits by a community nurse, early childhood education and care, parenting programs, and early schooling. Unfortunately, these data were only available as a crude level (yes or no), without providing information about how often or how long they accessed these services. Furthermore, these data are now old, and the LSAC does not provide a snapshot of contemporary ECD service usage.

Nevertheless, the LSAC provides insight into the Australian context which may still be relevant. In a study using first wave (2004) LSAC data from parents of infants, the most common reason for unmet infant health needs was the long wait time to get an appointment with a healthcare provider, cited by 43% of respondents. Other perceived barriers included the expense of the service (19%); distance from service (12%) or transport problems (7%); the operating hours of the service (14%); difficulties organizing childcare (9%) or that the service was simply not available (25%). For First Nations families with unmet need, the expense of the service (40%), distance from service (22%), and lack of transport (17%) were particularly elevated. Data such as these provide important red flags to consider in planning improvements to services for ECD.

Thus, an important step toward understanding the current picture of ECD in a jurisdiction is to identify all services engaged in aspects of ECD, and collate information about accessibility of those services, end-user satisfaction with those services, and gaps in service provision.

5.3 Budgets & Policies

5.3.1. Policies for ECD

Policies in all their various forms provide frameworks for action and are essential to ensuring consistent sustainable action by organisations. Policy is a tool for establishing the environment needed for large-scale ECD system innovation, including equitable and high-quality services to meet needs [41]. Vargas-Baron has identified dimensions for effective ECD policy [41] including:

1. Equity and Child Rights: Attention to the need for equitable service provision that reaches the most vulnerable.
2. Multisectorality: Accounting for the multi-sectoral, cross-departmental nature of ECD, and actions aimed to overcome the problems this can cause.
3. Participatory Design: Communities most affected being engaged in the development of policies.
4. Transparent Accountability: Regulatory oversight and accountability for implementation of policy.
5. Quality Assurance: Ensuring good quality services are delivered, giving emphasis to an appropriately skilled workforce.
6. Investment: Adequate resourcing of ECD systems based on cost effectiveness research and evaluation.
7. Policy Advocacy and Communications: Changes to ECD services being well understood by the people who most need them as well as the broader community.

Examination of policies within jurisdictions is necessary to understand its scope and impact. This process may be guided by several considerations. First, **do policies and laws reduce barriers to engagement amongst 'hard-to-reach' families?** Improvement then lies with respectful treatment, establishment of trust, service flexibility, and outreach services, and cross-service partnerships (Flanagan & Hancock, 2010). Careful co-design of service delivery—engaging consumer representatives who can represent the client families—is recommended to avoid such barriers (See 6.1).

An important prescription to address these difficulties of the early years system is based on **Proportionate Universalism.** This is the principle that **"actions must be universal, but with a scale and intensity proportionate to the level of disadvantage"** (p.41 [42]). This concept arises in the context of social gradients in entrenched child outcomes, where increasing socioeconomic status consistently predicts better health. It is founded on the recognition that 'The "hardest to reach" are often the ones we need to reach most' [43]. Proportionate universalism requires resourcing and implementing services at an intensity and scale relative to the need of the local community. This is most relevant to universal service provision including health services, education, and community services.

Second, **do policies and laws address the experience of families who try to access services?** Coordination between early childhood development services that are housed within different organizational silos remains rare. It is most likely the exception to the rule that the services provided through health, education, and social services actively coordinate their approaches for working with families in need.

Leadership of ECD system development, then, requires critical analysis of existing policies at every level, guided by principles of improving access and reach.

5.3.2. Budgeting for ECD

A review of the financial commitments to various ECD system components is another key step in understanding what is being done and what could be done better. Expenditure on high-quality ECD programming is known to result in substantial benefits in adult outcomes, including reductions in crime, increased earnings and greater education achievement [11]. Expenditure in the early years is particularly important for adult cognitive skill formation [7]. The importance and relative cost-effectiveness of investing in ECD in general is clear [44, 45]. Specific returns on investment for Australia are also becoming clear (e.g., [1]).

A budget cycle for an ECD system that reflects five year financial commitments at a minimum [24] is suggested to ensure full implementation and evaluation of activities

6. Preparation

Section 5 explored the early stages of implementation of comprehensive system reform for ECD. Establishing 'what is' is essential before preparing 'what could be'. Section 6 focuses on the next steps: how to engage the broader community to prioritise and pull together; how to establish effective governance structures; and how to prepare the workforce for changes in the new system.

6.1. Community Engagement

"**Nothing about us without us**". This slogan captures a growing awareness that all policies should be decided through a process of representative participation of the groups that would be affected by the policy. Any large-scale development toward a comprehensive ECD system needs to consider this representation in planning. The voices of families – and specifically the families whose lives might be most affected by changes to the current policies and programs – must be heard in the early preparatory phases.

In approaching the process of community engagement, it is important to reflect on three spheres of action required to improve child and family outcomes : (1) "Building more supportive communities", (2) "creating a better co-ordinated and more effective service system", and (3) "improving the interface between community and services" [46]. The process of engaging community is to set in train processes that address these steps directly.

The process of engagement requires careful thought about communications to ensure sustained social change Communications in this area comprises three considerations [47]. First, communication is the setting in motion of processes to not only provide information, but also the building community confidence to adopt good practices to support ECD. **Information exchange alone is insufficient for engaging communities**; attitudes and practices as they relate to the specific goals of the ECD system must be addressed. This entails discussion and dialogue with the community to engage and negotiate with the community what needs doing and who should do it.

Second, communications should be understood as a tool to raise awareness of ECD objectives but also to increase demand for those objectives [47]. This **social mobilisation** function aims to pull together all potential social allies across sectors to augment demand for the changes to the ECD system. This is essential to achieving the widest possible scope of participation and community-level ownership. This entails identification of stakeholders—and in particular those who have been "missed" in the previous elements of the system and engaging them in identifying required actions and priorities. This requires coordination from the top, but the social mobilization must emerge from the community itself.

Third, communications serve **advocacy** [47]. Organizing information into easily shared arguments is important for promoting the social changes needed to make ECD a public priority. These advocacy arguments, then, can be shared via local media, social networks, and other interpersonal channels to ensure commitment and support from political and social leaders.

UNICEF has mapped a range of techniques to support community engagement [47]. For example Appreciative Inquiry focuses on strengths, achievements and skills within a community context, with the aim of fostering inspiration as well as mere participation [48]. Participatory Learning and Action strategies have been used to improve child health outcomes such as undernutrition, low birth weight, and child mortality [49-51]. This entails cycles of meetings with community stakeholders to identify and prioritise problems; identify underlying causes and prioritizing strategies; implementation of practical strategies; and self-reflect and evaluation of the process.

Regardless of the chosen technique for community dialogue, facilitation of community engagement [47] involve ten key steps.

Ten Steps for Engaging Communities in Dialogue toward ECD
1. Listening and learning about concerns of the people affected by the ECD system
2. Listening and learning about current "solutions" to cope with the problems and gaps in the system
3. Listening and learning about suggested solutions to achieving a better future
4. Eliciting people's thoughts on what they can change to achieve a better future
5. Summarising ideas and providing new ideas about what could change
6. Choosing together the most viable appropriate options
7. Reflecting on possible outcomes if those changes were implemented
8. Planning how to proceed, including monitoring and evaluation
9. Implementing, following up, monitoring and evaluating
10. Feeding back on process and outcomes

As made clear by the comprehensive nature of this community dialogue framework, community engagement is not a 'step' in the process of implementation of a comprehensive ECD system, but an iterative process. Community engagement is integral to sustainability (see 8.1.) and scaling-up (see 8.2).

6.2. Intersectoral Governance

The holistic nature of the challenge of ECD system development requires multiple sectors to work together. A deep understanding of the political ecosystem is required. Even at the government departmental level, multiple line agencies are implicated, including education, health, child protection, and disability services. Relationships between sectors that may traditionally feel 'in competition' for limited budget dollars must be carefully managed [52]. Effective whole-of-government governance is required to provide mechanisms for these actors to articulate their interests, exercise their rights and obligations, and mediate their differences [53].

Bringing together multiple agencies requires a governance structure that enables collaboration or integration of services toward the aims of optimal ECD. However, policy research has demonstrated that

such integration efforts deliver mixed results and that installing a new governance structure does not ensure policy change [54, 55]. The question of how to manage transitioning siloed activities toward a common whole-of-government goal is key. Answers arise from analyses of activities toward the Health in All Policies movement that arose in response to social determinants of health frameworks [56, 57]. The challenge lies in establishing a coordinating body that can ensure coherence across activities of different sectors

Two approaches that have commonly been presented have **high risk of failure**. First, the establishment of a central unit within a central department (e.g., Office of Premier & Cabinet) appears to give a high priority and visibility to the initiative. Paradoxically, this approach decreases the visibility of the initiative with the key partners in the activity. The central unit risks being estranged from the line agencies responsible for the on-the-ground policy and planning [54].

The second common failed approach is to establish an intersectoral committee to oversee coordination and integration of key concerns across sectors. A study of Danish governance structures found a common experience of these meetings devolving into tedious exchanges of briefing and reporting on activities. As time passed, these meetings become perceived as low priority, and lower-ranking delegates often replaced the high-ranking members who initially constituted the committee, if any delegates were sent at all [54].

An alternative approach was identified in the Danish experience [54], which may provide a stronger model for coordination. A 'Matrix Organisation' consisting of a strategic management group, comprising an intersectoral committee, was **empowered to make overarching policy decisions**. However, this committee was **assigned a small team of experts** which was deployed to bolster the activities within each line agency. Members of this team joined up with bureaucrats from within the line agency, such that "communities of practice" could establish peer-peer networks [25]. These small groups translated and implemented decisions of the strategic management group. Importantly, the commitment was made to **fund the intersectoral agenda for more than ten years**, which enabled the consolidation of strong intersectoral relationships. Working together with shared outcome targets, this timeframe enables the evolution of a shared culture and norms [58].

6.3. Workforce development

In considering the delivery systems to be involved, the human resources available within sectors are critical [59]. ECD programs, ranging from early learning, support for developmental atypicality, and parenting support, rely on paid professionals and paraprofessionals, and often volunteers and community members, for their workforce [60]. When that workforce operates at a high standard of quality, child outcomes benefit [61, 62]. Personnel with high levels of education and specialized training deliver high quality services [63].

And yet, workers in the ECD sector are all too frequently inadequately trained, poorly paid, poorly supervised, and work under conditions that are not conducive to delivery of high-quality services [60]. Relying too heavily on the workforce's desire to make a positive difference in the lives of children is a recipe for failure. Expert implementors have noted project budgets tend to inadequately priortise salaries of those who will be key to the on-the-ground success of the ECD system [24]. Retention of skilled workers is a problem in these sectors [59]. A focus on the human capabilities of the staff implicated in the planning is needed, with remuneration commensurate to the expectations of the role. The Australian early childhood education and care sector, in particular, is at risk due to turnover rates of nearly 30%, with remuneration barely at minimum wage and little room for career growth [64, 65].

Fair pay for valued work is, alone, insufficient to ensure high quality outcomes, especially in the context of the sort of changes and reforms that attend implementing a comprehensive ECD system. **Supervision and training based on quality standards** is also essential in establishing personnel and service standards [66]. Specialised training has been shown to have a substantial positive impact on caregiver competency in ECD settings [63]. The ECD workforce deserves fair and equitable pay structures and high-quality training and supervision, like any workforce tasked with important services that have a high impact on health and wellbeing.

In considering the roles of different delivery systems, **piloting** and community consultation are essential. Experts in ECD systems implementation note a common disconnect between the protocol design and the on-the-ground realities. Including practitioners who have the requisite understanding, knowledge and expertise to anticipate gaps between the ideal and the actual in the planning and piloting phases can mitigate the risk of unimplementable interventions [24]. This is particularly the case for interventions that are based on randomized-controlled trials, where scientists have been able to exert a degree of control over their sample that does not exist for those working at the population level [24].

7. Implementation

7.1. Fundamental Strategies

The breadth of factors related to early childhood development depicted in Figure 3 capture factors of ECD globally. In Australia, the Restacking the Odds initiative has framed five fundamental strategies for the Australian context (see Figure 5). These are data-driven and based on analyses of existing data sources such as the LSAC. For instance, children's reading scores in Year 3 are a function of access (or lack of access) to antenatal care, nurse home visits, early childhood education and care, parenting programs, and early years of schooling. As outlined in Figure 5, core strategies include antenatal care for all new parents, sustained nurse home visiting targeted to vulnerable families, early childhood education and care (including playgroups and formal 'child care' services) available to all families, parenting programs targeted to vulnerable families, and early years of schooling.

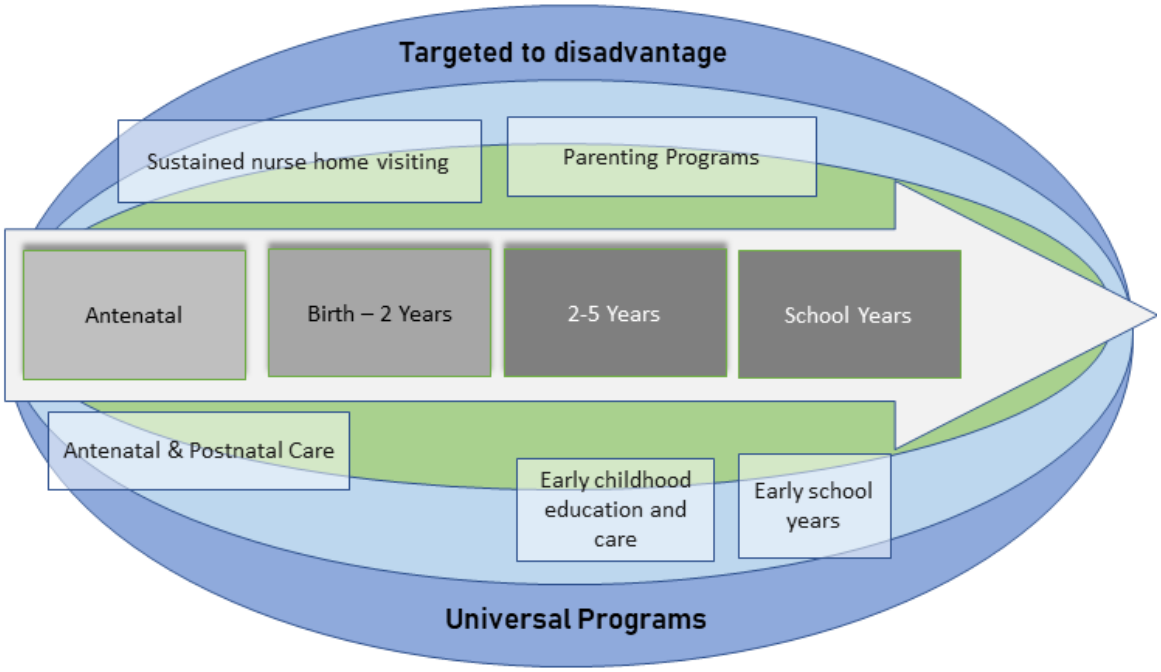

Figure 5. Key Strategies for Optimising ECD in Australia. Adapted from Molloy et al. 2019

Antenatal care aims to reduce the chief known risks for adverse pregnancy outcomes, including those associated with chronic conditions (e.g., diabetes; hypertension) and infection, but also 'lifestyle' risks

(e.g., smoking, substance use) and other preventable risks (e.g., domestic abuse). Antenatal care as an intervention benefit from well established 'best clinical care' guidelines, which map out practices regarding provision of care, assessment, fetal monitoring, and educational activities around risk behaviours (Molloy et al., 2019).

Nurse home visiting programs aim to support families to augment protective factors and reduce risk factors for early childhood development, for example through support in nutrition (e.g., breastfeeding), caregiving and co-parenting, and lifestyle risks (e.g., substance use). For families living in adversity, sustaining such programs into the 2nd year of the child's life may provide the greatest benefit.

Parenting programs are interventions that are delivered directly to parents with the objective of supporting the child's behavioral and/or emotional outcomes. Different programs may take different approaches, but common targets include reducing problematic interactions between parents and children, enhancing parental awareness and emotional self-regulation to help parents' cope, and direct instruction of approaches to reinforce desired child behaviors.

Early childhood education and care (ECEC) provides out-of-home opportunities for young children to benefit from developmentally appropriate cognitive stimulation. This may be with trained practitioners able to support healthy emotional and social development. Playgroups also provide important 'preschool' learning opportunities and can be effective settings, especially when facilitated by well qualified educators [67]. High quality ECEC settings have been shown to benefit children and can reduce inequities in ECD outcomes [68].

A 2016 OECD report found that Australia spent 0.5% of GDP on ECEC, below the 0.8% average of OECD nations [69]. Australia spends more than the OECD average on pre-primary education, but below average on early childhood educational development programs. In Australia, universal access to pre-primary (i.e., for 4-year-old children) has resulted in increases in access over the past two decades, from 53% in 2005 to 83% of children in 2014 [69], just below the OECD average of 86% [69]. But children from low socio-economic homes remain less likely to access pre-primary education services [70].

Integration of Sectors. Common fault lines exist for integration [24]. One common challenge is harmonising the concerns of health and education professionals. The health sector tends to focus on prenatal and neonatal interventions, whereas education is more likely to focus on children aged of 3-8 leaving substantial gaps. In Australia, the 'early learning' sector is differentiated from the 'school sector,

hindering full integration. Given the evidence that integration of services can work to improve child outcomes [15, 60], for example with integrated centre-based care [71], working towards better integration should be a key goal for a comprehensive ECD system.

7.2. Continuous Quality Improvement

The core aim of any effort to establish a comprehensive ECD system is to improve the quality of services and modes of support provided to families and children. Service quality is routinely linked to the outcomes of early childhood services [72, 73], even predicting academic grades at the end of secondary school [74]. Such findings have driven the move to regulate ECED in Australia through the National Quality System introduced in 2012. Investing in changes to the way that all ECD-relevant services are organised and delivered is a key effort toward improving service quality for families and children.

An overarching framework for managing the changes that arise in establishing an ECD system is Continuous Quality Improvement (CQI). CQI is a set of planned processes used iteratively to implement, evaluate, and change programs and practices to ensure they operate at a high quality [75]. CQI aims to examine the strengths and weaknesses of a systematic process and use data to inform improved implementation and reduction of barriers [29]). CQI methods can be effective in improving clinical health process outcomes [76], although evidence of efficacy in improving patient outcomes is elusive. Plan-Do-S-A (PDSA) models of CQI have the strongest evidence. CQI processes that highlight collaboration and communication appear most effective: meetings that involve discussion of implementation and improvement processes show greatest efficacy [76].

Multiple frameworks for CQI exist. An expert analysis of core/key elements of CQI identified three. First, **systematic data guided activities** that guide and inform improvement in the functioning of core services and processes are a foremost feature of CQI. These build on the metrics outlined above: assessment of ultimate child outcomes and key intermediatory outcomes identified through the theory of change. For example, CQI could track changes in key risk or protective factors that are known to have a strong predictive relationship with the outcomes of interest. However, more immediate metrics provide essential information for process evaluation: for example, quantifying the access or reach of services. The use of data in CQI should include measures of facilitators and barriers to the new system both at the end-user (family; child) level but also the workforce affected by the changes. Measures of quality of the system also need addressing, including compliance with quality standards, user satisfaction, and **accountability** for funds.

A second core feature of CQI identified by expert panelists is **designing for local conditions** [77]. As established in the Exploration phase (see 5 above), understanding the context in which implementation occurs is a key step for implementation. This includes both the organizational context within the jurisdiction (see 5.1), but also the available metrics that can be harnessed toward CQI (see 5.2).. The process of community engagement (see 6.1) provides further localized refinement of local needs and how they may be met. CQI provides a framework for ensuring that the leadership- and community-identified processes that are to be changed are changing as planned.

The third essential feature of CQI is the **iterative nature of development and testing** [77]. CQI is rarely literally continuous – it happens in fits and starts. Ideally, these iterations will be a series of proactive, discrete, planned cycles, and not reactive, chaotic, random spurts. The process of implementation must be conceptualised as involving multiple cycles of development and testing of changes. For example [78], evaluation of fidelity to a program may incorporate data on the extent of training, perceived self-efficacy, observation of practice, interviews with parents, surveys of samples of parents to assess key learning or attitudinal shifts from the interventions, focus groups, as well as tracking of key impact data and intermediate outcomes.

This iterative nature may run counter to the pressure felt by leaders and experts for widespread rapid change. But the risk of implementing an untested change to a system is real: failed components in such systemic change are, arguably, to be expected. But such failure can lead to stakeholder or public perception that the whole effort is a failure. The resulting loss of legitimacy may doom future efforts. Thus, iterative approaches that are clearly communicated as such may be best in the long run to supporting broad-scale systematic change.

The focus on designing for local conditions reflects concerns that interventions imported either from research settings or from other national-cultural settings may not provide a good fit to the local context. This also implicates cross-sectoral locality: the implementation of the new system elements may better fit, for example, those from a health background, but poorly fit education or child protective. CQI efforts should ensure that fair comparators are established for each sector involved.

Other key elements of CQI are the creation of a **culture that values the process** of quality improvement, plans for improving how the elements of the system do the work in a way that will meet the overarching aim; and the communication of well-defined aims for the quality improvement [77]. The process of CQI provides the accountability system that may be required for implementation to succeed [79], providing

an extrinsic incentive to make the changes required to ensure the new processes are implemented. These changes can be disruptive and stressful to a workforce that may have entrenched mediocre practices in place. A thoughtful and empathic CQI process may work for meaningful change management through the process.

8. Continuation

With the Continuous Quality Improvement mindset established, the ground is laid for considering sustainability and scalability. Evaluation of each phase of the ECD System needs to be considered as formative. Establishment of an effective ECD system will arise not from one big push, but multiple little pushes, thoughtfully implemented and evaluated. If adequately reviewed, each phase provides important knowledge can support ongoing adaptations. Thus, rapid cycle learning is a key model – for example through plan-do-act cycles

8.1. System Sustainability

There is always the risk that planning and adoption of new systems for ECD may meet success only to falter over time.

A sustainability framework that holds promise for comprehensive ECD systems is described in Figure 2. Bounded by strategic planning, this identifies a need for eight processes. These include securing *funding sustainability, political support, and partnerships* between the program and the community it serves.

Figure 2. A Framework for Sustainability

The framework also identifies *organisational capacity* to maintain system management and the ability to adapt the elements of the system to ensure effectiveness. *Program evaluation* to check on the effectiveness of elements of the system and *program adaptation* to update or modify aspects as new evidence arises are also proposed. Finally, *communication* with stakeholders and

the public about the system as well as *strategic planning* to steer the system are suggested. This model includes a tool for monitoring sustainability.

8.2. Scaling Up

Once ECD innovations have been shown to be effective and sustainable, questions of scaling up become salient: *Is it doing its job well enough? Is there room to expand what is being done? Are we covering enough of the problem? Are we getting to enough people? Are we addressing problems fairly and equitably? Are some regions missing out?* These questions can be addressed using CQI data. Evaluation of this data will provide answers to the question: *Is it worth scaling up?*

Measurement of coverage is a key consideration for scaling. Assessing coverage and gaps will be key to assessing the need for course correction and will inform all decisions about access and reach. Tracking the coverage of ECD systems also enables evaluation of equity concerns. Detailed geographically mapped data is essential for evaluating the distribution of services.

The process of scaling up of successful reforms to ECD systems begins, in essence, the wheel turning again (see Figure 4), with visionary leadership engaging in another phase of exploration, preparation, implementation, and evaluation. Scaling up should proceed at a "slow and steady" pace, with the desire to scale up too quickly seen by experts as a key cause of failure [24]. Planning for scaling needs to happen early in the process [25] and scaling should be ongoing and adaptive rather than a distinct process (Milner et al. 2019).

Scaling up also needs to be accepted as a "complex process involving political engagement and institution building, not specific to any one discipline" (p.545 [24]). Many interventions that achieve successful outcomes will require engagement of new partners to provide new modes of delivery (e.g., via media partners or previously uninvolved NGOs)[25]. Leadership within key services is also necessary for heading off challenges to engagement of communities and families in services [25].

Preparation includes careful design, with standardisation of implementation processes and piloting as needed [24]. In translating to scale, it is common to adapt content, delivery systems, personnel, supervision processes [25].

A key consideration is whether the financial commitment for scaling up is sufficient. Expert implementors cite under-funding as a key determinant of implementation failure [24]. Mechanisms to financially

support scale ups can include social franchising models, community fundraising, social entrepreneurship, and operational grants by government.

But this also requires further community engagement to establish a detailed understanding of the local contexts may only arise from the process of piloting. Such engagement entails creating local demand for the new elements of the ECD system. Buy-in from the end-user community as well as mid-level workers who will be affected by, and ideally an important part of, the scaled-up system. Marketing is an important part of this [24]. Similarly, personal communication strategies are recommended including site visits and workshops, as well as impersonal approaches, such as dissemination of policy briefs [24].

9. In Summary

In affluent nations like Australia, too many children remain disadvantaged. Inequities in child outcomes- in health, in education, in social opportunities and economic benefit – remain stark. Estimates indicate that the Australian government spends $15 billion on crisis related services for children and youth [1]; smaller investments made earlier hold the promise of preventing these crises, providing better outcomes and reducing inequities in child outcomes.

The logic of Investing earlier and more wisely, however, confronts the reality of the nature of ECD service delivery in Australia. Traditional modalities of addressing early child development – with largely piecemeal programs that address distinct needs- must be rolled into a seamless Early Child development system. The management of services via siloed and often competing line agencies and the related patchwork of programs and services must be replaced by a coherent, seamless, evidence-informed, accountable, and efficient system, capable of delivering on the promise of early years science. These sectors and services currently delivering on early years issues must not remain divided. Their complementary aims must now be harnessed so that all Australian families and children, communities and regions benefit from what is known about optimising early child development. As never before, such a policy is in the National interest. International experience shows us how the services patchwork can be aligned so that it is experienced by families as a one-stop-shop model. Thoughtfully led, carefully planned, community-owned, inclusive, well-evaluated implementation models hold great promise for achieving sustainable high performing ECD systems.

As this report highlighted, ECD reform requires visionary, inclusive leadership in setting in train an implementation process marked by five phases: establishing leadership, exploration, preparation,

implementation, and continuation. Exploration captures the essential initial stages of assaying and preparing the ground. Preparation involves active engagement with parents and family stakeholders, involvement of the workforce responsible for implementing a new system and a governance model suited to multi-agency service and program integration.

Implementation of any new system requires careful planning as to what that system will look like and what strategies will be fundamental to the process. Collection of data and enactment of capacity to interpret and act upon those data through processes of continuous quality improvement are also essential in this phase.

Finally, with new processes implemented and data collected to assess and evaluation how those processes have operated, leadership will be faced with assessing whether the changes have had their intended effect. Assuming they have, issues of continuation will need to be managed.

This five-phase model for ECD system reform is based on the available evidence. For those seeking to institute ECD systems reform, this framework offers some of the key signposts. Change, however, is always more complex than such models suggest, requiring a relentless persistence, enduring patience, and a commitment beyond the usual 3-4 year terms of government. Notwithstanding this, the potential payoff is great – both in terms of the positive gains to the lives of the children and families involved and of the 'bottom line' of investment-return ratios, so that the effort required is more than justified.

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