"The Commission seeks participants' views on the expected impacts on the development of children under 36 months of focusing required teachers in centre-based care on children over 36 months" (Productivity Commission, 2014, p. 59).

A response to the above call from Professors of Early Childhood across Australia.

1. Professor Margaret Sims - Professor of Early Childhood, University of New England
2. Professor Jacqueline Hayden - Professor of Early Childhood and Social Inclusion, Macquarie University
3. Professor Andrea Nolan - Professor of Education (Early Childhood), Deakin University
4. Professor Caroline Barratt-Pugh - Professor, Director: Centre for Research in Early Childhood, School of Education, Edith Cowan University
5. Professor Collette Tayler, Chair of Early Childhood Education and Care, University of Melbourne
6. Professor Alison Elliot
7. Professor Jennifer Sumsion, Professor of Early Childhood Education, Charles Sturt University
8. Professor Sue Grieshaber, Professor of Early Childhood Education, Monash University
9. Professor Ann Farrell, Professor of Early Childhood and Head of School Early Childhood Queensland University of Technology
10. Professor Marilyn Fleer, professor of Early Childhood Education, Monash University
11. Professor Deborah Harcourt, professor of Early Childhood Education, Australian Catholic University

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Assumptions and challenges

The assumptions outlined in the Draft Report relate primarily to economic modelling. What is not made explicit are the assumptions related to the interests and needs of children, and the priorities of families as they determine the early care and education supports for children, both within the home and in centre-based programs. We discern from the text the following assumptions and in the sections below we address counterpoints related to each. The consequence of leaving these matters unaddressed as the report is re-drafted will be misconstruing the value, importance and purpose early care and education to young children's learning and development.

Assumption 1: Children under 3 do not need education

The first of these is that children under 3 do not need high quality educational programmes because they are too young to learn. The corollary is that children over 3 need to learn in order to be ready for school, therefore the services offered to the two different age groups should be different. In actual fact, the learning required of children over 3 in order to prepare them for school must be built upon the foundation of learning in the first 3 years of life. An early UNICEF (2008, p. 7) report argues "… the mastery of skills that are essential for economic success and the development of their underlying neural pathways follow hierarchical rules. Later attainments build on foundations that are laid down earlier." Without this foundation, children are placed on a pathway of disadvantage and over time this disadvantage accumulates. Hertzman's (2002) work in Canada shows clearly that between age 2-3 children who enter child care without appropriate skills do not catch up and are at significant risk for long term social exclusion and their "…subsequent life chances begin to depend upon the adult/environmental response to their emerging behavioural differences" (p8). In other words, disadvantage is already embedded (and evident in social, biological, behavioural, academic, health and wellbeing outcomes) and children at this age already need specialist intervention to redress their disadvantage. Many researchers have demonstrated the greater returns gained from preventing disadvantage accumulating compared to ameliorating it when it is present (Heckman, 2008; Hertzman & Boyce, 2010; Institute for a Competitive Workforce, 2010; Mustard, 2008; United Nations Educational Scientific and Cultural Organisation, 2010) thus commonsense indicates the importance of appropriate educational experiences for children under 3. Thus commonsense indicates children under 3 need a holistic programme that addresses both care and education.

Assumption 2: Early education should prepare children for school

The second assumption is that the primary aim for education in the early years is to prepare children for school. There is also literature in ECEC, built from evidence in some systems, that preschool education would do well to mirror primary education, with a focus on "… educational attainments, assessment and learning goals" (Ang, 2014, p. 191). There is a vast literature critiquing the school readiness concept (Dockett & Perry, 2009; Dockett, Perry, & Kearney, 2010; High, 2008; Petriwskyj, 2014; Petriwskyj & Grieshaber, 2011) and the UK 'Toomuchtoosoon' campaign argues (Save Childhood Movement, 2014, pp. 1 - 2):

> *In recent years there have been great advances in the developmental sciences and, in particular, in our understanding of early brain neurology. This has revealed the enormous importance of neurodevelopmental maturity, or 'developmental*

readiness' for early learning and the great dangers that lie in exposing children to developmentally inappropriate pressures before their brain architecture has been fully established.[(7,8,9)1] *We now know that you may be able push children to achieve tasks before they are developmentally ready, but that it is likely to be at the expense of their wellbeing and subsequent disposition to want to continue. In other words you put them off continuing with the very thing that you want them to do.*[(10)] *There is, as far as we know, no evidence to support the claim that an early start to formal learning impacts positively on long-term outcomes. In fact the opposite is the case.*

As Ang (2014, p. 193) argues we need a "…systematic shift from a narrow skills-based, outcomes approach…" to a holistic, ecological perspective in order to appropriately support children's learning and development across the entire early childhood years.

Assumption 3: That very young children are better off in the care of their mothers

The third assumption arises from the traditional cultural values placed on motherhood. The work of Bowlby (1969, 1988) for example is used to provide a 'scientific' rationalisation for the need for mothers to stay at home to care for very young children. The fact that Bowlby's work never examined separation of children from biological mothers for part of the day (but rather children in orphanages who had no regular caregivers), nor examined mother-child relationships in cultures where extended familial care for children is the norm, is not taken into consideration. In the west we assume that children are better cared for by their mothers, particularly in the very early years, and the research agenda (for example that around primary attachments) follows that bias. Only in more recent times has research begun to examine attachments of children who grow up with multiple, secure attachments (Ahnert, 2005; Hrdy, 2008; Love et al., 2009; Secretariat of National Aboriginal and Islander Child Care, 2005): a concept known as allo-parenting in the anthropological literature (Hewlett & Lamb, 2005; Hrdy, 2005, 2008). Such research indicates that children are capable of establishing multiple and equal attachments and are not harmed in any way by transferring from one securely attached carer to another.

The importance of these relationships in moderating children's stress levels is demonstrated in the neurobiological research (Gunnar & Quevedo, 2008; Meaney, 2010; Shonkoff, Garner, The Committee on Psychosocial Aspects of Child and Family Health, Committee on Early Childhood Adoption and Dependent Care, & Section on Developmental and Behavioural Pediatrics, 2012; L Strathearn, 2010). This research is beginning to investigate relationships between children and adults other than their mothers and thus

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[1] The references cited in this quote are as follows:

- [7] Understanding the Brain: The Birth of a Learning Science, OECD, Paris, 2007.
- [8] National Research Council and Ins□tute of Medicine, From Neurons to Neighborhoods: The Science of Early Childhood Development, Na□onal Academies Press, Washington, D.C., 2000.
- [9] McCain, M.N., Mustard, J.F. and Shanker, S., Early Years Study 2: Putting Science into Ac□on, Council for Early Child Development, Toronto, 2007.
- [10] Katz, L., 'What should young children be learning?', Childcare Information Exchange (Redmond, WA), 11/1994, pp. 23–5; h□p://cdc.mentor.com/sites/default/files/what%20should%20children%20be%20learning_0.pdf (accessed 3 March 2014).

provides a empirical basis for challenging the assumption of the primacy of maternal care. Whilst mothers' biological reactions to infants are primed by pregnancy and childbirth (Feldman, Weller, Zagoory-Sharon, & Levine, 2007; L Strathearn, Fonagy, Amico, & Montague, 2009), fathers are found to react biologically to their infants once they have physical contact (Feldman, Gordon, & Zagoory-Sharon, 2010; Gordon, Zagoory-Sharon, Leckman, & Feldman, 2010). Other adults can also react biologically to young children (Reyes & Mateo, 2008) and this biological reaction of adults to children is thought to be a protection from potential abuse and neglect (Heim et al., 2008; Melville, 2010). The evidence indicates that children with multiple, secure attachments (the development of which are supported by biological/neurological factors) are protected from the risk of problems arising in any one of these relationships and are thus advantaged (Sims, 2009). Quality services prioritise relationship building between staff and children; mandating appropriate adult:child ratios to enable staff to build and maintain these relationships is a crucial role of policy.

Assumption 4: That early childhood policy is about economic priorities

The economic rationalisation underpinning early childhood policy is widely understood. The work of Heckman (Heckman, 1996, 2006, 2008, 2011; Heckman & Lochner, 2000; Heckman & Masterov, 2004, 2007) is commonly used to present the benefits of investing in early childhood education. Such returns on investment as identified by Heckman are long term benefits. In Australia, investment in early childhood programmes is often seen in terms of its short-term benefits: the benefits accruing to the nation arising from improved parental employment: "Increased workforce participation can result in benefits to the wider community through for example: reduced social and economic disadvantage; increased gross domestic product and economic productivity; and improvements in the Government's fiscal position" (p207). In fact, in the report, financial benefits in the short term appear to be the most important priority in the report, including the financial viability of services. For example: "While higher ratios and qualifications than those currently in place may be desired by some stakeholders in the sector and may bring increased benefits to the community, imposing them on the entire sector is likely to result in costs that substantially outweigh these benefits. It should be left up to ECEC providers to decide whether they wish to incur the additional costs associated with exceeding minimum standards in order to position themselves as a 'high quality' provider" (p277 – 278).

Many argue that the state should invest in early childhood programmes, not because of the short-term economic benefits, but because of the fundamental requirement to offer social justice and to positively influence the long-term wellbeing and development of young citizens. High quality early childhood programmes have the potential to close the gap between those in society who are advantaged and those who are disadvantaged (Hertzman & Power, 2004; Sims, 2013; United Nations Educational Scientific and Cultural Organisation, 2010). Given that social disadvantage is now shown to be transmitted across generations through epigenetic mechanisms (Hertzman & Boyce, 2010; Meaney, 2010; Sweatt, 2009) if the state does not address disadvantage now, the impact in future generations will be even more devastating.

The United Nations Convention on the Rights of the Child (United Nations, 1989) is the most widely ratified human rights treaty in the world (http://www.unicef.org/crc/) and requires states to ensure all children have opportunities to develop to their full potential, to be healthy and able to participate in society. Addressing disadvantage is a key element in fulfilling this obligation.

Research evidence used in the report

Children under 3

The report argues the research indicates different outcomes for children under 3 attending child care compared to outcomes for children over 3 attending preschools. The report cites the work of Harrison et al. (2009) which used the LSAC data to examine outcomes of attending care arrangements for the birth and preschool cohorts. The report argues that the LSAC data demonstrates children who have longer hours in care before 3 years of age had lower academic achievements in school. In reality this is not the case: the LSAC data demonstrates (Section 8):

- Infants having between 9 – 20 hours of care/education are less likely to have negative outcomes if they start care/education in the birth to 3 month age range compared to those who start in the 6 - 9 month age range
- Infants in exclusively parental care were more likely to fall in the concern range in communication skills compared to infants receiving informal care
- There was no significant relationship between concerns in infant communication skills and every additional 4 hours of non-parental care
- There is no link between care/education arrangements and pro-social behaviour rated by parents in 4-5 year olds
- Children attending multiple care/education arrangements were likely to have poorer pro-social skills
- Children who attended one form of care/education had higher receptive vocabulary skills than children who attended more than one form of care/education
- Children who attended care/education for 40 hours a week or more had poorer receptive vocabulary scores
- Type of care/education had no impact on children's literacy/numeracy skills
- Children who attended care/education for 8 – 31 hours a week had higher literacy and numeracy skills
- Small and whole group activities in care/education were associated with better literacy and numeracy skills

The report identifies other research that supports the negative impact of multiple care arrangements for young children (and this conclusion we do not dispute), but also argues that the younger children are when they begin care, the more negative the impact of that care is on their development. This conclusion is attributed to the UNICEF (2008) League Table which identifies the importance of stable, loving relationships for children's wellbeing and presents a set of internationally applicable standards aimed at protecting children as

they enter early care/education. A summary of the international evidence available at the time the UNICEF report was prepared indicates that early entry into care/education (p10):

- In Sweden is found to improve academic performance at age 13
- In France, the longer children attended care/education, the better their school performance with greater advantages being demonstrated for children from disadvantaged backgrounds
- In the USA, Head Start children were found to be cognitively and linguistically advantaged
- In New Zealand is found to improve reading and maths
- In the UK is found to improve cognitive and social skills

We argue the importance of examining Australian research in this area and in particular that arising from LSAC. For example Coley, McPherson Lombardi, Sims, and Votruba-Drzal (2013) compared Australian LSAC data with data from the United States of America and found that :

> *Specifically, children who attended centre-based care at age 2 had significantly higher teacher-rated maths skills and literature skills, higher matrix reasoning scores, and marginally higher vocabulary skills than their peers who were in parental care during their toddler wave* (p43).

The UNICEF report also mentions some of the risks associated with early care/education experiences. The NICHD study in the United States of America (National Institute of Child Health and Human Development, NIH, & DHHS, 2006) found very small negative effects for early entry into care/education but UNICEF (2008, p. 12) notes specifically "… it is worth repeating that the effects recorded were not large and that the quality of parenting was found to be a far more significant influence than time spent in child care (indeed negative effects were not found at all in children who benefited from good parenting)." In addition, there are differences in the way American and Australian children use child care which Coley et al. (2013) argue have a significant impact on children's outcomes and make the use of American research to inform policy in Australia particularly problematic. Australian children are more likely to attend child care part-time before the age of 3 compared to American children, and are more likely to use formal, accredited forms of care whereas American children under age 3 are more likely to be in informal, unaccredited forms of care. The authors emphasise however, that use of child care before the age of 2 in both America and Australia was NOT associated with poorer outcomes in children's cognitive skills.

The other study cited in the UNICEF report is the EPPE study from the UK (Sammons et al., 2007) which also noted entry into care/education before the age of 2 was associated with an increase in anti-social behaviour at age 3 however the impact of the home learning environment was much more significant than the impact of care/education (Siraj-Blatchford, 2010). Early entry into care was, in addition, associated with slight improvements in cognitive development, co-operation, conformity, peer sociability and confidence (Melhuish, Sylva, Sammons, Siraj-Blatchford, & Taggart, 2001). Given the

reification of motherhood in western society, it is not surprising that tentative research results identifying small negative impacts such as these are given a stronger value than results that indicate potential benefits to early care/education entry (such behaviour is called confirmation bias - Kennedy, 2008). The evidence of the negative impacts of early care entry is slight and balanced by evidence of the positive impacts of early care entry.

Staffing

There is overwhelming evidence indicating that the quality of the care/education experience makes a difference (see the recent review of studies internationally in Meade et al., 2012). This is supported by burgeoning evidence of critical developmental windows during which central nervous system neurocircuitry may be quite susceptible to environmental influences: “During the first and second years of life, the infant's affective experiences, especially those embedded in the relationship with.. caregiver . . . are imprinted into the orbital frontal cortex-the hierarchical apex of the limbic system" (Schore, 1996, 1997). The experiences and beliefs established during this critical period determine children's view of themselves, of others, and their worlds. To a large degree, one's temperament, behaviour, life-long psychological health, and the ability to relate affectionately to and have empathy for others, are determined during this period (Schore, 1996).

More highly qualified educators are able to provide a better learning environment for children and this improves children’s outcomes. A significant component of that learning environment for children under 3 is the interactions between adult and child which contribute to the development and maintenance of high quality relationships. The neurobiological research demonstrates the quality of relationships between adult and child is a key predictor of long term outcomes (Feldman et al., 2007; Hofer, 2006; Mayes, Magidson, Lejeuz, & Nicholls, 2009; Meaney, 2010; Perry, 2006). Very young children need secure and nurturing relationships and staff in care/education programmes can offer such relationships (Degotardi & Pearson, 2009). In Australian research Yamauchi and Leigh (2011) demonstrate that toddlers have better outcomes when they have access to more staff in child care. Having better adult:child ratios makes it possible for staff to have time to develop secure relationships and this is facilitated when they have the appropriate training to not only understand that relationship building is a priority, but have learned the skills to be able to do so.

The research evidence is clear that staff qualifications matter. Research indicates: “When teachers hold a bachelor’s degree and have specialized training in early childhood education, they are better able to support children’s healthy development and school readiness” (Bueno, Darling-Hammond, & Gonzales, 2010, p. 1). Australian research showed that more highly qualified early childhood staff are able to engage in better quality interactions with infants (Degotardi, 2010). A review of qualifications across the USA indicated (Saracho & Spodek, 2007, p. 87) “…teachers’ qualifications (based on measures of knowledge, education and experience) accounted for a larger share of the variance in students’ achievement than any other single factor”.

Given the importance of staff qualifications in shaping a quality learning environment for children, coupled with international recognition that learning experiences in the first years of life lay a foundation for life-long learning and well-being, it is clear that qualifications for those working with children under 3 are crucial and must be maintained at a high level. The report's recommendation ("… LDC services should be able to provide care for children under 36 months without the oversight of a teacher and these children should not be included in the count towards the requirement to hire an early childhood teacher (ECT). This would allow ECTs to focus on children aged 36 months and over. The Commission also considers that all LDC workers caring for children aged under 36 months should be required to hold or be actively working towards a certificate III or equivalent (the same qualification expected of family day care educators), rather than half of these educators being required to hold or be working towards a diploma level qualification" [p277]) is clearly not substantiated by the evidence.

In addition the following recommendation to "… remove the requirement that persons with early childhood teacher qualifications must have practical experience for children aged birth to twenty four months" (p59) is problematic. Working with very young children requires specific skills and abilities and these are learned through appropriate experiences. There are real concerns internationally that teachers not trained in early childhood do not offer the most appropriate learning experiences for young children, and many, in fact, offer learning experiences that are counter to children's development and wellbeing (Save Childhood Movement, 2014). Requiring early childhood educators to have experience with very young children in their pre-service teacher education ensures that the wellbeing of young children remains the key focus. It is recognised that not all early childhood qualified staff choose to work with children under 3 (p282 of the report). However, given that practical experience with children under 3 is a crucial component of pre-service training to ensure quality service delivery to children of this age group, it is not an acceptable option to remove this requirement. The alternative, in our opinion, is to differentiate training into those who are qualified to work with children birth to 8 versus those who are qualified to work 3 – 8. We consider this inappropriate because of the additional administrative burden to accredit and monitor a greater diversity of early childhood courses than is currently required. We take issue with the claim that operating birth – 8 courses limits the pool of staff willing to work in the sector (p282). There are many factors that limit the availability of early childhood educators: poor pay, conditions and status are the most influential of these (Bretherton, 2010; Productivity Commission, 2011; Sims, 2007). The requirement to include experience with children under 3 in pre-service training is not one of these factors.

Alternative proposition

As Professors of Early Childhood across Australia with decades of experience in the early childhood profession we argue that there is an opportunity for Australia to take international leadership in the ongoing development of early childhood policy. The current international drive to separate early education and care (Ang, 2014) needs to be challenged. We need to recognise that:

1. Learning begins from conception and services need to offer the best care AND learning environments to young children from birth
2. Such services meet our obligations under UNCROC to provide the best supports for all young children and enable the nation to address persistent issues of inequity and social exclusion
3. The highest quality of staff are required for children of all ages, and particularly so for children under 3 because of their dependence on secure, nurturing relationships with adults
4. Staff qualifications need to remain, at the minimum, at the current levels with a commitment to improving the requirements for early childhood specialists in pre-service university degree courses over time
5. Qualifications for early childhood must cover the birth to 8 years age range

The following resolutions are thus more closely aligned with the research evidence and ought to be proposed as an outcome of the Productivity Commission inquiry:

1. Requirements for all educators working with children under 3 must remain at current levels and that there is a commitment to improve the requirements for numbers of trained teachers working with children under 3 over the next 5 years
2. All courses preparing early childhood educators to work with children birth to 8 years of age having requirements for practical experience with children in the birth to 24 months phase of life.

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