Inquiry into Child Care and Early Learning

Submission to the Productivity Commission

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Executive Summary

This submission highlights the importance of the provision of good practice Autism Specific Early Learning and Care (ASELC) to children with autism and the need for this service to be included in any wider Child Care and Early Learning framework.

The submission provides an overview of autism and the benefits of good practice ASELC, discusses the impact of good practice ASELC on workforce participation and the role of government in providing support to ASELC service providers. The submission also sets out a framework for a new government funding model that would ensure that government support is appropriately targeted to achieve the best possible outcomes for children with autism, their families and the wider community.

Autism is a neurobiological disorder, characterised by impairments in social communication, social-relating and stereotypical behaviours and interests, which has major lifelong impacts on quality of life.

While epidemiological studies indicate that the number of children diagnosed with Autism Spectrum Disorder (ASD) may be as high as 1 in 100, the prevalence of autistic disorder (as opposed to higher functioning disorders on the ASD spectrum) in Australia is 39.3 per 10,000 live births, based on a recent study conducted in Western Australia by Parner et al (2011).[1] Based on Australian Bureau of Statistics (ABS) births data, this suggests that around 1,217 children are being born with autistic disorder each year.

The majority of adults with autism are unable to live independently or participate in the workforce. A study conducted by Synergies Economic Consulting (Synergies) estimated the total economic costs of Autism Spectrum Disorders (ASDs) in Australia at between $8.1 and $11.2 billion per annum (December 2010 dollars).

The different characteristics of individuals across the spectrum of ASDs mean that there is no standard form of therapy or treatment that is appropriate for all individuals across the spectrum.

A wide variety of interventions have been proposed for children with autism. Intensive ASELC based on educational and behavioural models has been shown to be effective in improving key child outcome variables. These ASELC programs tend to be delivered by multidisciplinary teams. AEIOU's program includes two years of intensive ASELC provided in a play-based format, consistent with the Australian

[1] Parner, E.T., et al (2011). 'A comparison of autism prevalence trends in Denmark and Western Australia.' Journal of Autism and Developmental Disorders, 41(12), pp 1601-8.

Government's guidelines for good practice. The key characteristics of AEIOU's program include small groups; a multidisciplinary therapy team in each centre; a staff-to-child ratio of 1:2; and regular assessments of progress.

One of the significant benefits of providing ASELC services for autistic children is the positive impact on workforce participation it allows, as the majority of autistic children are not able to be cared for in mainstream childcare facilities. Most parents are not able to afford full-time specialised care for their autistic children (assuming such care were available). This effect is most significant for families with children towards the lower end of the ASD spectrum. Therefore, for the majority of families with a child with autism, access to a specialised and intensive (i.e. full-time) ASELC service often represents the only way for both parents to fully participate in the workforce.

However, the benefits of ASELC go well beyond allowing the parents of autistic children to participate in the workforce. In 2013, Synergies conducted a cost-benefit study on the lifetime impacts of good practice ASELC for children with autism, using available evidence to hypothesise long-term outcomes with and without ASELC. The study estimated the total economic benefit of ASELC for a cohort of children at $1.34 billion, with a net economic benefit of $1.22 billion (calculated by subtracting the cost of providing good practice EI). This translated to a Benefit Cost Ratio of 11.3 (i.e. for every $1 spent on providing good practice ASELC to children with autism, $11.30 is produced in economic benefits).

The evidence base supporting the benefits of ASELC cannot be applied across all Early Intervention (EI) delivery models. Several of the EI services that are currently being provided to children with autism are not supported by outcomes based evidence. Prior and Roberts have developed a set of guidelines for good practice in the provision of EI programs for children with autism. Many providers do not comply with these guidelines and it appears that parents of autistic children are poorly informed as to the efficacy of programs that do not comply with the guidelines. Providing ASELC that is consistent with the good practice guidelines can only be achieved at significant cost (estimated by AEIOU at $100,000 per child over two years). This is significantly greater than the cost of alternative forms of EI therapy that are not consistent with the good practice guidelines, particularly in relation to staff qualification and staff-to-child ratio requirements and the required intensity of care. This means that in many cases, organisations providing alternative EI services are able to do so at considerably lower cost than good practice ASELC providers. However, there is no evidence base supporting the efficacy of these alternative programs.

The limited information about the efficacy of alternatives open to parents combined with the complexity of the assessment they must undertake may be exacerbated by an

information asymmetry and moral hazard amongst lower service EI providers. Under current funding models, there is no incentive for providers of lower cost services (those that do not comply with the good practice guidelines) to invest in assessing or demonstrating the efficacy of their services.

Consequently, there is a high risk that families will not fully appreciate the adverse ramifications of securing EI services that do not comply with good practice guidelines, particularly as the transformational opportunity provided by ASELC significantly deteriorates as a child ages. There is therefore strong rationale for government to intervene to ameliorate the effects of this market failure.

In addition to the high risk of market failure, the provision of good practice ASELC to children with autism is also currently constrained by a lack of sufficient funding. There are three sources of funding for the provision of good practice ASELC services – government funding, private fundraising, and parental contributions. While the government funding has risen in recent years, the current level of funds available is still well short of what is required to enable the universal provision of good practice ASELC. Based on current data, the annual funding requirement for universal service provision is estimated at $121.7 million. Currently available funding sources for ASELC services (based on current government programs) ranges from $17,103 to $26,479.50 per child per annum, or between $41.6 million and $64.5 million in total. The remaining funding gap could be reduced significantly through the reallocation of funding from existing programs such as the Inclusion Support Program (ISP) and the Autism Playgroups program.

The rationale for government increasing the level of support provided to that necessary to enable universal provision of good practice ASELC to children with autism is strong. In addition to achieving strong positive development outcomes for the children and their families, good practice ASELC has the potential to produce significant long-term benefits for the wider community. Given the scarcity of available funds, it is important that they are directed to where those funds will achieve greatest benefit.

While increasing the level of government funding provided is an essential component of the solution, the information problems associated with the efficacy of alternative EI programs mean that additional government funding alone will not result in benefits being maximised. A model must be implemented that ensures that government funding is provided to organisations that are providing ASELC in accordance with the good practice guidelines. The key characteristics of the proposed government funding framework are:

- a certification scheme whereby ASELC service providers are required to demonstrate the consistency of their EI service offering with the good practice guidelines in order to be granted certification;
- ongoing evaluation and review mechanisms to ensure that certified service providers meet the requirements set out in the good practice guidelines on an ongoing basis; and
- diagnostic fidelity testing to ensure that government funding for the provision of good practice ASELC is effectively targeting those children that will receive the greatest benefit from the treatment (i.e. those children with autistic disorder as opposed to children with HFA or other developmental disabilities).

It is also important that government funding is allocated directly to good practice ASELC service providers as opposed to the families of eligible children, as the information asymmetries that are present in the market mean that parents are not necessarily aware of the outcomes that are likely to be achieved under different delivery models.

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Figures and Tables

1 Introduction

The Australian Government is seeking to improve the current system for delivering child care and early learning services by establishing a more flexible, affordable and accessible market for these services. The government's objective is to establish a system that provides effective support to the community, in particular parents' choices to participate in the workforce, as well as supporting the growth, welfare, learning and development of children.

It is in this context that the Australian Government has directed the Productivity Commission (PC), pursuant to Parts 2 and 3 of the *Productivity Commission Act 1998,* to conduct a public inquiry into Child Care and Early Childhood Learning.

One of the key focus areas of the inquiry is the current shortfalls in reaching and properly supporting children with additional needs (i.e. children with disabilities, children in regional or remote areas, and vulnerable children). This group includes children who are diagnosed with autism.

The purpose of this submission is to highlight the importance of the provision of good practice Autism Specific Early Learning and Care (ASELC) to children with autism and the need for this service to be included in any wider Child Care and Early Learning framework. The submission discusses the benefits of good practice ASELC, including the impact on workforce participation; the role of government in providing support to good practice ASELC service providers; and the importance of implementing a new government funding model that ensures that government support is directed to those organisations that are providing ASELC services that are consistent with the good practice guidelines.

The submission is structured as follows:

- section 2 provides an overview of autism and the typical development outcomes for individuals with autism;
- section 3 summarises the types of ASELC that are provided to children with autism and the benefits of ASELC;
- section 4 sets out the Australian Government's guidelines for good practice for the provision of ASELC to children with autism and discusses the significance of these guidelines in terms of the benefits that are achieved from ASELC and the implications for the provision of government support;
- section 5 discusses the link between the provision of good practice ASELC to children with autism and increased workforce participation;

- section 6 examines the appropriate role of government in the provision of support for ASELC services for children with autism, including a proposal for the implementation of a new government funding model; and
- section 7 concludes the submission.

The submission also includes two attachments, one which sets out AEIOU's fee structure for its ASELC services and one which sets out AEIOU's response to each of the questions raised in the PC's issues paper, including references to specific sections of the submission which set out AEIOU's position in detail.

2 Autism

The purpose of this section is to outline the nature of autism, the prevalence of autism in young children in Australia, and also the economic and social costs incurred as a result of autism.

2.1 What is autism

Autism, which is one of several Autism Spectrum Disorders (ASDs),[2] is a neurobiological disorder characterised by impairments in social communication, social-relating, and stereotypical behaviours and interests. It is a lifelong disorder which has a major impact on quality of life, with the majority of adults with autism unable to live independently or participate in the workforce.[3]

ASD is a category of Pervasive Developmental Disorders (PDD) which includes a number of conditions including:

- autistic disorder
- Asperger's Syndrome
- Childhood Disintegrative Disorder (CCC)
- PDD that is Not Otherwise Specified (PDD-NOS)
- Rett's Syndrome.

The behavioural characteristics of individuals in relation to social relatedness, communication, cognitive functioning, etc. differs across each of these sub-groups. For example, while individuals with autistic disorder will have impairments in all of these areas from an early age, individuals with Asperger's Syndrome, while having difficulties in relation to social relatedness, typically develop language skills at the expected age and do not exhibit any form of intellectual disability.

There are a wide range of costs associated with ASDs including direct costs (e.g. healthcare, employment, informal care) and intangible costs such as adverse impacts on quality of life. A previous study undertaken by Synergies estimated the total economic cost of ASD in Australia at between $8.1 and $11.2 billion per annum (December 2010 dollars).[4] Further details on this study are provided in section 2.3.

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[2] Other ASDs include Asperger's Syndrome, Childhood Disintegrative Disorder, Pervasive Developmental Disorder that is Not Otherwise Specified, and Rett's Syndrome.

[3] Charman, T. & Howlin, P. (2003). Research into early intervention for children with autism and related disorders: Methodological and design issues. Autism, 7(2), pp 217-225.

[4] Synergies (2012). Economic Costs of Autism Spectrum Disorder in Australia – Updated Study. AEIOU.

The diagnostic criteria for childhood autism as it has been defined by the World Health Organisation (WHO) are set out in the box below.

Box 1 WHO diagnostic criteria for childhood autism

Presence of abnormal or impaired development before the age of three years, in at least one out of the following areas:

(1) Receptive or expressive language as used in social communication

(2) The development of selective social attachments or of reciprocal social interaction

(3) Functional or symbolic play.

Qualitative abnormalities in reciprocal social interaction, manifest in at least one of the following areas:

(1) Failure adequately to use eye-to-eye gaze, facial expression, body posture and gesture to regulate social interaction

(2) Failure to develop (in a manner appropriate to mental age, and despite ample opportunities) peer relationships that involve a mutual sharing of interests, activities and emotions

(3) A lack of socio-emotional reciprocity as shown by an impaired or deviant response to other people's emotions; or lack of modulation of behaviour according to social context, or a weak integration of social, emotional and communicative behaviours.

Qualitative abnormalities in communication, manifest in at least two of the following areas:

(1) A delay in, or total lack of development of spoken language that is not accompanied by an attempt to compensate through the use of gesture or mime as alternative modes of communication (often preceded by a lack of communicative babbling)

(2) Relative failure to initiate or sustain conversational interchange (at whatever level of language skills are present) in which there is reciprocal to and from responsiveness to the communications of the other person

(3) Stereotyped and repetitive use of language or idiosyncratic use of works or phrases

(4) Abnormalities in pitch, stress, rate, rhythm and intonation of speech.

Restricted, repetitive, and stereotyped patterns of behaviour, interests and activities, manifest in at least two of the following areas:

(1) An encompassing preoccupation with one or more stereotyped and restricted patterns of interest that are abnormal in content or focus; or one or more interests that are abnormal in their intensity and circumscribed nature although not abnormal in their content or focus

(2) Apparently compulsive adherence to specific, non-functional, routines or rituals

(3) Stereotyped and repetitive motor mannerisms that involve either hand or finger flapping or twisting, or complex whole body movements

(4) Preoccupations with part-objects or non-functional elements or play materials (such as their odour, the feel of their surface, or the noise or vibration that they generate)

(5) Distress over changes in small, non-functional, details of the environment.

The clinical is not attributable to the other varieties of pervasive developmental disorder; specific developmental disorder of receptive language with secondary socio-emotional problems; reactive attachment disorder to disinhibited attachment disorder; mental retardation with some association emotional or behavioural disorder; schizophrenia of unusually early onset; and Rett's syndrome.

Data source: World Health Organisation (1993). The ICD-10 Classification of Mental and Behavioural Disorders – Diagnostic criteria for research. Geneva.

2.2 Prevalence of autism

Recent epidemiological reports indicate the number of children diagnosed with autism and ASDs in general is rising. It has been estimated that ASD affects approximately 1 in 160 children in Australia aged between 6 and 12 years.[5] More recent international data suggests rates may be as high as 1 in 100, making ASD more common than visual impairments, hearing impairments, cerebral palsy and leukaemia combined.[6]

In considering the prevalence rate it is important to note that due to the wide spectrum of ASDs, there is no standard form of therapy or treatment that is appropriate for all individuals across the spectrum (i.e. different individuals will have different characteristics that will determine which treatment methods are most effective). It is therefore important that where government provides support for a particular type of treatment, this support is appropriately targeted so that the treatment is provided to those individuals that will obtain the greatest benefit. In the absence of effective targeting, government funding may not be allocated efficiently. The importance of targeting government funding and how this relates to the provision of EI to children with autism is discussed further in section 4.1.

In terms of the prevalence of autistic disorder (as opposed to Asperger's Syndrome/HFA), the most recent comprehensive prevalence study conducted in Australia is Parner et al (2011). This study compared autism prevalence statistics in Denmark and Western Australia and found that the prevalence of childhood autism in Western Australia was 39.3 per 10,000 live births.[7] The ABS reported that there were 309,582 live births in Australia in 2012.[8] Applying this total to the above prevalence rate produces an estimate of 1,217 children being born with autistic disorder each year.

2.3 Economic and social costs of autism

There are a wide range of costs associated with ASDs. These include:

- direct costs such as healthcare, social services and education;
- other tangible costs such as employment and informal care; and

[5] MacDermott, S., Williams, K., Ridley, G., Glasson, E. & Wray, J. (2007). The prevalence of autism in Australia. Can it be established from existing data? Report for the Australian Advisory Board on Autism Spectrum Disorders.

[6] Paynter, J., Scott, J., Beamish, W., Duhig, M. & Heussler, H. (2012). A Pilot Study of the Effects of an Australian Centre-Based Early Intervention Program for Children with Autism. The Open Pediatric Medicine Journal, 6, p 7-14.

[7] Parner, E.T., et al (2011). 'A comparison of autism prevalence trends in Denmark and Western Australia.' Journal of Autism and Developmental Disorders, 41(12), pp 1601-8.

[8] ABS (2013). Births, Australia, 2012. Publication No. 3301.0.

- adverse impacts on quality of life (often referred to as 'burden of disease'). These costs accrue to both individuals with ASDs and their families.

In 2007, Synergies undertook an assessment of the economic costs of ASD in Australia (noting that this assessment included all ASDs and was not limited to autism). The cost estimates were then updated in 2011. Table 1 provides an overview of the cost estimates generated by Synergies in this report.

Table 1 Estimated costs of ASD in Australia per annum

Category	Total cost ($'000 Dec 2010) – low prevalence	Total cost ($'000 Dec 2010) – high prevalence
Direct costs		
Healthcare	507,318	859,279
Social services	316,165	316,165
Education	115,964	208,492
Other tangible costs		
Employment	1,866,985	3,221,278
Informal care	1,450,050	2,705,683
Intangible costs		
Burden of disease	3,910,162	3,910,162

Note: These cost estimates relate to the all ASDs, not only autism.

Source: Synergies (2012). Economic Costs of Autism Spectrum Disorder in Australia – Updated Study. AEIOU.

Overall, this suggests annual total costs of between approximately $8.1 billion (low prevalence) and $11.2 billion (high prevalence), with a mid-point of $9.7 billion (in December 2010 dollars). Where possible, estimates were broken down between autism (excluding High Functioning Autism (HFA)/Asperger's Syndrome) and HFA/Asperger's. Where data was not available to distinguish between these conditions (e.g. healthcare), the total costs were simply allocated proportionately between the conditions based on prevalence. The totals for each are summarised in Table 2.

Table 2 Cost estimates by condition

Condition	Total cost ($'000 Dec 2010) – low prevalence	Total cost ($'000 Dec 2010) – high prevalence
Autism (excluding HFA/Asperger's)	4,812,633	7,549,639
Asperger's/HFA	3,354,011	3,671,420

Source: Synergies (2012). Economic Costs of Autism Spectrum Disorder in Australia – Updated Study. AEIOU.

The mid-point of the range of the economic cost of autism (as opposed to the more broadly defined ASD) is therefore $6.2 billion (in December 2010 dollars). It is also important to recognise that this study did not estimate several costs due to a lack of

data and is therefore likely to represent a conservative estimate of the total economic cost of ASD in Australia. The costs that were not estimated included:

- the cost associated with comorbid conditions
- the costs of underemployment, including productivity impacts and social costs
- the cost of providing additional education support and living support services
- the cost of informal care for children with ASD
- the costs of family breakdown and healthcare costs for other family members.

3 Early learning and care for children with autism

The purpose of this section is to provide an overview of the ASELC treatment that is provided to children with autism and the evidence base on the benefits of ASELC.

3.1 Types of early intervention

Although no medical or drug therapy has been shown to improve the core symptoms of autism, ASELC based on educational and behavioural models has demonstrated efficacy in improving key child outcome variables. As autism is a heterogeneous syndrome, no one intervention is suitable for all children. There are a wide variety of interventions that have been proposed as suitable for providing Early Intervention (EI) for children with autism.

Educationally-based autism-specific EI programs typically do not subscribe to a single program, philosophy, or theoretical approach, but instead aim to be comprehensive and offer a range of teaching strategies such as Picture Exchange Communication Systems,[9] activities drawn from the Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH)[10] and positive behaviour support.[11]

Programs that are based on these approaches share in common an autism-specific focus, structuring their teaching in nursery, preschool, or kindergarten classrooms, and incorporate elements of educational programs (e.g. individual education plans). These ASELC programs tend to be delivered by multidisciplinary teams in which teachers coordinate classroom activities and intervention is actively supported by speech pathologists, psychologists and occupational therapists.

[9] Frost, L.A. & Bondy, A.S. (1994). The Picture Exchange Communication System Training Manual. Cherry Hill, NJ: PECs, Inc.

[10] Schopler, E.A. (1994). A statewide program for the treatment and education of autistic and related communication handicapped children (TEACCH). Psychoses and Pervasive Developmental Disorders, 3, pp 91-103.

[11] Horner, R.H. (2000). Positive behaviour supports. Focus on Autism and Other Developmental Disabilities, 15, pp 97-105.

Table 3 outlines the types of EI strategies that are applied for children with autism.

Table 3 Overview of types of EI for children with autism

Type of early intervention	Description	Examples
Behavioural	• Focus on application of learning theory and skill development • Use of Applied Behaviour Analysis (ABA)	Early Intensive Behavioural Interventions such as the Lovaas Program
Developmental	• Focus on building relationships and development of social emotional capacities	Relationship Development Intervention (RDI)
Therapy-based	• Focus on communication and social development or sensory motor development • Usually designed for use with other interventions	Picture Exchange Communication System (PECS), Auditory Integration Training (AIT)
Family-based	• Focus on working with families to develop skills in working with their children	The Hanen Program
Combined	• Incorporate behavioural and developmental strategies – often include sensory issues • Focus on working with and managing the characteristics of autism	Treatment and Education of Autistic and related Communication Handicapped Children (TEACCH)
Other	• Other types of early intervention	Music Intervention Therapy

3.2 AEIOU's ASELC service offering

AEIOU was established in 2005 and now operates nine autism-specific early learning and care centres throughout Queensland. Over the past decade, AEIOU has taken a role as a leader in finding practical solutions for the delivery of good practice ASELC services to children with autism.

The AEIOU program provides two years of intensive ASELC consistent with the Australian Government's good practice guidelines (see below). The key characteristics of AEIOU's ASELC service offering are:

- children are enrolled in groups of 10, with each group supported by a full time educator and three program facilitators (teacher aids);
- each centre employs a therapy team covering the disciplines of speech therapy, occupational therapy and behavioural psychology. These professionals work continuously across the different groups;
- the staff to child ratio at AEIOU's centres is 1:2, consistent with the good practice guidelines; and
- children's progress is measured at baseline (i.e. program entry), 12 and 24 months.

AEIOU's service model achieves all benchmarks of the good practice guidelines in a play-based format.

3.3 Benefits of ASELC

There is a strong body of evidence on the improved outcomes for children with autism that have been achieved as a result of ASELC. Key outcomes investigated across studies have included educational and cognitive skills, as well as adaptive behaviour and autism symptomology.[12] This body of research has found evidence that ASELC may lead to improvements in all of these areas. However, it is noted that there is an ongoing need for further research into the efficacy of specific EI programs. Table 4 provides a summary of the outcomes of previous studies of autism-specific early learning programs.

Table 4 Outcomes of previous studies of autism-specific early learning programs

Domain	Measure[a]	Studies	Results (pre/post within groups comparison)
Educational skills	PEP-R	Reed et al Reed et al	• Significant improvement for "special nursery placement" on gross motor, cognitive and verbal subscales • Significant improvement for "Autism-specific special nursery" on the overall PEP-R score
Cognitive skills	BAS-II	Reed et al	• Significant improvement for "special nursery placement" on picture matching, naming and early number skills subscales
	MSEL	Zacor & Ben-Itzchak	• Significant raw scores gains across all four domains for an "eclectic-developmental" autism-specific preschool program • Gains were significant in standard scores on receptive language only
Adaptive behaviour	VABS-Screener	Charman et al	• Significant changes over time on the VABS Screener on domain age-equivalent scores but no significant difference in the overall adaptive behaviour composite score
	VABS	Reed et al	• Children attending an "Autism-specific special nursery" school significantly improved on composite score
		Magiati et al	• Significant increases in mean age-equivalent scores on the VABS for "Autism-specific special nursery" group
		Zachor & Ben-Itzchak	• Significant gains in each of the four raw domain scores of adaptive behaviour • Significant communication and socialisation adaptive behaviour subscale standard scores • Significant decrease of motor skills standard scores
Autism symptoms	ADOS	Zachor et al	• Significant gains on the social interaction domain score for the "eclectic-developmental" intervention group
	SCQ	Charman et al	• No significant changes over time for the measure of autism symptoms on the Social Communication Questionnaire

a PEP-R: Psychoeducational profile – revised; BAS-II: British Abilities Scale-II; MSEL: Mullen Scales of Early Learning; VABS: Vineland Adaptive Behaviour Scale; ADOS: Autism Diagnostic Observation Scale; SCQ: Social Communication Questionnaire.

Source: Paynter, J., Scott, J., Duhig, M., Beamish, W. & Heussler, H. (2012). A Pilot Study of the Effects of an Australian Centre-Based Early Intervention Program for Children with Autism. The Open Pediatrics Medicine Journal, 6, pp 7-14.

[12] Paynter, J., Scott, J., Duhig, M., Beamish, W. & Heussler, H. (2012). A Pilot Study of the Effects of an Australian Centre-Based Early Intervention Program for Children with Autism. *The Open Pediatrics Medicine Journal*, 6: 7-14.

In 2012, a pilot study was conducted on the effects of ASELC on children with autism delivered at an AEIOU centre. Outcome measures of educational, cognitive, and adaptive skills were measured for 10 children with autism aged between 32 and 65 months. The key study observed the following key outcomes from the ASELC program:

- significant gains in educational skills in the areas of cognitive verbal/pre-verbal, fine motor and visual-motor imitation, motor domain score, and social reciprocity;
- decreases in autism symptoms; and
- limited evidence of gains in measures of cognitive or adaptive behaviour skills.

The outcomes from this study provide positive preliminary evidence supporting the efficacy of the AEIOU program in relation to symptom reduction and improving educational skills in children with autism.[13]

While there is a strong body of evidence supporting the improved outcomes resulting from the provision of ASELC to children with autism, this evidence is limited to the short-term impacts of ASELC. There is currently no evidence on the longer term impacts on key life outcomes (e.g. living independence, employment).

In 2013, Synergies, in conjunction with AEIOU and the Autism Research Advisory Group,[14] conducted a study which used the current evidence on the short-term impacts of ASELC to hypothesise lifetime outcomes for individuals with autism, both with and without ASELC. Synergies then applied its cost-benefit framework[15] to estimate the net economic impact of providing good practice ASELC to a cohort of children with autism. The framework was applied to estimate the potential benefits of ASELC in four key areas:

- education
- employment
- living independence

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[13] Paynter, J., Scott, J., Beamish, W., Duhig, M., and Heussler, H. (2012). A Pilot Study of the Effects of an Australian Centre-Based Early Intervention Program for Children with Autism. *The Open Pediatric Medicine Journal*, 6, p 7-14.

[14] The Research Advisory Group (RAG) is a scientific collaboration between AEIOU and individuals from external agencies who have expertise and interest in undertaking research in autism. The representatives of the RAG that provided input into this analysis were Associate Professors James Scott and Honey Heussler.

[15] Synergies has previously developed a cost-benefit framework to be applied to the provision of EI to children with developmental disabilities. The framework is based on the assessment of outcomes in five key life areas – education, employment, living independence, healthcare, and quality of life.

- quality of life.[16]

The cost-benefit framework was applied to a cohort of children with autism comprising of three groups ranging from children with severe intellectual impairment (group 1) to children with HFA (group 3). Percentage estimates were applied to a range of outcomes under each key area (both with and without ASELC) for each group. The application of percentages recognises that ASELC will not achieve (or be responsible for) positive outcomes for all members of the cohort. The percentages were determined by the RAG.

Table 5 summarises the total economic benefits estimated for the provision of ASELC to a cohort of children with autism, based on Synergies' cost-benefit analysis framework.

Table 5 Total economic benefit of ASELC for a cohort of children with autism

	Ave. benefit per child ($'000)	No. Children	Total economic benefit ($'000)
Group #1 (severe intellectual impairment)	$1,297	237 (20%)	$307,500
Group #2 (mild-moderate intellectual impairment)	$1,202	711 (60%)	$855,200
Group #3 (children with High Functioning Autism)	$747	237 (20%)	$177,100
Total	**-**	**1,185**	**$1,339,800**

Note: Totals may not add due to rounding.
Source: Synergies modelling.

For group #1, which recorded the highest average benefit on a per child basis, the benefits of ASELC were concentrated in two areas:

- increased living independence resulting in a reduction in the cost of informal care attributable to a 40% reduction in the number of individuals that will require intensive full-time care in adult life; and
- an improvement in quality of life resulting from the impacts of ASELC.

For groups #2 and #3, the benefits of ASELC were spread across more of the key life areas. This is due to individuals in these groups having greater education and employment opportunities than individuals in group #1 (due to their higher levels of cognitive functioning). The breakdown of the benefits of ASELC for individuals in groups #2 and #3 were as follows:

- living independence – 53% for group #2 and 23% for group #3

[16] As there are currently no studies that have assessed the impact of ASELC on healthcare outcomes for individuals with autism, no potential benefits have been ascribed to this category under any of the scenarios.

- quality of life – 28% for group #2 and 45% for group #3
- employment – 16% for group #2 and 27% for group #3
- education – 3% for group #2 and 5% for group #3.

Subtracting the total cost of providing ASELC to the cohort, which is estimated at $118.5 million ($100,000 multiplied by 1,185 children),[17] results in a total net economic benefit estimate of $1.22 billion, with a Benefit Cost Ratio (BCR) of 11.3.[18] Given the significant degree of uncertainty that exists in relation to the long-term impacts of ASELC, sensitivity analysis was conducted on these results. Under more conservative improvement scenarios, the application of the framework still produced a net benefit estimate of $365.7 million for the cohort and a BCR of 4.1. This sensitivity analysis demonstrates that even when very conservative improvement percentages are adopted, the results of the analysis are still very strong and show a significant societal benefit resulting from the provision of ASELC.

Importantly, this cost-benefit analysis demonstrates that the economic benefit that is achieved through providing good practice ASELC is likely to vary considerably across the autism spectrum based on the specific characteristics of individuals. The analysis found that the net economic benefit of ASELC is greatest for the more severely affected children, due to the reduced intensity of long term care requirements and subsequently lower carer costs, which impose a significant cost on society in the absence of ASELC. This result emphasises the importance of ensuring that government support is appropriately targeted so that both outcomes for individuals with autism and the overall economic benefit for society are maximised. This needs to be an important consideration in the development of any framework for the provision of government support for ASELC services.

[17] This differs from the prevalence rate discussed in section 2.2 as the cost-benefit study was conducted based on ABS data from 2011. Subsequently applying the prevalence rate of 39.3 per 10,000 for autistic disorder to the number of live births in Australia in 2011 resulted in an estimate for a total cohort of 1,185 children, as opposed to the 1,217 calculated in section 2.2.

[18] The Benefit Cost Ratio (BCR) of a policy measure is estimated by dividing total benefits by total costs. A BCR of above 1.0 is considered to be an economically efficient policy or project.

4 Good practice guidelines for early intervention

This section sets out the Australian Government's good practice guidelines for the provision of ASELC to children with autism, the link between these guidelines and the benefits described in the previous section, the cost of providing good practice ASELC, and the market failure that affects good practice ASELC from being delivered to children with autism.

4.1 Good practice guidelines

As shown in the previous section, there are a range of different delivery models through which EI is provided to children with autism. However, the evidence base on the benefits of EI cannot be applied across all of these delivery models. Prior and Roberts (2012) have emphasised the importance of guidelines for evidence-based treatment and have also reported that there is a lack of evidence supporting many treatments:[19]

> Evidence based treatment guidelines are particularly important in the field of autism where there has been considerable controversy surrounding the value of various treatments, including those which are well promoted but lack scientific evidence for their perceived effectiveness, and some which may be harmful.

Prior and Roberts have subsequently identified key elements that are essential to any effective ASELC program:

- autism-specific curriculum content focusing on attention, compliance, imitation, language, and social skills;
- highly supportive teaching environments which deal with the need for predictability and routine, and with challenging behaviour, obsessions, and ritual behaviours;
- support for children in their transition from the preschool classroom; and
- support for family members, including partnership with professionals involved in treatments.

Prior and Roberts have also developed a set of guidelines for good practice to be used to assess the value of EI programs for children with autism which have subsequently been published by the Australian Government. These guidelines represent an update

[19] Prior, M. & Roberts, J. (2012). Early Intervention for Children with Autism Spectrum Disorders: 'Guidelines for Good Practice' 2012.

on the best practice guidelines originally developed by Prior and Roberts in 2006 and are based on available research and evidence on the effectiveness of ASELC practices for children with ASD and are designed to assist parents, carers and professionals in making decisions regarding the suitability of potential programs. An overview of the good practice guidelines is provided in the box below.

Box 2 Good practice guidelines for the provision of ASELC services to children with autism

Assessment for Intervention Planning

Assessment of individual child strengths and needs in all relevant areas (e.g. communication, cognitive development) should guide intervention content and provide information about the best techniques for an individual child. The process should not be confused with assessment for diagnosis of autism.

Individualised programming based on strengths and needs

Individual Plans (IP) are to be developed which are to document:

- the child's strengths and needs
- goals for intervention, identified through a collaborative process with those involved with the child, including the family
- information about how these goals will be achieved and monitored.

An IP should be developed for every child receiving intervention, with participation from family, EI providers, preschools or childcare services. IPs should be developed at least annually and reviewed at least every six months.

Review, evaluation and adjustment of program

Intervention programs need to be evaluated regularly to ensure that they continue to meet the needs of the child. This process involves a review of the IP goals, review of the child's skills and needs to ensure that the program in relevant, and collaborative development of revised/new goals, as appropriate.

Relevant program content

Within this element there are five basic skill domains:

- ability to attend to elements of the environment
- ability to imitate others
- ability to comprehend and use language or alternative communication
- ability to play appropriately with toys
- ability to engage socially with others.

Programs should address some or all of the key features of autism, being communication, social interaction, repetitive behaviour and restricted interests. Associated features of autism such as sensory processing difficulties, anxiety, and intellectual disability/learning difficulties are additional important issues needing attention.

Highly supportive teaching environments and generalisation strategies

Core skills are taught in a highly supportive teaching environment and then systematically generalised to more complex, natural environments and to a wider range of people. Utilisation of appropriate environmental supports, structured teaching, and visual supports to assist with learning and generalisation.

Predictability and routine

Routines are established within and between sessions which are supported visually where appropriate and extended into family and other settings.

A functional approach to challenging behaviours

Focus on the prevention of problem behaviour by increasing interest and motivation, structuring the environment, and increasing positive behaviour support including teaching alternative appropriate skills, and communication strategies to replace problem behaviours.

If problem behaviour persists, use functional behaviour analysis to determine its triggers, function, and consequences, and adapt the environment to avoid triggers and to reinforce appropriate and adaptive behaviour. Teach alternative appropriate skills.

Transition support

There should be systematic connection and integration between the EI program and the next stage for the child, whether it is transition to school or to another therapeutic or special education setting. Transition supports can include:

- assisting the child to learn appropriate skills (e.g. school readiness)
- collaboration and communication with new settings (e.g. schools) about the child's current skills and needs
- actively supporting transition to a new environment through visits, visual supports and stories where appropriate.

Parents, teachers and therapists need to collaborate in preparing the child for transition.

Family involvement

Families should be meaningfully involved in assessment, and in program development and implementation. Effective programs are sensitive to the stress encountered by families and provide parent groups and other types of emotional support. Families should also be supported to utilise strategies taught as part of the interventions at home, and empowered to encourage communication, social interaction and effective behaviour management at home and in the community. Reliable provision of respite care is also importance for decreasing family burden and stress.

Use of visual supports

Provision of augmentative communication methods for expressive and receptive communication, and use of visually cued instruction to provide the child with a predictable and readily understood environment.

Multi-disciplinary collaborative approach

Assessments and programs are provided by a number of individual service providers, such as speech pathologists, psychologists and teachers, who need to communicate and collaborate with each other to develop goals, provide intervention and evaluate progress.

Additional elements

Interventions reflecting good practice are also characterised by:

- inclusion of typically developing peers
- promotion of independent functioning throughout the intervention programs
- incorporation of obsessions and rituals into programs to engage the child and reinforce responses.

Source: Prior,M. & Roberts, J. (2012). Early Intervention for Children with Autism Spectrum Disorders: 'Guidelines for Good Practice' 2012.

The gains that can be achieved through ASELC that is consistent with these guidelines vary for children across the spectrum of ASDs. The evidence base on the efficacy of ASELC delivered in accordance with these guidelines is strongest for those children with autistic disorder (see section 3.3). For example, in the previously cited study by Paynter et al (2012),[20] which observed significant improvements as a result of intensive

[20] Paynter, J., Scott, J., Beamish, W., Duhig, M., and Heussler, H. (2012). A Pilot Study of the Effects of an Australian Centre-Based Early Intervention Program for Children with Autism. *The Open Pediatric Medicine Journal*, 6, p 7-14.

ASELC provided to a cohort of children with ASD, the majority of children were not able to reach the basal t-score on the Mullen Scales of Early Learning (MSEL). The MSEL, which measures development in infants and preschoolers up to the age of 68 months, consists of 124 specific domains which measure gross motor functions, visual reception, fine motor skills, receptive language and expressive language. The four cognitive scales – visual reception, fine motor, receptive language and expressive language – are combined to produce an overall measure of cognitive functioning. Failure to reach the basal t-score for this measure indicates that the cognitive abilities across the study group were very low.

The evidence is less clear for higher functioning children on the spectrum (i.e. children with Asperger's Syndrome or HFA). It should be noted that this does not mean that good practice ASELC does not achieve positive outcomes or that it does not represent the most effective means of treatment for these children, simply that the strongest evidence suggests that the most significant improvements are achieved for children with lower cognitive functioning.

It is noted that a study was recently conducted which compared the efficacy of three programs that were administered to preschool-aged children with ASDs. The models included in the study were:

- Learning Experiences and Alternate Program for Preschoolers and their Parents (LEAP) – treatment is provided to children with ASD through an integrated model with typically-developing peers. LEAP programs include a significant parent-training component and require high levels of training to reach fidelity;
- TEACCH – treatment is provided in autism-specific environments by multidisciplinary teams and is consistent with the good practice guidelines; and
- Non-model-specific special education program.

The key finding from the study was that improvements were recorded for children across all three programs and that program quality was found to be a more significant determinant of improvements for children than program type. The importance of program quality in the outcomes that are achieved for children with ASDs highlights the importance of the governance mechanisms that are put in place, in particular the arrangements for the certification and ongoing monitoring of ASELC service providers. Implementing robust certification procedures will ensure that program quality is maintained and hence the positive outcomes for children achieved.

It is also important to highlight the cognitive abilities of the children that were included in this study and how this may have impacted on the results. Based on the entry level t-scores, the cognitive abilities of the children included in this study were

significantly higher than the children with autism that obtain the greatest benefit from good practice ASELC. It is acknowledged that other delivery models may achieve similarly positive results as good practice ASELC for children with higher cognitive abilities, however children toward the lower end of the ASD spectrum require the support that is provided by good practice autism-specific programs (i.e. TEACCH programs).

Furthermore, the study results suggested that the TEACCH model produced the better outcomes for children lower on the ASD spectrum (i.e. those children with autistic disorder):[21]

> …the Mullen finding is of interest because it suggests that children enrolled in TEACCH classrooms with lower versus higher cognitive ability showed more improvement in autism severity. This finding could be attributable to children with lower cognitive abilities likely having more severe symptoms of autism and thus more room for improvement; or it may suggest that some of the environmental and behavioural supports used in TEACCH are more beneficial to children with greater cognitive impairments.

This is consistent with the current evidence base that intensive ASELC is most beneficial for children with autistic disorder (i.e. those children that are at the lower end of the spectrum). Subsequently, in order to achieve the Government's objectives of maximising the efficacy and efficiency of government funding for early learning and care services, funding that is provided for the provision of good practice ASELC should be targeted at children with autism, as opposed to higher functioning children on the ASD spectrum.

It should also be noted that the primary objective of good practice ASELC is to transition the child to the least restrictive environment as soon as possible. This environment could be a mainstream primary school, or another therapeutic or special education facility, if this is deemed to be appropriate based on the child's development.

4.2 Cost of good practice early intervention

The good practice guidelines set out the criteria with which an organisation must comply in order to be considered to be providing an ASELC service that optimises development outcomes for children with autism. If an organisation is providing EI services through a delivery model that is not consistent with these guidelines, the

[21] Boyd, B.A., et al (2013). Comparative Efficacy of LEAP, TEACCH and Non-Model-Specific Special Education Programs for Preschoolers with Autism Spectrum Disorders. *Journal of Autism Developmental Disorders*, 44(2), pp 366-80.

evidence base supporting ASELC for children with autism cannot be applied to that organisation's service.

Providing ASELC to children with autism that is consistent with the Australian Government's good practice guidelines can only be achieved at significant cost. AEIOU has estimated the total cost of providing good practice ASELC at $50,000 per child per annum. Based on an ASELC program that is provided over a two year period, this equates to a total cost of $100,000 per child.[22]

The cost of good practice ASELC is significantly greater than the cost of alternative forms of EI therapy that are not consistent with the guidelines for good practice. The most significant components of good practice ASELC programs that lead to a high cost of service provision compared to these alternative therapies are:

- staff qualification requirements – the guidelines require that "teachers, therapists, and child-care personnel should be specifically trained in working with children and autism and have knowledge and skills required for their special needs". Maintaining staff that meet these requirements imposes a significant cost on good practice service providers that may not be incurred by organisations providing EI under alternative approaches (i.e. not good practice);

- staff ratio requirements – the guidelines state that "implementation of individual child goals in a small group context is not feasible with less than two adults for six children". This staffing requirement imposes a significant cost on good practice ASELC service providers; and

- the intensity of care that is required – the guidelines state that "fifteen to twenty-five hours per week is generally recommended for autism early intervention in the research literature with some programs recommending as much as 40 hours per week". This intensity of care imposes a significant cost on good practice service providers. Organisations providing alternative EI therapies, such as short duration one-on-one therapy sessions, are not exposed to this cost.

In many cases, organisations providing EI services to children with autism that are not consistent with the good practice guidelines are able to do so at considerably lower cost than good practice service providers, largely as a result of not having to adhere to the above requirements. However, as has been discussed above, the body of evidence supporting the provision of ASELC to children with autism cannot be attributed to these alternative EI delivery models. This needs to be a key consideration of government in allocating funding for the expanded provision of ASELC services to

[22] It should be noted that AEIOU is a not-for-profit organisation.

children with autism (i.e. funding should be allocated to good practice service providers, despite alternative forms of EI being delivered at lower cost). This is further discussed in section 6.

4.3 Market failure in provision of EI services to children with autism

There are several conditions of a workably competitive market that must hold in order for consumer choice models for purchasing services (including ASELC) to function efficiently. In essence, parent's decisions about the most appropriate intervention for their autistic child is beset with information problems. First there is the complexity of the condition and the range of options available. The limited information about the efficacy of alternatives open to parents combined with the complexity of the assessment they must undertake may be exacerbated by an information asymmetry and moral hazard amongst lower service EI providers. Under current funding models, there is no incentive for providers of lower cost services (those that do not comply with the good practice guidelines) to invest in assessing or demonstrating the efficacy of their services.

This contrasts with the situation arising with more widely available early learning and care services (e.g. primary school education) are more standardised and moderated (e.g. standardised school days, curriculum, assessment methods, etc.).

The information gaps that lead to the risk of failure of the market for EI services relate to the outcomes that are achievable from different delivery models for EI. Most families will not be able, at low cost, to assess the efficacy of different programs – most families will only encounter the issue once.

The outcomes from differing EI treatments similarly vary significantly, as is noted by Prior and Roberts in the guidelines for good practice:[23]

> Many families are choosing to try a variety of alternative therapies but there is little or no scientific evidence that these can make a significant difference to autism.

There are strong incentives for providers of less extensive services to not investigate or publicise the efficacy of their offering. The risk of purchasing an inadequate EI service is therefore high. The adverse consequences of providing ineffective treatment for a child with autism are also very high, as the treatment that is provided to children with autism at a young age is a significant determinant of lifetime outcomes – treatment after a child reaches 6 years of age is considerably less effective than if it is received

[23] Prior & Roberts (2012).

earlier. As such, there is a strictly limited window of opportunity for the transformational changes offered for autistic children. This means that, if administered correctly, ASELC has the ability to significantly improve long-term outcomes for children with autism and, equally, ineffective treatment results in these potential benefits being foregone.

Consequently, there is strong rationale for government to intervene if it can improve the ability of the market to produce efficient outcomes. In considering whether to intervene in a market, government must consider both the efficiency gains from correcting the market failure and the cost associated with the intervention. The purchasing decision of ASELC services has many parallels with other professional medical services. Two solutions to address potential market failure in relation to these services are:

- licensing – service providers are required to obtain a licence in order to be able to provide ASELC services to children with autism. Only service providers that are assessed as being compliant with the good practice guidelines will be granted a licence and subsequently permitted to provide ASELC services to children with autism; or
- certification – service providers have the option of being certified as 'good practice service providers', however no restrictions will be placed on the service providers that are able to participate in the EI services market. This means that consumers will be able to choose between certified and uncertified service providers.

Both of the above options can enhance outcomes – by increasing the proportion of ASELC provided to children with autism being consistent with the good practice guidelines. However, licensing represents a more extreme form of government intervention that can have unintended consequences, such as impeding increased competition by preventing the entry of new service providers into the market and stifling innovation. The implementation of mandatory licensing is also very complicated and is likely to impose significant costs on market participants and government.

Certification is able to satisfy the efficiency objective whilst reducing these unintended consequences. This can be achieved by ensuring that the certification arrangements form part of the framework for the provision of government support to ASELC service providers. By making certification under the good practice guidelines a mandatory requirement for ASELC service providers that are seeking government support, the distortionary impact of the information asymmetries in the EI services market will be substantially ameliorated or removed altogether, enabling the market to operate effectively and produce efficient outcomes.

In considering the rationale for government to intervene to prevent the failure of the market for EI services it is important to note that the purchase of these services are funded from transfers. Subsequently, while the choice is made by consumers, society has already incurred a deadweight loss in redistributing the funds required for the provision of these services. It is therefore critical that the allocation of these funds results in an efficient outcome and does not create further deadweight losses as a result of market failure.

The proposed certification arrangements, and other components of the proposed government support framework, are set out below in section 6.

5 Early intervention and workforce participation

This section discusses the link between the provision of good practice ASELC to children with autism and workforce participation.

5.1 The impact of autism on workforce participation

As has been previously discussed, children with autism have significant additional needs and often have difficulties communicating and interacting in social environments. Behavioural problems are also very common in children with autism. These characteristics make it extremely difficult for the majority of children with autism to be cared for in mainstream facilities. As a result, most parents of autistic children generally have two options in terms of providing care for their autistic children:

- do not participate in the workforce in order to stay home and care for the child themselves; or
- enter the workforce and either:
  - access an early learning and care service that is specifically designed for children with developmental disabilities (such as an ASELC program for children with autism); or
  - rely on other family members, friends or carers to care for the child.

While the provision of a good practice ASELC service represents the better outcome for the child's development, the proportion of families that are able to pursue this option – in the absence of significant financial assistance – is very low (due to the high cost of these services). As discussed in section 4, the provision of good practice ASELC to a child with autism is very costly – estimated at $100,000 in total per child over a two year period. As this is well beyond the financial capability of the majority of families, AEIOU and other good practice ASELC providers are either predominantly reliant on government funding and private fundraising to meet the cost of providing ASELC to children with autism or are forced to set high charges to recover their costs. As is discussed in further detail in the following section, the current level of funding that is raised through these sources is well short of what is required for the universal provision of good practice ASELC to all children with autism. Subsequently, the majority of families are forced to take up the first of the above options, which generally requires at least one parent to leave the workforce.

There is a positive relationship between the severity of a child's autism symptoms and the adverse impact on workforce participation. Children toward the lower end of the spectrum (i.e. children with autistic disorder that are intellectually impaired and have

moderate to severe communication and behavioural problems) are less likely to be able to be cared for in mainstream childcare facilities and also require more intense care and supervision. Parents of these children therefore find it more difficult to participate in the workforce. On the other hand, children with HFA are more likely to be accepted in mainstream childcare facilities and often only have minor behavioural issues, reducing the care burden on families and subsequently making it easier for the parents to participate in the workforce.

Therefore, when evaluating the impact of ASELC on workforce participation (which is set out in the following section), it is important to recognise that the increase in workforce participation resulting from the increased provision of good practice ASELC will be greatest for parents of children with autistic disorder as opposed to parents of children with HFA (i.e. the impact on workforce participation will be greater for families of children toward the lower end of the spectrum).

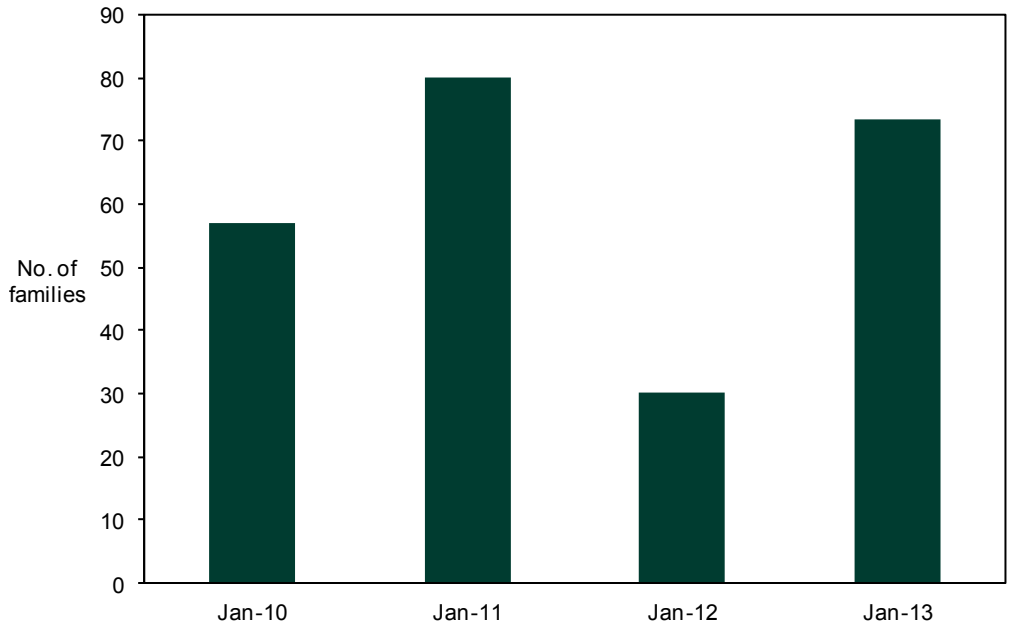
5.2 Early intervention and workforce participation

Recent years have been characterised by a significant increase in demand for ASELC services for children with autism. This trend has been driven by three factors:

- an increase in the number of children diagnosed with autism at a young age, due to improvements in diagnosis practices;
- an increase in the awareness of the benefits of ASELC for children with autism; and
- an increase in the availability of facilities providing ASELC for children with autism, largely due to an increase in both government funding and private fundraising activities.

Figure 1 presents the waiting list numbers for AEIOU's program over the past four years.

Figure 1 Waiting list for AEIOU's program



Data source: AEIOU.

The above graph shows that over the past four years, AEIOU has maintained a substantial waiting list of families that have attempted to access AEIOU's ASELC program. AEIOU has not been able to accommodate these families due to a shortage of placements driven primarily by a shortfall in required funding. This is evidence of significant unmet demand for good practice ASELC services.

For the majority of families with a child with autism, access to full-time care services is the only way for both parents to fully participate in the workforce. As has been discussed above, the majority of children with autism are not able to attend mainstream childcare facilities due to their additional needs and behavioural problems. Subsequently, for these families, a specialised and intensive ASELC service represents one of the only means by which parents of children with autism can access the level of care necessary to enable them to fully participate in the workforce. It is important to note that while good practice ASELC has a positive impact on workforce participation, this positive impact cannot be applied for alternative therapies that do not comply with the good practice guidelines, as many of these programs place a strong focus on parent training, which significantly limits any potential workforce participation benefits.

The benefits of good practice ASELC go well beyond allowing the parents of autistic children to participate in the workforce. This is evidenced by the cost-benefit study on the lifetime impacts of good practice ASELC for children with autism outlined in

section 3.3. The study estimated the total economic benefit of ASELC for a cohort of children at $1.34 billion, with a net economic benefit of $1.22 billion (calculated by subtracting the cost of providing good practice EI). This translated to a Benefit Cost Ratio of 11.3 (i.e. for every $1 spent on providing good practice ASELC to children with autism, $11.30 is produced in economic benefits).

Despite these considerable benefits, the current constraint on placements in ASELC programs for children with autism is due to a lack of availability which is driven primarily by a shortfall in the required funding. There is therefore a direct positive relationship between the level of government funding that is provided to good practice ASELC service providers (and the level of funding that can be raised from other sources) and workforce participation levels for parents of children with autism, as increased government funding increases the availability of good practice ASELC services, resulting in more families being able to access these services and fully participate in the workforce. As well as increasing workforce participation rates, increasing government funding for good practice ASELC services also improves development outcomes for children with autism and potentially results in significant long-term benefits to both the individuals and the wider community. The implication of this for the role of government in relation to providing ASELC is discussed in the following section.

6 Role of government

The purpose of this section is to discuss the role of government in facilitating and supporting the provision of ASELC services to children with autism.

6.1 Current funding constraints

There are three sources of funding for the provision of good practice ASELC services:

- government funding – different levels of government provide support to ASELC service providers and families of children with autism through a range of government funding and support programs (e.g. Helping Children with Autism);
- private fundraising – organisations conduct fundraising activities to raise funds to increase the provision of ASELC services (e.g. AEIOU runs its annual 'Take A Hike' event to raise funds to both maintain its current level of service provision and to expand the number of placements available in its centres); and
- parental contributions – some parents of children with autism are able to access good practice ASELC services by making payments to service providers.

Government support that can be used for the provision of EI services to children with autism is currently provided in two ways:

- to families of children with autism
- directly to EI service providers.

The table below sets out the current Federal Government funding sources that are available to families of children with autism.

Table 6 Current Federal Government funding sources

Source	Description	Funding
Childcare Rebate (CCR)	The purpose of the CCR is to assist families with meeting the cost of childcare. The rebate covers 50% of out-of-pocket childcare expenses for approved childcare. In order to be eligible for the CCR, families must use approved childcare and be eligible for the CCB. To be eligible for a rebate for over 24 hours of approved childcare services per week, families typically need to have passed the CCB 'Work, Training, Study Test', however families with a child with autism are exempt from this requirement.	The maximum rebate is $7,500 per year. This will remain unchanged until 30 June 2014.
Child Care Benefit (CCB)	The CCB is intended to assist families in meeting the cost of childcare services by linking family income to the level of assistance received. The magnitude of the CCB paid depends on three factors: • the amount of approved childcare used	The current approved care rate for a non school-aged child in up to 50 hours of care per week is $3.90 per hour, or $195 per week. This equates (approximately) to an allowance of up to $9,600 per year,

Source	Description	Funding
	• the applicants' CCB percentage • if the child is a school or a non-school child. However, parents that receive a carer allowance, which includes parents of a child with autism (below), are exempt from this test, and receive the CCB automatically.	depending on income.
Carer allowance	The carer allowance is a supplementary payment that is available to a parent or carer who provides additional care and attention on a daily basis for a child aged under 16 years with a disability. Parents of children with autism automatically qualify for the carer allowance.	The maximum annual payment is currently $4,500 (which is the sum of the fortnightly allowance, Child Disability Assistance Payment and Carer Supplement).
Helping Children with Autism	The HCWA package is aimed at providing increased access to EI for children aged up to 6 years with an ASD. The funding supports the delivery of multidisciplinary evidence-based EI to facilitate improved cognitive, emotional and social development.	Funding of up to $12,000 over two years, with a maximum of $6,000 per financial year can be accessed until the child's seventh birthday.

In some jurisdictions, ASELC service providers are able to obtain funding from State or Territory Governments. For instance, in Queensland, the Autism Early Intervention Initiative aims to maximise the development of children with autism through the provision of multidisciplinary support. ASELC services provided by both AEIOU and Autism Queensland are funded under this program, which provides $13,600 per child per annum.[24]

In addition to the sources of funding outlined above, there is also government funding that is provided for early learning and care services for children with additional needs (including those with autism) that could be reallocated to produce more efficient outcomes. Funding is currently allocated under programs (such as the Inclusion Support Program (ISP) and the Autism Playgroups program) that are not currently achieving the Government's objectives of the efficient allocation of government funding and optimising outcomes for children with additional needs (see box below). Reallocating this funding to enable the wider provision of good practice ASELC will achieve better outcomes for children with autism and the wider community.

Box 3 The Inclusion Support Subsidy as a case study of the inefficient allocation of funding

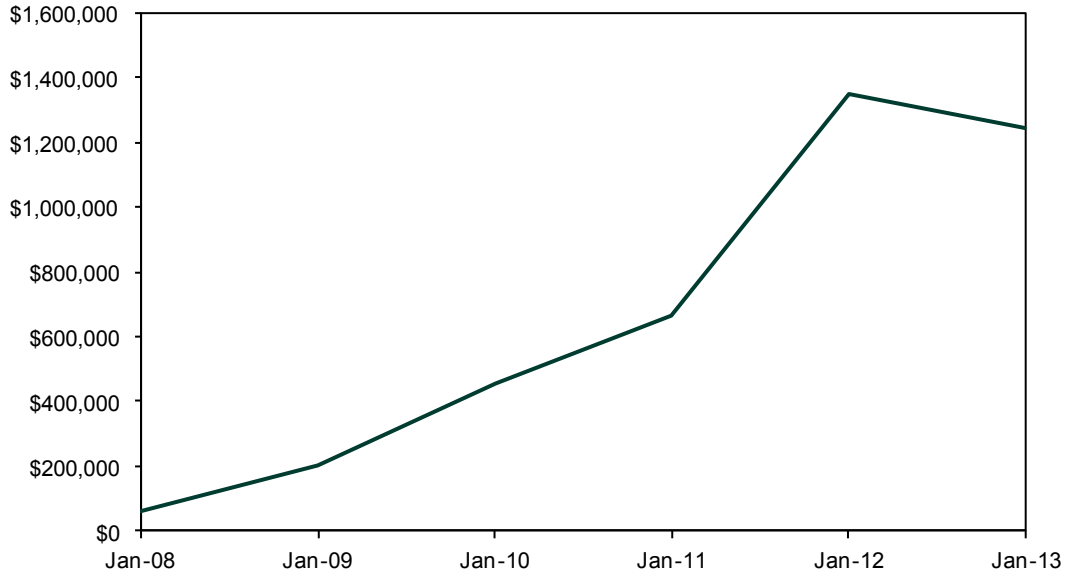
An example of the inefficiency of the current government funding and allocation mechanisms is the Inclusion Support Program (ISP). As noted in the PC's issues paper, the subsidy that is provided under this program – the Inclusion Support Subsidy (ISS) – is designed to assist eligible services to improve their capacity to include children with disability or ongoing high support needs. However, this program and subsidy do not achieve this objective for children with developmental disabilities such as autism, as the ISS cannot be provided to organisations that provide good practice ASELC, as these are not eligible services under the ISP. This program – and the framework for providing funding for child care and early learning services for children with ongoing high support needs – needs to be reformed so that government funding is allocated to those service providers that maximise development outcomes for children with additional needs. In the case of autism, this is those organisations that are providing ASELC services that are consistent with the good practice guidelines.

[24] It should be noted that the funding provided to AEIOU under this initiative is currently limited to 140 placements.

While the level of government funding that is available for the provision of ASELC has increased in recent years, the current level of funding is still (even if currently inefficiently allocated funding was to be reallocated) short of what is required to enable the universal provision of good practice ASELC to all children with autism. Based on the latest prevalence data and ABS data on live births, there are around 1,217 children born with autism each year. Applying a total cost per child of $100,000 results in an annual funding requirement of $121.7 million. As shown in Attachment A, currently available funding sources for ASELC services range from $17,103 to $26,479.50 per child per annum (not including any funding provided under state or territory-based funding initiatives), or between $41.6 million and $64.5 million in total (based on 1,217 children being born with autism each year). The funding gap could be reduced significantly through the reallocation of funding from the ISP and Autism Playgroups programs.

The current shortfall in government support has resulted in ASELC service providers relying on private fundraising and contributions from parents to generate the funding necessary to provide ASELC services. The figure below sets out the outcomes of AEIOU's fundraising efforts (i.e. fundraising income less fundraising expenses) from 2007/08 through to 2012/13.

Figure 2 AEIOU net fundraising 2008-2013



Data source: AEIOU.

The above graph shows that after several years of strong growth, AEIOU's net revenue from its fundraising activities has become constant in the last two years. AEIOU does

not consider that there is room for significant growth in this funding source looking forward.

Like private fundraising, there is also limited scope for relying on parental contributions to expand the provision of good practice ASELC services. Taking into account the total cost of providing good practice ASELC (approximately $50,000 per annum) and current government funding sources, parents attempting to gain access to good practice ASELC would be required to pay between $23,520 and $32,897 per annum, depending on their income level (not taking into account private fundraising or any funding provided to ASELC service providers under state or territory government initiatives).[25]

Not only is this not affordable for the majority of families, there is also little economic rationale for requiring parents to pay for the provision of ASELC. Preventing a child from receiving good practice ASELC due to their socioeconomic circumstances is not consistent with the Government's principles of equality and optimising development outcomes for children with additional needs. Furthermore, given the potential long-term benefits from good practice ASELC for both the individual and also the wider community (see section 3.3), the allocation of sufficient funding for universal provision of good practice ASELC to children with autism is also consistent with an efficient allocation of resources. It is subsequently considered that government support should be increased to enable the universal provision of good practice ASELC to children with autism, noting that this objective can be partially achieved through the reallocation of current funding.

Attachment A sets out the fee structure that AEIOU operates under for the provision of its ASELC services. This attachment shows how AEIOU uses current government support programs to reduce the cost of its ASELC services to families while also demonstrating the funding gap that currently prevents the expansion of AEIOU's program. It is also important to note that AEIOU's fees are set around the ability of a family to pay rather than the actual costs of the program, with fundraising used to address the difference. This approach has resulted in between 30% and 40% of the families that have access to AEIOU's program having total incomes of under $40,000 per annum, reflecting the universality of the program, autistic children are able to attend irrespective of their parent's socioeconomic circumstances.

[25] Footnote details.

6.2 The role of government

Government's role in relation to child care and early learning should be to provide support that facilitates the provision of those services that achieve the greatest net economic benefit at the lowest economic cost, both to the families of children receiving the care and also the wider community.

There is therefore a strong case for government to increase the level of funding allocated to organisations providing good practice ASELC to that required to enable universal service provision to all children with autism. The rationale for providing this level of government support is as follows:

- it is consistent with the government's broader objective of optimising outcomes for children with additional needs – the provision of good practice ASELC to children with autism achieves positive development outcomes, improving cognitive abilities and adaptive behaviour skills as well as improving outcomes for families;
- it ensures that all children, regardless of socioeconomic circumstances, are provided with access to the treatment that will optimise their development outcomes; and
- it is consistent with the objective of allocating government funding to services that achieve a net economic benefit – the improved development outcomes from the provision of good practice ASELC have the potential to lead to significant longer term benefits to both the individuals that receive the treatments and the wider community, largely through increased employment opportunities and a reduction in informal care and medical costs.

Therefore, not only will the provision of sufficient government support for universal provision of good practice ASELC improve development outcomes for children with autism, but this up-front investment also constitutes an economically efficient allocation of government funding from the perspective of the wider community.

As noted in the preceding section, the current level of government funding is insufficient to enable the universal provision of good practice ASELC to children with autism. However, there is the opportunity to reallocate funding currently provided through programs such as the ISP and the Autism Playgroups program to reduce the magnitude of this funding gap. Bridging this funding gap will enable the full economic benefit that is available from the provision of good practice ASELC to children with autism to be realised. It is the shortfall in current government funding levels that is preventing society from obtaining the full economic benefit of ASELC.

While government support needs to be increased to a level necessary to enable universal provision of good practice ASELC to children with autism, there is scope for the inclusion of means testing in the government funding framework. Families with children that meet the diagnostic criteria for receiving good practice ASELC services (see section 2.1) could be subject to a means test to determine the level of contributions from parents that will be required to assist in meeting the cost of providing good practice ASELC. However, to the extent that parental contributions are to be used to meet the cost of providing good practice ASELC to children with autism, it is important for government to take into account the following:

- all children that meet the relevant criteria for the provision of good practice ASELC should be provided with access to these services, regardless of their socioeconomic circumstances;
- the provision of good practice ASELC to children with autism has the potential to achieve significant long-term economic gains for the wider community in addition to the individuals that receive the treatment. Universal provision of good practice ASELC to children with autism therefore represents an efficient allocation of government funding, even in the absence of any parental contributions; and
- the amount of funding that is allocated under the CCB is already subject to means testing (see Table 6), with families' annual allowance set at between $0 and $9,600 based on their income levels.

6.3 Need for a new government funding model

While a shortfall in and inefficient allocation of government funding is the key barrier to expanding the provision of good practice ASELC to all children with autism, it is important to note that increasing the level of government support is insufficient as it is vital that a new model is established for the allocation of this funding. As is discussed in section 4.3, information asymmetries in the market for EI services mean that simply providing additional government funding to any organisation providing EI services to children with autism will not satisfy the government's objective of providing treatment to children with additional needs that maximises outcomes for both the children and their families (and in the case of autism, the wider community). It is only when ASELC is consistent with the good practice guidelines set out in section 4.1 that this objective is achieved for children with autism. It is therefore necessary for government to develop and implement a framework which ensures that the additional support is provided to organisations that are providing ASELC in accordance with these guidelines.

The development of a revised framework for the allocation of funding is as important as increasing the level of government support that is allocated to ASELC service providers. This framework must be underpinned by two key principles:

- a strong link between the provision of funding and the outcomes that are achieved; and
- diagnostic fidelity, to ensure that funding is targeted so as to maximise efficacy and efficiency.

6.3.1 Certification of service providers

Satisfying the first of these principles requires the implementation of an accreditation or certification scheme. As discussed in section 4.3, certification is an effective measure for rectifying market failure resulting from information asymmetries. In this case, service providers will be able to obtain certification to demonstrate that they are providing ASELC services that are consistent with the good practice guidelines. The basic design of the scheme would involve service providers being required to demonstrate the consistency of their ASELC service offering with the good practice guidelines in order to be granted certification. Funding for the provision of ASELC to children with autism would then only be allocated to certified organisations.

It is also important that, in addition to initial certification arrangements, mechanisms are put in place to ensure that the ASELC services that are provided with government support remain consistent with the good practice guidelines on an ongoing basis and also that the children for which government funding is being provided are meeting the necessary diagnostic criteria. It is therefore necessary for the government funding framework to include:

- compliance auditing arrangements to ensure that the ASELC services being delivered by certified service providers continue to be consistent with the good practice guidelines; and
- review arrangements to ensure that the implementation of the eligibility criteria is appropriate.

6.3.2 Diagnostic fidelity

As has been discussed in section 4.1, the evidence base supporting the provision of good practice ASELC cannot be applied equally to all children with ASD. Intensive ASELC has been shown to achieve the most significant gains for children with lower cognitive abilities (i.e. children with autistic disorder as opposed to children that are higher up the ASD spectrum). In order to achieve the government's objectives of

optimising outcomes for children with additional needs and maximising the efficiency of government funding, it is necessary that government support be targeted at providing treatment to those children that will achieve the sufficient benefit to justify the expenditure. It is therefore appropriate for the government support for the provision of good practice ASELC to be targeted at children with autism, as opposed to all children with ASD.

The results of the cost-benefit analysis conducted by Synergies on the provision of good practice ASELC to a cohort of children with ASD supports the targeting of government funding in order to provide ASELC to those children that are lower on the ASD spectrum. While this analysis found that ASELC has the potential to achieve long-term benefits for all children in a cohort, the benefits estimated were considerably larger for those children with severe intellectual impairment and significant communication and behavioural issues, as opposed to the groups comprised of children with higher levels of cognitive functioning (see section 3.3). Furthermore, the majority of the children included in the study by Paynter et al (2012), which reported positive outcomes for children with autism as a result of intense ASELC, recorded very low levels of cognitive functioning. This evidence emphasises the importance of ensuring that funding for good practice ASELC is appropriately targeted at children with autism (as opposed to children who are less affected).

In order to achieve this, it will be necessary for the government funding framework to include mechanisms to ensure diagnostic fidelity. Diagnostic fidelity relates to the precision of the process for identifying those children that are appropriate for the provision of good practice ASELC. Maintaining diagnostic precision is fundamental to the efficiency and effectiveness of the proposed program, as it is necessary to ensure that funding for the provision of good practice ASELC is directed to those children that will derive significant benefits.

6.3.3 Allocation of funding to organisations instead of families

There is currently a trend for government funding for child care and early learning services to be provided to families as opposed to being directed to the organisations that provide the services. The rationale in favour of this model is to provide parents with the flexibility to choose the service offering that best meets their specific needs and preferences.

While there are many services for which this approach to allocating funding may achieve efficient outcomes, this is not the case for children with developmental disabilities such as autism. The disadvantage of this approach for children with developmental disabilities is that parents may select services that are not consistent

with the relevant criteria necessary to ensure that children's development outcomes are optimised. This is a result of information asymmetries, with parents not being aware of the outcomes that are likely to be achieved under different delivery models.

Introducing a system whereby funding is only provided to certified service providers alleviates the problems caused by these information asymmetries by ensuring that all ASELC services for children with autism that receive government support are consistent with the Australian Government's good practice guidelines. This approach can also be extended to other government-funded treatment services for children with ongoing high needs.

A funding model that does not include a certification system and enables families to make decisions on which EI service to access actually creates a moral hazard problem, as EI service providers will have an incentive to provide lower cost and lower quality EI services to attract demand. Once a family has discovered that a less intensive EI treatment has not achieved the desired outcomes, it is generally too late to remedy as the development window of maximum effectiveness of ASELC programs has generally passed by this time. As discussed in section 4.2, the requirements imposed by the good practice guidelines mean that ASELC services that are consistent with these guidelines are more costly than alternative forms of EI treatment. The result will be an inefficient allocation of government funding as development outcomes will not be improved as would have been the case if the funding had been allocated to good practice ASELC service providers.

The inefficiency that can result from ineffective funding allocation methods is demonstrated by the current arrangements applying under the HCWA program. Currently, HCWA funding is allocated to families of children with autism. As demonstrated in Attachment A, AEIOU relies on HCWA funding to meet a proportion of the cost of its program. However, AEIOU is often finding that families have exhausted their annual HCWA funding allocations prior to the conclusion of the ASELC program, usually as a result of accessing private therapy sessions. This results in a shortfall in the funding available to meet the cost of AEIOU's program, placing additional financial stress on both families and AEIOU. This issue would be rectified if the funding allocation arrangements were amended so that HCWA funding (and funding provided under other programs for children with autism) was only able to be allocated to ASELC service providers that have received certification under the good practice guidelines.

Furthermore, the increased certainty that would be provided as a result of the direct allocation of funding to certified service providers would improve the efficiency of

service providers' key investment decisions regarding infrastructure and workforce capabilities.

6.3.4 Consistency across jurisdictions

For the economic benefit of providing good practice ASELC to children with autism to be maximised, both to individuals and the wider community, it is important for any government funding measures and associated frameworks to be implemented at the national level to ensure consistency across jurisdictions. This consistency must extend to any accreditation and certification requirements, diagnostic criteria for families seeking access to good practice ASELC, and means testing procedures. Failure to ensure this consistency will result in inequality across jurisdictions in terms of the level of services provided to children with autism.

7 Conclusion

It is the Australian Government's objective to establish a system for the delivery of child care and early learning services that provides effective support to the community, in particular parents' choices to participate in the workforce, as well as supporting the growth, welfare, learning and development of children. One of the key shortfalls in the current framework for the provision of these services is the support that is provided to children with additional needs. This includes those children that are diagnosed with autism.

Previous studies have shown that autism (and ASDs in general) imposes significant economic costs on both the individuals with autism and the wider community. There is a strong and growing evidence base supporting the outcomes that can be achieved through the provision of intensive ASELC to children with autism. While this evidence is currently only available over the short-term, it is highly likely that the long-term benefits of intensive ASELC are also significant. This includes significant long-term benefits to the wider community in the form of reduced costs of unemployment and informal care.

While ASELC services are currently provided to children with autism through a wide range of methods, the majority of EI service providers are not operating under a model that is consistent with the Australian Government's guidelines for good practice. This is largely due to the high risk of market failure in the EI services market as a result of information asymmetries in relation to the development outcomes that are achievable under different delivery models. In particular, families of children with autism do not possess the information necessary to choose the correct form of EI treatment.

The role of government in relation to providing support for the provision of ASELC to children with autism is therefore two-fold:

- address the current shortfall in funding for the provision of ASELC services to children with autism and better direct existing funding based on the evidence as to the efficacy of the outcomes produced by the funding. While some government support is provided to families of children with autism and service providers for the delivery of ASELC services, current funding levels fall short of what is required to enable universal provision to children with autism. Part of the current funding gap can be rectified by reallocating funding that is provided for early learning and care services for children with high ongoing needs that is not being efficiently allocated; and
- implement a government funding framework which ensures that government support for ASELC services is efficiently allocated (i.e. the ASELC services that are

provided with government support are consistent with the guidelines for good practice).

In order for the development outcomes for children with autism and the efficiency of government funding to be maximised, a framework must be developed that enables government funding to be provided that enables the provision of good practice ASELC to all children that are diagnosed with autism. Based on current prevalence rates and ABS data it is estimated that 1,217 children are born with autism in Australia each year. The key characteristics of this framework are:

- a certification scheme whereby ASELC service providers are required to demonstrate the consistency of their service offering with the good practice guidelines in order to be granted certification;
- ongoing evaluation and review mechanisms to ensure that certified service providers meet the requirements set out in the good practice guidelines on an ongoing basis; and
- diagnostic fidelity testing to ensure that government funding for the provision of good practice ASELC is effectively targeting those children that will receive the greatest benefit from the treatment (i.e. those children with autistic disorder as opposed to children with HFA or other developmental disabilities).

It is also important that government funding is allocated directly to good practice ASELC service providers as opposed to the families of eligible children, as the information asymmetries that are present in the market mean that parents are not necessarily aware of the outcomes that are likely to be achieved under different delivery models.

A AEIOU fee structure

This attachment sets out AEIOU's fee structure for its ASELC program.

The starting point for the annual fee for AEIOU's good practice ASELC program in 2013/14 is $25,192. This amount is calculated by taking the total cost of providing good practice ASELC (approximately $50,000 per annum) and removing the funding that is provided to AEIOU under the Queensland Government's Autism Early Intervention Initiative ($13,600 per child) and funding generated through AEIOU's private fundraising activities.

The table below sets out the fee structure that applies to two families seeking access to AEIOU's ASELC program – one with a combined income of under $42,600 per annum and another win a combined income of under $142,426 per annum.

Table A.1 AEIOU fee structure – worked examples

Sources of funding	Families w/ combined income less than $42,600 per annum	Families w/ combined income less than $142,426 per annum
Annual fees (full-time)[a]	$25,192.00	$25,192.00
Less Child Care Rebate	$7,500.00	$7,500.00
Less Child Care Benefit	$9,376.50	-
Less Helping Children With Autism	$6,000.00	$6,000.00
Less Carer Allowance	$3,003.00	$3,003.00
Less Carer Supplement	$600.00	$600.00
Net cost (fee) per year	**-**	**$8,089.00**

a Calculated based on total cost of providing good practice ASELC (approx. $50,000 per child per annum) less Queensland Government Autism Early Intervention Initiative funding ($13,600 per child per annum) and AEIOU fundraising revenue.

Note: It should be noted that it is a personal choice to allocate the Carer Allowance and Carer Supplement towards AEIOU's ASELC program. These rebates can also be applied to other care and household costs.

Source: AEIOU (2013). Fact Sheet: Attending AEIOU – How much will it cost?

Families with combined incomes within this range are required to pay fees ranging from $0 to $8,089, depending on the total CCB to which the family is entitled.

B AEIOU Response to PC Terms of Reference

Question/issue	Proposed response
Government involvement in childcare and early learning	
What role, if any, should the different levels of government play in childcare and early childhood education?	• Government's role should be to provide support that facilitates the provision of services that achieve the greatest net economic benefit to individuals, families and the wider community. • The provision of good practice ASELC to children with autism has been shown to improve development outcomes for children and has the potential to deliver significant net economic benefits to the wider community (see section 3.3). • Government funding to support childcare and early learning should be evidence based where possible. Good practice ASELC represents an efficient use of government funding. Current levels of government funding are short of the level required to enable universal provision to children with autism (see section 6.1). Efficiency gains are therefore currently being foregone as a result of the inefficient allocation of government funding.
What outcomes from ECEC are desirable and should be made achievable over the next decade?	• For children with ASD, while the evidence base is still growing, there is strong evidence supporting the effectiveness of intense ASELC for children with autism and the potential for this to translate to longer term economic benefits for both the individuals and the wider community (see section 3.3). • In addition to from an economic efficiency perspective, there is also strong rationale for the provision of government support to fund good practice ASELC for children with autism in relation to satisfying the government's objective of maximising development outcomes for children with high ongoing needs and ensuring that children are not deprived of beneficial treatment and care due to their socioeconomic circumstances (see section 6.2). • It should therefore be the aim of government to ensure that all children that meet the appropriate diagnostic criteria (see section 6.3.2) are provided with access to good practice ASELC within the next decade. This will require an increase in the level of government support that is provided to organisations that provide good practice ASELC and an overhaul to the mechanisms through which this funding is allocated to service providers (see section 6.3).
The Commission is seeking information on international models of childcare that may be relevant to Australia. The PC has particular interest in: • How the models affect child development outcomes and workforce participation • The cost to government, families and the funding arrangements • The types of providers and the financial viability of these • The regulatory framework, particularly for quality assurance of providers, the facilities, and their staff	• While there are a wide range of delivery models through which EI is provided to children with autism, not all are evidence-based. • The Australian Government has developed a set of good practice guidelines for the provision of ASELC to children with autism. These guidelines are intended to act as a set of requirements which service providers are to adhere to in order to be considered best practice service providers (see section 4.1). In order to maximise the economic benefits from the provision of ASELC to children with autism, it is important that government support is directed to those service providers that are operating programs consistent with these guidelines (see section 6.2) • The majority of children with autism are not able to attend mainstream childcare facilities. This constrains the extent to which parents of children with autism can fully participate in the workforce, as the majority of parents are not able to afford full-time care services for their children (see section 5.1). Good practice ASELC has a positive impact on workforce participation as it provides parents with an alternative to staying out of the workforce to care for their children (see section 5.2). • AEIOU estimates the cost of providing good practice ASELC at $50,000 per child per annum. Based on a two-year program, this equates to a total cost of $100,000 per child. It is important to note that the cost of providing good practice ASELC is significantly higher than the cost of alternative therapies (see

Question/issue	Proposed response
	section 4.2). • The benefits of ASELC go well beyond allowing the parents of autistic children to participate in the workforce. This is evidenced by the cost-benefit study on the lifetime impacts of good practice ASELC for children with autism outlined in section 3.3. • While a proportion of this cost is covered by current government funding arrangements, there is still a significant funding gap that is preventing the wider provision of good practice ASELC to children with autism (see section 6.1). • In addition to increasing the level of funding provided there is also the need for a new government funding model to be implemented. This is necessary as a result of the pervasive information asymmetries and high risk of market failure that exists in the market for EI services (see section 4.3). Of particular importance is the establishment of a certification regime for good practice ASELC service providers and diagnostic criteria to ensure that funding is effectively and efficiently targeted (see section 6.3).
Demand for and expectations of childcare and early learning services	
The Commission is seeking empirical evidence on demand for ECEC, in particular: • Are there families from particular household structures, socioeconomic groups or geographic areas that are now using some forms of ECEC significantly more than in the past? • Which types of families are likely to require significantly more or less use of ECEC in the future?	• Demand for ASELC has increased significantly in recent years due to the expansion of service provision driven by increased government support and fundraising activities and an increased awareness of the potential benefits of ASELC. AEIOU has provided data on waiting list numbers in recent years to demonstrate that there is currently unmet demand in the market (see section 5.2). • However, the majority of children with autism are still not provided with access to good practice ASELC due to funding constraints (see section 6.1). • The provision of government support for ASELC should be targeted at those individuals that will achieve the greatest benefit as a result of the treatment – those children with autistic disorder (see section 4.1).
Children's development needs	
The Commission is seeking evidence on the effect of the different types of ECEC, including separate preschool programs, on children's learning and development and preparedness for school	• There is a strong body of evidence on the benefits of the provision of good practice ASELC to children with autism (see section 3.3). In addition to increasing the potential of children with autism to attend mainstream schools, these benefits include improvements in learning skills, communication, adaptive behaviour, etc. • The evidence base on the benefits of ASELC should not be applied to those programs that are not consistent with the good practice guidelines.
How does the amount of time spent in ECEC and the age at which a child first enters childcare impact on learning and development outcomes?	• It is crucial that ASELC is provided early in the child's life as this is when the significant improvements are able to be made. • It is also important that EI services are intensive. The good practice guidelines state that it is recommended that programs be between 15 and 25 hours per week (see section 4.1).
Would extending the length of the school day have a significant impact on children's learning and development outcomes or parents' workforce participation decisions? What other impacts would such changes have?	NA.
Impacts on workforce participation	
What is the relative importance of accessibility, flexibility, affordability and quality of ECEC (relative to other key factors) in influencing decisions of parents as to whether they work or remain at home to care for children?	• The majority of children with autism cannot be cared for in mainstream childcare facilities, due to their additional needs and, behavioural issues. Subsequently, parents have two options in terms of providing care for children with autism: - Do not participate in the workforce in order to stay home and care for the child themselves - Enter the workforce and either access an early learning and

Question/issue	Proposed response
	care service suitable for children with autism (e.g. good practice ASELC) or rely on other family members, friends or carers to care for the child. • Given the high cost of good practice ASELC, the majority of families cannot afford these services and are subsequently unable to participate in the workforce (see section 5.1). • There is a positive relationship between the severity of a child's autism symptoms and the adverse impact on workforce participation. • Good practice ASELC enables parents of children with autism to enter the workforce, with accessibility currently being the barrier (due to affordability). The provision of government support for good practice ASELC will therefore result in a direct increase in workforce participation levels (see section 5.2).
What trade-offs do working parents make in relation to their demand for ECEC? For example, are they prepared to accept lower quality care if that care is close to where they live or work and/or enables them to work part-time or on certain days?	NA.
Has increasing workforce participation by mothers increased demand for childcare, or has improved availability, affordability, and/or quality of childcare led to increased participation?	• The increase in demand for ASELC services for children with autism has been driven by three factors: - An increase in the number of children diagnosed with autism, due to improvements in diagnosis practices - An increase in the awareness of the benefits of ASELC for children with autism - An increase in the availability of facilities providing ASELC for children with autism due to an increase in both government funding and private fundraising activities (see section 5.2). • While the provision of good practice ASELC provides greater opportunity for parents to participate in the workforce, it has not been this factor that has driven the increase in demand for ASELC.
How have government ECEC support programs affected workforce participation?	• The provision of care at specialist facilities is generally necessary in order for the majority of parents of children with autism to participate in the workforce. Government support programs that provide families with access to good practice ASELC services are therefore effective at increasing workforce participation (see section 5.2).
Availability of childcare and early learning services	
The Commission is seeking evidence on: • The extent to which parents are experiencing difficulties accessing ECEC that meets their needs/preferences and whether there are particular categories of care, times, locations or circumstances for which accessing ECEC is more difficult – for example, regional areas, certain days or part days each week, or for children with additional needs? • How parents identify vacancies or choose which ECEC service to use – for example, are parents aware that the My Child website and at least one privately operated website allows them to search for centres reporting vacancies and do they find this service accurate and/or useful?	• AEIOU has provided data on the number of families on its waiting list for the past four years (see section 5.2). This data shows that there is significant unmet demand for AEIOU's good practice ASELC program. AEIOU has not been able to accommodate these families due to a shortage of placements driven by a shortfall in required funding.
The Commission is seeking information from ECEC providers on: • How the sector has responded to growth in demand, including changes to types of care offered, cost and pricing structures used by different types of providers, and any viability pressures	• While the factors noted above have resulted in an increase in demand for EI services for children with autism, it is important to note that many of the service providers that have expanded to meet this increase in demand are not providing a service that is consistent with the good practice guidelines (see section 4.3. • The cost differential between these alternate forms of treatment and good practice ASELC (see section 4.2) and the high risk of

Question/issue	Proposed response
• The key barriers that are inhibiting an expansion in ECEC services where demand is highest, development of more flexible ECEC, or alternative models of care • Approaches to managing childcare waiting lists that have been shown to be successful	market failure caused by uncertainty, bounded rationality and information asymmetries that exist in the market for EI services (see section 4.3) mean that the majority of EI that is provided to children with autism is not consistent with the good practice guidelines. • Government involvement in the provision of support to ASELC services must therefore be two-pronged: - The level of funding must be increased to enable the universal provision of good practice ASELC to all children with autism (see section 6.2) - A new government funding framework must be implemented which ensures that this funding is effectively and efficiently targeted so that the right form of treatment (good practice ASELC) is provided to the appropriate children (those with autistic disorder) (see section 6.3).
The Commission is seeking information from employers that currently provide childcare services or assist employees to access childcare, on: • The nature of the services or assistance provided • Issues encountered in supporting employee use of childcare services	NA.
Flexibility of childcare and early learning services	
The Commission is seeking information on: • The extent and nature of unmet demand for more flexible ECEC • The reasons why current providers are not offering more flexible care options • The experiences of providers who offer flexible care options and their management strategies to maintain financial viability • The outcomes of the Child Care Flexibility Trials and circumstances under which successful approaches can be replicated • Affordable approaches to improving flexibility, including innovative options that could involve new provider models	• The good practice guidelines for the provision of ASELC to children with autism require that the ASELC service offering is flexible in that it is tailored to the needs of each specific child – Individual Plans are to be developed for each child (see section 4.1). However, the extent of flexibility provided should still remain compliant with good practice guidelines. Several models of care materially fall short of meeting the requirements under these guidelines. Any flexibility that is to be allowed for should not allow for government funding to be allocated to these services. This can be achieved through the implementation of certification arrangements in conjunction with government funding (see section 6.3.1).
Services for additional needs and regional and remote areas	
The Commission is seeking information on: • How well the needs of disadvantaged, vulnerable or other additional needs children are being met by the ECEC sector as a whole, by individual types of care, and in particular regions • The extent to which additional needs are being met by mainstream ECEC services or specialised services • Key factors that explain any failure to meet these needs • What childcare operators and governments can do to improve the delivery of childcare services to children with additional needs? • The types of ECEC services which work particularly well and would be viable in regional and remote locations	• There is strong evidence supporting the economic benefits resulting from the provision of good practice ASELC to children with autism (see section 3.3). • Despite this evidence, the government funding that is provided is still short of what is required to enable universal provision of good practice ASELC to children with autism (see section 6.1). This means that objectives of maximising development outcomes for children and the efficiency of government funding are not being met. • The appropriate response from government is two-fold: - Increase the level of government support to that necessary to enable the universal provision of good practice ASELC to children with autism (see section 6.2) - Implement a framework to ensure that this funding is directed to achieve greatest benefit – which will generally be to ASELC service providers that meet minimum standards such as the good practice guidelines (see section 6.3).
Cost of childcare and early learning services in Australia	
The Commission is seeking information and where possible quantitative evidence on: • Financial difficulties arising from paying childcare fees,	• The total cost of providing good practice ASELC to children with autism is estimated at $100,000 ($50,000 per child per annum over two years). While the fees that are charged to families are reduced by existing government support, the majority of families

Question/issue	Proposed response
including the types or location of families experiencing the greatest difficulties in meeting childcare costs • Changes in the use of ECEC, including the type of care used (formal and informal), in response to changes in the cost of care • The extent of price competition between providers and the effect this has had on fees and the quality of services provided • The flexibility providers have to price in response to demand and/or to meet the particular care and learning needs of children	are still unable to afford good practice ASELC services without significant support from private fundraising activities (see section 6.1). • Universal provision of good practice ASELC to children with autism cannot be achieved under the current funding arrangements – a significant increase in government funding is required to meet this objective (see section 6.2). Better directing of current funding would assist however. • The response of parents to the high cost of good practice ASELC is normally to leave/not enter the workforce and provide care for their child themselves. Not only does this outcome fail to maximise development outcomes for children, but it also results in reduced workforce participation.
Government regulation of childcare and early learning	
The Commission is seeking up-to-date evidence, specific examples and case studies that will inform an assessment of both the benefits and costs of current regulations impacting on ECEC services	• Information asymmetries and high transaction costs prevent families of children with autism from being able to assess the efficacy of different types of EI programs. This results in a high risk that families will purchase an inadequate EI service. These factors are the drivers of the high risk of market failure in the market for EI services which necessitates government involvement (see section 4.3). • The effects of this market failure can be alleviated through the establishment of a government funding model with the following key characteristics: - Certification arrangements to ensure that government funding is only directed to those service providers that have been certified in accordance with the guidelines for good practice (see section 6.3.1) - Criteria to ensure diagnostic fidelity so that funding is allocated for the provision of ASELC services to those children that will achieve the greatest benefit (see section 6.3.2) - Compliance auditing and review arrangements to ensure that the integrity of the above arrangements is maintained. • It is also important that funding is allocated to good practice services providers as opposed to families in order to counter the potential inefficiencies that are caused by the pervasive information asymmetries in the EI services market (see section 6.3.3).
The Commission is seeking views and evidence on: • The effect of increased staff ratios and qualification requirements on outcomes for children • How ECEC providers are handling the pace of implementation of new staffing ratios under the NQF • The case for greater recognition and assessment of competencies as an alternative in some cases to additional formal training and qualifications • The impact of changes to staff ratios and qualification requirements on the cost of employing ECEC workers • Whether any increased staffing costs have been, or will be, passed on in higher fees charged to families	• The capabilities of staff and ratio of staff to children are key considerations in terms of the effectiveness of the ASELC services that are provided to children with autism. Both of these factors are explicitly recognised in the Australian Government's guidelines for good practice (see section 4.1). • Complying with these guidelines means that good practice ASELC service providers face higher labour costs than other childcare service providers that may not have staff with these qualifications or be operating at such low staff-to-child ratios (or intensity of EI). This is a significant factor that contributes to the high cost of good practice ASELC (see section 4.2). As a shortfall in funding is currently the primary factor limiting the expanded provision of good practice ASELC, it is also the primary factor preventing the universal provision of ASELC to all children with autism.
The Commission is seeking information on: • Initiatives of governments to address workforce shortages and qualifications, including the cost and effectiveness of these initiatives • Initiatives of providers to address their workforce shortages and skill needs, including the cost and effectiveness of these initiatives • Particular locations and areas of skill for which it is hard	NA.

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to find qualified workers • The extent to which training/childcare courses enable workers to meet the requirements of the NQF and how training could be improved • Other workforce and workplace issues, including any aspect of government regulation that affects the attractiveness of childcare or early learning as a vocation	
Are the requirements associated with more subjective aspects of the National Quality Standards, such as 'relationships with children', clear to service operators and regulatory staff? Is further guidance required?	NA.
Could the information provided on the 'My Child' website be changed to make it more useful or accessible to families? Are there other approaches to providing information to parents about vacancies, fees and compliance that should be considered?	NA.
The Commission is seeking information on: • How particular regulations (including the NQF) impact on the structure, operations, cost and profitability of ECEC services – for example, are services consolidating or amalgamating their operations to reduce administration costs • The share of fees that can be attributed to compliance costs (quantified if possible) • The extent to which regulatory requirements are causing services to change the number or mix of children they care for • The extent to which regulatory burdens arise from duplication of regulations and/or inconsistencies in regulations across jurisdictions	NA.
How could the NQF and other regulations affecting ECEC be improved – both requirements and their implementation/enforcement – to be more effective and/or to reduce the compliance burden on ECEC services or workers and/or administration costs for governments?	NA.
Are there lower cost ways to achieve the regulatory objectives for ECEC?	• The pervasive information problems and transaction costs in the market for EI services is currently resulting in market failure that is preventing the full economic benefit of good practice ASELC from being realised (see section 4.3). • For this market failure to be alleviated, government should introduce a support framework consisting of certification arrangements and criteria for diagnostic fidelity (see section 6.3). This will ensure that government funding is appropriately allocated to good practice ASELC service providers and is targeted at the appropriate children.
Are there areas currently regulated that would be better left to sector self-regulatory codes of practice or accreditation schemes?	NA.
Government support for childcare and early learning	
Some general questions about government support: • How does government support to families and childcare providers impact on accessibility, flexibility and affordability of childcare? • Is the level of overall government support for ECEC appropriate?	• The high cost of good practice ASELC and the current shortfall in government funding is preventing the provision of good practice ASELC to the majority of children with autism (see section 6.1). • Despite the evidence supporting the development outcomes and longer term economic benefits that are achievable through the provision of good practice ASELC, current government funding is insufficient to enable the universal provision of these services to those children that will derive the greatest benefit (see section 4.1). • To achieve universal service, there needs to be an increase in the level of government funding provided. This additional funding

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	can largely be achieved through the reallocation of funding from other government support programs that are not achieving the government's objectives with respect to providing care to children with high ongoing needs (see section 6.1). • It is important to note that this increase in funding must be accompanied by a government funding framework that ensures that government support effectively targets the appropriate type of EI treatment (see section 6.3).
Some specific questions for families claiming government support: • Is it difficult to apply for or receive financial assistance for childcare? • Is it straightforward to determine how much financial assistance you will receive? • What effect have government support for childcare and other family income support arrangements, such as paid parental leave and family tax benefits, had on demand for ECEC? • Have increases in support reduced the out of pocket cost of childcare for parents, or have fees just risen in response?	NA.
Some questions specifically for service providers: • Is it confusing and/or costly to deal with the large number of programs and agencies administering ECEC support? Is there overlap, duplication, inconsistency or other inefficiencies created by the interaction of programs? • Do existing arrangements for delivering support present any difficulties for ECEC providers in assisting families with resolving eligibility or payment issues? • Which government support schemes do you consider are warranted, well designed, and efficiently implemented and administered and which are not? Which schemes do you consider offer the most assistance to your operations?	• There are several government support programs that have been developed with the objective of providing effective learning and care services to children with high ongoing needs that are not achieving their objective and should be reallocated to evidence-based treatments that improve outcomes for these children (such as good practice ASELC). • The government support scheme most in need of reform is the Inclusion Support Program (ISP). As noted in the issues paper, the Inclusion Support Subsidy (ISS) is designed to assist eligible services to improve their capacity to include children with disability or ongoing high support needs. However, this program and subsidy do not achieve this objective for children with autism, as the ISS cannot be provided to organisations providing good practice ASELC to children with autism, as these are not eligible services under this program. The ISP needs to be reformed so that the funding that is designed to improve outcomes for children with high support needs – including those with autism – goes to the service providers that are providing treatment services that are consistent with the relevant guidelines. In the case of autism, this is organisations such as AEIOU that are providing intensive, good practice ASELC (refer to section 6.1).
Options for reform of childcare funding and support	
How could government support programs be reformed to better meet government objectives for ECEC?	• There is clear social and economic rationale for the provision of sufficient government funding to enable universal provision of good practice ASELC to children with autism (see section 3.3). • Current levels of government funding represent the primary barrier to achieving universal provision (see section 6.1). • There are two changes that could be made to the arrangements for the provision of government support for the provision of ASELC to children with autism that would enable the government to better meet its objectives: - Certification arrangements to ensure funding is allocated to good practice service providers (see section 6.3.1) - Diagnostic fidelity criteria to ensure that government-supported ASELC is targeted at those children that will obtain the greatest benefit – those children with autistic disorder (see section 6.3.2).
What financial contribution should parents be expected to make to the care and education of their children? To what	• The rationale for government providing sufficient funding to enable the universal provision of good practice ASELC to

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extent should governments subsidise use of childcare and early learning? Should families reasonably expect to receive childcare support in addition to paid parental leave and family tax benefits?	children with autism is two-fold: - There is strong evidence that good practice ASELC improves development outcomes for children and also results in longer term economic benefits for both individuals and the wider community - It is consistent with the government's objectives that children not be deprived of beneficial treatment based on their socioeconomic circumstances (see section 6.2). • However, there is scope for means testing to be incorporated into the government support framework so that families with higher income contribute to a proportion of the total cost of providing good practice EI (see section 6.2). AEIOU's current fee structure for its good practice ASELC charges different fees to families based on their combined income levels.
Is there scope to simplify childcare support? What changes could be made to the way childcare support is administered to make the process easier for parents or providers? Is the distinction between approved care and registered care necessary?	NA.
Should support be paid directly to parents, direct to ECEC services or some combination of these? • Where funding is paid directly to operators of ECEC services, what conditions should apply? • What would be the advantages and disadvantages of different payment models? • Should childcare assistance be subject to testing of family/parent income levels, or to other requirements such as a necessity to be participating in work, study or training? If so, what income thresholds or activity levels should determine eligibility? To what extent are such requirements currently abused? What are the advantages and disadvantages of such requirements? • Should childcare expenses be tax deductible for families?	• While it is the current trend in the provision of funding for early learning and care services for funding to be provided to parents, this is not appropriate in relation to funding for ASELC services, due to the pervasive information asymmetries and high risk of market failure in the market for these services (see section 4.3). • The high risk of families choosing an ineffective form of treatment – and the high cost associated with this incorrect decision due to the importance of ASELC in terms of long-term outcomes – means that funding for ASELC for children with autism needs to be directed to certified good practice ASELC service providers (see section 6.3.3). This is necessary in order to alleviate the high risk of adverse consequences that exists under the alternative model. • As stated above, there is scope for government funding for ASELC services to be means tested so that families with higher incomes can contribute towards the total cost of providing good practice EI (see section 6.2).
Is support appropriately targeted? If not how could it be better targeted (including less targeted)? • Should a greater (or smaller) proportion of the assistance be directed to: particular regions; particular types of ECEC; ECEC used for particular purposes – parents working, studying or undertaking other activities; or to support additional needs children or lower socioeconomic groups? • Is there scope to streamline and simplify access of providers to support arrangements for children with additional needs?	• Government support for the provision of early learning and care services to children with autism is currently poorly targeted. Funding programs such as the ISP are not achieving their objective. The reallocation of funds provided under these programs to the provision of good practice ASELC will improve development outcomes for children as well as resulting in long-term economic benefits to children and the community. This would also significantly reduce the current funding gap preventing the universal provision of good practice ASELC to children with autism (see section 6.1). • Furthermore, additional funding that is provided for good practice ASELC needs to be governed by a framework that ensures it is delivered to the correct service providers (i.e. certified good practice service providers) and targeted at the appropriate children (i.e. those with autism that will obtain the most benefit from good practice ASELC) (see section 6.3).
Should support be extended to cover certain types of childcare not currently funded or to increase funding for specific types of childcare – for example nannies providing in-home care? If so what kind of support should be offered? What conditions, for instance accreditation requirements, should apply to such funding or funding increases?	• There needs to be a stronger link between the provision of government funding and positive outcomes from the services provided. For children with autism this means only funding ASELC service providers that are certified against the guidelines for good practice (see section 6.3.1).
What measures, if any, should governments consider to encourage employer provided childcare services?	NA.
Is there scope to rationalise and streamline the many types of funding provided by the Commonwealth or state/local	• It is important that there is consistency across jurisdictions in terms of the level of government funding that is provided for good practice ASELC service providers and the governance

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governments?	framework associated with the provision of this funding (i.e. certification arrangements, diagnostic criteria, review arrangements). • Failure to ensure this consistency will result in inequality across jurisdictions in terms of the level of services provided to children with autism (see section 6.3.4).