

The Treasury

Budget 2017 Information Release

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[4]	to prevent prejudice to the maintenance of the law, including the prevention, investigation, and detection of offences, and the right to a fair trial	6(c)
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[38]	to enable the Crown to negotiate without disadvantage or prejudice	9(2)(j)
[39]	to prevent the disclosure of official information for improper gain or improper advantage	9(2)(k)
[40]	Not in scope	

In preparing this Information Release, the Treasury has considered the public interest considerations in section 9(1) and section 18 of the Official Information Act.

Track 1 Initiative Submission Template

Vote	Education
Responsible Minister	Minister of Education
Initiative title	Early Identification and Removal of Communication Barriers to the Curriculum
Initiative description	This funding will enhance system capability in early childhood education centres. It will provide targeted and specialist support to three and four year olds with oral language needs, who are at risk for literacy difficulties, by trialling a new approach to oral language development.
Responsible Vote Analyst	Kirsty Macdonald x7407

Funding Sought (\$m)	2017/18	2018/19	2019/20	2020/21	2021/22 & outyears	TOTAL
Operating	1.132	1.685	1.685	1.518	1.518	7.538
Capital	-	-	-	-	-	-

SUPPORTING INFORMATION AND CONTEXT

Refer supporting information in separate documents:

- Draft evaluation plan
- Draft Intervention logic map
- Responses to feedback from Treasury and Social Investment Panel

The initiative follows social investment principles:

- Investing up-front to support people most at risk of poor outcomes later on in life. Children with oral language and literacy delay when they start school are at a higher risk of poor education outcomes. This increases subsequent costs to Government. This initiative targets ECE centres in low socio-economic communities, with high levels of risk factors that are predictive of poor future educational outcomes.
- Greater input from outside the public sector in analysis, innovation and service provision. This initiative involves the contracting of one or more NGO(s) that will provide the initiative.
- Systematically measuring the effectiveness of services, so we know what works well and what does not. This initiative includes a robust approach to evaluation. There will be decision points after the process evaluation (such as checking whether teacher practice has changed to better support oral language and literacy development) and subsequent impact evaluation stages about whether and how to proceed.
- Purchasing results rather than specific inputs, and moving funding to the most effective services irrespective of whether they are provided by government or non-government agencies. This initiative is about providing the support that children need when they need it. All children in the ECE service would benefit from practices and culture that better support oral language and literacy development. Three and four year olds with oral language delays would get timely and targeted support from ECE teachers that have been trained and supported by a Speech Language Therapist (SLT). We expect that fewer children will need (more expensive) specialist SLT services, but those that need the assistance will receive it from the same *ABC and Beyond*-accredited SLT. We also expect that some children with currently unaided oral language needs will be identified and helped.

This initiative is not significantly different to what was submitted in the November check-point. We have clarified the description of the initiative and responded to the feedback from Treasury and the Social Investment Panel.

An implementation outline has been drafted. A risk assessment has led us to consider some changes to the detail of the programme. For example, we have identified a risk of turnover of the 10 SLTs attending the initial training course and are considering options to address that risk.

Following our planning of evaluation activities, our preferred approach is to use a teacher-administered observational assessment tool (to be developed by MoE Learning Support staff) to identify which children have oral language needs. Observational assessment of children by their teachers will lead to more accurate information that reflects a child's abilities in their everyday contexts and routines. This will also enhance teachers' skills in monitoring children's language development over time. The waitlist for SLT may not be particularly indicative of children's oral language needs. Some children who have oral language needs may not have been referred to SLT.

Links with other initiatives

Incredible Years and Behaviour initiatives – this initiative will also support behaviour improvement by supporting the development of oral language and literacy. There is a significant overlap between children with oral language delay and children with behaviour issues.

[33]

This initiative would also support the achievement goals of Communities of Learning | Kāhui Ako (CoL).

VOTE ANALYST OVERVIEW

Support, with conditions. 4/3/3. High confidence of impact, good evidence base. Conditional on further work on implementation and evaluation plan.

In reviewing this initiative, we note that the early years are an important developmental window during which the brain is more malleable than further on down the track. As such, effective early intervention is likely to provide the best chance of improved long-term trajectories for children at risk of poor outcomes, with oral language being a key skill to support broader development. There is good evidence that oral language is linked to other skills known to be important to long-term outcomes such as self-regulation and self-control. The targeting is defined with reference to evidence about groups at risk of poor outcomes. The implementation plan includes building on insights from evaluation. These factors provide a strong alignment with social investment.

The initiative has been further developed since the November check point in the areas of implementation planning and evaluation; links to other relevant programmes, which are considered to be complementary (eg 'Talking Matters' and 'Now We're Talking'); and information about workforce supply issues.

1. TYPE OF INTERVENTION

This initiative involves introducing the international evidence-based *ABC and Beyond* programme, and supplementing it with additional elements consistent with the (also evidence-based) Response to Intervention (RTI) model. The initiative targets ECE centres in low socio-economic communities with high levels of risk factors predictive of poor future educational outcomes. Providers would work with Ministry of Education regional directors to identify the centres. This will help manage potential overlap with other initiatives.

The initiative involves contracting with one or more NGO(s). They will recruit SLTs who will receive *ABC and Beyond* training. The SLTs will work with selected ECE centres at all three levels of the Response to Intervention (RTI) model:

1. the SLT works with the entire ECE centre, at a systemic (universal) level, to ensure culture and teaching practices proactively support oral language development and literacy in all children.
2. implementation of the international evidence-based *ABC and Beyond* programme. The SLT provides training to selected ECE teachers to build their capability to provide (targeted) support to children with oral language delay as part of their everyday teaching.
3. the SLT provides specialist support to children in the ECE centre with particular and additional oral language needs. This is achieved by applying the best practice model of working with the adults who support the children.

The *ABC and Beyond* programme is an off-the-shelf, manualised package of practices that research evidence shows is good practice for supporting children's oral language and emergent literacy development. *ABC and Beyond* training for teachers involves 18 hours of group training (three one-day sessions and one half-day session) and three individual-feedback sessions. It contains new and enriched content on facilitating vocabulary development, decontextualised language, story comprehension, print concepts, phonological awareness and letter-sound association.

Evaluation has shown its effectiveness in an overseas context, but it has not yet been tested in New Zealand. A randomised controlled trial studying the *ABC and Beyond* programme showed that the practice of teachers in the experimental group improved. Children in the experimental group showed a significant increase in comprehension and use of abstract language when compared to the control group (Girolametto et al, 2012).

The three levels of the RTI model are strongly complementary, and have the potential to create a system shift that is sustainable and benefits a large number of children. Specialist service to individual children is enhanced when targeted and universal support is available from the same SLT in the same ECE service. This is because the specialist service tailors the support or strategies used to meet the needs of that individual child. SLTs have demonstrated that specific strategies work to meet children's needs and, with coaching and support, teachers can implement the same strategies. This builds sustainability.

The programme includes an experimental period which will provide a significant evidence base for determining the best way to deliver ongoing service delivery from year four and beyond. This will include an analysis of the adaptations that are needed for the New Zealand context and the nature and amount of support early childhood teachers need to better facilitate children's oral language and literacy development. Service design will be appropriately adapted for longer term provision.

ABC and Beyond was selected because:

- It is a recently developed, highly refined programme that incorporates up-to-date evidence about what works to support children's oral language and literacy development.
- It has a strong focus on pre-literacy or emergent literacy development, which has been shown to have significant effects on children's later literacy and learning at school.
- It has a highly flexible service delivery model, while maintaining effective elements of professional learning and development for teachers. This includes group workshops and individual video coaching.

The programme will be voluntary for ECE centres, but we expect it to be attractive because it builds capability and provides direct support by SLTs to the ECE service. It is underpinned by evidence of effective teacher professional learning and development.

We consider that there is a sufficient market of NGOs to support this initiative, and a supply of suitably qualified and experienced speech language therapists. The initiative only includes 10 SLTs, which is small compared to the total market (the Ministry alone employs more than 260 SLTs). The first phase will test and help us refine these assumptions. One of the risks we have identified is the turnover of the SLTs. We are considering options to address this.

What exactly are we proposing to buy?

The initiative involves the Ministry contracting with one or more NGO(s) to employ and train 10 SLTs. Each SLT runs two *ABC and Beyond* training courses per year, with each training course involving 20-24 ECE teachers from 12 ECE centres. In addition, allowance is made for 16 hours of SLT time to support each ECE service (universal support), and 16 hours of individual (specialist) time each for 2 individual children at each ECE service. [37]

Total numbers supported over the first three years will be:

- 720 ECE centres (120 new centres each six months).
- 1,440 ECE teachers.
- More than 38,160 children receiving universal support (we have used data on the average number of children who attend an ECE service in a month, which will be smaller than the number who attend over a year).
- About 15% (about 5,700) of the supported children will have an oral language delay and will receive targeted support from the ABC-trained ECE teacher. This is a conservative estimate, as the prevalence of oral language delay is higher in low socioeconomic communities.
- An estimated 720 children (an average of 1 per ECE service) being prevented from 'graduating' to the need for a specialist service by managing the issue through mainstream services.
- An estimated 1,440 children (an average of 2 per ECE service) receiving specialist support.

2. CASE FOR CHANGE

We know there is a need for oral language support beyond existing capacity. We also know that we need to build capability in ECE centres. This initiative will trial and evaluate one approach to addressing these needs. Following the evaluation we will determine what changes are required to the delivery model and reassign the funding accordingly.

Target population

The target population for the initiative is all children aged 3 and 4 years. There is a particular focus on those with oral language delays, in low socio-economic communities with high levels of risk factors that are predictive of poor future educational outcomes. All children in the ECE centres will benefit from the universal improvements to culture and practice. The reasons for targeting this population are:

- Identifying children younger than age 3 with oral language delay can be difficult. Tests could return a large number of false positives, or identify delays that the child can catch up on without extra support. Identifying children later than age 4 misses the opportunity to support a good transition to school.
- International evidence indicates that oral language delay affects up to 50% in children from low SES backgrounds. They are more likely to have limited literacy experiences (Bercow Report, 2008). They are also more likely to have adverse educational and other outcomes.

Our analysis of the IDI indicates the benefits of early investment. When children are placed on the right track from the start, the need to access more expensive and less effective later-life interventions is reduced. Children who experience significant oral language delay in the early years are likely to require access to the Communication Service when they enter school. The Communication Service provides specialist support to children aged 5 – 8 who have high communication needs. This includes those who speak in a way that is difficult to understand, have a significant language delay or disorder, have difficulty developing social skills, or have a stutter or other voice difficulties. 43% of children assisted by the Communications Service in 2015 had one or more risk factors:

	% of total population	% of Communication Service participants (2015)
No risk factors	72%	57%
One risk factor	17.5%	23%
Two risk factors	10.4%	19%
All three risk factors	1.4%	1%

Students with one or more risk factors are known to achieve NCEA Level 2 at a rate of around 53%, far lower than those with no risk factors (83%). Intervening early to resolve or address oral language issues before children need to access the Communication Service will therefore improve outcomes for students.

Problem definition

Children turning up to school with delayed oral language and early literacy skills

We know that there are significant numbers of New Zealand children turning up to school with limited language and literacy skills.

There is an opportunity to improve how ECE centres support children's oral language

A recent ERO review (published 9 February) has found that "improvements are needed in many early childhood centres and schools around how children's oral language is supported and monitored." It found that 19% of ECE centres studied were well-focused on supporting oral language learning development, 50% had some focus and 31% had limited or no focus on supporting oral language learning and development.

Children from low socioeconomic backgrounds are more likely to suffer oral language delay

As noted above, the overall prevalence of oral language delay is about 15%, but it is higher (up to 50%) in low socioeconomic communities.

There is significant unmet demand for existing speech language therapy services

Demand for the communication aspects of the Ministry's Early Intervention service (including speech language therapists) has been growing significantly, whereas Ministry staffing has been static. The unmet demand is evident from increased referrals to SLT and reduced per service user hours. The number of children receiving Early Intervention Service has increased from 8,827 in 2011/12 to 9,873 in 2015/16, while the corresponding hours per child has dropped from 20.10 hours to 16.43.¹

Some caution is needed when interpreting this data, as there is no standard number of hours per child that is the 'right' amount to meet their needs. Hours per child vary significantly, and hours include time spent working with the adults who will provide sustained support. Lowering the average service per child has been necessary to keep waiting times stable, after a concerted drive to reduce them between 2012 and 2014.

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Waiting list times for Early Intervention service

	0-90 days	%	91+ days	%	Total
2014/15	3,657	53.88%	3,130	46.12%	6,787
2015/16	4,384	58.66%	3,090	41.34%	7,474
2016/17 (to 31 Dec 2016)	2,722	71.26%	1,098	28.74%	3,820

Children with oral language delays are more likely to experience learning delays and social issues

Oral language development is the foundation for literacy in primary school, supports the development of wider cognitive skills, and is linked with academic achievement and social competence. Children with oral language delays at the time they start school are more likely to need behaviour and learning support interventions at school, and are at an increased risk of adverse educational and other outcomes.

Alignment with existing services

Oral language development is already a significant focus for the Ministry. The Ministry's Early Intervention service and the Communication service provide SLT support to children aged 3-8, their parents, teachers and ECEs services and schools. This initiative is testing a new integrated model and a sub-contracted model to learn how best to deliver services in future. The programme is intended to deliver improved outcomes for a greater number of children in a cost effective and timely way. The initiative will also reduce short-term and longer-term demand pressure on other services (enabling those services to reach additional service users).

There are other oral language-related initiatives already underway or planned. The proposed initiative complements two other programmes of mention:

- The 'Talking Matters' programme, which is funded by NEXT Foundation and involves a number of partners. 'Talking Matters' has a 0-3 focus, with a stronger emphasis on interaction and oral language (putting words together in sentences, describing what is happening, using language to share toys with peers).
- 'Now we're talking', which is a Ministry of Education programme with a similar methodology. 'Now we're talking' focuses on broad aspects of the ECE system, such as the availability of books or how teachers greet children. \

These programmes have different focuses to *ABC and Beyond*, which supports oral language around talking beyond the here and now to predict, explain and explore, as well as the use of de-contextualised abstract vocabulary. It also supports emerging literacy skills such as sound awareness, letter-sound correspondence, and familiarity with print.

Intervention logic

See separate diagram

[Agency to complete]

CASE FOR CHANGE ASSESSMENT

4/5 Good problem definition and use of available evidence. Strong international evidence to support, but lacks NZ evidence of prevalence of oral language issues. We have seen some NZ evidence on prevalence and shared it with the Ministry since submitted.

Target population informed by international evidence of children with highest risk and IDI analysis. The intervention is tiered in its approach to address high numbers of 'false positives' at this early age.

The need for the intervention is set out in the context of existing services and we support the way a 'systems' approach is taken in the initiative.

The area where the evidence is weakest is the impact of intervention, due to lack of available evidence. This impacts on the intervention logic, which is otherwise coherent and aligned. Some evidence of proposed initiative from overseas RCT but only looked at short-term outcomes.

[Vote Analyst to complete]

3. EXPECTED RETURNS

The cost of intervention is relatively low...

The cost of the programme is [37]

but

would increase if the decision is taken after the evaluation to scale up the programme.

Funding will purchase a contract with NGO(s) to employ and train 10 SLTs to deliver two *ABC and Beyond* training courses each year. There will be 24 ECE teachers on each course, representing 12 ECE centres (two teachers from each service). [37]

[37]

Note: there is currently no provision for teacher release time for the ABC training, consistent with other ECE initiatives. We believe the full programme, which includes ongoing support to the centre for a year as well as an improvement to the skills and practices of teachers, will still be an attractive proposition. We therefore still expect a sufficient take-up of the initiative.

... and has significant benefits for some of our population groups.

The pilot will increase availability of, and target, speech language support to children with oral language delays by::

- Working preventatively, so children receive universal and targeted services, and fewer 'graduate' to needing specialist support (an estimated 720 children). This is consistent with the early intervention principle of the investment approach.
- Better identifying children with oral language needs and ensuring that they get the right level of support. Some children with oral language needs may not currently be referred to SLT, while others are referred that may not actually need support.
- Offering 'specialist' support for children who would otherwise have sought this service from the Ministry (an estimated 1,440 children). This enables the Ministry to support others and reduce waiting times and pressure on existing SLTs.
- Prevent future literacy and learning difficulties.

This costing approach is likely to significantly understate the benefits of the pilot because:

- The estimate of one child per ECE per year being sufficiently supported by the universal and targeted services and therefore not requiring specialist support is very conservative.
- The approach does not take into account the value of oral language development support for children who would benefit from this who do not meet the threshold for Ministry specialist support, and who are unlikely to be accessing other forms of support.
- The number of children in ECE centres that will take part in the pilot is significantly understated. We have used available data on the average number of children who attend an ECE service in a month, which will be smaller than the number who attend over a year.

The systemic work to change practice, systems and culture in ECEs will ensure that children in those ECEs will continue to benefit after the pilot finishes.

Impact Analysis

An explanation of who is impacted (winners and losers), what the impacts are (costs and benefits), and when the impacts will be realised and for how long. The impacts should be quantified and monetised if possible.

Benefits

We expect all children in the ECE centres will benefit from the systemic improvements to the practices and culture of ECE centres – this is a significant but unquantifiable benefit.

There is substantial international evidence about the impact of oral language delay on later outcomes, and good evidence of the short-term effectiveness of the *ABC and Beyond* and the RTI approach. However, the evidence tends to be descriptive rather than quantitative and there is less evidence of the longer term impact of addressing oral language needs before starting school. The trial period and associated evaluation will provide more solid evidence of the benefits of the initiative in the New Zealand context.

The focus of the CBAX is the children in those centres with oral language needs.

We have estimated that:

- This initiative will work with 240 centres each year (10 SLTs * 2 intakes * 12 centres per intake)

- 12,720 children will attend these ECE centres each year and will benefit from the “universal component” of this initiative
- We have assumed that 15% of the 12,720 children attending these ECE centres in a year (**1,908 children each year**) will have oral language needs and will receive targeted support from the teachers who have been trained and supported by the SLT. Note: 15% is conservative given the evidence that up to 50% of children from low SES backgrounds have oral language delay.

Success rate

The CBAX uses a **success rate of 50%** for almost all impacts. We do not have an evidence base on which to base a success rate; while we would expect improvement in most children with oral language delay who receive this initiative and as a result improvements in their later outcomes, we do not know the extent of the improvement.

We have conceptualised success as removing the oral language and associated early literacy delay, so that children have “caught up” with their peers by the time they enter school in terms of their oral language skills and the associated early literacy and social skills.

190 children helped by this initiative instead of the Ministry of Education SLT early intervention services

We estimate that about 190 children in the 240 ECE centres participating in the initiative each year would otherwise receive the Ministry’s SLT early intervention services. (Note: this is significantly lower than the 15% prevalence of oral language delay as not all children with oral language needs are referred for SLT specialist support).

This is not dependent on the success of the initiative – it is a simple replacement of Ministry SLTs with SLTs in this initiative - so a success rate of 100% has been entered in CBAX.

Some of these children should no longer need the Ministry’s **communications services** in schools. (not quantified)

Fewer children need reading recovery:

According to Scarborough and Fowler (1993), about 40% to 75% of preschoolers with early speech-language disorders developed reading problems. Based on this we have assumed that **60%** of the 1908 children with oral language delay would have needed reading recovery without the initiative.

The 50% success rate has been applied, assuming that 50% of those children will no longer need reading recovery.

In 2015/16 \$45.6m was spent providing reading recovery to 10,537 students (http://www.educationcounts.govt.nz/publications/series/reading_recovery/annual-monitoring-of-reading-recovery-2015-data) at an average cost of **\$4,327.61 per student**. This average cost has been used in the CBAX.

Improved educational achievement

Stronger language and literacy skills and improved presence and participation will feed into improved educational achievement, particularly for those who have oral language delays.

We do not currently have NZ data on the achievement of this group and most of the international evidence is more descriptive rather than quantitative. Bercow (2008) quantified the considerably lower educational outcomes for UK children and young people with a certain level of Speech, Language and Communication Needs. However, this budget initiative will probably support children with a wider range of need (as appropriate for an RTI/ early intervention approach).

The CBAX assumes that:

- 10% of the children with oral language needs helped by this initiative will go from achieving NCEA level 1 only to achieving NCEA level 2
- 5% will go from gaining no qualifications to achieving level 1.
- The 50% success rate has been applied here, so it assumes that the initiative has been successful in removing the oral language and literacy delay for 50% of the 1908 children (954 children) with oral language needs. As a result 10% of those 954 children go from NCEA level 1 only to NCEA level 2 and 5% of the 954 children go from no qualifications to NCEA level 1.

Improved NCEA attainment will contribute to:

- Stronger employment and earnings.
- Less crime/justice expenditure. The CBAX impact on crime and justice expenditure may be understated, given overseas research estimates that around 50% of young offenders have underlying oral language difficulties, not accounted for by cognitive difficulties (e.g. Snow, P. & Powell, M. (2008) Oral language competence, social skills and high risk boys: What are juvenile offenders trying to tell us? Children and Society 22, 16-28).
- Lower benefit expenditure.
- Lower health expenditure. In particular, we would expect a reduced prevalence of mental health issues in people with oral language needs (unquantified).
- Unquantified inter-generational benefits.

Fewer children needing a severe behaviour service at school

Beitchman and colleagues (1996) found that nearly half of the 5-year-old speech-language-impaired group had behavioural disorders. Only some of these children would have behaviour issues severe enough to receive specialist support, but on the other hand their needs may become more apparent over time (e.g. Lindsay, G, Dockrell, J. & Strand S., 2007).

Some children with behaviour issues receive Resource Teacher: Learning and Behaviour (RTLb) support, while a smaller number receive severe behaviour services interventions. Children with milder behavioural issues will be managed by the classroom teacher without additional support.

- The Ministry currently provides a severe behaviour service (SBS) intervention to around 0.95% of children in decile 1-3 schools (based on 2014/15 figures, 1,677 children get behaviour service in deciles 1-3 out of total roll of 176,523).
- Applying the 0.95% to the 12,720 children in the ECE centres in this initiative each year gives a total of 121 children who would receive the SBS without this initiative, some of whom will have oral language issues.
- A conservative estimate is that 30-40% of children with behavioural difficulties have underlying language difficulties (Eg Lindsay, G, Dockrell, J. & Strand S. 2007).
- Applying the midpoint of 35% to the estimated 121 children who would receive the SBS = **42 children** in these ECE centres with oral language delays who could be expected to receive a severe behaviour service at school without the initiative.
- The success rate of 50% has been applied in CBAX i.e. we have assumed that 50% of those 42 children will no longer need the SBS.
- There will also be some children who would need RTLb support (not quantified).

Standdowns and suspensions will be reduced

- On average students were stood down or suspended 0.33 times by age 18. This has been used as the after-intervention rate.
- Children who received behavioural services had been stood down or suspended 2.9 times on average. We have used this rate for the estimated 42 of our children who would have received behaviour services.
- The success rate of 50% has been applied in CBAX i.e. the average standdown and suspension rate reduces from 2.9 times to the overall average of 0.33 times for 50% of those 42 children.
- It is likely that children with behavioural issues not bad enough to need behaviour services would have higher than average rates of standdown and suspension, but this has not been quantified and included in CBAX.

Truancy will be reduced.

As for stand downs and suspensions, we have assumed that the estimated 42 children who would have received behaviour services have the same truancy rate as that used for the behaviour services initiative.

- A time lag of 7.5 years from the average intervention age of 3.5 years and an impact length of 4 years
- The average truancy rate for all children is 1.8 days per year. This has been used as the after-intervention rate.
- The before-intervention rate used in the behaviour initiative is 6 days per year. This rate has been used for the estimated 42 of our children who would have received behaviour services.
- The success rate of 50% has been applied in CBAX i.e. the average truancy rate reduces from 6 days per year to the overall average of 1.8 days per year for 50% of those 42 children.
- It is likely that children with less severe behavioural issues would have a higher than average truancy rate, but this has not been quantified and included in CBAX.

Impact Summary Table

All monetised and non-monetised impacts should be listed.

Impacts - Identify and list \$m present value, for monetised impacts	Option/scenario		Assumptions and evidence (quantify if possible, and use ranges where appropriate)	Evidence certainty ²
	1	2		

Estimated impact on key outcomes				
Improved language and early literacy skills at school entry			All children in the ECE centres – and in particular those with oral language delay - will benefit from improvements to the practices and culture of ECE centres	Low
Improved social skills and behaviour			All children in the ECE centres – and in particular those with oral language delay - will benefit from improvements to the practices and culture of ECE centres	Low
Improved achievement			All children in the ECE centres – and in particular those with oral language delay - will benefit from improvements to the practices and culture of ECE centres	Low

Cost of the Initiative				
	\$23.1m			High
Government Benefits/(Costs)				
Lower health costs	\$2.3m		Where the initiative has been successful in removing the oral language and literacy delay when children start school: <ul style="list-style-type: none"> • 10% of the children with oral language needs will go from achieving NCEA level 1 only to achieving NCEA level 2 • 5% will go from no qualifications to achieving level 1 	Low

² Rate your level of confidence in the assumptions and evidence as high (green) if based on significant research and evaluations that is applicable, medium (amber) if based on reasonable evidence and data, or low (red) if there is little relevant evidence. Colour the rating box for each impact.

Increased tax revenue	\$5.5m		As above	Low
Lower justice costs	\$1.9m		As above	Low
Lower welfare costs	\$2.9m		As above	Low
Lower Education programme costs	\$37.4m		190 children who would have received Ministry of Education SLT early intervention services are helped by this initiative instead. 60% of children with oral language delay would have needed Reading Recovery, 0.95% of children in the centres would have needed behaviour services of which 35% have oral language needs – and these children have similar truancy, standdown and suspension rates as the average for children receiving behaviour services.	Low
Reduced administrative cost of standdown/suspension	\$0.1m			Low
Reduced cost of truancy	\$3.8m			Low
Total Quantified Government Impact	\$53.9m			Low
Wider Societal Benefits/(Costs)				
Improved employment and earnings	\$30.6m			Low
Community-wide social and economic benefits	Not quantified			Low
Total Quantified Wider Societal Impact	\$30.6m			Low

Net Present Value of Total Quantified Societal Impacts	\$84.5m ³	-	Low
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Summary of monetised results [only fill this out if you have monetised costs and benefits]

Use ranges for values where appropriate	Discount Rate	
	6% real (default)	3% real (sensitivity)
Net Present Value (NPV) ⁴	\$61.5m	\$155m
Benefit Cost Ratio (BCR) ⁵	3.7	5.1
Return on Investment (ROI) – Societal Total ⁶	3.7	5.1
Return on Investment (ROI) – Government ⁷	2.3	2.9

Supporting Evidence

i.e., the bibliography

Evidence on the importance of development children's oral language, and the prevalence of language delay (especially among children from low socioeconomic backgrounds) is mostly international.

The importance of oral language development:

- Oral language sets the foundation for literacy in primary school (EPPE, 2004).
- Oral language can be linked with academic achievement and behaviour adjustment (Snow, 2006).
- Children who start school with better oral language skills develop better literacy skills and show greater learning across the school years in a range of subjects (Rowe, et al. 2013).
- A study of 71 young people with a preschool history of speech language impairment found that persistent language difficulties through the school years raised incidences of attention and social difficulties (Snowling, et al. 2006).
- A study found a moderate association of vocabulary development and behaviour with social and emotional difficulties (Hartas, 2011).
- The UK Bercow report reported considerably lower educational outcomes for children and young people with Speech, Language and Communication Needs at School Action Plus and with a Statement of Special Educational Needs – just 15% achieve 5 GCSE A-C compared to 57% of all young people. In the UK, children at

³ Differs from CBAX total by \$0.1m due to rounding

⁴ **Net Present Value (NPV)** - The NPV is the sum of the discounted benefits, less the sum of the discounted costs (relative to the counterfactual). This gives a dollar value representing the marginal impact on the collective living standards of all New Zealanders of the initiative, in today's dollar terms.

⁵ **Benefit Cost Ratio (BCR)** - The BCR is the ratio of total discounted benefits to the total discounted costs. A proposal with a BCR greater than 1.0 has a positive impact, because the benefits exceed the costs. The BCR is the same as the Return on Investment Societal Total, unless there are negative impacts in addition to the fiscal cost of the initiative. All negative impacts are included in the denominator for the BCR measure.

⁶ **Return on Investment (ROI) - Societal Total** - Calculate the ROI by dividing the discounted net change in wider societal impact, including benefits to government, by the discounted cost of the initiative. This can be interpreted as the impact for New Zealanders per dollar the government spends on the initiative, eg, for every \$1 the government spends on this programme, New Zealanders receive benefits of \$3.

⁷ **Return on Investment (ROI) – Government** – Calculate the ROI by dividing the discounted net change in impact for the government by the discounted cost of the initiative. This measures the discounted net marginal (fiscal) benefits to the government.

School Action Plus or who have a statement of special educational needs are school age and tend to have more significant communication needs. (Bercow Report, 2008)

The prevalence of oral language delay:

- There is no strong evidence base on language delay prevalence in New Zealand, but comparing New Zealand to similar countries suggests a prevalence of 15%. Relevant studies are included as appendix one.
- A UK report found that “approximately half of children and young people in some socio-economically disadvantaged populations have speech and language skills that are specifically lower than those of other children of the same age” (Bercow report, 2008).

Room for improvement in how ECE centres and schools support oral language

ERO found that improvements are needed in many early childhood centres and schools around how children’s oral language is supported and monitored.” It found that 19% of ECE centres studied were well-focused on supporting oral language learning development, 50% had some focus and 31% had limited or no focus on supporting oral language learning and development. (ERO, 2017. <http://www.ero.govt.nz/publications/extending-their-language-expanding-their-world/>)

Evidence on *ABC and Beyond* intervention effectiveness:

Overall, reports include changes to the children’s use of more decontextualised and abstract language, increased and more specific references to print and comments on phonological awareness, use of longer sentences, and talking more frequently. Unfortunately, there is no follow up or longitudinal data available. Measures were generally taken pre and post intervention.

A randomised controlled trial studying the *ABC and Beyond* programme, involving 76 children and 20 teachers, showed that the practice of teachers in the experimental group improved. Children in the group showed a significant increase in comprehension and the use of abstract language when compared to the control group (Girolametto et al, 2012).

We plan to evaluate this initiative using a contracted-out Randomised Control Trial (RCT). The full evaluation plan is included as Appendix One.

“This article provides an evidence-based perspective on response to intervention (RTI) as a means to organize reading interventions for at-risk pupils in the emergent and early literacy stages of reading development..(Justice, 2006, <http://lshss.pubs.asha.org/article.aspx?articleid=1762927&resultClick=3>).

Another often cited reference for RTI is Fuchs & Fuchs (2007) A Model for implementing responsiveness to intervention Teaching Exceptional children 39,(5).

Evidence on the benefits of addressing oral language delays

“Children who performed below the normal range on tests of phonological awareness (PA) prior to intervention but had improved to within the normal range post-intervention had mean scores within the normal range on PA and literacy measures (SPAT-R, real word and non-word spelling tests, and passage omprehension). This finding might suggest that this group’s gains in PA and language skills during the preschool intervention program had enhanced their literacy skills. This finding should be treated cautiously, however, because the group was small.”

https://www.researchgate.net/publication/49512678_Long-term_outcome_of_oral_language_and_phonological_awareness_intervention_with_socially_disadvantaged_preschoolers_The_impact_on_language_and_literacy

Learning/social difficulties

Estimates vary depending on what or how the researchers measured, but a conservative estimate is that 30-40% of children with behavioural difficulties have underlying language difficulties. These children may not necessarily receive behavioural support from day one of school, but their needs may become apparent over time (Eg Lindsay, G, Dockrell, J. & Strand S. 2007 Longitudinal patterns of behaviour problems in children with specific speech and language difficulties: child and contextual factors British Journal of Education Psychology 77, 811-828).

Children with communication difficulties at age 5 were reported by their teachers to make slower progress with reading, writing and overall achievement, experience more bullying, and have poorer social relationships (McCormack, J., Harrison, L., McLeod, S. & McAllister, S. (2011) A nationally representative study of the association between communication impairment at 4-5yrs and children's life activities at 7-9yrs *Journal of Speech, Language and Hearing research* 54, 1328-1348).

Language difficulties of young offenders

About 50% of children or young people in contact with the youth justice system have significant undiagnosed language difficulties (Snow, P. & Powell, M. (2008) Oral language competence, social skills and high risk boys: What are juvenile offenders trying to tell us? *Children and Society* 22, 16-28). While this research was conducted in Australia, similar results have been found in the UK and USA. While research in New Zealand is less developed, SLTs working in the field here are reporting similar issues.

4. CONFIDENCE IN EVIDENCE

Confidence is very high in evidence concerning oral language delay's negative impact upon children's outcomes

We are less confident about *ABC and Beyond*, but there is one RCT to rely upon, and Hanen's other products are highly rated. The evaluation plan has provision to assess the process, and outcome measures and impact of the initiative.

VALUE-FOR-MONEY ASSESSMENT

3/5. CBAX analysis is presented clearly with well explained assumptions. Produces high ROI, with conservative assumptions about the number of children who will benefit, but quite high success rate (50% that receive intervention will catch up with peers). Lack of evidence of long-term impact of intervention makes this difficult to judge. Lower success rate (25%) still results in societal ROI of 2 and govt ROS of 1.3 at 6% discount rate (and higher at 3%).

5. IMPLEMENTATION AND SCALABILITY

Implementation outline:

- After 1 July 2017, MoE runs an RFP process to contract with NGO(s) and another RFP for the RCT evaluation
- Successful NGO(s) begin recruiting 10 Speech Language Therapists.
- MoE arranges for Hanen trainers to come to NZ and conduct training of SLTs – who will become Hanen-certified - in the latter part of 2017.
- There will be capacity for up to 14 SLTs in the ABC and Beyond course for SLTs, whereas this initiative involves 10 SLTs. We could potentially train an additional four SLTs at no additional cost. If the chosen NGO(s) already employ a larger pool of SLTs, training an additional four of their SLTs may help mitigate the risk of SLT turnover.
- MoE arranges protocols with the NGO(s) for reporting to the Ministry, information sharing, and working with Ministry specialist staff. For instance, when children at ECE centres identified through the initiative require support other than oral language, we want them to get a joined-up service. Reporting will include measures at an SLT, teacher and child level, some of which will feed in to the evaluation.
- MoE Learning Support staff develop a teacher-administered assessment tool (within baseline) to identify which children have oral language needs.

- MoE Learning Support staff perform the fidelity monitoring function to ensure the programme is implemented as intended and gives us a degree of confidence about the outcomes. This includes monitoring SLT fidelity and teacher fidelity through initiatives such as coaching logs, discussions at workshops, etc. SLT expertise will be needed to monitor fidelity and work with the relevant SLT supporting the ECE teachers and enhance their practices.
- Selection of ECE centres that will become eligible for the programme. ECE centres in low socioeconomic areas will be targeted for this work. In a similar manner to *Now We're Talking*, there may also be some local discussion with directors about which ECE centres to invite. This should help ensure alignment with other MoE initiatives such as *Incredible Years*. NGO's SLTs would approach the ECE centres to talk about the programme and what it offers.
- Delivery is planned (by the SLTs to ECE centres/selected teachers/children who need it) from the start of 2018. This includes facilitating centre self-review, which is part of the fidelity monitoring, drawing on the existing self review process for ECE centres.
- SLT's deliver *ABC and Beyond* training sessions and associated video coaching and ongoing support. There will be decision points after the process evaluation (for example, checking whether teacher practice has changed to better support oral language and literacy development) and subsequent impact evaluation stages about whether and how to proceed.

[Agency to complete]

6. UNDERSTANDING AND DEMONSTRATING EFFECTIVENESS

This section should detail how the outcomes of the intervention will be measured and how performance will be monitored and evaluated. **Please attach an evaluation plan as supporting information to this template if available.**

Refer separate evaluation plan.

[Agency to complete]

IMPLEMENTATION AND EFFECTIVENESS ASSESSMENT

3/5. Implementation approach seems plausible and has addressed issues such as workforce supply for SLTs. We have reasonably high confidence in the Ministry's ability to implement given success of recent initiatives on participation. Evaluation plan reasonable through for this stage – we support the planned approach of RCT with process and impact evaluation. It is good to see they have identified possible measures and approach to gathering data, but further development needed.