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Identifying and Supporting Children's Early Language Needs

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ABBREVIATIONS

ASQ-3 - Ages and Stages Questionnaire – Questionnaire completed by parents about their child's development. It has a number of elements of which communication is one. Mandated for use by all health visitors in England at the 2-2 ½ year review.

AUC – Area Under the Curve – the single measure of the performance of the optimised threshold based on the receiver-operating characteristic (ROC) procedure (see below).

DfE – Department for Education in England.

ELIM-E – Early Language Identification Measure – Extended – the language measure developed for the project. The extended version was used in all the data collection but the aim throughout was only to include the most predictive elements of the ELIM-E in a final shortened version**.**

ELIM-S – Early Language Identification Measure- Shortened- the shortened version of the ELIM-E.

ELIM and Intervention – The final model of proposed service delivery combining the Early Language Identification Measure and Intervention.

EYP – Early Years Practitioner –This includes all early years sector staff working across a variety of organisations and in settings. These would include managers of nurseries and other pre-school settings, early years practitioners/ workers, teachers and childminders.

HCP – The Healthy Child Programme – the universal offer to all parents relating to their child's development and well-being in the preschool period.

HV- Health visitors and their skill mix team. Includes community staff nurses and community nursery nurses who are accountable to the health visitor.

PLS-5 – Preschool Language Scale – 5th Edition- Gold standard for benchmark language assessment.

SLCN – Speech Language and Communication Needs – the term referring to the groups of children whose communication performance falls below expectations. The term is commonly used in education and is often defined from observations or concerns expressed by early years practitioners and potentially parents. It has no formal criteria and does not follow formal diagnosis.

SDQ - Strengths and Difficulties Questionnaire – a standardised screening questionnaire for 3-16 year olds measuring attributes of social-emotional and mental health difficulties.

SLT – Speech and Language Therapist.

PHE – Public Health England.

PPI - Patient and Public Involvement – the term used to capture the process by which those involved in research or services contribute to their development. In this study, it more readily translates into Parent and Practitioner involvement because we sought the opinions of both throughout the project.

ROC – Receiver Operating Characteristics – a technique for optimising threshold on one measure against a gold standard (in this case the PLS-5).

EXECUTIVE SUMMARY

BACKGROUND

The gap in the cognitive development and specifically oral language skills between children from different social backgrounds is widely acknowledged[1 2 3 4 5]. This gap is identifiable very early in life and well established by school entry[6 7 8] and can have long-term consequences in terms of educational attainment and adult outcomes [9] . Importantly early communication difficulties may also be indicators of a wider range of neurodevelopmental conditions [10 11]. Effective interventions are available [12 13 14] but matching the right children

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[1] Marmot M, Allen J, Goldblatt P, Boyce T, McNeish D, Grady M et al. (2010) *Fair Society, Healthy Lives: The Marmot Review. Strategic review of health inequalities in England post-2010*. London: Marmot Review; 2010. https://www.parliament.uk/documents/fair-society-healthy-lives-full-report.pdf.

[2] Marmot, M., Allen, J. Boyce, T., Goldblatt,P. & Morrison, J. (2020) *Health Equity in England: The Marmot Review 10 Years On*. London: The Health Foundation. https://www.health.org.uk/publications/reports/the-marmot-review-10-years-on

[3] Maggi,S. L Irwin, A Siddiqi, and C Hertzman, (2012). 'The social determinants of early child development: An overview', *Journal of Paediatrics and Child Health*, 2010, 46(11):627-35. https://www.local.gov.uk/sites/default/files/documents/improving-outcomes-childr-bf1.pdf

[4] Hart, B. & T Risley, (1995) *Meaningful Differences in the Everyday Experience of Young American Children* Boston: Paul Brookes.

[5] Law, J., Charlton, J. and Asmussen, K. (2017)*. Language as a child wellbeing indicator. London: The Early Intervention Foundation.* https://www.eif.org.uk/files/pdf/language-child-wellbeing-indicator.pdf.

[6] Taylor, C., Christensen, D., Lawrence, D., Mitrou, F., & Zubrick, S. (2013). Risk factors for children's receptive vocabulary development from four to eight years in the Longitudinal Study of Australian Children. *PLOS ONE, 8*(9). doi:10.1371/journal.pone.0073046.

[7] Armstrong,R., Scott, J.G., Whitehouse,A.J.O., Copland,D.A., McMahon, K.L. & Arnott, W. (2017). Late talkers and later language outcomes: Predicting the different language trajectories, *International Journal of Speech-Language Pathology*, 19:3, 237-250. DOI: 10.1080/17549507.2017.1296191.

[8] McKean, C., Reilly, S., Bavin, E. L., Bretherton, L., Cini, E., Conway, L., Cook, F., Eadie, P., Prior, M., Wake, M., & Mensah, F. (2017). Language outcomes at 7 Years: early predictors and co-occurring difficulties. *Pediatrics* (e20161684).

[9] Law,J. Rush, R, Parsons, S. & Schoon, I. (2009). Modelling developmental language difficulties from school entry into adulthood: Literacy, mental health and employment outcomes. *Journal of Speech, Language and Hearing Research,* 52, 1401-1416. DOI: 10.1044/1092-4388(2009/08-0142

[10] Sim,F., Haig,C., O'Dowd,J., Thompson,L., Law,J., McConnachie,A., Gillberg, C. & Wilson,P (2015). Development of a triage tool for neurodevelopmental risk in children aged 30 months. *Research in Developmental Disabilities*, 45–46,69-2,https://doi.org/10.1016/j.ridd.2015.07.017.

[11] Wilson P, Wood R, Lykke K, Hauskov Graungaard A, Ertmann RK, Andersen MK, et al. (2018). International variation in programmes for assessment of children's neurodevelopment in the community: Understanding disparate approaches to evaluation of motor, social, emotional, behavioural and cognitive function. *Scand J Public Health*, 46:805-16**.**

[12] Law, J., Z. Garrett, and C. Nye, Speech and language therapy interventions for children with primary speech and language delay or disorder. Cochrane Database of Systematic Reviews 2010, 2010(5), CD004110, in *Cochrane Database of Systematic Reviews*. 2010.

[13] Roberts, M.Y. and A.P. Kaiser, The effectiveness of parent-implemented language interventions: A meta-analysis*. American Journal of Speech-Language Pathology*, 2011. 20(3): p. 180-199

[14] Greenwood, C. R. Schnitz, A. G., Carta,J.J., Wallisch,A. & Irvin,D.W. (2020) A systematic review of language intervention research with low-income families: A word gap prevention perspective, Early Childhood Research Quarterly, 50, 230-45, https://doi.org/10.1016/j.ecresq.2019.04.001.

to the right intervention is sometimes a challenge, in part because the rate at which children's language develops naturally varies and it can be difficult to know when to consider intervention. Central to this process is the review of child development carried out by health visitors (HV) at the 2-2½ year review.

A public health approach to speech and language development has been advocated [15]and the issue of developmental surveillance has attracted considerable attention in recent years[16]. However, a formal screening programme has not been advocated because they have not met standard criteria [17]. Rather there has been a focus on developing approaches which improve early identification of children with speech, language and communication needs, foster a conversation between practitioner and parent about a child's needs, and equip parents with the skills needed to support their child's development.

This project was commissioned in 2018 as part of the UK government's Social Mobility Action Plan [18] and was one of three dimensions to a programme of work delivered by Public Health England (PHE) and the Department for Education (DfE) in England.

The programme of work included: The provision of enhanced training for health visitors to help them address the needs of children with speech, language and communication needs (SLCN) and their families; the development of guidance to Local Areas to support the development of local evidence-based Speech, Language and Communication Needs (SLCN) pathways; the development of an early language assessment tool and intervention (the present project) designed to facilitate a conversation between practitioner and parent about the child's communication skills.

WHAT WE DID

The present study was carried out in five sites in England: Derbyshire, Middlesbrough, Newham, Wakefield and Wiltshire, between January 2019 and March 2020. The "voice" of parents and practitioners was an important element of the study and Public, Patient Involvement (PPI) groups were run in each site throughout to inform key elements of the study. The final output from the project includes both identification and intervention elements. The summary report for the project is available at https://www.gov.uk/government/publications/best-start-in-speech-language-and-communication

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[15] Law J, Reilly S, Snow P. (2013.) Child speech, language and communication need in the context of public health: A new direction for the speech and language therapy profession. *Int J Lang Commun Disord*. 48(5):486-96.

[16] Wilson, P. & Law J. (2019), Developmental reviews and identification of impairments Chapter 23 in Emond, A. & Elliman, D. (Eds) *Health for Children 5*. Oxford: Oxford University Press.

[17] Wilson JMG, Jungner G. (1968) *Principles and practice of screening for disease.* WHO, Geneva.

[18] Department for Education (2017). Unlocking Talent, Fulfilling Potential A plan for improving social mobility through education London HMSO. https://www.gov.uk/government/publications/improving-social-mobility-through-education

A handbook for the identification procedure and the early stages of the intervention are provided at https://www.gov.uk/government/publications/best-start-in-speech-language-and-communication

A new measure called the Early Language Identification Measure – Extended (ELIM-E) based on parental report and professional judgement was developed by members of the research team using evidence from the literature and with input from a number of expert groups and parent forums. It was then tested and rolled out across the five sites identified by PHE at the start of the project. The ELIM-E comprised five sections corresponding to areas that are commonly used to identify early language difficulties: language milestones, vocabulary list, family history and social risk factors, health visitor observations and parental concerns. Data collected were then used to reduce the ELIM-E down to the factors that best predicted which children were at risk of language difficulties and in need of further engagement with health visitors, ultimately resulting in a shortened version, the Early Language Identification Measure-Shortened (ELIM-S).

The extended version of the measure was carried out by HVs and their skill mix teams as part of the Healthy Child Programme (HCP) 2-2 ½ year review[19]. The measure was carried out alongside the Ages and Stages Questionnaire-3rd Edition (ASQ-3), which is a population measure of child development currently used as part of all 2 -2½ year reviews by HVs in England [20]. In addition, children involved in the study were then assessed by a speech and language therapist using a "gold standard" language measure called the Preschool Language Scale-UK 5th Edition (PLS-5)[21], to ascertain where the child's skills lay relative to a predetermined threshold on the PLS-5. The threshold derived from the literature [22] [23] was set at the tenth percentile, which indicates that it would pick up only those children whose language scores fell in the bottom ten percent of the population.

Matters to consider in relation to identifying need include the risk of missing something important, (false negatives) or identifying something that is unimportant, (false positives). The performance of a tool can be summarised in terms of *sensitivity* (the proportion of true positive cases identified) and *specificity* (the proportion of true negative cases identified). It

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[19] Public Health England (2018), Best start in life and beyond: Improving public health outcomes for children, young people and families Guidance to support the commissioning of the Healthy Child Programme 0-19: Health visiting and school nursing services. https://www.gov.uk/government/publications/healthy-child-programme-0-to-19-health-visitor-and-school-nurse-commissioning.

[20] Squires, J.K., Potter. L., Bricker, D.D. & Lamorey, S. (1998). Parent completed developmental questionnaires: effectiveness with low and middle income parents. *Early Child Research Quarterly*; 13: 345–54.

[21] Zimmerman, I.L., Pond, R.E. . & Steiner, V.G. (2014) *Preschool Language Scale - Fifth Edition (PLS-5 UK).* London: Pearson Assessment.

[22] Norbury, C.F., Gooch, D., Wray, C., Baird, G., Charman, T., Simonoff, E., Vamvakas, G. & Pickles, A. (2016), The impact of nonverbal ability on prevalence and clinical presentation of language disorder: evidence from a population study. *J Child Psychol Psychiatr*, 57: 1247-1257. doi:10.1111/jcpp.12573.

[23] Wilson P, McQuaige F, Thompson L. & McConnachie A. (2013). Language Delay Is Not Predictable from Available Risk Factors. *The ScientificWorld Journal.* Article ID 947018.

is often possible to vary the threshold at which a screening tool triggers a definitive assessment. If we choose a low threshold, we increase the chance of identifying all true positive cases; in other words, sensitivity will be increased. However, there is a risk that this will raise the number of false positives and specificity will drop, meaning that some children without language problems will be referred for specialist assessment and treatment. This has practical implications for how services respond to language problems identified through such procedures; the majority of screening instruments lack sufficient sensitivity and specificity to identify child language problems at the individual level at reasonable cost. Indeed from the reviews to which reference was made above the key issue for most developmental conditions is sensitivity – the tests used commonly miss too many children in need of support [24] [25]. In this study, the emphasis was on optimising sensitivity – not missing children with SLCN, and on initiating a conversation with parents about what would best meet the needs of their child, thus managing the needs of the child without necessarily referring to specialist services.

Underlying the process of identifying the right children is the delivery of both universal and targeted interventions, to promote robust language development to be offered to children and families at the 2-2½ year review. Thus, within the programme, the ELIM-S measure identifies the children and the intervention element then informs the support that is offered to them. Study methods were based on the most recent guidance regarding best practice in complex intervention design and behaviour change interventions and involved extensive stakeholder involvement and co-design.

WHAT WE FOUND

The measure

The data from 894 children were collected using the ELIM-E and of these 403 also received the PLS-5. The sample had representation in all the Income Deprivation Affecting Children Indices (IDACI) deciles, although there was a slight skew to the more disadvantaged end of the distribution. Each ELIM-E item was split into a binary variable and a single score given for each section. Different combinations of the sections were compared with the PLS-5 threshold. The priority was the sensitivity of the measure; its ability to correctly identify those children with SLCN (true positive). Alongside sensitivity we also measure specificity; the ability of the test to correctly identify those children without SLCN (true negative). Low specificity leads to children being over-identified. Data suggested that each section of the ELIM-E had some discriminatory power, but this varied considerably. The observation section gave the highest sensitivity and the vocabulary list section gave the highest specificity. These two sections taken in combination produced a sensitivity of 0.94 and specificity 0.65. By contrast, against the same criteria the ASQ-3 has good specificity of 0.93 but a relatively low sensitivity of 0.64. Thus out of 403 children seen on the combination of the practitioner observation and the word list, only six children with language difficulties were not picked up by the observation and/or the vocabulary list combination. The

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[24] Law, J., Boyle, J., Harris, F., and Harkness, A. (1998). Child Health Surveillance: Screening for Speech and Language Delay. *Health Technology Assessment*. 2 (9), 1-184.

[25] Nelson, H. D., Nygren, P., Walker, M. & Panoscha, R. (2006). Screening for speech and language delay: Systematic evidence review for the US Preventive Services Task Force. *Pediatrics*, 117 (2).

proportion of children over identified is higher. 108 children out of 306 were false positives. However the key here is the conversation that follows the ELIM-S that allows the practitioner to integrate their knowledge of the child and the family with the views of the parent to identify those most likely to need further engagement, and to equip parents with the skills needed to support their child's development. Our proposal is therefore that these two sections (practitioner observation and the vocabulary list) be retained in the revised and shortened version of the ELIM.

Parents' responses to a survey carried out after their child had been seen at the 2-2½ year review suggested that the majority found the ELIM-E to be acceptable. A small number of parents reported difficulties with access to the HV, with the advice they were given, and with the interaction with their child. Parents participating in the telephone interviews had a broader range of views. For them acceptability was influenced by communication with the HV, convenience and ease of the review, the perceived expertise of the professional and the relationship that the HV established with the parent and with their child. From the perspective of the HV, the acceptability of the ELIM-E was related to the clarity of the rationale for its items, the interface between the timing of the review and related services such as speech and language therapy, alongside the potential of ELIM-E to support their decision-making and facilitate constructive conversations with parents. HVs felt that successful delivery of the ELIM-E was related to appropriate and sustainable training and practicalities such as the location of the review and the familiarity with the child and family not related to the tool itself. For HVs, the management of the conversation with the parent was crucial to the success of the review.

Given the high sensitivity and lower specificity, the effective management of the needs of the child and parent is critical. The identification of the need is only ever the first stage and the resultant conversation needs to help the practitioner and parent consider other contributing factors, such as parental concern, behavioural and attention issues, whether the child speaks more than one language etc, and, to work with parents to determine the most appropriate level of support or intervention based on a continuum of need. Of course, this will also include decisions on whether there is good evidence that the child needs to be referred to child development or speech and language therapy services. The key issue is that the practitioner must draw upon their own knowledge and expertise to determine the most appropriate means of supporting child and parent, and we anticipate that the needs of most children can be managed by the health visitor team working to equip parents with the skills needed to support their child's development. The aim is certainly not to just increase referrals to other services but to ensure that the child receives the right level of support for their speech and language development. Some children will respond to targeted intervention and may return to the universal level, while others may go on to have a more persistent need and require specialist services. The prerequisite to this however is always the conversation with parents and taking the parents' views into consideration, i.e. shared decision-making.

The Intervention

The team synthesised child language intervention research evidence with expert knowledge, practitioner expertise and parent/caregiver views and preferences. We found practitioners (health visitors and members of the health visitor team) have an appetite and enthusiasm to promote children's speech, language and communication development, but were not sure *precisely how* to work with families to deliver the most appropriate and acceptable intervention. Parents/caregivers wanted to be supported, to be proactive and agentive for their child as soon as possible. Based on stakeholder (parent and practitioner) preferences and intervention evidence, an intervention model was developed to support families to increase their use of responsive interaction behaviours within their daily routines and in contexts tailored to individual family circumstances. For equitable intervention delivery, we found we must not only create a need led *proportionate* model but also a *tailored* one, considering the specific barriers and enablers for each family. Potential barriers and enablers to the behaviour change across families were identified and a method devised for tailoring interventions accordingly. Communication between practitioner and parent/caregiver was identified as vital to success: language which invites partnership, dialogue and shared decision-making is essential.

An intervention model was co-designed through iterative workshops, which is acceptable, practicable and equitable to the stakeholder participants. The resulting tiered intervention model, designed to be universal in reach and personalised in response is described. Differing pathways (levels of service), the steps through the intervention and the content, procedures, and materials are described. It is important to stress that while there are certainly preliminary indicators for how practitioners should respond to the findings of the ELIM-S and the face value of this approach has been demonstrated, further development is required for the testing of this approach to the intervention, including the production of the intervention materials, (videos, shared-goal setting tools, invitation letters etc.) and the linked practitioner training programme, prior to piloting and evaluation.

CONCLUSIONS

The shortened Early Language Identification Measure (ELIM-S) has the potential to be a powerful tool in identifying all children with SLCN at the 2-2½ year review. However, as with all such brief measures of child development, it cannot stand on its own and it is imperative that it is closely associated with the conversation between health visitors and their teams and the parent; there is a need to conceptualise the ELIM-S as a part of a wider intervention. The study has demonstrated an appetite amongst practitioners for this focus on SLCN and shown the importance of the practitioner-parent relationship. And it is clear that parents want to be listened to. The trust that comes from this relationship is critical to the shared decision-making that, in turn, is fundamental to the guidance that is offered to parents. Underpinning this is appropriate levels of training for those involved in identifying and working with children, and the importance of health visitors and early years practitioners working together to make sure that they are monitoring children's assessment and development effectively, working to equip parents with the skills needed to support their child's development and providing interventions in collaboration with parents.

Our preferred solution is a three-step process whereby practitioner observation and vocabulary act as a starting point for identification, which is underpinned by a preliminary exploration of parental concern. The practitioner observation and vocabulary list (Step 1) then lead into further exploration with the parent about the areas of greatest concern (Step 2), whether or not further referral to other local provisions such as speech and language therapy services is appropriate, signposting to relevant materials etc. Finally practitioner and parent agree and review intervention goals together (Step 3) in the context of parental capability and motivation and the opportunities available to them. As indicated further development and evaluation of the whole programme with the detailed intervention component is needed.

Clearly the 2-2½ year review process is one which involves a great many people – the parents and children, the health visitors and their teams, the early years practitioners in the settings where a proportion of the children attend, and the speech and language therapists to whom the children with the more marked difficulties will be referred, but who are also likely to be instrumental in supporting the other members of the team. Inevitably there are challenges in ensuring that all the members of the team share goals, expertise and expectations around guidance so that the parents feel that the services are working with them in this all important review process.

Chapter 1: Background to the Project

Summary of Chapter 1

- Language development is well recognised as an indicator of wellbeing in the child. It is important in its own right but also as an indicator of other neurodevelopmental conditions.
- Gaps in performance associated with social disadvantage, which form in the second year of life and persist throughout school, have been recognised for some time although the size of the gap remains a matter of discussion.
- Identifying children with speech, language and communicatication needs as early as possible has been identified as a priority but formal screening has proved problematic and has not been recommended.
- Where national programmes of developmental surveillance such as the Healthy Child Programme in England are in place, SLCN is usually identified as the most common single problem identified in young children.
- Central to the identification process is the conversation between parent and professional and the acceptability of any process that is introduced is a crucial dimension.

Introduction

This chapter explains the need to focus on the early language skills of young children in the first 3 years of life. It looks at individual differences in language development and points to social and other factors that are associated with these differences. Early identification of difficulties and the provision of intervention is commonly seen to be desirable. Clearly any assessment is not a disembodied process and has to involve several components: acceptability to professionals and parents, an effective assessment process, skilled engagement by the Health Visitors (HVs) or member of the team carrying out the review, provision of advice and support to the parent as required, and in some cases involvement of the speech and language therapists (SLT) who receive referrals from the HVs for those children identified as being in greatest need.

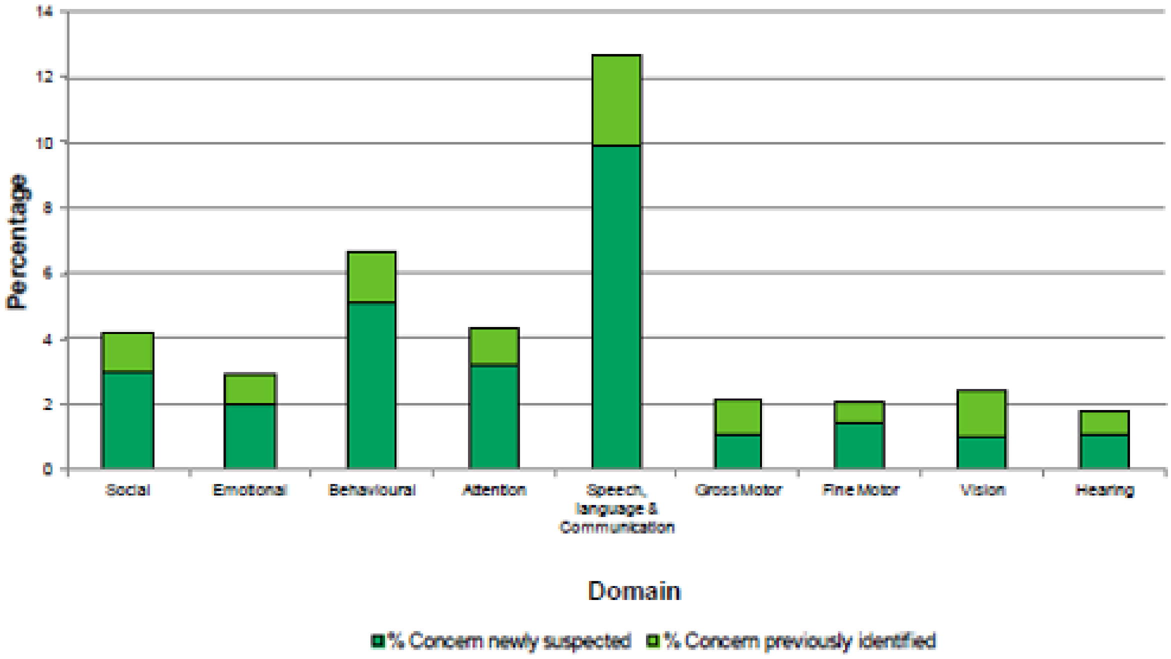
Differences in early language development and their significance

In the most commonly cited study describing the relationship between how parents speak to their children and the level of their children's subsequent language development, Hart and Risley (1995) recorded in detail and on a very regular basis the way that 42 parents from different social groups in the USA talked to their children between 10 and 30 months of age. Specifically, they studied the relationship between the amount of verbal input that these children receive from their families and their language development at three years. In this study, the number of words directed towards a child over a given year ranged from 11 million in the 'professional' families to 3 million in a 'welfare' family. This pattern was reflected in parenting style and in the amount of encouraging feedback that the children had experienced, and also in the non-verbal IQ and tested vocabulary scores that they achieved. This 'gap' in words heard over a year in the Hart and Risley Study has been extrapolated with estimates of a '30 million-word gap' over the first 3 years of life between high and low-income families and has led to significant traction amongst charitable and lobbying organisations.

These claims are not without controversy and the Hart and Risley study has received significant and legitimate criticism not least related to the relatively small size of their sample. Concerns expressed about the Hart and Risley study (Fernald & Weisleder 2015; Kuchirko 2017) focus on both the analysis and the interpretation of their findings and specifically whether talking more to children or perhaps interacting with them more effectively is, in itself, likely to be enough to redress any imbalance (Wasik, & Hindman 2015). There have also been reservations about the sample size especially in the more disadvantaged groups which makes generalisation to other populations difficult. These criticisms have themselves led to a reiteration of the basic thesis that different language experiences lead to different language performance in the child (Golinkoff, Hoff, Rowe, Tamis-LeMonda, & Hirsh-Pasek, 2019). From our own work looking at expressive vocabulary at 5 years across Index of Multiple Deprivation quintiles in the 18,000 children of the UK's Millennium Cohort Study we found a definite gradient, but equally it is important to acknowledge that there are a great many children in all the groups who perform very well (McKean, Law, Morgan and Reilly, 2018).There is now broad acceptance of this social gradient for language development as there is for many other aspects of child development (Marmot 2010; Maggi, Irwin, Siddiqi, & Hertzman, 2010) and some evidence that these gaps in language and communication may not be apparent at 12 months (Brushe, Lynch, Reilly, Melhuish & Brinkman (2020) but have emerged by 18 months of age (Fernald, Marchman & Weisleder 2013; Brushe, Lynch, Reilly, Melhuish & Brinkman (submitted).

Children with low levels of language attainment have been described in a variety of different ways but a recent consensus process suggested that the term *developmental language disorder* be used for those with the most pronounced difficulties and this has now been generally adopted (Bishop et al. 2016 a and b). The term Speech Language and Communication Needs (SLCN), which is used in this report, is a term used more broadly, especially for younger children and in educational settings where the need is more important than a specific diagnosis. There have also been questions about where the threshold in psychometric terms should be placed separating out those with and those without need. In clinical settings, where conditions such as blood pressure have a continuous rather than discrete nature, decisions need to be made about when a particular level becomes problematic. There is always debate about the threshold above which the measure should be considered pathological and child developmental problems are no exception: almost all neurodevelopmental domains lie on a continuum and language ability is no exception. Children with scores below the tenth percentile on a language measure are commonly considered to be at risk, and as we see from Scottish national data from 2014 (ISD 2014) this figure is reflected in identification rates at the reviews carried out by health visitors. Also, as we can see from figure one below, SLCN is the largest single group of children being identified at the 27-30-month review in Scotland, with 10% of new cases being identified in addition to the three percent already known to practitioners (Wilson, McQuaige, Thompson, McConnachie (2013).

Figure 1:1 Proportion of children being identified at the two year review in Scotland by developmental domain: 2013/2014



Identification of language delay in the very early years can be difficult: the rate of early language acquisition is very variable but the trajectory becomes more predictable around the age of two (Armstrong, Scott, Whitehouse, Copland, Mcmahon & Arnott 2017). Language delay has associations with adverse long-term outcomes such as reduced adult employability and increased risk of mental health and literacy difficulties (Law, Rush, Parsons & Schoon 2009; Johnson, Beitchman and Brownlie 2010; Conti-Ramsden, St Clair, Pickles & Durkin 2012). Oral language and communication skills are thus pivotal to an individual's employability and this is especially important in an increasingly white-collar world where communication skills are at a premium (Ruben 2000).

There has been considerable interest in the process by which children with SLCN should be identified in the early years and the emphasis is on *early* because it is sometimes assumed that the earlier one intervenes the more effective an intervention is likely to be (Landry, Smith, Swank & Guttentag 2008; Nelson 2000) certainly from an economic perspective (Doyle, Harmon & Heckman 2009) . The level of need suggested by the data above and the fact that there is a social gradient in children's performance has led people to suggest that oral language skills ought to be considered a public health matter (Law, Reilly and Snow 2013), a move that has gained considerable traction in recent years. Identification has however remained a challenge in the area of child development, particularly because it needs to integrate parental and professional expectations and the performance of the child at a given point in time. The results of a developmental assessment also need to be seen in the context of the performance of the measure used, discussed in more depth in the next section. Developmental screening tests are best seen as the starting point for a conversation with the parent about their child's development (Wilson and Law 2019; Wilson, Wood, Lykke, Hauskov Graungaard, Ertmann, Andersen et al 2018;) rather than a definitive categorisation of risk.

Early identification of problems is of little value unless early intervention produces better results than waiting until a problem is obvious – this consideration underlies the WHO criteria for screening programmes (Wilson & Jungner 1968). There is now considerable evidence for the efficacy of interventions for children with low language skills associated with the social gradient (Greenwood, Schnitz, Carta, Wallisch & Irvin 2020) and for children with Developmental Language Disorder (DLD) (Law, Charlton and Dennis 2020), although it is important to stress that randomized trials (the gold standard for evaluating effectiveness) often have small samples and their relationship to service delivery may be unclear. Thus trials, although helpful, are only ever part of the picture when it comes to evaluating practice. We need a better understanding of the elements of good practice, for example around shared decision making in general and goal setting in particular. It is also important that they follow the individual level behaviour change principles following a person-centered approach and proportionate to the level of social, economic or environmental disadvantage someone faces and the support they need (Nice 2014). The majority of interventions in this field are designed by specialists and then tested on populations without having been co-designed with those who are involved in them. There has been very little information about the best way to deliver interventions from the perspective of the parent or indeed the child. The reality is that interventions targeting child development in the early years are, by definition complex interventions, in the sense that the Medical Research Council (MRC) uses the term (Craig et al., 2008), and that they depend on the context of delivery and the engagement of the recipients of the intervention to be effective.

Screening, case finding and early identification in context in the UK

Screening has well recognised parameters (https://www.gov.uk/government/groups/uk-national-screening-committee-uk-nsc). Screening for SLCN, while appealing as a service delivery option and advocated by many practitioners, has not been advocated by policy makers. A variety of systematic reviews using standard criteria (Wilson & Jungner, 1968) for acceptability have been carried out over the past twenty years (Law, Boyle, Harris, & Harkness 1998; Nelson, Nygren, Walker & Panoscha 2006; Wallace, Berkman, Watson, Coyne-Beasley, Charles, Wood, Cullen & Lohr 2015; Siu 2015). Broadly speaking the key concerns are about measurement characteristics of the screening tools used (Dockrell & Marshall 2015) and the difficulty in reliably charting the course of the child's language difficulties over time. Practical issues include factors affecting administration, such as who will administer the measurement and analyse the data. Psychometric issues include those pertaining to their precision and accuracy.

Matters to consider in relation to screening test performance include the risk of missing something important (false negatives) or identifying a problem when there isn't one (false positives), which would flood hard pressed specialist services and cause distress to the parent/carer and child. The performance of a screening tool can be summarised in terms of *sensitivity* (the proportion of true positive cases identified) and specificity (the proportion of true negative cases identified). It is often possible to vary the threshold at which a screening tool triggers a definitive assessment. If we choose a low threshold, we increase the chance of identifying true positive cases: in other words, sensitivity will be increased. The cost of increasing the sensitivity by lowering the threshold is that we decrease specificity: the rate of false positives increases, meaning that more children without language problems will be referred for specialist assessment and treatment. This has practical implications for how services respond to language problems identified through screening: the majority of screening instruments lack sufficient sensitivity and specificity to identify child language problems at the individual level at reasonable cost. Indeed from the reviews to-which reference was made above the key issue for most developmental conditions is sensitivity – the tests used commonly miss too many children (Law et al. 1998; Nelson et al.2006).

The balance between sensitivity and specificity of a screening test depends on a number of factors including the seriousness of the condition, the acceptability of the test and the availability of effective intervention (Wilson and Junger 1968). Most services would prioritise sensitivity so that no children are missed but, of course, it is also important to acknowledge that a measure with low specificity (i.e. children are identified when they should not be) will lead to an overburdening of services and potential unnecessarily raised parental anxiety. These sorts of judgements are often dependent on what else we know about the topic, for example, about the effectiveness of interventions or the natural history of the condition and the impact that it has on the child and their family if the difficulties concerned are not attended to.

An alternative approach to the identification procedure which addresses this last point is the use of *triage* where performance is captured on more than one measure and the children followed over time to check validity. Thus in one example in Greater Glasgow, the Sure Start Language Measure and the Strengths and Difficulties Questionnaire were combined to increase accuracy of identifying children with neurodevelopmental difficulties such as attention deficit disorders, autism spectrum disorder etc.(Sim, Haig, O'Dowd, Thompson, Law et al 2015). These authors do not use the term *screening* but, in allocating children to high or low risk groups, they share many of the characteristics of the process (reporting sensitivity, specificity and other productivity figures).

Another approach is often termed "case finding" in which a practitioner opportunistically "screens" the public attending clinics for any reason. Concerns have been raised about this approach for claiming as highlighted below:

"We are concerned that safety mechanisms (associated with screening) have been overridden by two contemporary developments: first, initiatives which promote screening despite a lack of consideration or approval by these bodies; and second, use of terms like 'opportunistic testing' or 'case finding' rather than screening, which are essentially euphemisms." McCartney, Fell, Finnikin, Hunt, McHugh & Gray 2020)

One specific challenge of case finding in the context of language development is that it prioritises those who use services, and there is good evidence that those children at highest developmental risk are least likely to be seen by HVs for routine contacts (Wilson, Hogg, Henderson & Wilson 2013). This points to the importance of public/patient involvement (PPI) in identifying children with SLCN, and supporting parents. Although screening procedures have been described as 'sub-optimal' because they miss or over-identify children, parents often feel reassured by the process (Garg et al, 2018). Interviews with refugee families and families from under-served communities suggest that beliefs about development and the screening process may impact on a family’s take-up of services (Marshall et al, 2017; Kroenig et al, 2016; Magnusson et al, 2017). For example, some parents do not consider that young children’s development is of concern. Thus, the perspective of parents is central to understanding the identification process. In a review of the Ages and Stages Questionnaire carried out on 28,530 children aged 24, 27 or 30 months (i.e. exactly the range in the present proposal) 10% of children fell below clinical threshold of the original US standardised measure (Gair 2017). In the present project, we aimed to access more socially disadvantaged populations, therefore anticipated a prevalence rate of nearer 20%.

Language in the context of general neurodevelopment

In order to develop language skills, a child needs to have the physiological mechanisms to coordinate speech production, sufficient cognitive abilities to understand and produce language, adequate attention abilities, the motivation to communicate socially, and a sufficiently rich social environment in which to develop conversational skills. In this context, it is therefore understandable that language delay is often associated with other neurodevelopmental problems. Over 70% of Swedish children who failed a simple language screen at 30 months had significant developmental problems at age 7, most commonly autism, ADHD and intellectual disability (Minalsco, Nygren, Hagberg, Kadesjo & Gillberg 2006). In a more recent Scottish study, two thirds of children who failed a screening assessment for language had other neurodevelopmental concerns including autism, attention difficulties and global cognitive impairment (Sim, Haig, O’Dowd, Thompson, Law, McConnachie et al. 2015; Sim, O'Dowd, Thompson, Law, Macmillan, Affleck et al. 2013). In recent years, neurodevelopmental disorders have been conceptualised as lying on a continua, and they overlap in the sense that a child with one problem difficulty (language delay, epilepsy, coordination problems etc) is far more likely than others to have other difficulties. The likelihood of autism, developmental coordination disorder, ADHD and global cognitive delay (among other conditions) must therefore always be considered in any child with language delay. Conversely, a child who has reached the expected levels of language development is at low risk for these disorders. It is therefore crucial that language is not considered in isolation and that any child identified as having language delay is not referred for speech and language assessment without consideration of other possible diagnoses and implementation of any appropriate actions.

Core elements of a language identification tool

Although as we have said above universal “screening” has not been accepted as a concept meeting criteria for formal screening programmes, it is worth reflecting on the elements that have been used in the past as part of such programmes. There are essentially five elements, which recur in different formulations in the literature. The first of these is developmental milestones (Coplan, Gleason, Ryan, Burke & Williams 1982; Walker, Gugenheim, Downs & Northern, 1989). There is a commonly held belief that earlier performance predicts later performance and milestones can work at both a population and an individual level. This would also include current milestones – i.e. what the child is doing at present relative to their age expectations. While these have been shown to be relatively robust, they do imply that developmental trajectories are relatively fixed. Parents are usually able to respond easily to these types of questions as long as they are about milestones reached relatively recently. The further away from the current time point the more difficult these may become to interpret. The second approach is observational checklists of language performance completed by the person who knows the child best (Dale, Bates, Reznick & Morisset 1989; Fenson, Dale, Reznick, Bates, Thal & Pethick 1994; Rescorla, Hadicke-Wiley & Escarce 1993).They are then asked does your child say or understand such and such a word. The words are given in a scale and the child receives a single score. Again, there have been various attempts to construct such scales but the one that has received most attention is the Communicative Development Index (CDI) or as it is now known the MacArthur-Bates CDI. This is a relatively long (680) word list for use with young children which has been translated into many different languages and cultures. The challenge for this at a population level is that it is simply too long to be used routinely. The original research team involved in developing the CDI then developed a 100-word equivalent and more recently this was developed into a 50-word equivalent (Harris, Law, Roy 2004) which was standardised for use in the UK’s Sure Start programme (Roy, Kersley & Law 2004) and used to audit the effectiveness of the programme on three occasions (Harris, Law & Roy 2002; Harris, Law, Roy & Kermani 2004; Harris, Law & Roy 2005). This version of the CDI was termed the Sure Start Language Measure.

A third area which has attracted attention for social and health scientists is what might be termed population risk factors associated with family history, socio-economic status or child rearing features which have been shown to predict outcomes using mainly regression models (Taylor, Christensen, Lawrence, Mitrou & Zubrick 2013; McKean, Reilly, Bavin, Bretherton, Cini, Conway, Cook, Eadie, Prior, Wake, & Mensah 2017). Such risk assessments only identify a minority of children with significant language delay and so in themselves they are insufficient as a population screening strategy for SLCN. The fourth area is the observations made by the professionals involved in the programme (Glascoe 1991). In the UK, these are usually HVs and their teams and this often involves identifying behavioural characteristics to look out for when seeing a parent and child. These can make very useful additions to training programmes and help independent practitioners make judgements about the children they see. Of course, they are also very convenient for opportunistic assessment of children because it is not necessary to be in a formal assessment context to make the observations. And finally, an area which has attracted considerable research interest is parental concern (Glascoe, Altemeier & MacLean 1989; Glascoe 1997). If you ask parents whether they are worried about a specific behaviour do they pick out the same children who would be picked out by a more comprehensive assessment? The findings from paediatric clinics tends to suggest that they can and this approach was used in the application of the Sure Start Language Measure to which reference was made above. They certainly do not give identical results as a face-to-face assessment of the child’s abilities but there are suggestions that they potentially have an important contribution to make.

One of the important considerations when developing such measures is that such measures have sometimes been seen as one-off measures indicating a binary problem/no problem but they do not address the issues of professional autonomy or parental engagement. In the end it is not enough for such measures to work in a binary fashion but they must encourage the parties to engage with one another, to allow parents whose children do not have difficulties to be confident in the judgement that has been made and to encourage those where there are concerns to engage with interventions initiated by the HV or, where necessary, accept the recommendation for onward referral to child development or SLT services where appropriate.

The Healthy Child Programme in England

Ensuring that every child has the "Best Start in Life" remains one of Public Health England's (PHE) strategic priorities. Public Health England (2019) aims to, "improve the health of babies, children and their families to enable a happy healthy childhood and provide the foundations of good health into adult life". To achieve this, since 2015 local authorities have been responsible for commissioning the Healthy Child Programme (HCP) (Department of Health 2009) which is a universal public health programme available to all children in England. The programme is led by HVs for children aged 0-5 years, with national guidance published by PHE (Public Health England 2018) to inform local authority commissioning. PHE has published guidance on the six early years high impact areas, these are areas where HV services can make the greatest difference, which include "Health, wellbeing and development of the child aged 2: Ready to learn, narrowing the 'word gap'" (Public Health England 2018).

Public Health England is working with partners and stakeholders to modernise the HCP and plans to engage with a wide range of stakeholders to ensure the model provides both universal reach and 'personalised response' including more specificity in targeting of additional and intensive services. The crucial role of HVs in promotion, early identification of need and provision of support around speech, language and communication needs is considered in this review. The new HCP will be universal in reach and personalised in response i.e. a tailored response to individual needs. Inequalities begin early in life and are currently reflected across the whole population but they are not inevitable. Tackling inequalities is important as disadvantage starts early, and the effects are cumulative - without support, children and young people with speech, language and communication needs risk underachievement, poor health and disadvantage across the life course (Law, Charlton & Asmussen 2017).

Reducing inequalities requires a whole system, integrated approach that is universal in reach, but with a scale and intensity that is proportionate to the level of disadvantage (Marmot, Allen, Boyce, Goldblatt & Morrison 2020). Focusing solely on the most disadvantaged will not reduce health inequalities sufficiently (Marmot, Allen, Goldblatt, Boyce, McNeish, Grady et al. 2010; Heckman 2013). Indeed, it may stigmatise those most affected while missing the opportunity to reduce the social gradient across the whole population who are all negatively impacted to a greater or lesser extent. The universal nature of the HV service provides a unique framework for reaching out to all families with babies and children under the age of five, without stigma as it is widely "valued and accepted"(Local Government Association 2017). HVs are highly skilled Specialist Community Public Health Nurses who are trained to work in partnership with parents and communities through a preventative "upstream" approach that focuses on "health creating" practice building on health assets (Cowley et al 2013).

Through universal contacts as part of the HCP, HVs use their specialist public health skills and knowledge to promote speech, language and communication development for all children. This includes both primary prevention and early identification of children and families who would benefit from additional support, systematically assessing health and developmental needs and providing support proportionate to that need. HVs work with parents to identify the most appropriate level of support for the child's individual needs. Ideally, HV teams should work within an integrated local speech and language pathway, delivering evidence-based interventions and sign-posting to other services or specialist support where this is needed. The levels of service, from community action through to supporting families where there are complex needs, are an opportunity to promote speech, language and communication taking a life course approach, which starts in the antenatal period through to transition to school.

The HV 2-2½ year review has been the focus of timely identification of speech, language and communication needs using the ASQ-3 nationally mandated pre-assessment tool. (Squires & Bricker 2009; Squires, Potter, Bricker, Lamorey 1998) (https://www.gov.uk/government/publications/healthy-child-programme-0-to-19-health-visitor-and-school-nurse-commissioning). From our PPI the mode of delivery of this contact is, as with other aspects of the current HVs provision, variable, with local areas adopting a range of approaches to the offer including group assessments, home visits, and clinic reviews, delegated to the Nursery Nurse as part of the skill mixed health-visiting team.

The parental perspective

There are a growing number of studies that have focused specifically on the perspectives of parents whose children have or are at risk of language delay. In the national review of services for children with speech, language and communication needs (the Bercow report - DCSF, 2008) parents commented on the lack of awareness in the general public about the importance of communication in children's lives. They expressed concern about how first-time parents would recognise difficulties. In other studies, parents report that comparisons with other children is a key method by which they assess their child's development and how they become aware of problems (Glogowska & Campbell, 2004; Rannard et al, 2004). Common indicators that parents report have alerted them to difficulties in speech and language included that children were very quiet as a baby (Rannard et al, 2004), not using words at two years of age (Glogowska & Campbell,2004), and having difficulties making themselves understood, but often it is a non-specific feeling that something is wrong. (DCSF 2008; Rannard et al, 2004; Glogowska and Campbell, 2004). Experiences of the 2- 2½ year review vary, and whilst some parents in the Bercow report talked of positive experiences of having their child identified at the 2- 2½ year review, others reported how their child had been missed despite parents raising their own concerns. Parents experience relief on the one hand to have an opportunity to discuss their child's difficulties; but feelings of concern and fearfulness are also expressed. "Referral, even when positively sought, still had the capacity to mean that 'something was wrong' with the child and was potentially upsetting for the parent" (Glogowska & Campbell, 2000).

Parents also arrive at the 2- 2½ year review with a range of feelings about their own role in their child's development. Generalised feelings of guilt are not uncommon (Glogowska & Campbell, 2004; Marshall et al, 2007), with a sense that they have failed their child; this is also related to feelings of stigma in terms of how they are perceived by others if their child does not communicate in the way that they might expect (Glogowska & Campbell 2000; Rannard et al, 2004). Parents feel that they know their own child and expect professionals to recognise their knowledge and expertise (Marshall et al, 2007). It also seems that parents are clear about their role as advocates for their child, and this is irrespective of who has identified a language difficulty (Davies et al, 2016). However, parents are more uncertain about who takes responsibility for supporting a child with a language difficulty, particularly at the start of an intervention (Davies et al 2016). Parents do expect the professional they deal with to have expertise, in particular that professionals will be able to interact successfully with their child and provide them with relevant and helpful information (Auert et al; Davies et al; Lyons et al, 2010). Parents in the Bercow review called for professionals to take their concerns seriously, for clearly defined routes and access to information and support and for training for professionals in how to discuss potential diagnoses and difficulties with parents.

There is not a straightforward relationship between parents' concerns, their child's speech and language development and parents' desire for help, (Skeat et al, 2010; Glogowska & Campbell, 2004; Roulstone et al, 2003), with some parents whose child has identified difficulties preferring to allow time without intervention for their child to develop. Furthermore, parental concern may wax and wane over the period of several months depending on their child's rate of development (Skeat et al, 2010).

And, finally in this context it is interesting to highlight a recent report from NESTA (Bibby & Deacon 2020), which argues that more than just asking parents' opinions about the services they have received it is necessary to go much further ensuring that parents are perceived as the key asset in the child's environment and that they should be seen as instrumental in co-designing services that meet their needs and the needs of their child.

Conclusions

Early differences in language development are now well recognised and are commonly regarded as being associated with socio-demographic differences between families. Identifying children in need of services has been a priority of public health services in England for many years – commonly delivered by the universal services offered by health visiting teams but also within education settings. In part, this is because language difficulties are often seen as a problem by parents and practitioners but also because such difficulties are associated with other neurodevelopmental difficulties. A great deal has been written about the early identification of developmental difficulties and in particular, early language difficulties or what are now commonly known as SLCN. Enthusiastic researchers and clinicians have often advocated the use of screening tests but these rarely meet criteria for formal screening programmes. Increasingly the views of both parents and practitioners are seen as key to the development of sustainable services in this area.

Chapter 2: Project overview

Summary of Chapter 2

- The project was conceived of as an ambitious set of interrelated activities which would lead to the development of a measure – The Early Language Identification Measure - Extended (ELIM-E) together with an accompanying set of resources supporting an intervention bringing together parent, child and practitioner.
- Together they serve as a conversation between parent and practitioner, which would be a meaningful and useful experience for both partners. It would foster a positive, lasting experience between the two and would lead to more accurate identification and management of need, whether by providing and monitoring activities given to the parent, signposting to support services or local resources, or making a referral to speech and language therapy services.
- Patient, Public Involvement (PPI) guided the project throughout, informing the initial development of the ELIM-E, the research process and the context of current practice to inform future recommendations.
- Data were collected in five sites identified by PHE and the collection period ran between July 2019 and March 2020. All children attending their 2-2½ year review within the five sites were given the option to consent to completing the Early Language Identification Measure-Extended, carried out by their Health Visitor at that visit. Children then had their language assessed blind to the initial ELIM-E result using the Preschool-Language Scale-5 (PLS-5) completed by a speech and language therapist.

Introduction

In this chapter, we describe the context in which the project was set, the overall aim and the four research questions and the six interlocking elements, which made up the project and how they relate to one another. We comment on the use of PPI throughout the project and summarise the timeline for the project.

Terms of reference for the project

This programme of work is part of a cross government partnership with the Department for Education (DfE) to improve speech, language and communication in the early years for disadvantaged children and forms one of the key elements of the Social Mobility Action Plan for Education “Unlocking Talent, Fulfilling Potential” (DfE 2017). The original aim of the present project was to develop, pilot and evaluate an evidence-based language assessment tool to improve early identification of children with early speech, language and communication needs (or risks thereof), with resources suitable for use by Health Visitors (HV) with parents/carers and suitable for use by parents/carers themselves to promote early language acquisition.

Aims and Research Questions

The project was driven by four key evaluation questions:

1. Does the ASQ-3 identify children with Speech Language and Communication Needs (SLCN) in the 24-30 month age range measured against a gold standard language assessment, the Preschool Language Scale-5th Edition (PLS-5)?
2. To what extent is it possible to enhance the accuracy of this process by introducing a second stage identification process for SLCN?
3. What is the acceptability of using the combined procedure from the practitioner and parental perspective?
4. Can the findings be readily transferred into accessible intervention resources acceptable to both parents and professionals?

Interlocking phases of the project

The study was separated into five interlocking phases:

PHASE 1. Developing a measure of language development from existing research and practice for use by HVs;
PHASE 2. Testing of the measure against a gold standard;
PHASE 3. Reducing the measure to the most predictive items;
PHASE 4. Obtaining practitioner and parent feedback;
PHASE 5. Developing an intervention package that links the ELIM-E conversation and activities that make sense to parents

PHASE 1. Developing a measure of language development from existing research and practice for use by HVs.

The research team developed a simple measure, The Early Language Identification measure – Extended in conjunction with parents and professionals. The ELIM –E was developed from the literature and comprised five sections with 33 items in all. The aim was to identify which sections and which items in the ELIM-E best discriminated whether a child had SLCN such that they warranted further concern. The aim was to reduce the items to ones that best predicted the outcome and provide a shortened version of the ELIM – the ELIM-S. Both are provided in the appendices. Parents attending their HCP 2 -2½ year review were given a simple questionnaire about their background and completed the ELIM-E with their HV.

PHASE 2. Testing of the measure against a gold standard.

HVs were trained to use the measure during the 2 -2½ year review as part of the HCP. The measure was then to be used with 1248 children (representative of the English population established through proportionate stratified sampling techniques) in the five sites. At this point parents were recruited to the study. Children and parents were then seen in the home or clinic by a speech and language therapist (SLT) and at this point, they were given a standardised language *gold standard* (the Pre-School Language Scale – UK). The speech and language therapist was blind to the initial results. The PLS-5 is the "gold standard" against which the ELIM-E is benchmarked.

PHASE 3. Reducing the measure to the most predictive items.

At this stage, the measure (from Phase 1) based on data collected (in Phase 2) was refined to provide the optimum combination of items to best predict the gold standard performance.

PHASE 4. Obtaining practitioner and parent feedback.

This phase aimed to explore parent and professional perspectives on the identification process, focusing on the acceptability of the speech and language component of the developmental review. It comprised five focus groups with members of the HV teams, one group at each site. In addition, all parents who participated in the gold standard assessment (the PLS-5) were asked to complete a survey. Finally, short telephone interviews were carried out with parents (aiming for 10-15 per site) as soon as possible following their review with the HV, using a topic guide covering constructs including: affective attitude, burden, ethicality, coherence, opportunity costs, perceived effectiveness and self-efficacy.

PHASE 5. Developing an intervention package that links the ELIM-E conversation with activities that make sense to parents.

One of the key outputs of this project was for the resources to be co-designed with practitioners and parents during the co-design groups. These include the identification of barriers and facilitators from the parent's perspective and a process for developing shared decision-making and goal setting between practitioner and parent.

Patient, Public Involvement (PPI)

NHS England and the National Institute for Health Research (NIHR, 2018), advocate that PPI should be a key part of all service and research development as it supports the likelihood of the intervention being acceptable in practice (NHS, 2017 and NIHR, 2018).
A PPI approach was therefore integrated into each phase of the project. PPI is not considered research itself but rather acts to guide the research process and project development. The purpose of PPI in the current project was to inform the initial development of the ELIM-E, as well as to inform the research process and consider the context of current practice to inform future recommendations. PPI groups were made up of both parents and HVs from the five study sites alongside wider practitioners involved in the delivery of support to families around speech, language and communication including the early years workforce. Recruitment for PPI participants was coordinated through local contacts (HV and SLT leads). Parents that took part in PPI were primarily those who had recent (in the last 2 years) experience of the 2-2½ year review and who had children with identified language and communication difficulties. Practitioners included HVs and their teams including Community Nursery Nurses and Healthy Child Practitioners, Early Years Practitioners (EYP) and Speech and Language Therapists (SLT).

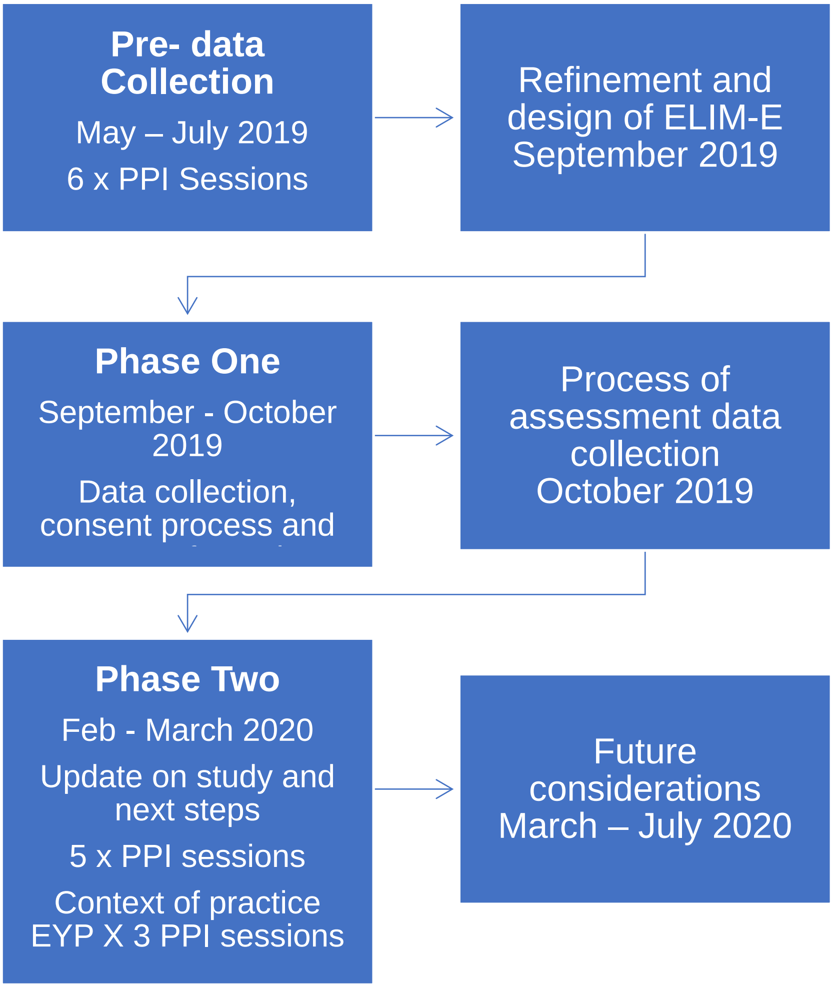
As detailed in the PPI approach flow chart (Figure 2:1), each of the 5 sites were visited once at the beginning of the project (May-October 2019) and once at the end of the project (February-March 2020). The first two PPI sessions at the beginning of the project covered two key themes, 'refinement and design of ELIM-E', and 'process of assessment data collection', and the PPI sessions at the end of the project covered one theme 'final report and recommendations'. It was our initial intention to involve all 5 sites in the pre-data collection phase focusing on the refinement of the ELIM-E, however differences in site organisation and capacity meant sites were booked for PPI across different months, alongside which the focus of the PPI sessions was adapted to meet the requirements of the research process at that time. Therefore, three sites took part in the refinement of the ELIM-E, and two sites took part in exploring the process of assessment data collection. Based on PPI themes and timing, we split the PPI into three phases:

- Pre-data collection - as project materials were in development
- Phase One- as data collection commenced
- Phase Two- as data collection ended

The design of the PPI schedule followed NIHR (2018) guidance. For each session, participant information guides were developed with the aim of gathering feedback that reflected the stage of the project. Parent and practitioner sessions were held separately to allow for open discussion. Each session was facilitated by two members of the project team and lasted approximately 2 hours. Feedback from the sessions was gathered using a range of approaches including flip charts, post-its and audio recordings. These were then collated through high-level review of the written and audio feedback to identify key messages to inform the next steps of the project's development.

The detail of each of the PPI phases is presented within chapters 3 and 7 of this report, to articulate how the engagement informed the project's development.

Figure 2:1 The PPI Approach



The benchmark

Identifying whether a measure effectively identifies the correct group of children depends on the use of a gold standard or benchmark measure with an explicit threshold. The measure selected for this purpose was the Preschool Language Scale - Fifth Edition (known as the PLS-5 and referred to below as the PLS-5) (Zimmerman et al. 2014). This is a comprehensive developmental language assessment, with items that range from pre-verbal, interaction-based skills to emerging language. The assessment is detailed and can take half an hour or more to complete. As part of the application of this measure, the person carrying it out has to have the requisite professional accreditation. In most cases, this measure would be carried out by a speech and language therapist is who fully trained to administer and interpret standardised language assessments. For the purposes of this analysis the threshold on the PLS-5 was set at the tenth centile, reflecting known prevalence estimates.

Timeline

The project started in January 2019. NHS ethical approval was sought in January 2019 and received in May 2019. Local management approvals were completed in July 2019. During this period, we also visited each of the sites and spoke to those who were to be involved in the project – i.e. both health visitor and speech and language therapy teams. In practical terms, the first assessments were completed in the later stages of July 2019 and the final assessments were completed in March 2020 – nine months in all. In the event, the Covid-19 crisis hit the UK in February 2020 and services for the majority of very young children effectively stopped in mid-March 2020, as did the data collection for the project. It was not possible to regain some of the data received by post from our five sites until the end of May 2020. The crisis did not affect our final recruitment.

Table 2:1 Project timeline

Task	2019				2020	
	Q1	Q2	Q3	Q4	Q5	Q6
ELIM-E developed and tested	■					
Sites contacted	■					
Parent/practitioner questionnaires developed	■	■				
CPD delivered		■	■			
Ethical/management approvals		■	■			
Data collection started			■			
Co-design				■	■	■
Data collection complete					■	
Data analysis					■	■
Report submitted						■
PPI	■	■	■	■	■	■

The five sites

As indicated above the five sites identified by PHE for the purposes of the data collection were:

- Derbyshire
- Middlesbrough
- The London Borough of Newham
- Wakefield
- Wiltshire

Each site was contacted in January 2019 to identify professional leads in both the HV and SLT teams and to discuss any issues/concerns that the teams had about the project and to arrange a site visit to start the project. The first of these visits took place in mid-March in Newham. The five sites, while geographically dispersed, were chosen because they were considered to have good IT systems and because they were relatively socially disadvantaged and thus likely to have a relatively high number of children with delayed language development. Of course, there is socio-demographic variability within most sites in England but we asked sites to identify areas which were as representative of their areas as possible, stressing that we wanted to see all children coming through a given clinic and that all children should be assessed by the speech and language therapist, not just those with problems.

Sites then had to organise how the SLTs and HVs should interact with one another over the course of the project. It is noteworthy that the structure of the sites varied considerably. Thus, in two sites (Derbyshire and Newham) health visiting and speech and language therapy fell within the remit of the same provider. In two sites (Middlesbrough and Wakefield), the providers differed. Thus, in Middlesbrough the SLT services were delivered by the local South Tees Hospitals NHS Foundation Trust and the HV services by Harrogate and District Community Foundation NHS Trust, while in Wakefield the SLT services were delivered by the local Mid Yorks NHS Trust and the HV services by Bradford Community Healthcare. In Wiltshire, both services were provided by Virgin Healthcare. In some, there was a long history of collaboration between SLT and HV services and in others less so. In some cases services were co-located and in others not. Finally, in some sites, HV services operated different delivery models; some clinic based, some home visiting, and others operated a blended approach. In short, this variability gave us the opportunity to test whether the ELIM-E was able to function in a variety of different clinical environments.

Training

As indicated above, each site was visited initially to provide training to the staff who would be involved in the use of the ELIM-E and the assessment of the children. A proforma training programme was developed to last for two hours (see Appendix 1). This included opportunities for staff to ask questions about the project and about the use of the ELIM-E. For example, staff sometimes asked about the administration of specific questions. This was also the opportunity to determine how the two services (HV and SLT) would interact during the course of the study. In each case, the training meetings were run by two members of the research team using the same set of slides and in a location arranged locally.

Ethical and local management approvals

All relevant details about the project were submitted to the West Midlands - Black Country Research Ethics Committee and a favourable ethical opinion was received on 7th of May 2019 REC reference 19/WM/0114 project #261205. Management approvals were then received from the five sites.

The sequence of the present report

The report is arranged in eight chapters following the overlapping sequence of the activities above. In Chapter 3, the PPI elements that fed into the development of the ELIM-E are described. Chapter 4 provides detail on the development of the Early Language Identification Measure-Extended and its application across the five sites. Chapter 5 reports on the findings from a survey and focus groups with parents and practitioners looking at their experiences of the 2-2 ½ year review. Chapter 6 outlines the approach to co-designing the intervention. Chapter 7 reports on another element of the PPI process specifically regarding understanding the context of practice for future implementation of robust assessment of SLCN and interventions. And, finally, in Chapter 8 we summarise the final model of service delivery that we are proposing as a result of the study and make recommendations for how the two elements of the Early Language Identification Measure and Intervention could be implemented and then supplemented with further research.

Chapter 3: The development of the Early Language Identification Measure-Extended [ELIM-E]

Summary of Chapter 3

- The Early Language Identification Measure-Extended (ELIM-E) was formulated by the research team and colleagues in the context of existing literature producing an extended version of the measure for testing (ELIM-E).
- Prior to data collection a series of Patient, Public Involvement (PPI) sessions were held across the five sites with parents and practitioners (health visitor teams, Speech and Language Therapists), aiming to refine the ELIM-E ensuring acceptability of questions, and to clarify the process of assessment data collection.
- Both parents and practitioners welcomed the ELIM-E as an additional tool for use in the 2-2½ year review. Feedback resulted in changes to the wording of some of the questions in the ELIM-E, for example, simplifying the language used to be less academic, altering the tone of questions for parents.
- Sensitive questions, such as mental health history, practitioners reported they were comfortable to ask, whereas parents had a mixed response; some reporting they would feel uncomfortable to answer whilst others didn't mind.
- Parents and practitioners (Health Visitors, health visitor team members) reported they would be happy to use the ELIM-E within the review. Sites differed as to where the review took place, some in clinics or child development centres and some in the home. There was variability between the sites in the relationship between Health Visitors and Speech and Language Therapists, some working very closely together and others being less connected.
- From the PPI sessions, the process for assessment data collection was refined in order to map onto existing practice. Successful collection relied upon effective communication between the health visitor team and Speech and Language Therapists**.**

Introduction

This chapter focuses on the development of the Early Language Identification Measure-Extended (ELIM-E) for use by Health Visitors (HV) at the 2-2½ year review. The measure was conceptualised in five sections to cover different perspectives on the child's early communication development and reflect-areas that have been covered elsewhere in the early identification/screening literature. The five areas are framed on the form as follows:-

SECTION 1: Can you tell me about your child's communication?
SECTION 2: Which words does your child say?
SECTION 3: Can you tell me about you and your family?
SECTION 4: Assessors observation of the child

SECTION 5: Do you have any concerns about your child's development?

Sections 1, 3, 4 and 5 included questions generated from existing literature reporting on risk factors for poor language development. Section 2 included a 50-word vocabulary list called the *Sure Start Language Measure* generated for an audit tool in the Sure Start programme in the first decade of the twenty first century and applied across England at the time.

The items were formulated by the research team in the context of the literature and in collaboration with a broader range of experts from across the UK and beyond. The complete ELIM-E form was then drafted in February/March 2019 and shared with HVs and SLTs during the pre-data phase of PPI as detailed below along with members of the PHE/DfE Expert Advisory Group. The ELIM-E was modified based on feedback from these colleagues, including wording and item changes .The final ELIM-E was agreed in May 2019. Data were collected on this extended version. The final dataset was then used to reduce the number of items in the measure, so that items were only included which predicted the outcome (speech, language and communication needs) leading to the development of the Early Language Identification Measure-Shortened (ELIM-S).

PPI pre – data collection phase: refinement of the ELIM-E

This short section details how the PPI sessions informed the development of the ELIM-E before data were collected.

What we did - our approach to the sessions

A total of 6 sessions were held throughout May and July 2019, prior to data collection. The three sites that took part in this phase were those for which an appropriate date could be arranged for both parent and practitioner sessions to be held; securing the dates was dependent upon practitioner organisation and capacity and parent recruitment as well as local project and ethical agreements being in place for the project to begin. The table below (3:1) provides details of attendees for each session and where and when each session was held.

Table 3:1 Dates, attendees and location of pre-data collection PPI sessions

Session #	Date of each session	Participants	Site
1	04.06.19	Parents: n=4	Wiltshire
2	04.06.19	Practitioners: HV skill mix n=5, EYP n=0, SLT n=1	
3	08.07.19	Parents: n=5	Derbyshire
4	08.07.19	Practitioners: HV skill mix n=7, EYP n=0, SLT n=3	
5	31.07.19	Parents: n=1	Middlesbrough
6	31.07.19	Practitioners: HV skill Mix n=4, EYP n=0, SLT n=3	

The aim of these first sessions was to introduce the project to practitioners (HVs and SLT) and parents and gather their first perceptions of the ELIM-E. We also sought their views on the development of questions for the parent survey that would be given to all parents following their assessment by a SLT once the ELIM-E had been completed as part of this project, and to gather views on the acceptability of the ELIM-E and its delivery.

Structure of the sessions

1. In all sessions, there was an overview of the project including how it aligned with the Department for Education Social Mobility Action Plan: Unlocking Talent, Fulfilling Potential (2017) and the different strands the whole programme.
2. The practitioner sessions offered an opportunity for the research team to begin to explore with the practitioners their initial views on the ELIM-E and how it might fit into their current practice and delivery in the 2 -2 ½ year review. The second half of the session was used to share the draft version of the ELIM-E with the practitioners and gather their feedback on the different sections, consider its structure and efficacy for their use. (Full summaries provided in Appendices 1, 2 and 3)
3. Parents were offered a draft copy of the ELIM-E and were asked to comment on the suitability of the sections and questions they include, the specific language used to ask the questions and the acceptability and feasibility of completing the ELIM-E within their 2-2½ year review.

What was the feedback from the Pre-Data Collection PPI sessions and what did this inform?

The tables below (Table 3:2 and Table 3:3) outline the main topics raised in the PPI sessions in this phase, alongside the key points that were relayed in HVs and parent feedback, and how the research team used these messages to inform the project.

Table 3:2 Combined feedback from the practitioner (HVs and SLT) sessions

Topic / Area	Key Points	What did this inform
Acceptability of the ELIM-E	Overall HVs and SLT were positive about the ELIM	This reassured the research team that the overall design of the ELIM-E was acceptable
	Some of the language used in the ELIM-E was seen as academic and needed to be simplified to encourage HVs to ask the questions	This resulted in rewording and simplifying some of the language where this was possible without altering the fidelity of the questions
How to introduce and used the ELIM-E	The way the HV introduces the measure may lead the parents to see it as a test.	An ELIM-E Handbook was developed including standard introductory text expressing the importance of not saying the ELIM-E was assessing or screening for language difficulties.
	There were concerns over how to introduce the ELIM-E and need for a standard script	

		Clear guidance was developed for each section of the ELIM as part of the handbook including how to complete/score each section and further expanding on the meaning or interpretation of some questions
Observational section	The HVs welcomed this section as they expressed difficulties relying on the parent report in the ASQ-3. HVs felt that parents tick boxes without consideration of the questions in ASQ-3, due to lack of time or wanting their child to do well. This observation allowed HVs and SLT to use their skills and experience	The handbook specified that the observation section was to be completed throughout the session or on reflection of the session as a whole rather than at a specific time-point where the HV and SLT would 'now observe the child'. We advised that they may provide toys to the child during the session which may aid their observations
	Concerns were expressed on how to introduce and explain this section and worry that parents would want to know the outcome	
Word list (how many words the child uses)	It was suggested that parents are given the word list to complete rather than the HV and SLTs reading out the 50 words which could take time	This suggestion was taken forward in the ELIM-E handbook
Mental health and learning difficulty questions	It was reported HVs were used to asking these types of questions and were comfortable to ask in the ELIM-E	These questions were retained in the ELIM-E
Parent Survey structure	Feedback was offered by HVs and SLTs on length and structure including wording of questions and the process of completing the ELIM-E	These changes were made in the development of the parent survey which is discussed in chapter 4

Table 3:3 Combined feedback from the parent sessions

Topic / Area	**Key Points**	**What did this inform**

Acceptability of the ELIM-E	This was a welcome addition at the 2 -2½ year review and the focus on language	This reassured the research team that the overall design of the ELIM-E was acceptable
	HVs liked the prospect of early identification of difficulties and not having to watch and wait, early intervention was seen as positive	
	Parents were keen to have their own perspective and concerns listened to by the HVs	
Language used in the ELIM-E	The wording needs to be changed in specific questions (how often do you read to your child', or 'do you take your child out with you') was felt to be accusatory or insulting	The words and language used in the ELIM-E were modified to offer a sensitive approach. For example, 'How often do you read to your child?' was altered to 'Some people share books with their child although the amount of time doing this can vary a lot', before going on to ask how often the parent shares books with their child
Mental health and learning difficulty questions in the ELIM-E	Mixed responses were reported - some parents didn't like these questions as they felt they were too personal, others didn't mind and reported they had already had those types of discussions with their HV	These sections were retained as there were mixed views and HVs were confident with them, however the family section of the ELIM-E within which these questions are placed, was divided into two sections: Parent-child Interactions, and Family History to allow these areas to be explored sensitively
Parental concern section of the ELIM-E	Parents felt this offered them an opportunity to be heard and to contribute to the assessment of their child	This reassured the research team to retain this section
ASQ-3	Parents reported they felt the questions were not realistic or relevant to the experiences of their child, they were concerned that the HV took their response at face value with the HV assuming as the form ticked this was correct and no observations were made	This needs to be considered in the future development and use of the ASQ-3 as this is outside the scope of this project

Parent survey	Parents commented positively on the survey structure, however it needs to be clear that this was part of research and not an opportunity to raise complaints or concerns about their child	Changes made to the survey included slight wording changes to the questions

PPI phase one: process of assessment data collection

This section details how PPI refined the processes for research including how consent and data would be collected and returned to the research team, and how HVs and SLTs might liaise with each other to complete both the ELIM-E and Preschool Language Scale-5/Strengths and Difficulties Questionnaire/Survey with parents.

What we did - our approach to the sessions

A total of 4 sessions were held throughout September to October 2019. The two sites that took part in this phase were those out of the 5 sites that had not yet had an initial PPI session. The table (Table 3:4) below provides details of attendees for each session and where and when each session was held.

Table 3:4 Dates, attendees and location of phase 1 PPI sessions

Session #	Date of each session	Participants	Site
1 2	10.09.19 10.09.19	Parents n=(3) Practitioners: HV skill mix n=4, EYP n=0, SLT n=0	Newham
3 4	16.10.19 16.10.19	Parents n=0 Practitioners: HV skill mix n=4, EYP n=0, SLT n=2	Wakefield

The aim of these sessions was to refine the process of assessment data collection. We aimed to establish the feasibility of collecting informed parental consent for data collection and explored existing relationships between the HV and SLT teams in order to establish pathways for data sharing for the project so that parents could complete the ELIM-E with the HV then the PLS-5/SDQ/Survey with an SLT.

Structure of the sessions

1. In all sessions, an overview of the project was delivered including how it aligned with the overall Department for Education Social Mobility Action Plan: Unlocking Talent, Fulfilling Potential (2017) and the different strands of the overall programme. The session then introduced the proposed research processes for data collection.
2. For practitioner (HV and SLT) sessions this was an opportunity to consider how the proposed research process would operate within their existing practice; thinking about which data would be collected when, by whom, how parent contact details would be shared safely between the HV and SLT, and how data would be returned anonymously to the research team. The session allowed the HV and SLT the opportunity to problem-solve any practicality issues with the research team and between HV and SLTs.
3. For parents, the session asked about the acceptability of receiving project information forms, and the feasibility of completing project consent forms and the ELIM-E in the 2-2½ year review as well as attendance at a second review with the SLT.

What was the feedback from the Phase One PPI sessions and what did this inform?

The tables below (Table 3:5 and 3:6) outline the main topics explored in the PPI sessions in this phase, alongside the key messages that were relayed in practitioner and parent feedback, and how the research team used these messages to inform the project.

Table 3:5 Combined feedback from the practitioner sessions

Topic / Area	**Key Points**	**What did this inform**
Acceptability/feasibility of the ELIM-E in practice and the SLT assessment procedure	The HVs and SLTs agreed that the ELIM-E could be completed at the end of the 2-2½ year review after they had gone through the ASQ-3, although some were concerned around time constraints of the review.	This reassured the research team that HVs had capacity to complete the ELIM-E and that it would fit into the service if rolled out in future
	There were differences between sites as to where the review takes place; some areas no longer have clinics or children's centres so reviews take place at the parental home, other areas taking place in either a clinic, children's centre or in the home.	It was agreed between the sites and the research team that practitioners would complete data collection in the place most suitable for their locality
	HVs informed us that documents for the 2-2½	It was agreed that project information sheets would be sent

Acceptability/feasibility of collecting informed consent from parents	year review were sent out to parents in the post prior to the review	out in the post to parents prior to their review to allow them time to read through and consider their participation
	There was some concern from HVs about over-burdening parents with information and consent sheets being sent in the post and a preference that consent was completed with the HVs in the review so they could talk through their involvement	It was agreed that parental consent would be collected by the HVs with the parent within the review so the HVs could be clear that the parent fully understood their involvement
Relationships between HV/SLTs for data collection	Across sites there were different degrees of relationships and familiarity between HVs and SLTs; some had an existing relationship, working quite closely together, some sharing the same offices, whereas others were less connected, two sites having separate commissioning groups for HVs and SLTs	HVs and SLTs at each site were asked to liaise with each other to arrange the process of passing participant contact details between them so that the SLT could complete the PLS-5/SDQ/Survey with the parent after the ELIM-E was completed
	HVs raised concerns about how they could maintain the anonymity of the participating child whilst passing information between the two services. In addition, there were concerns around how data would be received anonymously by the research team	To ensure anonymity, the research team created a unique ID code for each participant which included site initials, participant initials and a number that represented the order of children seen. This was entered onto an information sheet on the back of the ELIM-E that was to be handed to the SLT and included participant contact details and the date the child was seen by the HV. This code was used on all project documents received by the research team. Sites (HVs and SLTs) received pre-paid and addressed envelopes for returning anonymised data.

Table 3:6 Combined feedback from the parent sessions

Topic / Area	**Key Points**	**What did this inform**
Acceptability/feasibility of the ELIM-E in practice and attending the SLT review	Parents reported they would be happy to complete the ELIM-E in the 2-2 ½ year review and were not concerned whether this impacted on the duration of the review	This reassured the research team that parents would feel comfortable to complete the ELIM-E within the review alongside the HV
	There were different opinions around attendance at the SLT review to complete the PLS-5 with some parents advising that parents might be unlikely to attend if they have no concerns about their child, and/or if it created a time and/or a travel burden on them. They highlighted the importance of expressing to families that the project is research and is beneficial to a wider group, not just to them as an individual	The research team informed HVs that they were to explicitly highlight to parents the research element of the project and importance of attending both reviews, that the assessments were not individual assessments of their child from which they would receive individualised feedback
Acceptability/feasibility of collecting informed consent from parents	The parents confirmed they received documents for their 2-2 ½ year review through the post. Some parents expressed that they didn't always have time to complete forms at home, that they may look at them, but would prefer to go through the project information form during the 2-2½ year review with the practitioner	Practitioners were asked to keep information sheets with them during the 2-2 ½ year review so they could go through it with the parents during the session, for either parents who had not read the letter at home, or to recap on the information for parents prior to completing consent

Chapter 4: The findings from the Early Language Identification Measure

Summary of Chapter 4

- This chapter reports the results of the assessment of 894 children using the Early Language Identification Measure-Extended (ELIM-E) of which 403 also received the Preschool Language Scale-5 (PLS-5) standardised language test carried out blind to the results of the initial ELIM-E assessment by a speech and language therapist.
- The sample had representation in all the Income Deprivation Affecting Children Index (IDACI) deciles although there was a slight skew to the more disadvantaged end of the distribution.
- Each ELIM-E item was explored against the PLS-5 threshold and those that did not discriminate were excluded from further analysis.
- Each item was split into a binary variable and a single score given for each section. Different combinations of the sections were compared with the PLS-5 threshold. The priority was the sensitivity of the measure, to miss as few children as possible.
- The data suggest that each section score does have some discriminatory power but these vary considerably. The section with the highest overall discrimination was the word list. The section with the lowest overall discrimination contained the family items. The HV observation gave the highest sensitivity and the word list the highest specificity.
- Following the same process we then excluded the family section as this was not contributing sufficiently highly enough, and then tested the other four sections in different combinations. The combination, which maximised sensitivity and gave the second highest specificity was the word list and the HV observation with a sensitivity of 0.94 and a specificity of 0.65. Out of 403 children for whom we had both ELIM-E and PLS-5 assessments, only 6 children were 'missed' children whose need or delay was not picked up by this combination. The proportion that was over-identified by these sections is of course higher but these children warrant further investigation by the HV team. It was this approach that then went forward into the model described in Chapter 8.
- Finally, we looked at the characteristics of children identified as false negative (passing the ELIM-E but with scores below threshold on the PLS-5) and false positive (not passing the ELIM-E but with scores above threshold on the PLS-5). Some patterns emerged, but no feature was 100% reliable in eliminating potentially misleading ELIM results. Every case thus requires careful assessment and additional judgements by the practitioner involved.
- As part of the description, we also looked at the language use of the child, split into monolingual English, those who primarily spoke English but heard or spoke a second language at home, and those who primarily spoke another language that was not English and heard or spoke a second language at home. This was not considered a risk factor in itself but there clearly are differences in the way that these different groups are engaged in the process of identification and this needs to be taken into consideration in the monitoring process. Importantly both the HV observation and the vocabulary list have the potential to take this into consideration.

Introduction

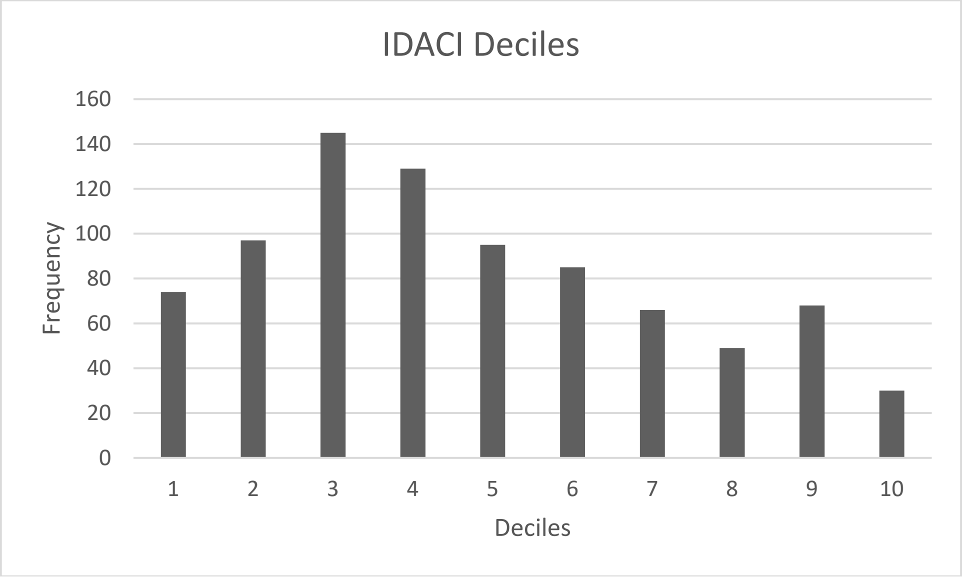
In this chapter we report the analysis of the Early Language Identification Measure-Extended (ELIM-E) against the threshold on the Preschool Language Scale-5 (PLS-5). The chapter starts by looking at the sample and goes on to examine each of the items in the ELIM-E and then explores different combinations of sections to look for the optimum approach. We then look at the nature of the false positives and false negatives.

The Sample

The total number of children identified for the project in the five sites was 894 although it is important to point out that the numbers reported vary a little because not everyone responded to every question, and with rounding, the numbers may not equal 100%. All of these children received the ELIM-E. Of these 406 (45%) were girls and 450 (50%) were boys, with 38 (4%) being missing. 41% of the children were first-born and families included up to seven children. 31% of the assessments were carried out by a health visitor (HV) and 66% were carried out by other HV team members employed within the HV teams, (3% were missing data). 92% of the parents responding were mothers, with 4% fathers, and (4% were missing data). 60% of the parents reported that they only used English at home,15% reported that they only used another language at home and 10% reported that they used English and at least one other language at home (16% missing data).

One of the key dimensions to the sample was the socio-economic status of the parents attending for their 2-2½ year review. Although the five sites would be considered to be disproportionately socio-economically deprived relative to the UK population we asked health visitors and their teams to give us the ELIM-E data on all children attending and we knew that in each site there was a range of different social groups. The data used are from the Income Deprivation Affecting Children Index (IDACI), taken from the family home postcode. In the chart below, they are represented in IDACI deciles. The lower the IDACI decile the more disadvantaged the postcode. In the population as a whole, one would expect the proportions to be the same in each decile.

Figure 4:1 IDACI decile of family attending their 2-2½ year review. Lower deciles are more disadvantaged.



This graph indicates that our population includes all IDACI deciles with a slight skew to the lower end, indicating higher levels of social disadvantage. This is to be expected given the geographical sampling strategy described in Chapter 2.

Of the 894 children, 403 (45%) were also assessed with the gold standard assessment (The Preschool Language Scale-5th Edition described further in Chapter 2) and the ELIM-E. All parents were offered the second assessment, which was carried out by a speech and language therapist within two weeks of the initial ELIM-E assessment. Those who did not receive the PLS-5 assessment were families of children who did not attend for their scheduled review; a small proportion were unable to attend in March 2020 due to Covid-19. These are deemed "unpaired" – i.e. having Ages and Stages Questionnaire-3 (ASQ-3) and ELIM-E only, while the "paired" participants received the ASQ-3 / ELIM-E and PLS-5. In each of the tables below, the numbers change a little because information was missing for different variables involved. The relationship between the paired and the unpaired dataset is central to the development of the ELIM-S – the shortened version of the ELIM (see Chapter 2).

We compared key elements of the characteristics of the paired and unpaired groups. The results suggest that the unpaired group (i.e. those without the PLS-5 score) tended to be slightly younger, have a lower vocabulary but higher ASQ-3 scores (age appropriate ASQ-3 forms were used), reported reading slightly less and were less likely to have a family history of learning difficulties, had lower IDACI scores and were slightly less worried about physical abilities. There were also differences related to whether the child was seen by a health visitor or a member of the health visitor team – more of those that attended the health visitor team were paired. A larger percentage of the children who primarily spoke English but also heard or spoke a second language were in the unpaired sample. For most of the variables there was however no difference between those who did and those who did not attend the PLS-5 assessment (gender, SDQ, birth weight, length of pregnancy, parental age of leaving full time education). Overall, the differences that did occur were minor and we can conclude that our paired dataset was largely comparable to the unpaired data sets and thus that the findings from these analyses could broadly be generalisable to the population of children who attend the 2-2½ year review.

It is important to investigate the relationships that may exist among the key sample characteristics and the Word list and ASQ domains, Table 4.

Table 4:1 Association between key descriptor variables, ASQ-3 domains and Word list (correlation expressed as Spearman's rho). Zero represents no correlation and 1.0 is perfect correlation

	2	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**Word list**
	rho (N)	**rho (N)**	**rho (N)**	**rho (N)**	**rho (N)**	**rho (N)**	**rho (N)**	**rho (N)**	**rho (N)**
1.IDACI Score	-0.06 (803)	-0.05 (811)	-0.29** (774)	-0.11** (782)	0.09* (781)	0.03 (780)	-0.09* (781)	-0.01 (780)	-0.18** (830)
2.Birthweight (kg)		0.51** (823)	0.17* (781)	0.01 (783)	-0.03 (782)	0.02 (782)	0.08* (783)	-0.02 (782)	0.08* (831)
3.Length of pregnancy (weeks)			0.09** (785)	0.03 (794)	0.02 (793)	0.05 (792)	0.10** (793)	0.04 (792)	0.07* (839)
4. Age at time of asses. (months)				0.20** (754)	-0.14** (753)	-0.17** (752)	0.12** (753)	-0.05 (753)	0.30** (802)
5.ASQ Communication					0.20** (814)	0.42** (813)	0.50** (814)	0.59** (813)	0.76** (811)
6.ASQ Gross motor						0.30** (813)	0.28** (814)	0.33** (813)	0.11** (810)
7.ASQ Fine motor							0.45** (814)	0.48** (813)	0.30** (810)
8.ASQ Problem solving								0.49** (814)	0.47** (811)
9.ASQ Personal-social									0.46** (810)
*p<.05, **p<.01, ***p<.001									

Increasing deprivation (IDACI score) was associated with; being younger at the time of assessment, poorer performance on the ASQ-3 Communication, Problem Solving and Personal-Social domains, and the word list. It was also positively associated with ASQ-3 Gross Motor, but as with those other associations the relationship was weak. Unsurprisingly birthweight showed a strongly positively association with longer pregnancies and a small correlation with being older at the age of assessment, and better ASQ-3 Problem Solving and word list score. Similarly longer pregnancies were weakly associated with being older at assessment, and improving ASQ-3 Problem Solving and word list scores. Being older at the time of assessment was weakly related to poorer performance on the ASQ-3 Gross Motor, Fine Motor and Personal-Social domains and better ASQ-3 Communication and Problem solving and word list scores. All the scores for the ASQ-3 domains were positively correlated with the word list score. Most of the correlations were weak (rho<0.3) or moderate (0.3<rho<0.5) with a few being larger (rho>0.5). The largest association was, as expected, between the word list score and ASQ-3 Communication.

Findings

The analyses below are introduced by the primary question being asked at each stage of the analysis.

What proportion of children have scores that fall below the PLS-5 threshold?

The PLS-5 threshold is described in Chapter 2. It was set at the tenth centile meaning that in any sample the children with scores in the lowest 10% of the population standardisation sample would be identified as cases. 328 children (77%) had scores above the 10th centile threshold while 100 (23%) had scores below the threshold. This is clearly higher than the 10% that would be expected from the UK population as a whole but probably reflects the socioeconomic distribution of the five sites which were all relatively socially disadvantaged (see Chapter 2).

To what extent does the PLS-5 10th centile threshold discriminate background data on the children in the sample?

As the data in Table 4:2 suggest, there are consistent differences between the two groups with children who are lowest performing (i.e. with scores below the tenth centile) showing higher levels of disadvantage. Interestingly the IDACI scores do differ whereas parental education (age of leaving school) does not. Differences exist for the ASQ-3 domains, Fine Motor, Problem Solving and Personal-Social and perhaps unsurprisingly the area where there is the greatest discrepancy is language (ASQ-3 Communication). Thus although the PLS-5 threshold is identifying a group which is more socially disadvantaged and a little younger, it is not different in all demographic factors influencing development. We then checked this on all the sections of the ELIM-E.

Table 4:2 Core data by PLS-5 threshold expressed as means (standard deviations) for normally distributed data or medians (inter-quartile range) for data with a skewed distribution.

	PLS-5 Threshold (10th centile)	**N**	**Mean (SD)**
Birthweight (kg)	**>10**	300	3.39 (0.55)
	<=10	93	3.28 (0.83)
Gestation (weeks)	**>10**	296	39.09 (1.59)
	<=10	97	38.7 (2.07)
Age at time of assessment (months)* **	**>10**	281	26.17 (1.48)
	<=10	97	24.97 (1.62)
Parental age of leaving full time education	**>10**	281	19.81 (3.28)
	<=10	87	19.75 (4.26)
ASQ Gross motor	**>10**	292	52.83 (9.86)
	<=10	90	51.89 (10.56)
ASQ Fine motor**	**>10**	292	49.01 (9.60)
	<=10	89	44.94 (11.76)
ASQ Problem solving***	**>10**	292	52.47 (8.21)
	<=10	89	43.43 (13.79)
ASQ Personal-social***	**>10**	292	50.65 (7.83)
	<=10	89	41.46 (13.15)
	PLS-5 Threshold (10th centile)	**N**	**Median (IQR)**
IDACI Score***	**>10**	299	0.125 (0.12)
	<=10	90	0.209 (0.12)
ASQ Communication***	**>10**	291	60 (10)
	<=10	90	27.5 (40)
*p<.05, **p<.01,***p<.001			

The following sections will focus on the ASQ-3 score and then the word list.

How did performance on the ASQ-3 compare with that on the PLS-5?

We are interested in the extent to which the ASQ-3 categories link to the PLS-5 threshold. Using the colour categories from the ASQ-3, 'white' corresponds to typically developing, 'grey' corresponds to mild concern and 'black' to serious concern. In all, 379 children were involved in this analysis and the cross tabulations given in Table 4:3 below. The key values that we are interested in here are sensitivity and specificity. Test sensitivity is the ability of a test to correctly identify those with SLCN (true positive), whereas test specificity is the ability of the test to correctly identify those without SLCN (true negative). A low sensitivity means that the assessment misses children who should be cases and low specificity leads to children being over-identified. As discussed in Chapter 1 there is a balance between missing children and over-identifying them.

Table 4:3 ASQ-3 categories against PLS-5 split at the tenth centile

	PLS-5 Threshold		
ASQ-3 Communication* **	**>10**	**<=10**	
	N (%)	N (%)	N (%)
White	271(90) tn	31(10) fn	302 (100)
Grey or Black	20 (26) fp	57 (74) tp	77 (100)
Total *p<.05, **p<.01,***p<.001	291(76)	88(23)	379 (100)

This table indicates that of the 302 children who were considered to be typically developing on the ASQ-3 at 27 months, 271 had a score above the threshold and 31 were below. Similarly, of the 77 children considered at risk on the ASQ-3 (Black and grey), 20 had scores above the PLS-5 threshold and 57 below. Assuming that we combine the Grey and Black categories this gives us a good specificity of .93 but a low sensitivity of .65. This indicates that the ASQ-3 has a relatively good specificity and a very poor sensitivity, suggesting that, while the ASQ-3 does not over identify children, even using both Black and Grey categories the ASQ-3 misses 31 children of the 88 who were identified with difficulties on the PLS-5.

To what extent is the role of the person carrying out the ELIM-E associated with the result on the PLS-5?

In Table 4:4 we see the proportion of those identified, independent from the Health Visitor assessment, as being above and below the PLS-5 threshold. 67% of those seen by the health visitor had scores above the threshold compared with 78% of children assessed by the HV team member suggesting that the HVs are seeing proportionately more children with difficulties.

Table 4:4 Health visitor team members by PLS-5 threshold

	PLS-5 Threshold		
	>10	**<=10**	**Total**
Role*	**N (%)**	**N (%)**	**N (%)**
Health Visitor	63 (67.0)	31 (33.0)	94 (100)
Health Visitor Team Member	244 (78.2)	68 (21.8)	312 (100)
Total *p<.05, **p<.01,***p<.001	307 (75.6)	99 (24.4)	406(100)

What is the discriminatory ability of the five sections of the ELIM-E against the PLS-5 gold standard?

The five sections of the ELIM-E corresponding to the dimensions described in Chapter 1 (see Appendix 2) are now examined for their utility in identifying those children with scores falling above and below the PLS-5 threshold. For each section item we are looking for differential response rates between the PLS-5 threshold groups, to identify which items might be useful to differentiate between those groups. This was also statistically assessed for each item with either the Chi-squared test of association or Fisher's exact test. Statistical significance is denoted against the question number on the left of the table. (Note though that the Chi-square test is invalid when the cell count is low (≤5 or 20%). Those items that are either not statistically significant or had low cell count, were considered, discussed and consensus reached prior to any removal.

We deal with each section in turn using the title given in the ELIM-E.

SECTION 1: Can you tell me about your child's communication?

This section comprises 8 items and each one is reported in turn against the PLS-5 threshold. From the responses to item 1 we see that 96% of both PLS-5 groups endorsed 'Yes', therefore this item was not informative with regard to differentiating the PLS-5 groups, in contrast for item 2 where we see that there is a difference between the groups with 86% of those above the 10th percentile responding 'Yes', where the percentage was 34% for those below or equal to the 10th percentile. Correspondingly, we see that the respective percentages for responding 'No' are 13% and 63%. To varying degrees, similar findings emerged for items 3 to 8. In summary, we can see that each of the questions in this section, apart from the item about age of independent walking, differentiated between those children above the PLS-5 threshold and those below.

Table 4:5 ELIM-E section 1 by PLS-5 threshold (Chi square). Statistically significant results are indicated by asterisks

ELIM-E Q#	**Section 1 - Question**	**PLS-5 Threshold**	**No**	**Not sure**	**Yes**	**Total (paired sample)**
		N(%)	**N(%)**	**N(%)**	**N (%)**	**N (%)**
Q1	By the time they were eighteen months was your child walking independently?	>10	8 (3)	3 (1)	295 (96)	306 (100)
		<=10	4 (4)	0 (0)	92 (96)	96 (100)
		Total	12 (3)	3 (1)	387 (96)	402 (100)
Q2***	By the time they were 24 months was your child able to put two words together?	>10	40 (13)	4 (1)	259 (86)	303 (100)
		<=10	60 (63)	3 (3)	32 (34)	95 (100)
		Total	100 (25)	7 (2)	291 (73)	398 (100)
	"Over the last few months……."	**PLS-5 Threshold**	**No**	**Sometimes**	**Yes**	**Total**
Q3***	Does your child understand what people say to them?	>10	1 (0)	9 (3)	296 (97)	306 (100)
		<=10	4 (4)	24 (25)	68 (71)	96 (100)
		Total	5 (1)	33 (8)	364 (91)	402 (100)
Q4***	Is your child able to find two objects when you ask them?	>10	18 (6)	11 (4)	277 (91)	306 (100)
		<=10	35 (37)	12 (13)	49 (51)	96 (100)
		Total	53 (13)	23 (6)	326 (81)	402 (100)
Q5***	Does your child ask simple questions?	>10	43 (14)	18 (6)	245 (81)	306 (100)
		<=10	62 (65)	9 (9)	25 (26)	96 (100)
		Total	105 (26)	27 (7)	270 (67)	402 (100)
Q6***	Can you understand what s/he is saying?	>10	6 (2)	24 (8)	275 (90)	305 (100)
		<=10	22 (23)	26 (27)	48 (50)	96 (100)

		Total	28 (7)	50 (13)	323 (81)	401 (100)
Q7* **	Can other people understand what s/he is saying?	>10	13 (4)	68 (22)	225 (74)	306 (100)
		<=10	32 (33)	23 (24)	41 (43)	96 (100)
		Total	45 (11)	91 (23)	266 (66)	402 (100)
Q8* **	Is your child able to talk about something they are interested in?	>10	49 (16)	31 (10)	225 (74)	305 (100)
		<=10	64 (67)	7 (7)	25 (26)	96 (100)
		Total	113 (28)	38 (10)	250 (62)	401 (100)

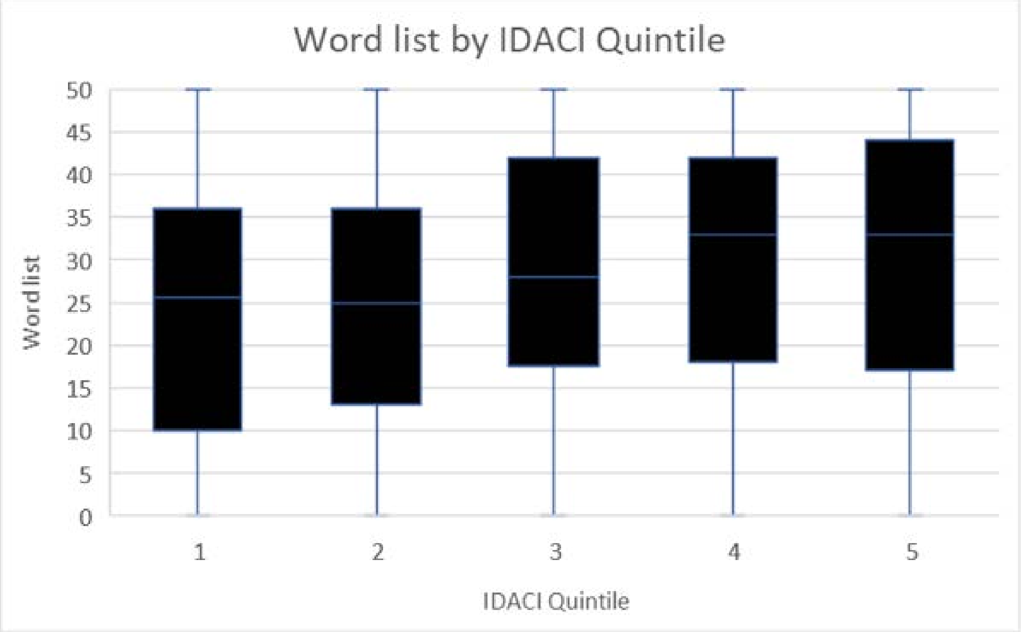
*p<.05, **p<.01,***p<.001

BOLD indicates collapsed categories for items

SECTION 2: Which words does your child say? (the word list)

In the light of the discussion about the gap in vocabulary relative to social disadvantage, we also looked at the word list scores for five socio-demographic quintiles (scored on the IDACI). The median score ranged from 25.5 in the lowest two groups to 33 in the highest group (Figure 4:2 below) reflecting the predicted social gradient although it is important to note as we have elsewhere that the range of performance varies considerably for each quintile.

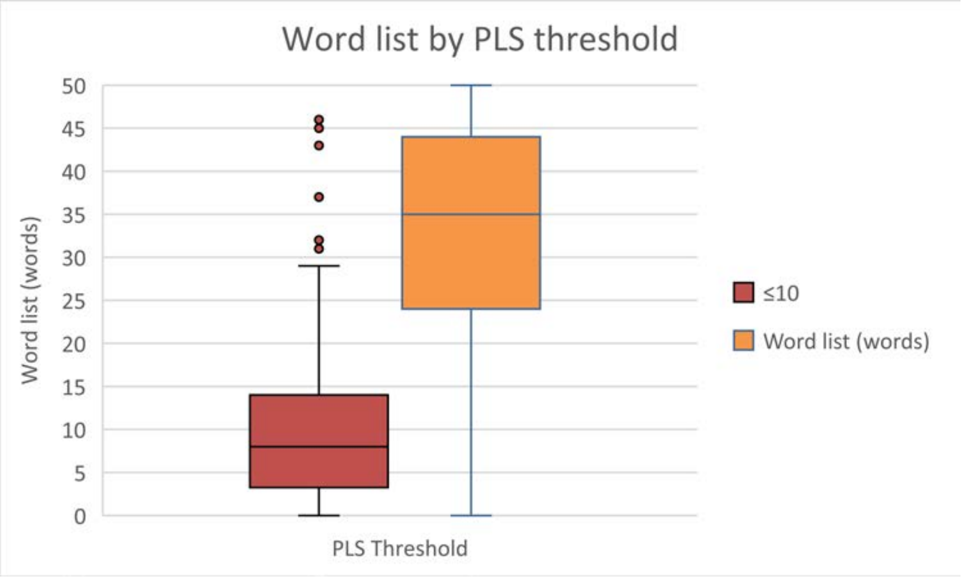
Figure 4:2 Median word list scores by IDACI quintile



As might be expected there is a significant difference between those above and below the PLS-5 thresholds on the word list counts, with those above the 10th percentile having a median (interquartile range in brackets) of 35 words (20) and 10th percentile and below having 8 words (11).

The key issue is identifying those with a true problem/low scoring (maximising sensitivity). To do this we first establish whether the word list in the ELIM-E maps on to the PLS-5 and in Figure 4:2 above we see that low scores on the word list correspond to the 10th centile threshold used above on the PLS-5 to most accurately discriminate the PLS-5 threshold.

Figure 4:3 Boxplot of the relationship between the threshold on the PLS-5 and the performance on the word list.



SECTION 3: Can you tell me about you and your family?

This section comprised 11 items including comment on parent-child interaction (2 items), family history (2 items) parental education (2 items) and the child's health (2 items). Q11 related to different types of activity, Q14 related to degree of family history and Q15 to the type of problem experienced in the family. These latter three items had been included in the original development of the ELIM-E because they were considered to be of clinical relevance but they are best described as being of general interest and were not intended as predictors of the PLS-5 outcome. They are not readily codable as binary measures (the approach adopted to the other ELIM-E items). So this gave us 11 items in this section (see Table 4:6). Again, items which discriminate the PLS-5 threshold at a statistically significant level are denoted with an asterisk against the question number in the left hand column.

Question 12 was removed from the analysis because the number of parents who said very rarely was so small. Surprisingly, only two of the remaining items in this section discriminated the outcome – namely sharing books and family history.

Table 4:6 ELIM-E section 3 by PLS-5 threshold. Significant results indicated with asterisks

ELIM-E Q#	**Section 3 - Question**						
	Parent-child interactions		**N(%)**	**N(%)**	**N(%)**	**N(%)**	**N(%)**
		PLS-5 Threshold	**Too Busy**	**1 to 2**	**3 to 4**	**Everyday**	**Total**
Q10***	How often do you share books with your child	>10	3 (1)	24 (8)	44 (15)	233 (77)	304 (100)
		<=10	3 (3)	16 (17)	22 (23)	54 (57)	95 (100)
		Total	6 (2)	40 (10)	66 (17)	287 (72)	399 (100)
		PLS-5 Threshold	**Very rarely**	**Sometimes**	**All the time**	**Total**	
Q12**	How often do you talk to your child about the toy they are playing with?	>10	1 (0)	66 (22)	237 (78)	304 (100)	
		<=10	4 (4)	30 (31)	62 (65)	96 (100)	
		Total	5 (1)	96 (24)	299 (75)	400 (100)	
	Family history						
		PLS-5 Threshold	**Yes**	**Don't know**	**No**	**Total**	
Q13**	Does anyone in your family have a learning difficulty or a speech and language difficulty?	>10	72 (24)	1 (0)	232 (76)	305 (100)	
		<=10	38 (40)	1 (1)	57 (59)	96 (100)	
		Total	110 (27)	2 (1)	289 (72)	401 (100)	
Q16	Is there any history of mental health difficulties in the	>10	78 (26)	0 (0)	223 (74)	301 (100)	
		<=10	27 (28)	1 (1)	68 (71)	96 (100)	
		Total	105 (26)	1 (0)	291 (73)	397 (100)	

	family home (for example anxiety or depression)?						
		PLS-5 Threshold	**N(%)**	**Mean(SD)**			
Q17	How old were you when you left full time education	>10	281	19.81 (3.28)			
		<=10	87	19.75 (4.26)			
		Total	368	19.8 (3.50)			
		PLS-5 Threshold	**GCSE**	**Pract**	**A-level**	**Degree**	**Total**
Q18	What was your highest level of qualification achieved?	>10	45 (15)	69 (23)	39 (13)	144 (49)	297 (100)
		<=10	21 (23)	18 (20)	14 (15)	38 (42)	91 (100)
		Total	66 (17)	87 (22)	53 (14)	182 (47)	388 (100)
	The child	**PLS-5 Threshold**	**Yes**	**No**	**Total**		
Q19	Does your child suffer from any long-term health concerns requiring regular visits to the nurse or doctor?	>10	29 (10)	276 (91)	305 (100)		
		<=10	8 (8)	88 (92)	96 (100)		
		Total	37 (9)	364 (91)	401 (100)		
		PLS-5 Threshold	**Yes**	**Don't know**	**No**	**Total**	
Q20		>10	9 (3)	1 (0)	296 (97)	306 (100)	
		<=10	5 (5)	0 (0)	90 (95)	95 (100)	

	Has your child had recurring ear infections? *p<.05, **p<.01,***p<.001	Total	14 (4)	1 (0)	386 (96)	401 (100)	
BOLD indicates collapsed categories for items							

SECTION 4: Assessor's observation of the child

This section comprises eight separate practitioner observations. One of these items (Q25) was eliminated because professionals found it difficult to answer the question about using gestures instead of spoken language. Specifically we asked whether children used gestures *instead* of spoken language but were told during the course of the study that HVs frequently interpreted this as gesture *and* spoken language. The interpretations would be the reverse of one another. If a child uses only gestures at this age it would be considered a problem; if they used gesture to supplement their oral language this would be considered a positive attribute. The total number of remaining items in this section is seven (see Table 4:7). Recall that the observations and the PLS-5 were recorded completely independently of one another. The specific questions are self-explanatory; the final section is derived from the literature and requires an observation about the child's level of attention. This is clearly sensitive to the child's development but here single channelled attention and the capacity to accept instruction from others are both denoted as acceptable for this age group. Fleeting attention is where the child is not able to concentrate on anything and just "flits" from one toy to the next: this is not considered to be within the normal range.

Table 4:7 ELIM-E section 4 by PLS-5 threshold. Statistically significant items are marked with asterisks.

ELIM-E Q#	**Section 4 - Question**					
			N(%)	**N(%)**		**N(%)**
		PLS-5 Threshold	**No**	**Yes**		**Total**
Q21***	Observed communicative intent	>10	13 (4)	289 (96)		302 (100)
		<=10	28 (30)	67 (71)		95 (100)
		Total	41 (10)	356 (90)		397 (100)
Q22***	Speech mostly intelligible to parents/carers	>10	38 (13)	262 (87)		300 (100)
		<=10	41 (44)	53 (56)		94 (100)
		Total	79 (20)	315 (80)		394 (100)
			No words	**Single only**	**Words together**	
Q23/24***	Observed using single words or words together	>10	9 (3)	50 (18)	225 (79)	284 (100)
		<=10	30 (32)	38 (41)	25 (27)	93 (100)
		Total	39 (10)	88 (23)	250 (66)	377 (100)
			Yes	**No**		
Q25***	Does the child use gestures instead of spoken language to get their message	>10	77 (26)	223 (74)		300 (100)
		<=10	65 (70)	28 (30)		93 (100)
		Total	142 (36)	251 (64)		393 (100)
			No	**Yes**		
Q26***		>10	5 (2)	290 (98)		295 (100)
		<=10	27 (30)	63 (70)		90 (100)

	Do the parent/carer and child take turns when communicating?	Total	32 (8)	353 (92)		385 (100)
Q27***	Does the child understand what is being said to him/her?	>10	6 (2)	294 (98)		300 (100)
		<=10	21 (22)	73 (78)		94 (100)
		Total	27 (7)	367 (93)		394 (100)
			Fleeting	**Single channelled**	**Accepts**	
Q28***	Attention:	>10	27 (9)	37 (13)	225 (78)	289 (100)
		<=10	33 (38)	19 (22)	36 (41)	88 (100)
		Total	60 (16)	56 (15)	261 (69)	377 (100)

*p<.05, **p<.01, ***.001

BOLD indicates collapsed categories for items

SECTION 5: Do you have any concerns about your child's development?

This section comprises five items about parental concerns. In addition one item (Q.32) showed insufficient variability and was not included. The total number of remaining differentiating items in this section at this stage is therefore four (see Table 4:8).

Again, we see that all but one of the parental concern questions discriminates the PLS-5 threshold to a statistically significant degree. The question about physical development is of interest because some authors have suggested that language difficulties are associated with underlying motor difficulties but our data here suggests that this is not the case at least as far as parents in our sample are concerned.

Table 4:8 ELIM-E section 5 by Preschool Language Scale-5th Edition threshold

ELIM-E Q#	**Section 5 - Question**		**N(%)**	**N(%)**	**N(%)**	**N(%)**
		PLS-5 Threshold	**Yes**	**Sometimes**	**No**	**Total**
Q29***	Do you have worries/concerns about how clearly your child speaks compared to other children of the same age?	>10	25 (8)	30 (10)	251 (82)	306 (100)
		<=10	50 (52)	9 (9)	37 (39)	96 (100)
		Total	75 (19)	39 (10)	288 (72)	402 (100)
Q30***	Do you have any worries/concerns about how your child uses words or speaks in short sentences compared to other children of the same age?	>10	29 (10)	24 (8)	253 (83)	306 (100)
		<=10	52 (55)	7 (7)	36 (38)	95 (100)
		Total	81 (20)	31 (8)	289 (72)	401 (100)
Q31***	Do you have any worries/concerns about whether your child understands what you say to him/her compared to other children of the same age?	>10	8 (3)	5 (2)	293 (96)	306 (100)
		<=10	24 (25)	7 (7)	65 (68)	96 (100)
		Total	32 (8)	12 (3)	358 (89)	402 (100)
Q32***	Do you have any worries/concerns about how your child uses their arms and legs compared to other children of the same age?	>10	7 (2)	6 (2)	293 (96)	306 (100)
		<=10	6 (6)	9 (9)	81 (84)	96 (100)
		Total	13 (3)	15 (4)	374 (93)	402 (100)
Q33***	Are you worried/concerned about your child's behaviour compared to that of other children of the same age?	>10	6 (2)	18 (6)	281 (92)	305 (100)
		<=10	20 (21)	8 (8)	68 (71)	96 (100)
		Total	26 (7)	26 (7)	349 (87)	401 (100)

*p<.05, **p<.01, ***.001

BOLD indicates collapsed categories for items

What is the specificity and sensitivity of the five ELIM sections against the PLS-5 individually and in combination?

We then structured the response to each of the sections such that it was possible to obtain a concern/no concern threshold on each question (as in emboldened categories in Tables, 4:5, 4:6, 4:7 and 4:8) and thus a total of concerns for each section. At this point we made a judgement that any concern in any one of the sections would potentially constitute "a problem" and recoded the total concerns score for each to 'any concern/no concerns' for each section. This gives us five separate analyses, which can then be combined to assess the optimal specificity and sensitivity of each measure. We then report the outcome for each section against the PLS-5 and combine them. These are given in table 4:9

Table 4:9 ELIM-E: any concern in sections 1-5 by PLS-5 threshold

	Sensitivity	Specificity
ASQ Communication	0.65	0.93
Section 1 - Communication	0.85	0.54
Section 2 – Word list	0.82	0.84
Section 3 - Family	0.67	0.59
Section 4 - Observations	0.86	0.68
Section 5 - Concerns	0.71	0.75
Section1 and 2	0.91	0.53
Section 2 and 4	**0.94**	**0.65**
Section 2 and 5	0.87	0.71
Sections 2,4 and 5	0.95	0.58
Sections 1,2, 4 and 5	0.96	0.40

For the first section of the table, it is clear that the strongest overall performer is the word list (section 2). The lowest performer by some way are the familial and social risk variables and therefore we excluded section 3 from the further combinations.

Although we have indicated that, the four of the five sections are "operationalised" by transforming each item into a binary variable and indicating that any concern constituted "a case" this is not possible for the word list (Section 2). We calculate the specificity and sensitivity for each score on the 50-item word list in relation to the PLS-5 threshold using a technique known as a Receiver Operating Characteristic or ROC curve. The curve for a perfect screening test will hit the top left corner of the graph (perfect sensitivity and specificity), whereas the performance of a measure which did not discriminate the outcome at all would be on the green line in Figure 4.3. The optimal cut-off score for the word list in terms of maximising sensitivity and specificity corresponds to the point on the curve nearest to the top left hand corner of the figure.

Figure 4:4 ROC curve of the word list against the PLS-5 threshold

With a threshold of 18 and above on the word list we obtain a maximum sensitivity of 0.83 and specificity of 0.84 against the PLS-5 threshold, compared with a sensitivity of 0.65 for the ASQ-3. This suggests that the word list using this threshold is, overall, a much better measure than the ASQ language assessment. As a part of this exercise, we were concerned whether child age may have been affecting the outcome. So we then carried out the same analysis controlling for age but the results were almost identical suggesting that this finding is very robust. Thus the area under the curve [AUC – which would be 1.0 for a perfect screening test] for the vocabulary score unadjusted for age is 0.89 [0.85-0.93] and for the age adjusted version the AUC is only slightly higher at 0.90 [0.86-0.93]. This implies that the threshold would vary little within our target population i.e. children between 24 and 30 months.

We then combine the remaining sections with section 2 to optimise sensitivity and we see that sections 2 and 4 provide an excellent sensitivity albeit with a lower specificity and this drops further if we combine with other sections of the ELIM-E as can be seen from the next grouping. This is clearly a matter of judgement but from these data, we would suggest that the optimal combination for ELIM-E items is the professional judgement and the word list. In fact, out of over four hundred children, only six are missed using this approach, while 31 were missed by the ASQ: only 65% of those with a score below threshold on the PLS-5 were correctly identified with the ASQ.

What do these cut-off points mean at an individual level?

In this section, we explore what the characteristics of the children who come through as negatives or positives from the previous section and ask whether there are characteristics of this group, which could inform the decision making of the practitioner working with the parent. What we are interested in here is the difference between true and false negatives and true and false positives. We have identified four characteristics, which the literature would suggest might influence this process, namely behaviour measured on the SDQ, any parental concern, whether the child spoke only English or whether they use another language only or use English and another language. And finally, we look at the IDACI score.

We start by looking at the false negatives (reflecting less than perfect sensitivity): the six children who were missed by the combination of section 2 and 4 above. We then go on to look at those who were false positives, focussing on the 35% of children who were identified by sections 2 and 4 but did not meet criteria on the PLS-5 (reflecting less than perfect specificity). Table 4:10 provides details on the SDQ, Parental concern (ELIM-E section 5) and Language Use. The results are reported as numbers and percentages rather than testing them specifically because the cells are often small.

Table 4:10 Comparing the characteristics of children identified as negatives and positives by threshold on practitioner observation (ELIM-E section 4) and vocabulary list (ELIM-E section 2)

	Section 4 and Q9 by PLS-5 Threshold categories			
	True negatives	**False negatives**	**False Positives**	**True positives**
SDQ Total	N(%)	N(%)	N(%)	N(%)
<13	170 (88)	4 (67)	83 (81)	55 (64)
>=13	23 (12)	2 (33)	20 (19)	31 (36)
Total	193 (100)	6 (100)	103 (100)	86 (100)
Parental Concern				
No concerns	176 (89)	5 (83)	53 (49)	23 (26)
Any concerns	22 (11)	1 (17)	55 (51)	67 (74)
Total	198 (100)	6 (100)	108 (100)	90 (100)
Language use				
Other primary	10 (6)	3 (50)	7 (7)	19 (25)
English only	156 (88)	3 (50)	79 (84)	44 (57)
English + Other	12 (6)	0 (0)	8 (9)	14 (18)
Total	178 (100)	6 (100)	94 (100)	77 (100)

Comparing the true and false negatives – i.e. those that have been missed by the process above - we see that there is little difference in terms of SDQ and parental concern although the false negative rate is low making firm conclusions difficult. Similarly, there is little difference between the language groups although there were proportionately fewer of the children whose first language was primarily a language other than English to be missed by this process. This might indicate that extra care should be taken in assessing children who test negative from homes where English is not spoken.

The figures for the positives are perhaps rather more interesting because they could potentially assist in discriminating between true and false positives – i.e. those who have been identified as having a potential language delay but who might not have one. This would further assist the HV in making their intervention decisions. We can see that the SDQ is equally distributed and therefore of little discriminatory power. If we look at parental concern, we see that 8.9% of those who expressed no concerns were in the true positives while 20.6% were not concerned. By contrast, 37.9% of those who expressed any concern had children in the false positive group. This suggests that some parents may be over-concerned relative to the PLS-5 outcome. Of course, it may be that they were concerned about related but different issues or it may be that they had particularly high expectations for the language attainment of their child. Turning to language group, children from monolingual families were over-represented in the false positive group.

Finally, turning to the IDACI for the four groups the median decile (interquartile ranges) for the true negatives is 5(4) (where a higher decile means less disadvantaged) for the false negatives is 3.5 (4.5); for the true positives is 3 (2) and false positives 6 (3). As might be expected from the word gap literature discussed in Chapter 1 the true positives have the lowest scores and the true negatives the highest. The interesting feature here is that the false positives, the ones that are identified but who had normal PLS-

5 results tend to have higher IDACI scores whereas the false negatives have IDACI scores more akin to the true positive group. These data suggest that there are small differences between the four groups but it is unlikely that another measure or question would be sufficient to clearly enhance the discrimination in any substantive way. For this reason, there is clearly a need to use professional judgement about the environment and the experiences of the child to decide what needs to be done to facilitate their language development.

To what extent is, a child's social and emotional profile reflected in their response to the PLS-5?

In addition to the ELIM, we also recorded the child's social, emotional and behavioural difficulties using the Strengths and Difficulties Questionnaire (SDQ - https ://www.sdqinfo.org/). The SDQ assesses social and emotional difficulties in terms of conduct problems, inattention/hyperactivity, peer relationship problems/autism and emotional difficulties, as well as prosocial behaviour. The Total Difficulties Scale of the SDQ combines all the problem subscales, and children with SDQ Total Difficulties Scale scores of 13 or over are likely to have an identifiable neurodevelopmental or psychiatric disorder. As indicated in Chapter 1 the association between language on the one hand and other aspects of development on the other is well recognised. Here we examine to what extent this is true in this data set using the Total Difficulties Scale from the parent report version of the SDQ.

Table 4:11 SDQ total score by PLS-5 threshold (Chi square)

	PLS-5 Threshold		
	<=10	**>10**	**Total**
SDQ Total Difficulties Scale score	N (%)	N (%)	N(%)
>=13	35 (41.7)	49 (58.3)	84 (100)
<13	59 (18.0)	268 (82.0)	327 (100)
Total	94 (22.90)	317 (77.1)	411 (100)
Chi square 21.14 (1df) ***			

So as would be expected overall, Table 4:11, there is an important association but falling above the SDQ threshold score does not reliably indicate an abnormal PLS-5 score: 58% of those with behaviour problems indicated by the SDQ are performing within normal limits on the PLS-5. Similarly, 18% of those with parent-reported behaviour within normal limits have low PLS-5 scores. Nevertheless, a high proportion of children with behavioural difficulties have language problems (and vice versa) and the SDQ may have utility in accurate characterisation of the problems of children with likely language difficulties.

How does the performance of children with English as a first language compare with those with another language as a first language?

Perhaps inevitably in an assessment focusing on a child's language development the question of its value for families where the child commonly uses other languages is a very important consideration. It is clearly impossible to produce a measure, which was directly relevant for all the many languages that are commonly used in England, but is it possible to develop a measure, which has utility with this broad group of children? All parents were asked as part of the initial data collection by HVs to speak about their language background specifically to indicate whether their child heard more than one language at home and if so what they heard and what they used. We do not discuss the specific language here but instead identify three groups of children: those whose first and only language was English, those whose first language was not English and who heard or spoke a second language at home; and those whose first language was English and heard or spoke a second language at home. Of the children in the overall sample, 752 parents answered the questions about language background. Of these, 535 (71%) reported that they only used English at home, 125 (16.6%) reported that they primarily used another language at home and heard or spoke a second language, 9 (1.2%) primarily spoke another language and did not hear or speak any other language, and 85 (11.3%) reported that they primarily used English but heard or spoke at least one other language at home. When we look at the paired data – i.e. including the PLS-5 - the overall figure went down to 355 with 282 (79.4%) monolingual English, 39 (11%) those who primarily spoke English but heard or spoke a second language, and 34 (9.6%) reporting that they primarily spoke another language. There is a significant difference across the groups, with more children falling below threshold for both the groups speaking languages other than English. It is important to recognise that the PLS-5 is delivered in English, which probably explains a substantial proportion of this difference.

Conclusions

The ELIM-E carried out by health visitor teams in our five sites was compared with the child’s performance on the Preschool Language Scale, a well-recognised standardised measure of language development, carried out within three weeks of ELIM-E administration. The PLS-5 assessment was undertaken independent of the ELIM-E, and by a person unaware of the child’s performance on the ELIM-E or any other measure, which had been used with the child. The child and parent were also unaware of their ELIM-E performance. This gives confidence that the results are not associated with bias relating to expectations before the PLS-5 was performed. A number of items within the five sections of the ELIM-E were closely associated with the PLS-5 performance but the best combination in terms of maximising sensitivity of the process were sections 2 and 4, the word list and the HV observations. The results of this combination would mean that all but a handful of the children with low language scores on the PLS-5 would be identified through this process but they would not in themselves be sufficient to protect against over referral. The views of practitioners and parents about the process are clearly critical to any implementation: the review process will only work if the parties involved understand and accept its benefits. For this reason we now turn to the views of those who would be involved in the the ELIM-E assessment including parents and health visiting teams (Chapter 5) before going on to explore the process by which the children identified through the ELIM-S will experience an interactive intervention co-designed by parents and practitioners (Chapters 6 and 7).

Chapter 5: The acceptability from the perspective of parents and the Health Visiting team

Summary of Chapter 5

- This chapter describes the exploration of acceptability from the perspectives of participating parents and health visitors or members of the health visiting skill mix (HV). The study used a mixed methods approach with a parent survey of the cohort, telephone interviews with a smaller sample of parents and focus groups with the HVs.
- Parents' responses to the survey suggested that the majority found the Early Language Identification Measure-Extended (ELIM-E) in the context of the 2- 2½ year review to be acceptable.
- A small number of parents reported difficulties with access to the HV, with the advice they were given and with the interaction with their child.
- Parents participating in the telephone interviews had a broader range of views. For them acceptability was influenced by:
    - Communication with the HV
    - Convenience and ease of the review
    - The expertise of the HV they met
    - The relationship that the HV established with the parent and with their child.
- For parents the outcome of the review was crucial to the acceptability of the review
- From the perspective of the HV, the acceptability of the ELIM-E was related to:
    - The clarity of the rationale for items included in the ELIM-E
    - The interface between the timing of the review and related services such as speech and language therapy
    - The potential of ELIM-E to support their decision making and facilitate constructive conversations with parents
- HVs felt that successful delivery of the ELIM-E was related to:
    - Appropriate and sustainable training
    - Practicalities such as capacity and location
- For HVs, the management of the conversation with the parent was crucial to the success of the review.

Introduction

In order to develop an intervention that is acceptable as well as evidence-based, it is crucial to understand and include the perspectives of key stakeholders. In this chapter, we explore the acceptability of a 2-2½ year review that included the developmental version of the Early Language Intervention Measure-Extended (ELIM-E) from the perspective of the parents and members of the Health Visiting team (HV) who deliver that review. The wider group of stakeholders that includes Early Years Practitioners (EYP) and Speech and Language Therapists (SLT) were consulted as part of the PPI process described in Chapter 3. We refer to 'parents' throughout this chapter; the majority of respondents were mothers – however we acknowledge that the sample also included grandparents, fathers and carers. We take a broad view of acceptability in order to capture the experiences of and reactions to the inclusion of the ELIM-E in the review. We used a mixed methods approach involving a survey of all participating parents, telephone interviews with a smaller sample of parents and focus groups with the HVs who delivered the ELIM-E at each site.

Aims and research questions

The ELIM-E was delivered in the context of the 2-2½ year review, which is currently formed around the Ages and Stages Questionnaire (ASQ-3). Given the practicalities of delivering the review, responding to parents' concerns and covering the breadth of development issues, it was felt to be unlikely that parents would be able to distinguish the ELIM-E section from the rest of the review. Furthermore, part of reflecting on new processes involves the comparison with and reflection on previous processes in order to understand preferred practices. The research question therefore focused on the 2-2½ year review as a whole:

What is the acceptability of using the combined procedure (that is, the Ages and Stages Questionnaire (ASQ-3) in combination with the newly developing Early Language Identification measure (ELIM-E) from the parent and HVs perspective?

The analysis identified aspects of the process that were important for the further development and future delivery of the ELIM-E both in terms of its content and process.

Methodology

Exploring acceptability

Acceptability is often defined in terms of patient satisfaction and measured in terms of uptake and engagement. However, it has been argued that acceptability is a broader, multifaceted concept that needs to include the entirety of patient experiences as well as the social legitimacy of an intervention (Dyer, Owens & Robinson 2016; Sekhon, Cartwright, Francis, 2017). This study has been informed by this debate, using mixed methods to explore the experiences of both parents and HVs, through a parent survey, a parent telephone interview and focus groups with HVs.

The questions and topics for the survey, interviews and topic guides were generated using two main sources - a Theoretical Framework of Acceptability (TFA) (developed by Sekhon et al, 2017) and a previous study of parents' views of developmental screening that included the Ages and Stages Questionnaire (Morelli et al 2014). The survey questionnaire is provided in full in Appendix 5 showing the source of each question. Table 5:1 illustrates how the seven constructs of the TFA were interpreted for this study. The topics covered in the survey, interviews and focus groups were checked against the TFA to ensure that all seven constructs were covered in each data collection process. As indicated above, the delivery of the ELIM-E encouraged practitioners to integrate this within their usual exploration of children's development; it was therefore unlikely that parents would be able to identify specific components of the ELIM-E and therefore it was important to cover the acceptability of the 2-2½ year review as a whole. The seven components of the TFA ensures that coverage is more inclusive of all aspects of acceptability that might arise in the context of the 2-2½ year review.

Table 5:1 An interpretation of the Theoretical Framework of Acceptability (TFA)

TFA construct	Original Definition (Sekhon et al., 2018)	Our Definition
1. Burden	The perceived amount of effort that is required to participate in the intervention	The effort that parents and HVs felt was required for the intervention in terms of money and/or time
2. Opportunity Costs	The extent to which benefits, profits or values must be given up to engage in the intervention	The extent to which parents and HVs reported lost income, opportunities or activities as a result of the intervention.
3. Affective Attitude	How an individual feels about the intervention	What parents and HVs liked/disliked about the style and delivery of the intervention and any particular feelings or concerns that it provoked.
4. Intervention Coherence	The extent to which the participant understands the intervention and how it works	Parents and HVs' perspectives on the clarity of individual questions and their understanding of the intervention's purpose and the next steps.
5. Ethicality	The extent to which the intervention has a good fit with the individual's value system	The extent to which parents and HVs felt the questions asked as part of the intervention were inclusive and reasonable in terms of privacy and cultural values.
6. Self-efficacy	The participant's confidence that they can perform the behaviour(s) required to participate in the intervention	The extent to which parents and HVs felt able to understand and deliver or answer the questions involved in the intervention, and able to carry forward recommendations made.
7. Perceived effectiveness	The extent to which the intervention is perceived as likely to achieve its purpose	Parents' opinions of how successful the intervention was, in terms of receiving helpful information about their child and feeling happy with the outcome of the intervention. HVs' views on the effectiveness of the intervention

The survey questionnaire and topic guides were reviewed by the research team and by parents and practitioners (including HVs and SLTs) at the Patient and Public Involvement (PPI) groups, and adjusted in light of feedback - for example, a question was added on location of the 2-2½ year review in response to PPI parents' concerns about reviews carried out in locations that were clinical and not child-friendly. Topic guides for parent interviews covered similar areas to the survey. Topic guides for the HV focus groups asked about the new content and process associated with ELIM-E and asked HVs to reflect on how the ELIM-E changed their practice and to make suggestions for the future. Questions for the interviews and focus groups were framed to follow a semi-structured format with open questions used for the start of each topic and example probes for the interviewer to pursue. All topic guides and consent processes were reviewed and adjusted during PPI groups with parents and in pilot interviews with research colleagues prior to the data collection process.

Boxes A and B give examples of a starter question and probes from the parent interview and HV focus group topic guides.

Box A – Parent telephone interview: example of starter question and follow-up probes

Starter Question: Tell me a bit more about what the HV did during the appointment. (For example going through questionnaire, interacting with child)

Follow-up probes:

- What did you think about the activities?
- How about the speech and language activities?
- What kind of things did you talk about for speech and language?
- How did you find the questionnaires?
- Do you have an example of a question that was
    - Hard to answer?
    - Surprising/stood out for you?
- Was there anything new that you learned from the appointment?

Box B – HV focus group: example of starter question and follow-up probes

Starter Question: Tell me what you think of the ELIM-E content (copies of ELIM-E available; check for examples and specific details)

Follow-up probes:
Are there any items
    that were particularly interesting or useful
    that surprised you
    that you found difficult to understand
    that you found tricky to explain to parents
    have been difficult to assess

The parent survey

The survey was distributed to all parents who attended the gold standard assessment session (using the Preschool Language Scale-5 (PLS-5) with the speech and language therapist (SLT). Parents completed the surveys during the session with the help of the SLT if needed, who returned them unseen to the research team.

Sample

Table 5:2 shows the total number of parents who completed the survey at each site. Of the 894 participants who completed the ELIM-E, 433 (48%) attended the gold standard assessment with the SLT and completed the survey. Note that the number of survey responses is slightly higher than the overall number of matched pairs (i.e. those who completed both the 2 – 2 ½ year review and the PLS-5), as some participants had incomplete PLS-5 results which could not be used; however, their survey responses were still included in the final numbers.

Table 5:2 Survey participants by area

AREA	SURVEY
Derbyshire	115
Middlesbrough	83
Newham	88
Wakefield	59
Wiltshire	88
TOTAL	433

Telephone interview with parents

At the end of the survey, parents were asked to indicate if they would be prepared to take part in the parent telephone interviews. Parents were contacted as soon as possible after the PLS-5. The average time lag between the 2-2 ½ year review and the telephone interview was 107 days (range 47 – 186). This delay was due to factors affecting the transference of the survey paperwork through multiple stages to the research team.

Interviews lasted approximately 30 minutes, were recorded and transcribed verbatim. Analysis followed Braun and Clarke's (2006) thematic analysis approach and was carried out iteratively with the interviews.

Sample

The protocol target was to recruit 10-15 parents per site.

A sampling matrix was used to establish a sample of maximum variation using a range of demographic and risk factors for SLCN (Table 5:3). The aim was to maintain a balance of participants across the five sites and across the recruitment period of the trial. As the focus of the project was related to identification of Speech Language Communication Needs (SLCN), we weighted the sample to include more parents who expressed concern about their child's speech and language development or whose child's scores on the ASQ-3 indicated a risk of language difficulties. This enabled us to gather viewpoints from a range of parents but particularly those who were more likely to experience the identification and referral process. The first five parents coming through the system were recruited and thereafter we recruited parents purposively in order to sample the variables shown in Tables 5:3.

Table 5:3 Variables used in sampling

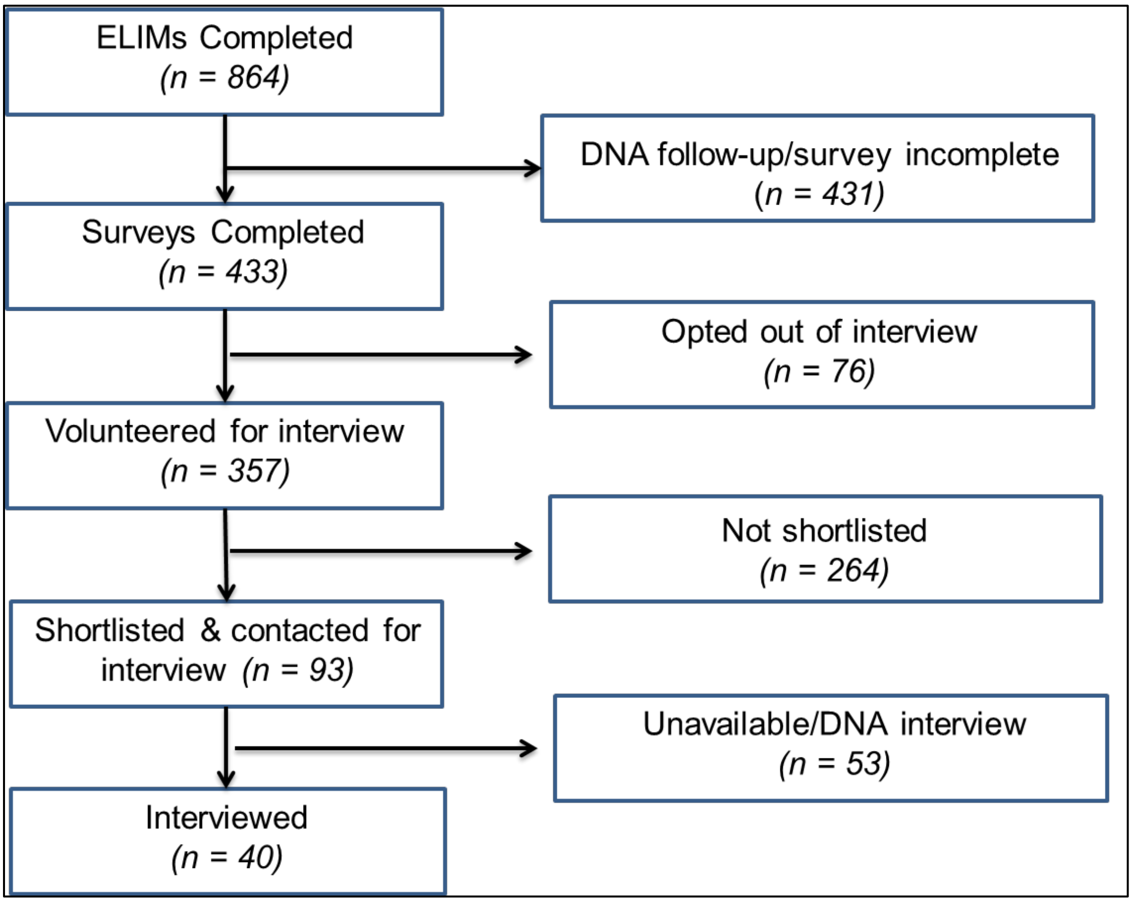
Variable	Rationale for inclusion
IDACI Score	Demographic range in socioeconomic status
Child ASQ-3 Result	Reflection of child language scores and likelihood of referral to SLT services
Gender of child	Demographic range and risk factor of SLCN (male gender)
No. children in family and order of children	Risk factor of SLCN (larger families and lower rank in birth order)

Birthweight and length of pregnancy	Risk factor of SLCN (prematurity)
Other languages used at home	Demographic range and risk factor of SLCN (bilingualism)
Family history of SLCN	Risk factor of SLCN
Family history of mental health difficulties	Risk factor of SLCN
Parental education	Demographic range and risk factor of SLCN
History of ear infections	Risk factor of SLCN
Parental concern about child's development	Ensuring range of parent attitudes
Child referral to SLT services	Range in child language abilities and parent experience of SLT
Parental opinion about referral	Ensuring range of parent attitudes
Site	Aiming for a balance across the five sites
Timing of the study	Ensuring that parents would have experienced assessments with HVs with differing levels of experience using the ELIM-E

Of those completing the survey, 357 volunteered to be interviewed. Figure 5:1 shows the participant flow chart for the recruitment process. In order to achieve a final sample of 40 participants, we attempted to contact 93 who had been identified by the sampling process described above. The advent of the Covid-19 lockdown curtailed further recruitment since it was considered inappropriate to burden parents further with interviews. However, at this point, we were satisfied that the sampling matrix had been covered. This final number of 40 represents 9.2% of those attending the PLS-5 assessment.

Just over half of the parents participating in the interviews (n=23, 58%) had reported concern about their child's speech and language on the ELIM-E and had a communication score below 35 on the ASQ-3. Of these, 10 children (25%) had a score of less than 25. The majority had a male child (n=24, 60%) and were living in an area with an IDACI decile of 1-6 (n=35, 87%), with 16 (40%) living in the areas from the bottom 3 deciles. The proportion of our families who spoke more than one language at home was 32% (n=13). Although we included some parents who reported concern and whose child's ASQ-3 communication score was above 35, a gap in our sample is that we did not include any parents whose child's score was below 35 but who did not express concern. The reason for this is that there were only a very small number of parents who met this criteria and of these we were unable to organise an interview or parents did not attend at the arranged time.

Figure 5:1 Participant flow for the telephone interviews



Health Visitor focus groups

HVs at each site who were involved in delivering the 2-2½ year review with the addition of the ELIM-E were invited to attend a focus group in their local area. Those interested in taking part were invited to contact the team providing information about their professional background and length of time working with the aim of ensuring that there was a range of professional experience in each group.

The focus groups were facilitated by a member of the research team with a second team member available to make field notes and support the consenting process, which took place at the start of each meeting. Focus groups were audio-recorded using two recorders and transcribed verbatim. Data were analysed using Framework Analysis (Ritchie and Spencer, 1994) using the seven concepts from the TFA to create the preliminary framework.

Sample

In the event, purposive sampling was not possible, as many participants attended without notifying the team or completing the information. Thus, the sample was opportunistic. However, as can be seen from Table 5:4 a range of professional qualification and responsibility was present in the full sample. Table 5:4 provides the professional background of participants as they described themselves, from each of the five sites. All were members of the health visiting team.

Table 5:4 Focus group participants

Area	No. of attendees	Job roles (as part of health visiting team)
Newham	6	5 x Health Visitor, 1 x Specialist Nursery Nurse
Wakefield	12	3 x Health Visitor, 6 x Nursery Nurse, 1 x Health Visitor Team Leader, 1 x Student HV, 1 x unknown. NB. A small number of HVs’ job roles are listed as ‘unknown’ as this information was not provided on the register, and the HV did not mention their job role during the focus group.
Wiltshire	6	1 x Health Visitor Practice Lead, 2 x HV Team Leader, 2 x Community Nursery Nurse, 1 x unknown
Derbyshire	6	4 x Health Visitor, 1 x Healthy Child Support Worker, 1 x Children’s Nursery Nurse
Middlesbrough	9	6 x Health Visitors, 2 x Early Years Practitioner, 1 x Student HV
TOTALS	39	• 18 x Health Visitors • 6 x Nursery Nurse • 4 x HV Team Leader • 2 x Community Nursery Nurse • 2 x Student HV • 2 x Early Years Practitioner • 1 x Healthy Child Support Worker • 1 x Specialist Nursery Nurse • 1 x Children’s Nursery Nurse • 2 x Unknown

Reflexivity and rigour

The data collection for this study was carried out by two members of the team, one who had worked clinically as a speech and language therapist and the second a clinical linguist. This provided the independence of a researcher from outside the field and the insights of one who had worked in fields related to that under exploration to both the development of the questions and to the analytic process. A purposive sample was achieved with parent participants increasing the possibility of gathering a wide range of experiences. A purposive sample was not achieved for the HVs; however, all those who volunteered were able to participate. The breadth of professional roles seen within the health visiting teams was covered by the sample.

The data analyses were carried out by two members of the team who each took the lead in one of the analyses (either parent interviews or focus groups). After transcription and additional familiarisation, initial coding of both data sets were completed independently by both researchers then discussed together to resolve any discrepancies. The thematic interpretations were discussed with the wider research team at interim points before being finalised by the two lead researchers for this study. This iterative process of coding, checking, interpretation and checking ensured that interpretations were challenged and refined.

Parent Survey Findings

The survey results are explored below, presented according to the factors from the TFA.

Burden

Most parents reported that the review did not cause undue burden, in terms of time or effort.

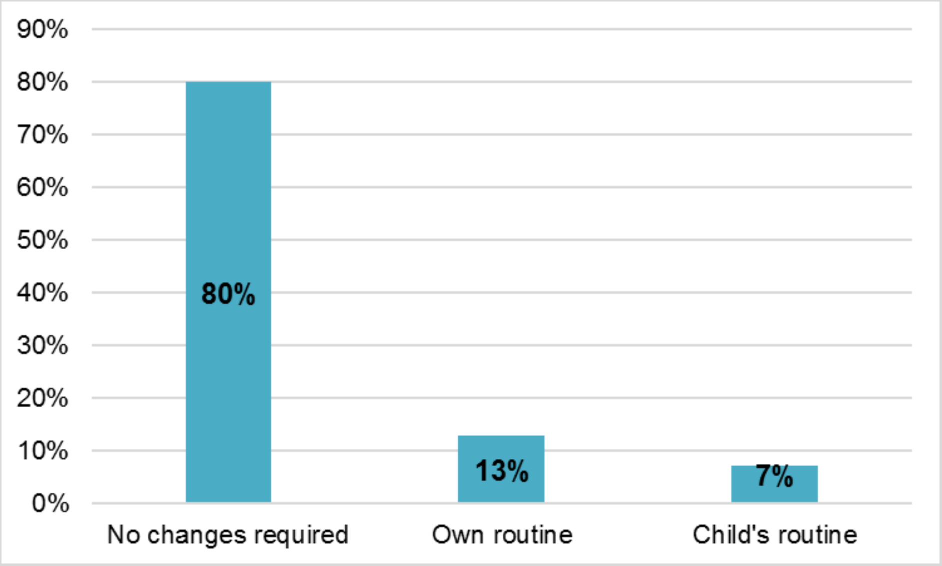
Survey respondents were asked how satisfied they were with the general administration of their appointment. This clearly focuses on the 2-2½ year review as a whole rather than specifically on the ELIM-E. However, we considered that, parents' feelings about the 2-2½ year review as a whole might colour their views about the more specific aspects of the ELIM-E and it was therefore important to distinguish these. In the event, respondents were largely happy with the arrangements, with 98% reporting that the timing worked for them.

Opportunity costs

A fifth of parents changed something about their routine to attend the review but considered this acceptable where they had sufficient notice.

With reference to opportunity costs, the relevant question was whether parents were required to change something about their normal routine in order to attend the review 2-2½ year review. As shown in Figure 5:2, for the majority of parents (80%) no changes were needed.

Figure 5:2 Proportion of parents who changed their commitments.



For the 20% of parents who did change something, the most common reason was taking annual leave from work or rearranging their working day, for example by taking a long lunch. Other common changes included cancelling their child's nursery or childminder attendance for that day, missing extracurricular groups or changing arrangements for other children in the family. Most parents reported having ample notice to make necessary amendments. Acceptability of these amendments may be complicated by not having a specific appointment time, or a lack of clarity about what the review would entail.

Affective attitude

Prior to the review most parents were not concerned about attending and overall were happy with the evaluation they received.

Questions relevant to what parents liked and disliked about the 2-2½ year review covered satisfaction with the location, the overall assessment, and their level of concern ahead of attending the review.

Although the location of reviews varied, most parents (98%) reported being happy with the location where their review took place. Of our sample, 50% of parents had their review at home, 33% at a clinic, 7% at a children’s centre and 11% at another location, such as a church hall or community centre. Location of the review also relates to burden as the convenience of the location may affect the amount of money and time parents were required to invest. For those who were not happy, the main reasons reported were being required to pay for parking, difficulty finding the location or being in a room, which had no windows.

We asked parents about their level of concern prior to attending the review. In response, 75% of parents said they were ‘not at all concerned’ and 16% reported being ‘not very concerned’. Among parents who did report concerns prior to the review, the reasons varied from worries over their child having a speech delay to feeling concerned that their child was not meeting items on the ASQ-3 questionnaire. Finally, in terms of overall satisfaction, 94% of parents reported being ‘satisfied’ or ‘very satisfied’ with the review.

Intervention coherence

A large majority of parents felt the questions and purpose of the review were clear as well as the information sent in advance.

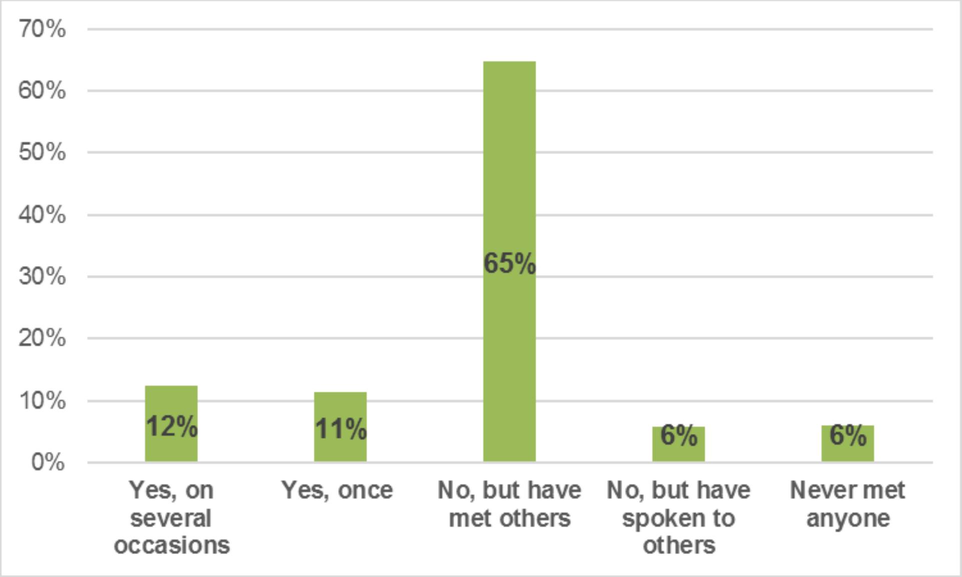
Most parents (98%) felt that the purpose of the 2-2½ year review was explained at the meeting, and 98% agreed that the questions that were asked made sense to them. In terms of understanding the information sent to them prior to the review, 91% felt this was very clear or quite clear.

Ethicality

Most parents had not met the person who completed their review before; however, the majority felt comfortable answering questions.

We considered ethicality to refer to how comfortable the parent felt during the review. One aspect of this may be to what extent parents felt at ease with the HV they met and whether they knew that person already. Figure 5:3 shows the proportion of parents who had previously met the person who delivered their 2-2½ year review.

Figure 5:3 Responses to question 6, “Had you met the person who completed your review before?”



The majority of respondents (65%) had not met the person delivering their review before, though they had previously met different HVs. Health visitors completed just under 30% of the reviews; the rest were completed by nursery nurses and other members of the health visiting skill mix. In terms of continuity, the survey data showed that it was more common for parents to have met the health visitor before (35% of parents surveyed), compared with other members of the team (18% of parents).

In terms of how comfortable parents felt with answering questions about their child, 99% reported being very or quite comfortable. In our survey, the small percentage who reported not feeling comfortable stated that this was due to their own concerns and anxieties about their child’s development.

The majority of parents (95%) reported having time to discuss all their concerns and questions about speech and language. For the parents who did not feel there was sufficient time, parents responded that they would have liked more in depth discussion of speech and language, individual observation of their child and recommendations rather than focussing solely on questionnaires - for example:

“His speech and language development was not mentioned extensively. There were basic questions to me but not many to him”
“For a capable toddler it was very frustrating to not hear about areas for development. It seemed to only focus on avoiding risk rather than taking opportunity”
“I was surprised there was no interaction with the child at all. Everything was questionnaire based to which I felt I could have just filled in at home and sent back by post with no reason to actually be there in person”

Self-efficacy

The majority of parents felt confident about answering questions; however few parents reported an increase in confidence after the review and many were unsure about where to get further advice.

Identifying and Supporting Children’s Early Language Needs

Most parents (99%) felt very or quite confident in their own ability to answer questions about their child’s development during the 2-2½ year review. In terms of providing parents with further knowledge and confidence, only 38% of parents reported feeling more confident about their child’s speech and language development, 58% felt the same and a very small number felt less confident or were not sure (3%). Just under half of the parents (47%) knew whom to contact for further advice if they needed it.

Perceived effectiveness

The majority of parents were satisfied with the overall evaluation of speech and language and reported that they had learned something from the 2-2½ year review.

In relation to how helpful parents found the information given about their child, 76% of parents reported, that the questions they were asked helped them to learn more about their child’s general development. However, fewer (only 20%) felt that they had learned a lot about activities that would be useful to their child’s speech and language development; 46% had learned ‘some things’; 28% reported they did not learn anything and 6% said they couldn’t remember.

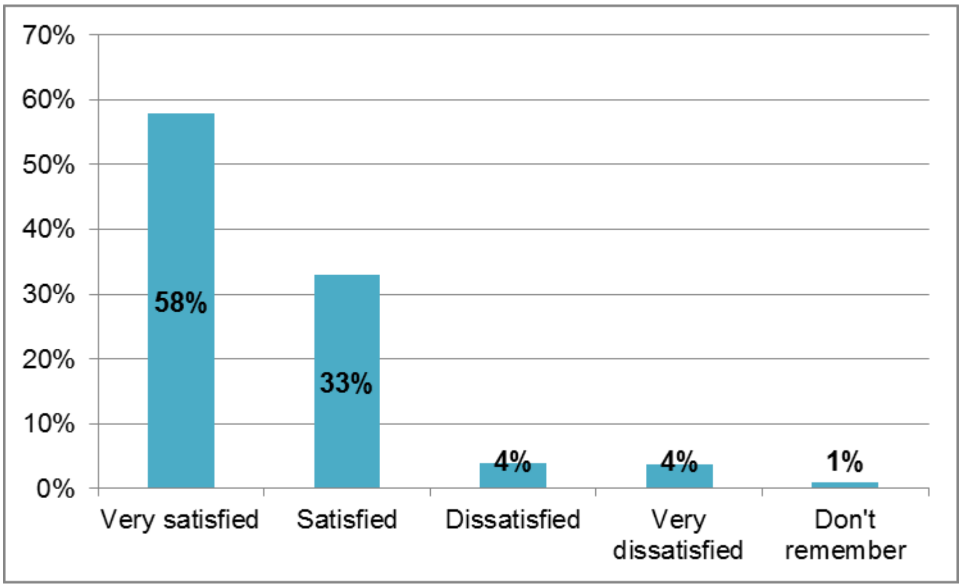
This experience of not receiving new information or advice is mirrored in some of the final comments that parents made:

“It was an opportunity to raise concerns but I don’t really think we got much advice or activities we could try to develop her speech, we just got advised to wait”
“Feedback on development and language would be nice as well as any activities that are beneficial”
“Would have liked more specific feedback on how my child is developing”

Figure 5:4 shows parent satisfaction with the HV assessment of their child’s speech and language evaluation of their child. The proportion of parents who were very satisfied or satisfied was slightly lower than for overall evaluation (92% compared to 94%). Finally, 91% of parents said they were very likely or likely to recommend attending the 2-2½ year review to friends and family.

Identifying and Supporting Children’s Early Language Needs

Figure 5:4 Parent satisfaction with the Health Visitor assessment of their child’s speech and language



When parents were asked about recommendations to refer their child to speech and language therapy or other services, 77% reported that they agreed with them and 13% said that none were made. Nearly 11% were either unsure about the recommendation or disagreed with the suggestions.

Families with English as an Additional Language (EAL)

To assess the acceptability of the 2-2½ year review process for families with English as an additional language, we conducted an additional analysis of survey results, splitting data by whether parents said they used an additional language at home. The proportion of EAL families by area within our survey results is displayed in Table 5:5.

Table 5:5 Proportion of EAL and non-EAL families by area

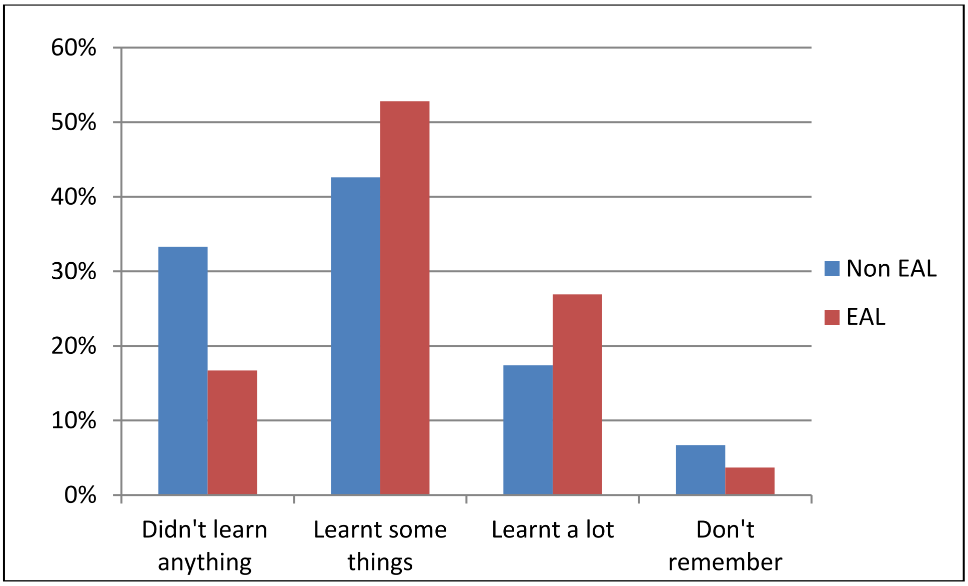
	Wiltshire	Derbyshire	Middlesbrough	Wakefield	Newham	TOTAL
EAL	12 (14%)	9 (9%)	9 (12%)	9 (16%)	73 (86%)	112
Non-EAL	74 (86%)	93 (91%)	65 (88%)	48 (84%)	12 (14%)	292
Missing data: 29						

The clarity of the information provided prior to the review and response to questions asked was experienced similarly, across EAL and non-EAL families – for example, 97.2% of EAL families said the questions they were asked made sense, compared with 98.5% of non-EAL families.

A higher proportion of EAL families rearranged their own or their child’s routines in order to attend the review (35% compared with 15% of non-EAL families). They were also on average more concerned about attending the 2-2½ year review with 15.7% of EAL families and just 5.9% of non-EAL families saying they were ‘very’ or ‘a bit’ concerned ahead of the review.

However, in general once they attended the review, EAL families were more likely than non-EAL families to report learning about speech and language development (Figure 5:5).

Figure 5:5 EAL and non-EAL parents’ responses to question 15, “At the review did you learn about activities that would be useful to your child’s speech and language development?”



There were some differences between EAL and non-EAL families in terms of outcomes. A higher number of EAL families said they felt unsure about the decision that had been made (11.3% compared to 6.1% of non-EAL). They were also less certain about whom they could contact for further advice if they still had concerns. 53% of non-EAL families said they knew who to contact compared with 32% of EAL families.

Positive and negative experiences of parents

With such overwhelmingly positive responses to the survey, it is easy to disregard those parents who are dissatisfied and for each question, there were a small number of parents for whom the experience had been less positive. Parents were asked to add final comments at the end of the survey and these give insight into the positive and negative aspects of the review process. Box C provides some of the quotes from parents who found the experience disappointing, a waste of time or frustrating.

Box C: Negative feedback from parents:

- It was an opportunity to raise concerns but I don't really think we got much advice or activities we could try to develop her speech, we just got advised to wait
- Would have liked more specific feedback on how my child is developing. I had no concerns but always good to know if doing it right!
- Would have been nice to see the HV we saw when [child] was first born
- I think it is just the same as we do at home except he is more relaxed with him knowing his family circle rather than strangers
- Need more emphasis on the development of the twins and the differences or support. Not helpful in stating where they should be, need more specific help on twins i.e. feeding twins, supporting both, no help on twin parents. Member of twin association this is useful
- At age 2, children are too young to be assessed or to be comfortable with a stranger
- Helpful but the HV has a lot to get through in the hour
- She never gets back to me. It could take 2/3 weeks for a reply
- Maybe a bit more time playing may have made him a bit more confident to talk a bit more
- I had to ask the church office where the room for the assessment was. Instructions or signs would have been useful.
- During the 2 year, check I was surprised there was no interaction with the child at all. Everything was questionnaire based to which I felt I could have just filled in at home and sent back by post with no reason to actually be there in person
- I felt the appointment was a bit of a waste of time. My son was quite bored, the nursery nurse didn't engage with him. There was no practical app and so could have just completed forms online and over the phone.
- Still unsure what the appointment with HV was for
- I remember one that asked a list of 50 words to see if my child had said them and she just started to repeat them back to her
- Feedback on development and language would be nice as well as any activities that are beneficial

Nevertheless, most parents rated the experience positively. Box D provides comments from those parents who found the experience important, comfortable and professionally delivered.

Box D: Positive feedback from parents:

- HV was very friendly and easy to talk to
- It is useful for those who do not have much knowledge of child development
- The service we received from the HV Team has been very good. The staff we have dealt with have been very professional and knowledgeable
- Nursery Nurse who did our assessment was lovely and put me and my child at ease
- Health Visitor was lovely and explained a lot
- HV was very approachable and helpful
- It's very good it's helped my child's speech and language I feel very confident
- I would always recommend attending an appointment as they are always important and it is good to know from a professional how your child is doing
- [child] is coming on in leaps and bounds I've always found HV helpful
- The HV was very friendly and professional. My child felt comfortable
- Very nice and really interacted very well with my 3 children
- The team were very helpful and communicated very well with my little one, who really enjoyed himself
- Interesting to see what tasks are used to assess and good ideas to bring into future conversation with [child]

Parent telephone interview findings

Components of acceptability: processes and themes

Parents explained their experiences of the 2-2½ year review and to what extent they found it acceptable in relation to the following key processes: the service, the review arrangements and questionnaire, the practitioner and the outcome. Each of these process themes in turn interacted with themes relating to acceptability that the parents discussed during the interviews. Box E summarises each of the acceptability themes that were identified in the analysis.

Box E: Acceptability Themes

Accessibility and Communication = Parents wanted each component of the 2-2½ year review to be accessible and consistent, with clarity of communication perceived as a key component to ensure this.

Relationship and Empowerment = Relationship and rapport between the HV and the family (both parent and child) was key to acceptability. In addition, a positive relationship allowed the parent to feel empowered and have confidence with taking forward advice and suggestions for activities.

Value (time and opportunity) = Given many parents' busy schedules, perceived value was vital for parents - in terms of value for time of the review, ensuring it was family-friendly and convenient, and value of opportunity, where outcomes of the review were perceived as being worth the time invested.

Individualisation = Parents wanted the review to be tailored to their family and child's needs and appreciated a personal approach rather than 'box ticking'.

Expertise = The role of both parent and practitioner in assessing the child was discussed with reference to the interplay between professional expertise and parental knowledge of their child. Parents valued the opportunity to speak to a practitioner where they felt they learned something new and received relevant feedback.

In this section, we explore parental views about their experiences of the 2-2½ year review at each level of the process: service, the review and questionnaire, practitioner and outcomes. Throughout we will consider how the individual acceptability themes are interweaved with these processes, and each time a theme is mentioned it will be marked in bold to reflect a developing understanding of what constitutes acceptability for parents. Illustrative quotes provide evidence of the themes and gives prominence to the parents' voices.

Service

At a service level, parents emphasised the need for the health visiting service to be easily accessible and quick to respond to any queries or concerns they might have. Clarity of communication was key to ensuring accessibility, both at the level of the HV service with the family and also between the service and external agencies – for example SLTs, early years settings and GPs. Parental experiences of multi-agency working varied between teams and areas. Some parents commented on satisfaction at joined-up systems and others expressed frustration at an apparently disjointed system, which left them feeling out of the loop.

“the first time we raised this issue it was in August and now it's March, it's been 7 months now and we haven't had any update, we have never been contacted”

Parents’ views on the timing of the 2-2½ year review suggests that they were not always in agreement with organisation of the various review points. Some parents commented that the gap between the 9-12 month and 2-2½ year reviews was too wide at an age where children are rapidly changing. An additional review before school was suggested as advantageous, although opinion diverged on whether monitoring was the responsibility of early years or healthcare settings post 2 years of age. Many parents commented on the rapid improvements their child had made in speech and language since having the 2-2½ year review and highlighted how quickly development happens at this age.

“he's like a completely different child with his speech now, he's, you wouldn't really believe it was only 3 months ago that we were, that we were getting quite concerned about him”

Parents also commented on the lack of parity between areas in terms of the support that is offered and the resources they can access. For example, some parents who had older children noted how service changes had led to differences in the level of support they received for their younger child, such as fewer classes being available or changes to the number of health visitor reviews that are done. Parents also described how this varied between municipalities in local areas, for example where relatives had received information about their 2-2½ year review much later than they had despite living relatively close.

Review arrangements

During the interviews, parents commented on the clarity of information they received in advance of the 2-2½ year review and how the review was arranged. Most parents were satisfied with this process and felt they had sufficient notice to prepare, although some parents commented that they did not know what to expect on attending the review

“I didn't really know what to expect, what they were hoping to do…I mean obviously I knew I had to take the-, the questionnaire with me, but uh, but that was it really”

Convenience was a key aspect of acceptability for many parents, in relation to location, timing and receipt of the information about the review, including the ASQ-3 questionnaire – thereby increasing the review’s perceived value for time. For example, many parents appreciated having the review at home since they did not have to travel or interrupt their child’s usual routines, and in addition, their child was more comfortable in their own surroundings. Where parents did attend another location, they appreciated this being a space tailored to children, for example with access to toys, and ideally a location they were already familiar with.

“it was, really, really relaxed setting so it obviously not too stressed in an office or anything, which was really good for a 2-year-old”

Where location and timing of the review worked well for the parents and child, this added to parents’ sense of ease and that the individual needs of the child and family were being catered for.

“the pace went with what [child] was doing so if [child] needed a bit more time they would've given him more time. So yeah I was happy with that yeah”

“it was quite a bit quick, a bit rushed, and I just feel like um, even if she brings some toys and something like to, to like encourage him to do something, and, the toys was with him like maybe like, no more than 2-3 minutes”

Several parents commented on how far in advance of the review they had received the questionnaire. When it arrived a long time in advance, this caused concern for some, as they were unsure if their child should already be meeting the milestones that were included. Parents therefore felt that more explanation was needed in the covering letter, for example noting the target age of the questionnaire and that it was a guideline for the type of things children may be doing, rather than a checklist of requirements.

“when we first get the questionnaire, cos they send it to you quite early on, you think 'oh my goodness, she's not doing that, he's not doing that'”

Questionnaire content

Some parents felt that the questionnaires were overly long and that questions were repetitive. However, many commented that the questions themselves were straightforward to answer, giving them an opportunity to reflect on their child’s development.

“they're a bit long winded aren't they, it would be easier if it was a bit simpler”

Parents’ feedback on specific questions was relatively limited. This was partly due to the time gap between the review taking place and the research interview meaning that parents struggled to remember any specific questions. The questions which parents tended to remember most were those, which they felt did not reflect their child’s current stage of development. In particular, within the ELIM-E, the most frequently mentioned question was Section 2, the vocabulary list of 50 words. Some parents commented that their child was unable to say many of the words and this increased their concern.

“it's funny cos you don't think of how many words your child can say until you actually have to write them down, or tick a box next to the words, and it didn't feel like a lot”

Parents also commented on the breadth of words used in the vocabulary list noting that many would be unfamiliar to their child. Generally, parents responded to the speech and language questionnaires in a way that probably reflected their child’s level of development: some felt that the questions expected too much of their child; others felt that the questions were too basic.

In addition to wanting questions and examples to be appropriate to their child’s context and age range, parents discussed the use of scores as a way to assess their child’s development. Opinions on this subject were again mixed. Some parents felt they were a useful indicator of their child’s development and allowed concerns to be raised at an early age, while others commented that as children are individuals it is inappropriate to assess them according to developmental norms.

Other specific aspects of the ELIM-E questionnaire drew little comment from the parents. However, one parent mentioned how the questions about daily activities in Section 3 prompted feelings of self-blame and feeling judged.

"when she asked me uh, how often do you play with her? Or, well for myself, I work almost full time… when I come back home I might be tired and, I don't have energy to play with her….I just thought maybe, I didn't do more to her, I didn't pay more attention or didn't give her more time, um..."

These examples demonstrate the range of factors, which make questions acceptable to a parent. They particularly emphasise the need for effective communication of the reasoning and interpretation of each question in a way that is accessible for each family and individualised to their context.

Practitioner

When parents talked about their experiences of the review, they described aspects of the delivery by the practitioner (either a HV or member of the HV skill mix) and highlighted the key role that the parent's relationship with the practitioner played in the parents' perception of the acceptability of the review.

Delivery

Parents valued the expertise of the HV and the time they take in explaining the questions and discussing issues. The explanations and interpretations provided by HVs helped parents to understand the meaning of different items and scores in the questionnaires were an important part of creating an acceptable review. Parents revealed that, where these explanations were not forthcoming or inadequate, this heightened their concern.

"there's somebody there to say oh there might be a little concern there or, that, they're exceeding there. It gets, gives you an understanding of where your child's at from someone else's view"

The respective roles of HV and parent in assessing the child were frequently discussed in terms of the balance between direct observation and assessment by the HV and the reporting of a child's performance by the parent. Some parents found it helpful to complete a questionnaire in advance, supporting them to think about their child's development and notice the milestones they had met. This approach also highlighted the parents' own expertise and knowledge of their own child. However, parents also liked the HV to spend time observing their child, rather than directing questions towards themselves only. To see a HV interacting successfully with their child gave them confidence in the expertise of the HV and also provided a helpful model.

"I think they're quite good, they make you think as a parent actually about your own child, which you probably wouldn't do if the health visitor just came and assessed them"

"maybe to get down and listen to him a little bit more instead of obviously being on the computer, maybe concentrating and listening to what the difficulties were"

“it was just the way she was and the way health visitor have interacted with her, y'know to understand to, you need to be very friendly with them. That thing I have learned from the health visitor. The way she is, it was very helpful”

Unfortunately, for some parents, the experience felt like a waste of time: where parents had spent time prior to the review considering questions, they were looking for more than a mere repetition of the questions, or worse, that their responses would receive only a cursory glance. Some parents viewed the process as a ‘box-ticking exercise’ and while acknowledging that it was important for children to be monitored regularly, they struggled to see what the benefit of the review had been for them.

“They are not helpful at all and - you know as I said it's just like someone has been assigned a task and they just want to say ok yes I've seen the kid and I've done my job, that's it It's not very helpful”

“ It's like you're doing the questionnaire twice cos you're filling the questionnaire out on your own, the nursery nurse is then coming to your house, but then you're having to discuss it and go through it all again”

Relationship

From the parents’ perspective, the acceptability of the review was crucially underpinned by a supportive and non-judgmental relationship established between the HV and parents and their child. Parents wanted the HV to be accessible, easy to contact, open to questions, respectful and responsive to concerns.

“if there was ever a worry or anything that they're a phone call away and they're really good at getting back in contact with you or making appointments..”

“I was thinking I might wanna ask more about that speech and language really, that was like only my concern, I was just wanting to see like what's the next step, or how is it work, if I need the speech therapy, how will I need to do, and stuff. But I didn't have a chance because she was just like oh rush through and, I was trying to calm him down”

One parent’s response illustrated the potential practitioners have to undermine parents’ confidence. Fortunately, this parent used the knowledge gained from an older child to help her enter the next encounter with more confidence in her own view.

“when you bring up a concern and they either dismiss it, or say oh well y'know like suggest things that you've been trying, but you feel like maybe you've not been trying hard enough or, like maybe you've been doing something wrong, maybe it's your parenting as opposed to an actual issue….I think I went into this one more confident, knowing that, what I'd been seeing, was, it wasn't just me overreacting or, I, I because by that point I knew what I was looking for, and I knew what the signs meant”

This positive relationship and being able to empower parents can go a long way to overcoming the lack of continuity of HV over the child’s early years. Many parents were more comfortable if they could see the same person each time. For example, some parents commented on the importance of the HV knowing their family background. On the other hand, parents who had had negative experiences with a previous HV were keen to have the possibility of change. Nevertheless, parents understood that continuity was not always possible and a constructive relationship with a positive outcome compensated.

“I don't see why they come anyway, because it's a, it's a new person it's like [child] had a health visitor until he were one and then all of a sudden a nursery nurse appears in your house”

“it doesn't bother me. As long as me child's needs are met it doesn't bother me y'know”

“I was comfy, because obviously she knew our background and everything like that”

“I mean the first one that came round when I was still pregnant, she was horrible, so I'm quite glad that I don't have to see her again. But the others have been lovely”

Outcomes

The subject of what happened as a result of the review and what parents took away from the experience often evoked the strongest responses from our participants. It contributed substantially to the review’s acceptability and to their perception of whether or not the review gave value for time. Value was considered in terms of the time spent in the review process and whether this was worth the advice they received and recommendations that were made. Crucially, the outcome of the review needed to deliver an outcome that matched and successfully responded to parents’ levels of concern.

Several parents expressed frustration at being told to wait for further referrals or actions until their child reached 2 and a half. Understandably, parents receiving this advice questioned the rationale and value of having a check at a certain age if it was too early for interventions or referrals to be put in place. In these instances, they feel the period of waiting looms ahead, filled with anxiety and frustration.

“health visitor just told me to wait and see what's gonna happen when he gonna be like til 2 and a half. Which I wasn't really happy about it. I just don't feel like sit and wait to see if something's gonna improve, if I can just, y'know be focussed on that and do it. Because I don't wanna like, wait and see and then after regret, oh 'why I didn't do it earlier?'”

“we had been concerned we had been to the doctor and the health visitors as well, everyone was saying that we have to wait until 2 and a half…they have been telling me wait wait wait, but well I can say to her I don't want to wait anymore, but I can't force anyone you know”

Other parents felt able to cope with this period of waiting where they had been given suggestions of activities that they felt were helpful and could follow through at home. They felt reassured and comfortable that they could use the time productively.

“it was fine the fact that she sort of reassured and then said you know I'll contact you when he's 2 and a half and we can take it, that was fine with us really. It gives you time to try and work with them”

“I was not very worried why they are not referring, because they are giving me the tools like the books, action songs, role playing and yeah I will work on it. If not I can always go back there so I was not very stressed”

Opinions about the suggested activities varied. Some parents felt the activities were helpful, whereas others reported that they were already doing the activities, which were suggested. For them, the review needed to add value beyond the generic or obvious solutions. Parents were looking for advice, which was individualised to their own child's personality and needs, was culturally sensitive and informed by evidence. One bilingual parent described the negative outcomes of advice she had received in the past. Advice may also be viewed as unwelcome where it was unsolicited.

"My girls were bilingual, they could speak two, three languages, and I was told with him to focus on one, instead of two or three…so I think the downfall there was that the health visitor at the time…now he, he just knows- just knows English and that's it. He doesn't know his own language"

"she's shown me different activities for him to do to, you know, help him as well, and I'm thinking oh my god why didn't I think of that?"

"we're doing, because I do them anyway, there wasn't really anything, anything extra that I was told to do, so it's just, she said just to continue what you're doing"

During the interviews, parents expressed their own opinions about the type of activities they could do at home which fostered their child's speech and language development. A range of ideas were discussed, many of which are consistent with those promulgated in the popular literature for parents and in literature aimed at universal interventions – see Box F for details. This highlights the need for HVs to check parents' existing knowledge and ideas.

Box F – What helps children's speech and language development? Ideas suggested by parents, listed in order of frequency of mentions:

- Activities and interaction through nursery/preschool/childminder
- Regular reading
- Play – toys/jigsaw puzzles/games/role play
- Other family members/siblings interacting with child
- Direct teaching (phonics, letter recognition)
- Interaction with other children
- Conversation with child (not 'babyspeak')
- Use of television/YouTube
- Singing and nursery rhymes
- Extracurricular groups (e.g. swimming, music groups)
- Drawing, colouring and crafts
- Spending time outside, pointing things out to child
- Correction of errors
- Repetition of word (rather than direct correction)
- Sign language (baby sign and Makaton)
- One-to-one with parent
- Encouraging child to say word when gesturing
- Reducing TV time
- Giving child a choice between two options
- Parenting classes
- Use of apps on iPad or phone
- Child helping with everyday chores and talking about activity
- Speaking slowly and using short sentences

For some parents, the purpose of the review was felt to be identifying children with disorders. Although parents may have appreciated more support at that time, they were philosophical that it was not forthcoming.

"she's got other areas to look at, rather than just that. And I think she did the right thing by picking it up, questioning me a little bit about it, and then sort of directed me then towards somebody that specialises in that area"

"I see that very much as a sort of a stretch goal really…that would've made it less of a waste of time for my daughter. But I wouldn't want to detract from actually what the purpose of the appointments are"

For those parents who had received onward referral for additional services, the situation seemed overwhelming. They faced multiple referrals via different pathways, requiring them to keep track of various appointments and professional roles, potentially creating a sense of feeling swamped with appointments.

" he's been referred, he's been referred to have a portage worker and, for the speech therapist, and then we've got a, I can't remember, a multidisciplinary um assessment, that should be within the next month with the speech therapist and the paediatrician involved…and then, from there it's, we've also got a

referral for the social and communication nursing team, and then, the portage worker's gonna help us to assess his school needs"

" - We're waiting for a paediatrician appointment.
- OK, right. Was that a referral from the health visitor as well?
: - Yes. Well no, that was.. well that was, that one was the health visitor and then we're also, the nursery are putting, I don't like, and we have a special needs nursery in our hospital. They do portage and things, they've put a referral through to there as well. When that, well they've said they've done that, I don't know if they have cos I was meant to get an email of the referral but I never did."

At the other end of the spectrum of need, there were many parents who did not have concerns about their child's speech and language development. However, some of these parents were still looking for an opportunity to discuss their child's development and for feedback and reassurance. They valued the potential learning from the review and being given specific activities to take away and try at home. Others saw the process as irrelevant, and only necessary or worth the time if a parent had concerns.

"At the last appointment I did ask if she thought that there might be any issues, well as a parent you kind of you don't know, and she said 'no everything seems to be fine' so it kind of settled my desire for any feedback kind of, if he was OK"

"If they've got any form of concern definitely attend it, but if not, it really depends on whether or not they have the time or want to"

"definitely some form of literature on speech and language…it's so important. And even kind of hints and tips on very basic things that you can do, and even like kind of, a little glossary of like the key words so that, for those who would maybe want to do a bit more research into it, they know where to start"

Summary of parent findings

The results from the parent survey were generally very positive. This was carried out relatively soon after the review, concurrently with the PLS-5 and completed by nearly all of the parents who completed the PLS-5. Ratings suggested that the review had not caused any unsurmountable inconvenience. Some parents had concerns about their child as they went into the review, but otherwise were not worried about the process. They rated the questions as easy to understand and were comfortable with what was discussed. Most were happy with the outcomes although fewer felt that they had learned more about how to support their child's speech and language or had more confidence about this aspect of their child's development. Comparisons of ratings from parents who did or did not speak English as an additional language (EAL) suggest that parents with EAL were more likely to have concerns going into the review about what would happen. Afterwards they were less sure about what would happen next although they were more likely to report increasing their learning about speech and language development.

A small number of parents who responded to the survey experienced the review in a more negative light. Dissatisfaction was typically connected with poor access to or communication with the HVs, with the amount or quality of advice given or with the interaction between the HV and their child.

The sample of parents who took part in the interviews was much smaller, approximately 10% of the sample who completed the PLS-5. Proportionately, there were more parents of children who were concerned about the speech and language of their child than in the sample as a whole and therefore their experience is potentially different to the full sample. Indeed, rather than preponderantly positive, the responses of parents that we interviewed were more mixed. This does suggest that the sampling was successful in exploring the range of experiences. Despite this difference between the survey and the interviews, similar aspects of parents' experience contributed to their overall perception of the acceptability of the review. Acceptability was influenced by the accessibility of and communication with the service as a whole; the convenience and ease of the review itself and the skills and relationship with the HV were also influential.

Parents struggled to remember the specifics of the questions about speech and language, although the 50-word vocabulary list stuck in their minds. The rationale behind use of this vocabulary list was not fully understood and caused some consternation. Of critical importance to the parents in this study was the outcome and whether or not the review had delivered appropriate reassurance, advice that was novel, useful and individualised, and referrals that were timely and not overwhelming.

Results from this survey show similarities with the findings of Morelli et al (2014) who surveyed parents about developmental reviews with paediatricians. For example, 98.6% of their respondents said they were happy to answer questions about their child's development, mirroring the 99% who said they were very or quite comfortable in this survey. Areas of disparity mainly related to how much parents gained from the review – for example, 82% of Morelli et al.'s parents said they had learned about activities, compared with 66% of our respondents. This may be related to methodological differences, as parents in the Morelli et al. project were seen by a paediatrician rather than a health visitor, so different types of advice and information may be given. In addition Morelli et al. asked about whether parents had learned about activities to 'grow and learn' while we specifically asked about activities related to speech and language development, which fewer parents may have received, particularly if they did not have any concerns.

Themes that were identified in this study reflect similar findings to previous literature explored in Chapter 1. In a Channelmum survey (iHV,2020) of 1000 mothers, a number of elements were identified that were key to an acceptable health visiting service, including accessible, evidence-driven, personalised and collaborative care, tying in directly with the themes we found in these parent interviews. The lack of advice regarding follow-up and next steps is also common both to the Channelmum survey and to this study, particularly within EAL communities. Clarity and accessibility of local pathways is therefore a vital part of an effective and acceptable health visiting service. Another common thread across the literature is that parents' feel that HVs don't always take their concerns seriously, for whatever reason, and are left feeling undermined or anxious. The response of parents regarding HVs' ability to interact with their child was also raised in this study as well as previously (Auert et al, 2012; Lyons et al, 2010).

In this study, one of the strong messages is about getting the outcome of the review process right for families. Whilst it may seem obvious, as far as we are aware, it has not been identified in previous studies. It seems from the interviews in this study that parents' expectations of the purpose of the review at a general level may well be similar to that of the HV. Whilst some of the parents reported that HVs explored their concerns, this was not universally the case. This study suggests that HVs should also be exploring what parents would like to see as an outcome of the review.

Health Visitor focus group findings

The perspectives of the health visitors and health visiting skill mix who participated in the focus groups are described below in two sections: the characteristics of *the ELIM-E* itself and then what is needed in terms of context to ensure *successful delivery*. Before addressing the substantive findings, HVs' discussions about the project will be briefly summarised.

Feedback on the project

Although the topic guide did not focus on the running of the project itself, HVs mentioned aspects of the running of the project in their replies. They commented on the challenges of the project, particularly the perennial research challenge of recruitment. The usual take up of the 2-2½ year review was high in each site. However, the conversion of this into recruited parents was of concern at all sites and a bigger challenge than most had anticipated. In particular, HVs found parent attendance for the PLS-5 assessment to be a stumbling block. Their view of parents' reasons for not participating included the burden of the extra time, for example, having to take additional time out of work with no direct benefit to the individual. They also commented on the uncertainty associated with the developmental phase of the ELIM-E, in that they were not sure whether or not items would be retained in the long term and how to judge the final overall picture of the child. Another major issue for HVs was the extra time involved to conduct the ELIM-E. Whilst additional time had been built into their reviews, the recruitment and paperwork also created burden for members of the teams. HVs were constructively solving problems between themselves and valued sharing of information across sites where that occurred. Despite all the challenges, focus group participants were generally interested and positive about the project and excited at the prospect of a tool that may address some of the perceived inadequacies of the current questions about speech and language within the Ages and Stages Questionnaire (ASQ-3).

The ELIM-E

Characteristics of the ELIM-E that make it acceptable to HVs centre on its coherence both internally and externally and on its usefulness.

Coherence

HVs were looking for both internal coherence within the ELIM-E tool and external coherence in the interface between the ELIM-E and other systems and processes. With a clearly articulated and understood rationale for items, incorporating items and issues that they would expect to see and that they find useful. HVs also talked of the interface with speech and language therapy and were looking for external coherence between systems.

Internal coherence

HVs expected ELIM-E items to be clearly articulated and to be able understand or make sense of each item. They reported that much of the ELIM-E was consistent with HVs' existing practice. It made sense to them and was therefore straightforward to integrate into their practice:

"I would say 60% of the things in the ELIM-E questionnaire fits in to what we've been doing before, so it's easy to transfer" Focus Group A.

However, there were several items that caused concern. These questions are shown in Table 5:6 along with a summary of the concerns voiced by the HVs. As can be seen from the range of comments, the vocabulary list raised a considerable amount of discussion.

Table 5:6 ELIM-E items of concern to Health Visitors

ELIM-E Items		HV concerns
No.	Description	
1.4	Finding two objects	Parents over-estimate because they are giving the child visual cues
2	Vocabulary list	What was the rationale for the choice of words? Words seemed to be too advanced for this age group and did not include words commonly taught to children of this age Parents feel anxious when presented with uncommon words, that their child should be saying them all Not clear about how to score or check parents' interpretations. Examples: child does not use the specific word but his own word instead such as 'bobo' for bottle; parents with EAL will pick a similar word but this may not be as advanced as the English example; parents think their child is using a word and only when probed realise that they only use a gesture
3.13 3.16 3.18	Family history of: learning difficulties or mental health problems Mothers highest level of education	All felt to be potentially sensitive and intrusive and judgmental Parents question the relevance, (as do some HVs) and how the information will be used Regarding wider family history – how widely are you expected to probe; parents will not always have wider information
4.22	Speech is mostly intelligible	Is this mostly intelligible in the parents view or in the HV's view
4.23 4.25 4.28	Child using single words Child using gestures Child's level of attention	Unsure about how to score these; do you score the highest, and assume anything at an earlier stage has been achieved; or do you only score exactly what you observe

Concerns fell into four categories: some questions were felt to be potentially intrusive or sensitive and HVs anticipated (or indeed had already received) challenges as to the relevance of the questions; others were felt to be particularly vulnerable to mis-interpretation or over-estimate by parents and therefore prone to scoring error; one or two were felt likely to trigger anxiety in parents and finally there were a number, particularly in section 4 (the HV observation section) that HVs were not sure how to score or to interpret.

In the case of family history, some HVs were more experienced or comfortable at asking these questions and had well developed strategies for putting them to parents, whilst others referred to the red book or their case notes as they frequently had this information in the general health record of the family. One health visitor noted that if the parents' education or mental health was a significant risk factor for SLCN, then it should be identified much earlier than the two-year review, with appropriate action being taken to mitigate risk.

HVs also expected that the items within the ELIM-E would be both comprehensive and parsimonious. The teams all referred to additional items that they expected to see or that they would find useful in terms of their decision making but that were not included in the experimental version of the ELIM-E. Focus group participants questioned their exclusion. Typically, these items were related to children’s screen time and use of dummies, but also included whether or not the child had made recent progress. They also noted where there was overlap or repetition with questions in the ASQ-3 and would have liked to see combination of the good points of the ASQ-3 and the ELIM-E thus reducing the perceived burden for both parents and HVs.

“.. I always ask 'has there been any progression?' …. y'know, sometimes they'll still say 'he in't saying anything ', no, just tell me what he were like a month ago, what he were like six weeks ago, and then when they're saying 'oh yeah well he is now', it kind of makes them feel more reassured, to think that that, even if it's a small progression, he's actually progressing in the right direction so rather than just staying y'know still”
Focus Group B.

I just think parents find it a bit tedious as well if it's too much. If there's that form and that form and there's two forms, we're staying there for ages. And then that, I think they'd just fall out with it”
Focus Group B.

External coherence

The interface with other services, particularly speech and language therapy services was discussed in most of the focus groups. Given that children identified at the review are referred onto SLT services, this is inevitable. Liaison with the speech and language therapy services was valued and recent training (through the project and associated with the training commissioned by PHE and DfE) was considered helpful in terms of understanding the criteria for referral to the SLT service and how the service was organised. Some teams felt that the project itself had facilitated increased contact between services. However, there was evidence that work was still to be done in terms of making the two systems compatible, for example, the timing of the review with the intake priorities of other services. Questions were also raised about the parity of the 2-2½ year review with the developmental profiling carried out in nurseries as part of the Early Years Foundation Stage.

“Yes we were lucky because um the speech therapist came along to the training that we delivered through the Institute of Health Visiting, so they gave a presentation of about 30-40 minutes and that supported the information that we were already delivering so um, I think the feedback we got was that staff really enjoyed that aspect of it, erm and I think it was also an opportunity for staff to ask questions for speech and language too.
I: So the staff got more knowledge about speech and language or just more-
We were told more about what happened once it got sent, how they decided who we were seeing and who we weren't seeing, what information they were looking for, what key words they were looking for, it were more from their point of view than ours so it gave you a better understanding of what to put in that referral.

I think it's absolutely key moving forward though that what I can see now is that key stakeholders have got a shared agenda. So I think that's, that's good”
Focus Group B.

Usefulness

HVs valued the potential of a new tool to support their decision-making and secondly as a ‘trigger’ for conversations with parents and an opportunity to provide reassurance. These two aspects of a tool seemed to summarise much of what the HVs wanted the tool to provide.

Decision-making

Views were mixed about the added value of the ELIM-E, whether or not it had changed how HVs made their decisions or changed the outcomes of their decisions. Some felt that the additional items focusing on speech and language reflected their existing practice. It provided a reminder of key messages.

“I don't know whether it's changed practice or not actually if I’m honest. I think it highlights the limitations of the communication section on the ASQ-3, I think that's very clear”
Focus group C.

Others, however, felt that the ELIM-E provided a useful guide to their assessment and resulted in a more thorough investigation.

B2 “Well it's a bit more in depth, it explores speech and communication hand in hand which is quite good, it makes, it asks more questions, um and I think definitely when it gets to the asking about the books, that makes parents think as well, how often they've shared a book, so they're already questioning themselves. So I found that's quite-
B4: Powerful, isn't it? Yeah” (Universal agreement)
Focus group B.

At one site, HVs reported that the SLTs had noticed a difference in referrals; others were hoping that the tool would support their referrals by helping them to provide more detail and additional evidence for the referral, thus providing more leverage and strengthening the power of their referrals.

B10: “I think it's about, about sort of the detail. I think prior to the training and this project, kind of there were lots of inappropriate referrals, and what they're saying now is that they're specific, they're concise, um and you know they're meeting the criteria so they're not wasting time, so I think that's very positive.
B4: You can kind of walk in and, it's a guide.
B6: The good thing about it is that it's leverage for making referrals. If you're, cos we used to struggle with that a lot before didn't we, like … if you had no evidence whereas now you've got the score, you can, use that referral to say look, we've done this and it's showed this so therefore they need to be seen whereas before, when it, when it was just our observation, erm which essentially is the same thing, it's just we haven't got paperwork to back it up”
Focus Group B.

A trigger for reflection and conversations

HVs were enthusiastic about the section in ELIM-E that focused on parent-child interactions, such as shared book reading, playing with toys with the child. They felt that these questions ‘provoke thought’ (Focus Group E) and open up a ‘bigger conversation with parents’ (Focus Group B). These were situations where HVs were looking for opportunities to explore the child’s development in more detail or to identify strategies that might be useful. They emphasised the links to recent training on the home learning environment of the child.

B9: "It's like planting a seed, I find it's really really good is that, cos some might not be doing it but then they'll you'll come away, and they'll be thinking about it later and thinking ooh maybe I should be getting books out, maybe I should be playing that or doing that. I think it's quite good that bit.
B6: This bit should definitely stay in cos it sparks up that, um them thinking 'oh my god, we haven't been to the park', and 'I haven't read a book' and y'know it starts off that-"
Focus Group B.

Reassurance and encouragement

As well as identifying children at risk and having conversations about how to help, HVs spoke about the reassurance that parents were looking for. HVs commented on how the items from ELIM-E provide opportunities for parents to gain positive feedback about their child's development. Further than just reassurance, the focus on their child and his/her progress can be empowering.

"And I also believe this whole process is reassuring to parents, because on one single, uh when I was going through observation, what the children could say, what they could make, uh when I tick it off and I say 'this is nice two or three words', and she say 'oh I thought the child has speech difficulty cos I'm comparing my child to another child of my cousin, or family member'. And I did explain that children develop at different rates, yeah, she might uh attain that milestone at that time, it doesn't mean that your child cannot even surpass that child, uh that she should start noting little things that this child says at home and then you know, encourage the child, so it's quite reassuring..."
Focus Group A.

However, reassurance that does not match the parents' perceptions of their child's progress is not necessarily useful, as this HV points out:

"I've got it the other way, I've got a parent that has got serious anxieties over speech and language with their child and they did absolutely fantastically in the 2 year development review, the ELIM-E was fantastic and they are still not reassured. So I think if they if they perceive a problem even with these I don't think it's going to reassure them"
Focus Group E.

Balancing these differing agendas for the tool might be challenging – as one member of Focus Group E concluded:

"I mean, for me, what do we want the ELIM-E to do? Do we want to improve the speech and language of children, or do we want to be able to quantify what the child can/can't do? If we know what either of those is then we know what the tool's meant to look like. If it is meant to improve the speech and language and communication of children, then we need to make it… such as a talking point with the questions - so can your child do this, did you know that by doing this it makes it (better). Where if it's we want to know how many children have got speech and language issues, we need a tool completely different"
Focus Group E.

Successful delivery

As HVs discussed the ELIM-E measure itself, they also began to talk about conditions associated with the delivery of the 2-2½ year review. These conditions concerned the training that had preceded the start of the project and the practicalities of carrying out the review. They particularly emphasised the management of the conversation between parent and HVs.

Training

Focus group participants were asked about the training they had received in preparation for the ELIM-E part of the project. This often led to a broader discussion about the enhanced HV training commissioned by PHE/DfE as well as training received on the development and implementation of the ELIM-E tool. There was some confusion about which training they had received, since often both had been cascaded by members of their own team. For some HVs, the training was sufficient for them to be able to carry out the ELIM-E. Others had missed the training offered regarding ELIM-E and received only a short briefing; these participants would have liked more information on the rationale and how to present them to parents. Training that has been shortened in some way, perhaps not providing the depth of discussion and opportunity to check understanding, is perhaps reflected in the some of the views described above (internal coherence: making sense).

E1: "I do think it would have been worth having a bit more time on the actual final piece as well.
E2: Just to get familiar with it…. to then have to go through it with a parent and you know, you don't know what you're doing do you"
Focus Group E.

Practicalities

Some of the discussion focused on the practicalities of the reviews, such as the additional time needed to cover some of the specifics of the ELIM-E and to organise interpreters and the pros and cons of home versus clinic location. The latter are not specific to the ELIM-E but highlight the complexities of carrying out the reviews.

To some extent, the subject of additional time related to the demands of the project such as recruitment and paperwork. However, some HVs felt that the additional questions, the depth of exploration of speech and language and the extra explanations to parents would require extra time whereas others felt that they already covered these sorts of issues in their existing approach.

Regarding the location, data from the parent survey shows that sites differed in the proportion of home visits that were carried out. Although the pros and cons are similar for the review as a whole, the advantages of a home visit were seen as particularly important when assessing speech and language development. Typically, the interactions of two-year old children are highly influenced by context and in unfamiliar contexts, children of this age are often reluctant communicators.

D1: "I personally prefer to do them at home because I think you get a better indication of what the child's like. Because I think when they come into a hospital it's an alien environment, it's a different room, they don't know you and I - unless you've got a really confident child I don't think you see the true child. Whereas at home I think they are a lot more comfortable in their own environment, you see them naturally play with their toys. I personally prefer them at home but time constraints mean that we can't do that we have to generally get them up to a clinic, and I accept that"
Focus Group D.

Managing the conversation

HVs frequently described the 2-2 ½ year review as a conversation with parents and, as noted above, ELIM-E items that facilitated conversations were valued. Managing these conversations clearly requires skill in terms of responding to the different families. There are difficult questions to ask and sensitive topics to broach. The process of supporting parents to reflect on their child's development and the parent's own interaction with the child is potentially threatening and can be perceived as judgemental. HVs are acutely aware that parents are often already anxious and feeling guilty that somehow, any and every deficit in their child is attributable directly to their poor parenting.

B11: "A lot of people take everything as a criticism don't they so like, if like, I've had anxiety then, that, and my child hasn't got very good speech, that's my fault, cos I had anxiety. That's just society in't it, it's like, people think they're to blame for everything. When really actually if you look about it, if you've got somebody like that, essentially it's probably, we've got a role to play in that haven't we cos if we haven't picked up on somebody's anxiety is affecting their child's development then that's our fault (laughter) because we should've done something about it shouldn't we, y'know, so it's, it's- but it is, it's awkward to ask people those kind of questions when you've never met them before"
Focus Group B.

HVs particularly highlighted situations where there was a discrepancy between their own observations of a child and the parent perceptions and report. They suggested that this happened often where a parent has responded to a set of questions without support or with no broader point of reference or knowledge of child development and that, this needed skill and sensitivity.

C2: "But I also think it's something about practitioner's skill in the sense that you have to be prepared to unpick it and I don't know how many people do. ….So I think it's about unpicking those questions and it's about actually trying to put yourself in the parents shoes and trying to understand their aspect of how they are completing that, what is making them say that from their perspective this child is doing this all the time, when actually from my perspective I'm not convinced. So what is it that they're seeing that I'm not, or what is it that I'm seeing that they're not seeing.."
Focus Group C.

HVs welcomed what they perceived to be an increased emphasis within ELIM-E on HV observation.

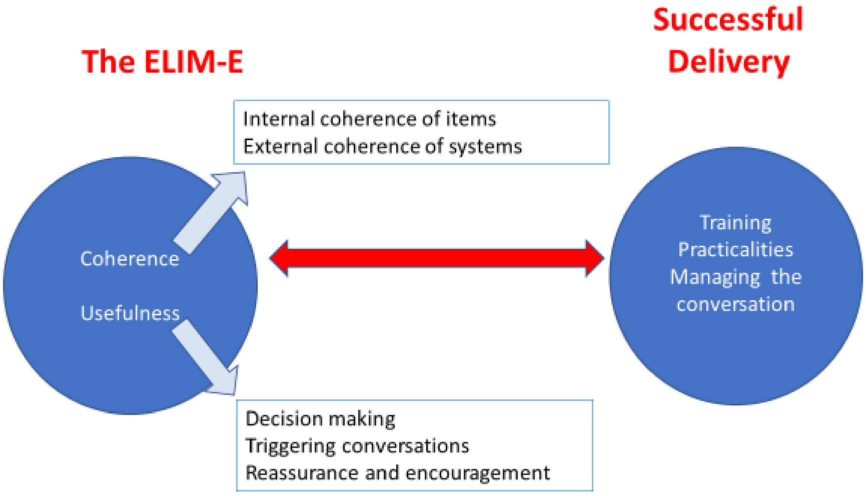
"So we know that the parents know their children better, even at 27 months you would expect the parent to know the child the best. But we know that a home learning environment is the key indicator for the future of the child and - so you're asking the parent to assess themselves without hardly any knowledge at all, and then they come in to us for - to talk about their findings. …So that is not really helpful, whereas the ELIM-E tool is suggesting that our observations and the information that we get from the parents, in terms of the risks and the strengths are actually going to be, um give you a better indication of whether these children need extra help or not, or whether they are going to achieve.."
Focus Group C.

HVs argued that dealing with these issues within the review is easier if there is an existing relationship with the family and more difficult if you are a stranger. They felt that prior knowledge of a family makes it easier to broach sensitive topics.

Summary of the Health Visitor findings

The themes that were identified from the HVs' discussion of the ELIM-E are represented in Figure 5:6. The internal and external coherence of the ELIM-E and its potential to support their decision-making and to trigger conversations with parents were important components that lead to acceptability of the tool itself. However, HVs also highlighted several factors that they considered important for the successful implementation of ELIM-E in the context of the 2-2½ year review. These included sufficient training about the implementation of the tool and about SLCN, consideration of some basic practicalities such as time and location and most important of all, the HV's expertise in managing the conversations with parents.

Figure 5:6 Themes from the Focus Groups



Strengths and limitations of the acceptability component

Project delivery

Due to the ambitious size of the project and the fact it was carried out over 5 different sites, each with individual service realities, there was an inevitable variation in how the project was delivered in each site. In particular, where ELIM-E training was cascaded to other members of the team there was sometimes variation in how the project was presented and delivered to parents. All parents received the same information and consent process. However, some parents that we interviewed expressed confusion about the status of the follow-up PLS-5 assessment, perceiving this as a referral for SLT. As the ELIM-E was embedded within the 2-2½ year review, some parents were unclear about what the ELIM-E was, in some cases confusing it with the PLS-5. Differences in how areas completed and submitted their paperwork also led to variation in the period of time between the review and the parent interview.

Some parents reported that they chose to take part in the project due to concerns about their child's speech and language, as they knew they would get to see a speech and language therapist, thus potentially skewing the sample of those agreeing to the follow-up appointments and interviews. Similarly, some parents stated that they felt HVs went into less detail at their 2-2½ year review as they knew the family would be seeing an SLT. Therefore, parents' opinions about outcomes and referral may have been different, had involvement in the project not been an option.

Survey design

There were a few misnomers in parents' survey responses, which may be related to the survey question design. Firstly, a small minority of parents reported being 'very dissatisfied' with aspects of the review. Scrutiny of these reports showed that some of these parents also said they were likely or very likely to recommend the review, thus suggesting that they may have misinterpreted one or other of these questions.

We asked parents about their concerns about attending the 2-2½ year review in order to gather information on how worried parents were about their child's speech and language and how this affected how they felt when attending the review. Only 8% of parents reported being 'a bit' or 'very' concerned; however in response to Section 5 on ELIM-E around 30% of parents responded 'yes' or 'sometimes' when asked whether they were concerned about how clearly their child speaks. Of those who responded 'yes' to this question on the ELIM-E, 80% responded in the survey that they were not at all or not very concerned about the review. It therefore seems possible that parents did not consider concerns about their child to be the same as having concerns about actually attending the review itself, and therefore the wording of our question 'did you have concerns about attending?' led to a disparity in responses.

Finally, 26% of parents reported that their child had been referred to a speech and language therapist – rising to 39% among EAL families. Unfortunately, we do not have the data about whether a referral did take place. However given the findings reported in Chapter 1 that identified 13% of children with SLCN at the 2 – 2 ½ year review, the survey figures seem disproportionately high. It is therefore possible that despite efforts to clarify in the survey wording, parents may have reported a clinical SLT referral where in reality they saw an SLT as part of the PLS-5 assessment.

Methodology and sampling bias

In their report of assessing acceptability in healthcare, Dyer et al. (2016) note several factors, which affect possible bias. One of these is selection bias, as satisfaction is measured at the end of treatment and therefore dissatisfied patients are more likely to have discontinued treatment at an earlier date. This is relevant for our parent findings, as those who completed the survey and interview were parents that chose to attend the SLT follow-up appointment. Parents who were unhappy with aspects of the questionnaire or delivery may have been less likely to continue with the research by attending this additional appointment, and therefore their views are not represented here.

Reflecting on the parent survey findings and the interview responses, it is notable that the survey responses are largely more positive about the 2-2½ year review and that fewer criticisms were raised. This is likely in part to be due to our sampling, as we purposively selected for interview parents who had concern about their child, and also those that expressed dissatisfaction with their review, in order to explore their concerns further. Dyer et al. (2016) also report that few patients express dissatisfaction or are critical of care in surveys, and that questionnaires distributed by hand (as they were for our survey) yield higher scores than those received by mail.

Finally, with regard to the focus group sampling, a number of HVs who attended and gave feedback also attended either or both the PPI and co-design groups. Their voices may therefore be unduly over-represented in the data across the project.

Conclusions

The aim of this phase of the study was to explore parents' and HVs experiences of a new combined 2-2½ year review procedure using the ELIM-E as an addition to the ASQ-3 in order to understand its acceptability. The majority of parents who participated in the PLS-5 completed a survey. A purposive sample of 40 parents were interviewed by telephone. HVs took part in locally based focus groups, one at each site.

This summary focuses on perspectives of the stage prior to the review - the information that is provided for parents and training that is provided for HVs. We then consider the ELIM-E tool itself and how it was delivered. Finally, we consider the interventions and pathways that ensue from the review.

Preliminary information and training

In terms of supporting parents, the challenge is to provide the right information at the right time.

Some parents like to have information in advance that helps them to reflect on their child's development prior to the review. However, parents highlighted the rapid change that can occur in children at this time. Receiving forms too early or being given inappropriately aged milestones to consider can be confusing if not anxiety provoking.

Not all parents have been through a review before, and although they understand the purpose of the review, they are not always sure what to expect or how to prepare for it.

For HVs, training to provide evidence about language development is valued as well as the more specific training about the ELIM-E itself. The level of training received varied considerably, particularly where members of the team had been absent or joined the project late. This left them feeling under-prepared and uncertain of the rationale behind items or how to interpret them regarding the child's level of risk for language disorder or delay.

ELIM-E content and delivery

Parents reported that the questions within the review were easy although, with such a long gap since the review, they found it difficult to remember specifics. The one that stuck in their minds was the vocabulary word list. They were often puzzled and slightly unnerved by the words, feeling that they were not words that were in their child's common usage.

HVs also remarked on the word list and questioned the rationale for the inclusion of some words and the exclusion of others. They also raised queries about the interpretation of some items and how they were to be scored. Concerns were also expressed at the potential intrusiveness of some questions about the parents and family.

One of the main issues was the balance between parent report and professional observation and direct assessment.

Parents who had completed questionnaires prior to the review, expected the HVs to check and discuss them, to clarify the meaning of some items and to give them feedback. They reported frustration in situations where their contribution was ignored and wanted HVs to acknowledge and respect their knowledge of their own child. However, they were also keen to learn from the review. They particularly enjoyed those times when the HV had interacted successfully with their child. This gave them confidence in the expertise of the HV.

HV told us that they preferred to confirm parent report with observations of their own. They felt that parents do not always have appropriate expectations of children's language development, or know other children with whom they can compare their own child. They found it difficult when parents' views of the child did not coincide with their own observations and felt that it took sensitivity and skill to explore these discrepancies with parents.

Parents value feedback about their child's language development along with clear guidelines and information about how to move forwards. They particularly value ideas and strategies that target their child's particular needs rather than generic guidance especially where they have actively tried some of these strategies already. Even parents who have no concerns about their child's language development would welcome these discussions where they provide novel ideas and signposts.

HVs were looking for clear referral criteria that would provide leverage through the additional detail they would be able to give in their referrals to their colleagues in speech and language therapy. HVs also valued trigger questions in ELIM-E that led to reflective and constructive conversations with parents.

Continuity of staffing was raised by both parents and HV. Generally, parents preferred that they would not have to deal with a stranger and repeat their stories – they felt better if their history was already known. However, where the relationship between parents and HV is not successful, then parents welcome a change of staffing. Critically, if the HV can establish trust and a positive relationship with the parent quickly, a new face is not problematic. Parents understand that continuity is not always possible. HVs too prefer to provide continuity, but realistically they felt that this is not always possible with current capacity.

Interventions and referral pathways

The outcome of the review was the most important aspect of the appointment for parents. Outcomes that they valued included:

- Clear feedback about their child's language development, with explanations of the meaning of assessment and scores; parents often felt confused about the next steps, what referrals had been made and who was responsible for chasing referrals.
- Individualised ideas for what to do whilst they waited for further appointments with SLTs or other professionals.
- Ideas or interventions that suited their child's and family's needs. Even parents whose child was not at risk of language disorder valued ideas on ways to promote their child's development.

What was available varied across sites and within sites usually associated with the demography of the area. Parents and HVs were frustrated by this variation.

Parents and HVs were also frustrated where the local timing of the review did not match with local referral pathways meaning that access to other resources and specialisms was not continuous from the review point, with families having to wait for several months with no support.

HVs talked about a variety of interventions and advice that they had available to draw on. Sometimes this was general advice such as reading to your child, spending time talking about toys and activities, reducing screen time. They also referred to a number of national initiatives, such as the Dolly Parton Imagination Library https://imaginationlibrary.com/uk/, Fifty Things to do Before You're Five https://bradford.50thingstodo.org/app/os#!/whats-it-all-about and the DfE campaign, introduced in 2019 https://hungrylittleminds.campaign.gov.uk/

Chapter 6: Intervention development

Summary of Chapter 6

- This chapter outlines the development of a prototype universal intervention to promote robust language development to be offered to children and families at the 2-2½ year review.
- Study methods were based on the most recent guidance regarding best practice in complex intervention design and behaviour change interventions and involved extensive stakeholder (parents and practitioners) involvement and co-design.
- Methods synthesised child language intervention research evidence with expert knowledge, practitioner expertise and parent/caregiver views and preferences.
- We found practitioners have an appetite and enthusiasm to promote children's speech, language and communication development, but were not sure *precisely how* to deliver support to families.
- Parents/caregivers wanted to be supported to be proactive and have agency in helping their child as soon as possible.
- Based on stakeholder preferences and intervention evidence an intervention model was developed to support families to increase their use of responsive interaction behaviours within their daily routines and in contexts tailored to individual family circumstances
- For equitable intervention delivery, we found we must not only create a *proportionate* model but also a *tailored* one, considering the specific barriers and enablers for each family.
- Potential barriers and enablers to the behaviour change across families were identified and a method devised for tailoring interventions accordingly.
- Communication between practitioner and parent/caregiver was identified as vital to success: language, which invites partnership, dialogue and shared decision-making, is essential.
- An intervention model was co-designed through iterative workshops, which was acceptable, practicable and equitable to the stakeholder participants.
- The resulting tiered intervention model, designed to be universal in reach and personalised in response is described.
- Differing pathways, the steps through the intervention and the prototype content, procedures, and materials are described.
- We have developed a prototype intervention. A piloting phase is now required to test the approach and resources in practice and so refine the final set of intervention materials prior to implementation.

Introduction

This chapter outlines the development of an intervention to offer to families at the 2-2½ year review to promote robust language development for all children. Identifying children who are at risk of poor language development can only be of benefit if it then leads to the provision of appropriate preventative interventions: to both identify and support. Our aim was to develop an intervention which is acceptable, equitable, practicable and can be delivered at scale and which is based on current best evidence and underpinned by relevant theory. A great deal is known about the aspects of a child’s early learning environment, which can be harnessed to promote positive language outcomes in the pre-school period, due to several systematic reviews, and efficacy and epidemiological studies (McKean et al., 2015, Law et al., 2017, Law et al., 2018, Roberts and Kaiser, 2011, Roberts and Kaiser, 2015, McGillion et al., 2017, Law et al., 2010, Levickis et al., 2018, Levickis et al., 2014). Despite this, the development of an intervention which can be delivered universally, affordably and effectively for children under the age of 3 years has remained elusive.

As with any public health intervention, there is a risk that universal approaches can inadvertently widen rather than narrow inequalities if the necessary attention is not paid to structural factors, which influence a family’s ability to engage in a given health promoting behaviour (Smith et al., 2015). There is evidence to suggest this is a real risk for early language interventions (Marulis and Neuman, 2013, Becker, 2011). As argued previously an alternative is to apply proportionate universalism where intensity of action is proportionate to the level of disadvantage (Marmot et al., 2010). However, *intensity* is not the only characteristic, which can and should be tailored to the individual circumstances of a family. Much of the existing evidence regarding pre-school language interventions focusses on building capacity in parents/caregivers: their knowledge and skills as to how to create a language-enriching environment for their child. Insufficient attention has been paid to other factors associated with structural inequalities such as families’ opportunities and resources as well as affective factors such as their optimism and belief about their capabilities (Michie et al., 2014, Cane et al., 2012). For an equitable intervention to be designed we must not only create a *proportionate* model but also a *tailored* one, considering the specific barriers and enablers, assets and challenges in each family.

Our aim was to develop an intervention to promote robust language development for all children aged 2-3 years, which aligns with the aims, principles and structure of the modernised Healthy Child Programme (HCP). Our goal was to design an approach with ‘universal reach and a personalised response’ https://www.gov.uk/government/publications/healthy-child-programme-0-to-19-health-visitor-and-school-nurse-commissioning and which provides the necessary specificity for the effective implementation of additional and intensive services identified as necessary in the HCP modernisation programme https://www.gov.uk/government/publications/healthy-child-programme-0-to-19-health-visitor-and-school-nurse-commissioning

The Medical Research Council’s guidance for the development and evaluation of complex interventions emphasises the importance of rigorous intervention development (Craig et al., 2008), however it is only relatively recently that detailed, systematic and replicable methods for this first phase of intervention research have been specified (Michie et al., 2014, O'Brien et al., 2016). The following outlines how our approach aligns with the most recent (2019) guidance for the development of complex interventions for health and healthcare by O’Caithan and colleagues (O'Cathain et al., 2019). This guidance outlines five principles and 10 actions, which, if considered, increase the likelihood of effectiveness and enable the widespread adoption of novel interventions in the real world (Table 6:1).

Our planned methods are an adaptation of those described by O’Brien and colleagues (O'Brien et al., 2016). This iterative and sequential method is designed to enable the integration of published scientific evidence, expert knowledge and experience and stakeholder knowledge and views. We remained open to change and processes were developed and adapted as necessary in response to outcomes at each stage. We made use of the expertise of the research team at several stages to challenge, develop and contextualise intervention development. The team comprised researchers with backgrounds in Speech and Language Therapy, General Practice, Health Visiting (practice and policy), Psychology, Medical Sociology, and Linguistics.

Table 6:1 Principles and actions in complex intervention development (O’Cathain et al., 2019)

Principles	**Actions to consider**	
• dynamic	• Plan the process	• Articulate program theory
• iterative	• Involve Stakeholders	• Undertake primary data collection
• creative	• Bring together a team	• Understand context
• open to change	• Review published evidence	• Attend to future implementation
• Look towards evaluation	• Draw on existing theory	• Design and refine

We drew on existing theory in a number of ways. First, with respect to child language development, we were informed by socio-cognitive theories (Tomasello, 2000, Tomasello, 2008) which emphasise the importance of responsive interactions with caregivers for robust language development. A number of infant socio-cognitive skills are also crucial to early language development: the ability to share attention with adults, understand their communicative intentions and take turns in conversations. Language is learned best in responsive social interactions between caregiver and infant where the language used by the adult is contingent on the child’s attention and where the child is deploying these socio-cognitive abilities to infer meaning and maintain the interaction (Levickis et al., 2014, Levickis et al., 2018, McGillion et al., 2017). Importantly caregiver response and contingent interactions also facilitate the development of these socio-cognitive abilities and so are critical to robust language and communication development from the very earliest days of a child’s life (Donnellan et al., 2020).

Second, we planned to apply Behaviour Change Theory (BTC) to the intervention development drawing on the Behaviour Change Wheel (BCW) (Michie et al., 2014) and the Theoretical Domains Framework (TDF) (Cane et al., 2012). Third, the Theoretical Framework of Acceptability (TFA) (Sekhon et al., 2017) informed the development of stakeholder co-design workshop materials.

As data were collected and analysed it became clear that the socio-relational aspects of the intervention could not be ignored. In fact, the success of the intervention would stand or fall on the nature of the communication and social relationships between practitioners and parents/carers. Additional theory relating to principles of shared decision-making, therapeutic alliance, trust and engagement, were therefore also consulted (Bekker et al., 1999, Joseph-Williams et al., 2014, Stacey et al., 2017, Elwyn et al., 2012, de Silva, 2011, de Silva, 2012, Melvin et al., 2019, Légaré et al., 2010, Légaré et al., 2014).

We attended to future implementation of the intervention by considering acceptability throughout the stages of development (Sekhon et al., 2017). The iterative design process was informed by appraisal of our suggested intervention approaches and materials against APEASE criteria (Affordability Practicability, Effectiveness and cost-effectiveness, Acceptability, Safety and Equity (Michie et al., 2014). Parent and Practitioner Involvement (PPI) work and stakeholder workshops also provided detailed contextual information. This detailed contextual information regarding variability in local resources and constraints in service delivery informed intervention design in order to maximise its potential success.

Aims

This aspect of the study aimed to address the following research question:

RQ4: Can the findings [of the ELIM conversation] be readily transferred into accessible intervention resources acceptable to both parents and professionals?

The intervention development methodology uncovered the qualities of an intervention, which would be necessary if the findings of the Early Language Identification Measure (ELIM) assessment are to translate into benefits for the children who are assessed. That is, if we are to both identify and support children's speech language and communication needs. Through that work, the following aims were identified:

To develop a universal and personalised intervention model to offer to families of children identified as being 'at risk' of poor language development at the 2-2½ year review which is:

- acceptable, practicable and can be delivered at scale
- based on current best evidence and underpinned by relevant theory
- proportionate to the assets and challenges of individual families and tailored to the barriers and enablers of intervention
- well specified in its methods for additional and intensive service delivery

Methodology

An iterative design process was followed through which evidence was gathered, and appraised, relevant theory identified and applied, and intervention models and materials generated, tested and analysed. There were five stages, each stage resulting in outputs, which then formed the basis of the next phase. (Figure 6.1). Stages 3 and 5 comprised co-design workshops with parents and practitioners. A total of 13 stakeholder co-design workshops were completed – seven in Stage 3 and six in Stage 5 (Table 6:2). Members of the research team reflected on and discussed processes and outputs over the course of the study.

Participants

Study contacts at each site provided meeting facilities and acted as gatekeepers to participant recruitment. For practitioners, contacts were asked to invite members of the HV team (HVs and Community Nursery Nurses) and relevant members of the SLT team. For parents/carers they were asked to invite parents of children aged 3 – 6 years currently receiving support for their SLCN. This was to allow us to engage with the experiences of families with recent experience of the pathway from identification to receipt of support. Seven parents were involved across the workshops. Two parents attended two co-design workshops and five attended one. Parents were given shopping vouchers as a token of appreciation for their time and their travel expenses were reimbursed. Thirty-nine different practitioners were involved across the workshops.

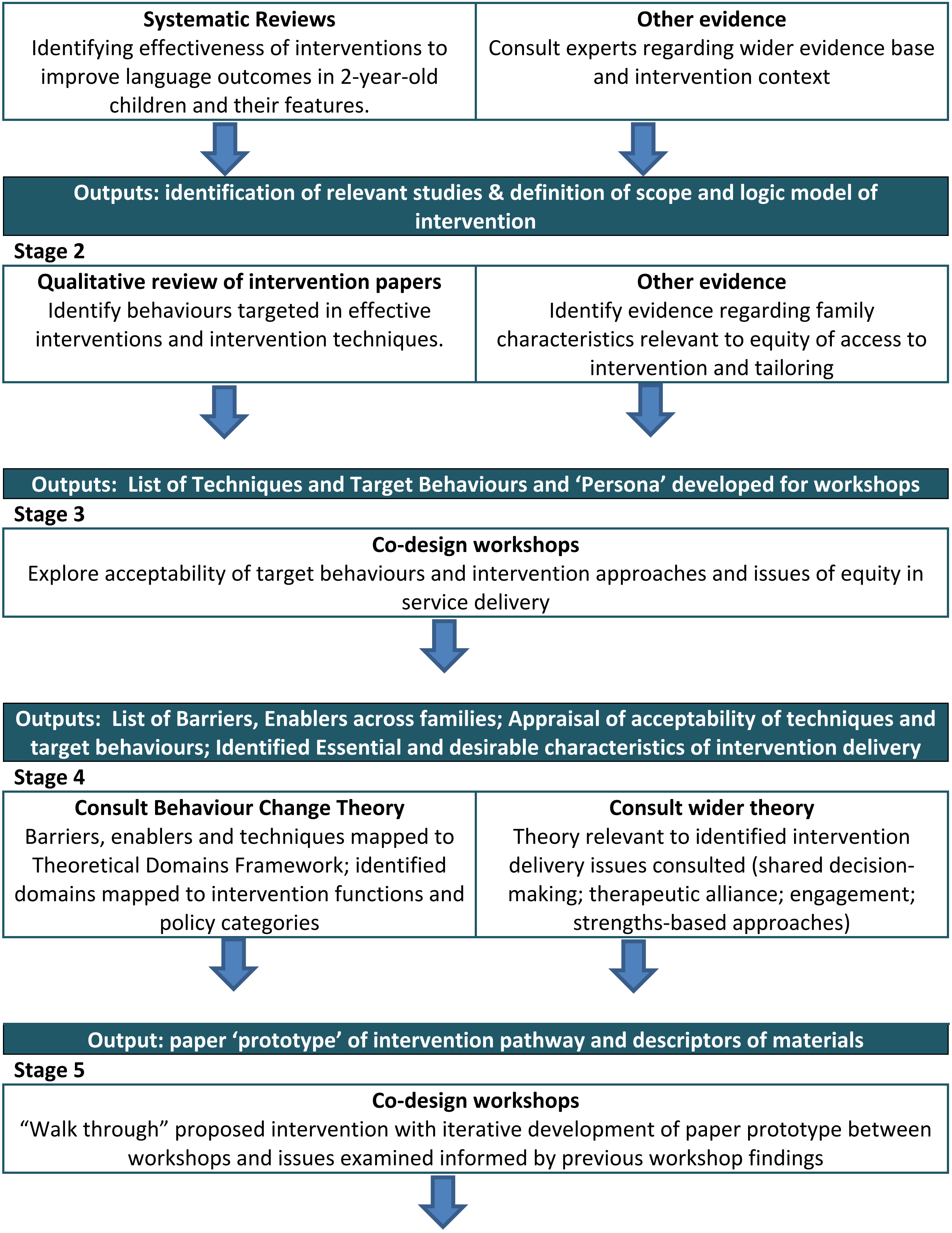
A range of practitioner roles were represented with the substantial majority being HVs or CNNs. This allowed in particular for issues of acceptability, practicability, implementation and equity to be explored. SLTs were also represented to draw on their knowledge of local SLCN pathways and of successful language intervention models and techniques. A total of seven different parents/carers participated; one of whom spoke English as an Additional Language, and 36 different practitioners (18 HVs, 6 Community Nursery Nurses, 2 Student HVs 1 Family Nurse, 1 Student Nurse, 6 Speech and Language Therapists, 2 Speech and Language Therapy Assistants). Parent/carer participant recruitment was affected by the government restrictions associated with Covid-19. Attendance at offered workshops in Wakefield and Derbyshire were probably affected by growing anxiety at that time and a final planned workshop in Newham with twelve families had to be cancelled due to travel restrictions.

Table 6:2 Stakeholder workshops and participant characteristics

Stage	Location	Group	N	Professional groups	Code
3	Middlesbrough	Parents/carers	2		P-C-WS1
		Practitioners	3	2 HVs; 1 Student HV	Prac-WS1
		Practitioners	2	1 HV; 1 Student HV	Prac-WS2
	Derbyshire	Parents/carers	2		P-C-WS2
		Practitioners	5	3 HV; 2 SLTs	Prac-WS3
	Wiltshire	Parents/carers	2		P-C-WS3
		Practitioners	6	2 HVs; 2 SLTs; 2 SLTAs	Prac-WS4
5	Middlesbrough	Parents/carers	1		P-C-WS4
		Practitioners	10	5 HVs; 2 CNNs; 2 SLTs	Prac-WS5
	Wiltshire	Parents	2		P-C-WS5
		Practitioners	8	4 CNNs; 2 SLTs; 2 SLTAs	Prac-WS6
	Wakefield	Practitioners	3	3 HVs	Prac-WS7
	Newham	Practitioners	9	5 HVs; 1 Family Nurse; 2 CNNs, 1 Student Nurse	Prac-WS8

HV = Health Visitor; CNN = Community Nursery Nurse; SLT = Speech and Language Therapist; SLTA = Speech and Language Therapy Assistant. Codes are used when reporting quotes from workshops
Notes: Stage 5 parent/carer workshops in Newham was cancelled due to Covid-19 restrictions on travel and were offered in Derbyshire and Wakefield but not attended by any parents; All Community Nursery Nurses were part of HV teams**.** Codes are used when reporting quotes from workshops in Findings.

Figure 6:1 Intervention co-design stages, outputs, and their linkage



Systematic Reviews
Identifying effectiveness of interventions to improve language outcomes in 2-year-old children and their features.

Other evidence
Consult experts regarding wider evidence base and intervention context

Outputs: identification of relevant studies & definition of scope and logic model of intervention

Stage 2

Qualitative review of intervention papers
Identify behaviours targeted in effective interventions and intervention techniques.

Other evidence
Identify evidence regarding family characteristics relevant to equity of access to intervention and tailoring

Outputs: List of Techniques and Target Behaviours and 'Persona' developed for workshops

Stage 3

Co-design workshops
Explore acceptability of target behaviours and intervention approaches and issues of equity in service delivery

Outputs: List of Barriers, Enablers across families; Appraisal of acceptability of techniques and target behaviours; Identified Essential and desirable characteristics of intervention delivery

Stage 4

Consult Behaviour Change Theory
Barriers, enablers and techniques mapped to Theoretical Domains Framework; identified domains mapped to intervention functions and policy categories

Consult wider theory
Theory relevant to identified intervention delivery issues consulted (shared decision-making; therapeutic alliance; engagement; strengths-based approaches)

Output: paper 'prototype' of intervention pathway and descriptors of materials

Stage 5

Co-design workshops
"Walk through" proposed intervention with iterative development of paper prototype between workshops and issues examined informed by previous workshop findings

Outputs: final recommendations for Intervention model and materials for development and piloting

Data collection, analysis, and outputs

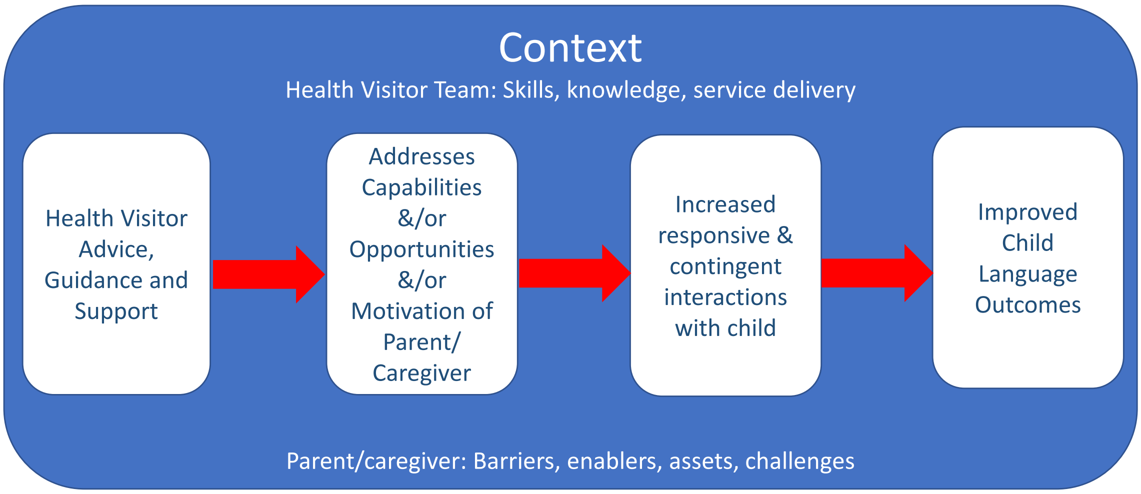
Stage 1

Procedures involved compiling the relevant intervention evidence and defining the scope and boundaries of the intervention. A number of scoping and systematic reviews of pre-school interventions with oral language as an outcome had recently been completed by members of the study team or were in progress. To maximise efficiency, studies were identified through these four reviews and two additional reviews known to the team (Law et al., 2018, Law et al., 2017, CRE-CL and CfCCH, 2015, Axford et al., 2015, Levickis et al., in press, Asmussen et al., 2016). Original research studies were identified and sourced from those reviews, which had oral language as the outcome, involved parents as the agents of intervention and included children aged between 12 and 36 months. This yielded 27 papers. Discussion with the team suggested a widening of the scope to include studies with mental health and wellbeing or educational outcomes to increase the learning, which could be drawn from studies involving HVs and family nurses. The Early Intervention Foundation (EIF) guidebook of early intervention programmes that have been evaluated and shown to improve outcomes was consulted https://guidebook.eif.org.uk/ and 2 additional papers were identified. A workshop was then conducted with the study expert team which involved 1) an appraisal of the quality and relevance of the available evidence; 2) identification of additional papers to consider and 3) potential barriers and enablers for families when accessing the identified interventions.

Outputs

- List of potential barriers and enablers to the published intervention approaches.
- Broad parameters of the intervention delivery and how it might integrate with the ELIM.
- Final list of 16 papers of effective interventions to examine for target behaviours and intervention techniques*, which* fit these parameters (Appendix 8).
- Simple initial logic model of the intervention to guide development (Figure 6:2).

Figure 6:2 Simple Logic Model to guide intervention development



Stage 2

Procedures involved a content analysis of the intervention papers identified in stage 1 to extract the target behaviours of the effective interventions and the intervention techniques used in preparation to seek stakeholders views on this detail in Stage 3. In order to be able to explore how any intervention would need to be tailored for different families to ensure an equitable and proportionate approach we planned to use 'persona' in our practitioner stakeholder workshops in Stage 3: an approach, which draws on software design methodologies (Pruitt and Adlin, 2006). These persona described families with whom the practitioner might work, which vary according to characteristics, which may affect a family's ability to engage with an intervention and/or the target health promoting behaviour. Their use in our data collection methods aimed to make expert practitioner knowledge and clinical decision making which can often be tacit or implicit, explicit (Morgan et al., 2019). To develop persona in an objective, empirically based manner and avoid the danger of reductive stereotypes we searched for epidemiological studies which consider how potential barriers and enablers to positive language outcomes cluster within families. The resulting persona were based on a unique study by Christensen and colleagues which identified six distinct clusters associated with differing vocabulary growth trajectories in a representative sample of 4000 Australian children and their families (Christensen et al., 2017).

Workshop materials were then designed using these findings and drawing on behaviour change and acceptability theoretical frameworks (Michie et al., 2014, Sekhon et al., 2017). They aimed to elicit parent/caregiver and practitioner opinions regarding the acceptability of intervention target behaviours and techniques and barriers and enablers for families with differing assets and challenges.

Outputs

- List of target behaviours – these represented the complexity of the intervention literature where multiple goals were targeted within complex interventions falling broadly into three categories: responsive contingent interaction; shared book reading; and focussed stimulation.
- List of intervention techniques – multiple techniques were identified including video coaching, diary completion, fridge magnet reminders.
- Persona – six descriptions of family persona based on clusters identified by Christensen et al.
- Workshop materials to elicit parent/caregiver opinions as to the acceptability and barriers and enablers for each target behaviour and technique.
- Workshop materials to elicit practitioner opinions as to the acceptability and barriers and enablers for each target behaviour and technique for the different family persona. (see Appendix 6 for workshop materials).

Stage 3

Procedures involved seven co-design workshops with 22 participants, which were facilitated by two members of the study team. Practitioner workshops began with questions to understand the local pathway for children with Speech Language and Communication Needs (SLCN). Parent/caregiver workshops began with an exploration of the participants' motivation for attendance, which also uncovered their experiences of the local pathway. A co-design activity was then completed which involved participants being presented in turn with the candidate target behaviours (e.g. shared book reading) and intervention techniques (e.g. diary completion) identified in Stage 2. Barriers and enablers to, and acceptability of, adopting the target behaviour or implementing the intervention technique were then explored. Paper-based workshop materials were used to stimulate discussions and helped to scaffold and steer the topics covered. These materials were manipulated and annotated during discussions by the study team and participants. All workshops were audio recorded.

Outputs

- Verbatim transcriptions of the workshops
- Annotated workshop materials
- Field notes made after workshop completion and team reflection

Stage 4

Procedures involved analysis of data emerging as outputs from the preceding stages. A deductive approach was used to map the barriers and enablers identified in stage 3 and the intervention techniques in stage 2 to the Theoretical Domains Framework (TDF) (Cane et al., 2012). Following methods described by Michie and colleagues (Michie et al., 2014, Atkins et al., 2017) these domains were then mapped to the appropriate intervention functions to address those domains, which were then mapped to the appropriate policy categories. Deductive analysis was also used to identify comments regarding acceptability of the techniques and behaviours. Inductive analysis was used to identify any themes which were not determined a-priori but which emerged as important to intervention design. A number of socio-relational aspects of intervention delivery were identified as crucial to intervention success.

Finally, a paper model of a proposed intervention was developed based on the identified intervention functions and policy categories. Judgement was used to determine which were the most relevant to the intervention. This judgement was informed by comments on acceptability from the workshops but also on knowledge gained of the contextual factors of importance through PPI and the co-design workshops at Stage 3.

Outputs

- Mapping of Barriers, Enablers and Techniques to the TDF
- Mapping identified domains to Intervention Functions and Policy Categories
- Identification of acceptable behaviours and techniques for intervention
- Identification of key intervention delivery characteristics
- Paper 'model' of the proposed intervention informed by the above outputs and knowledge of the intervention context.
- Workshop materials to support appraisal of the model against APEASE criteria and identification of preferred materials and presentation

Stage 5

Procedures: involved six co-design workshops with 33 participants facilitated by two members of the study team. Workshops at this stage involved a "walk through" of the phases of the proposed intervention with paper mock-ups and descriptors of materials and processes. Workshop resources included triggers to comment on how the phases should be presented and what materials should be used. The intervention model was refined and improved iteratively between workshops with modified materials presented at each site. Participants were also invited to appraise the proposed intervention against APEASE criteria. The model was also "walked through" with a subgroup of the study team. Discussions were audio recorded and participants manipulated and annotated paper materials during discussions. Verbatim transcripts of discussions were subjected to a content analysis to check and challenge the final model produced.

Outputs

- Final intervention model and recommendations

Findings

In the following, we present our findings with reference to the following research questions

- Is there an appetite and a need for an intervention to promote children's language development at the 2-2½ year review?
- Which target behaviours, contexts and intervention techniques are acceptable to practitioners and parents?
- Which Barriers and Enablers must be considered when designing the intervention and how do they relate to Intervention Functions and Service Delivery?
- What are the key intervention characteristics, which must be incorporated into the design for it to be acceptable, equitable and practicable?

We end by describing the proposed intervention which is informed by a synthesis and interpretation of the findings in relation to the research questions above, the findings from the survey and telephone interviews reported in Chapter 4 and with reference to the TDF (Cane et al., 2012), the COM-B model (Capability, Opportunity, Motivation and Behaviour - Michie et al., 2014) and principles of engagement (Melvin et al., 2019), shared decision making (de Silva, 2011) and patient activation (Hibbard and Gilburt, 2014).

The appetite and need for the intervention

Embedding health care innovations into routine practice is not straightforward and requires explicit planning (May and Finch, 2009). Normalisation process theory suggests that four kinds of work need to occur for an innovation to become 'normalised' practice: coherence work (or sense making); participation work (or engagement); enacting work (action to enable the intervention to happen); and appraisal work (reflection and monitoring of the benefits and costs) (Murray et al., 2010). The data from practitioners suggested that the PHE/DfE SLC training has and is supporting practitioners to do the work of coherence/sense-making and participation/engagement, which is required to embed Speech Language and Communication (SLC) interventions into practice at the 2-2½ year review. That is, practitioners have an appetite and indeed an enthusiasm to complete this work, see it is aligning with their role and skills and have 'bought in' to delivering interventions to support child language development.

However, we found that the next step of *enacting the intervention* was difficult for practitioners. They were not sure *precisely how* to deliver support to families and discussions of the potential provision of concrete resources was welcomed

> *Prac-WS7: "except we don't have anything specific do we to show, that's the thing. There's nothing that I'm going to go back and I'm going to go in and I'm going to show this because that is what we do. There's nothing set in stone that that's what we use, is there? I think that's probably a big problem because people are going back in, there's not a definite this is a route we need to follow, is there really?"*

Parents also articulated an appetite and a need for an intervention at this point in the SLC pathway. They expressed a real appetite to ‘get started’ and a feeling of helplessness, frustration and anger if they felt that nothing was happening and their concerns were going unheard. They wanted to feel that they could take action that would help their child.

P-C-WS5: “because…you feel like something is happening which psychologically is good rather than, “We’ll wait a year and she’ll probably start speaking….You can be proactive and do things”

P-C-WS2: *“When they did his two year one, they didn’t say, “Come back in four weeks or two weeks,” it was eight months so in that eight months we could have got something started rather than making us just leave it this late”*

They emphasised however that the place in the SLC pathway would need to be clear. It must not introduce delays in referring children with severe difficulties and/or broader developmental concerns to SLTs and/or paediatricians/psychologists/audiologists. Rather it should allow those families to begin supporting their child immediately whilst waiting for assessment.

P-C-W5:” As long as it’s made perfectly clear to them that they just can’t be left flailing around for two or three years like they have been……And listen to parents because they know if something is wrong”

The targeted behaviours, context and intervention techniques

Behaviours

Discussions highlighted that parents and practitioners preferred an approach, which would allow them to integrate any new behaviours into their everyday routine, rather than as an additional activity. Practitioners felt that the contingent responsive interaction behaviours (see Figure 6.6) aligned well with their current practice, underlying philosophy and the messages, which they provide at other reviews.

Prac-WS4: “It has to come with their own life and the way they are and how is that going to integrate into to their lifestyle so they can make the changes”

Prac-WS1: “it’s because [it’s] part of your flow of conversation rather than being told what to do. We talk about responsive feeding, we talk about responsive parenting. That word responsive comes in, so if we respond to their communication and early communication cues…”

P-C-WS1: “This for me it looks like you say more natural”

It was important however that any goal was perceived to be focussed and manageable.

Prac-WS4: “I think it feels big….it needs to be broken down”

Prac-WS4: “But it’s about choosing one or two things and not too many things…I think giving them too much and bombarding them with too many things…”

Prac-WS1: “it’s something they already do, and you’re not asking them to do too much. They’re not overwhelmed”

There were also substantial differences across parents in which responsive behaviours they felt they needed/wanted to try to do more frequently indicating again the need for a tailored approach.

Contexts

Importantly, jumping too quickly to a specific context within which to practise these behaviours, risked alienating families.

For example, when considering shared book-reading interventions families reported multiple ways in which this context could cause problems. This included parent/caregivers' perception that it suggested that they might not know book reading was a good idea, which felt patronising, or that they did not do enough book reading, which felt judgemental.~~.~~

> *P-CWS1: "I'd be quite offended because I read a lot with my kids. We had this and they said, "Mum, you need to read with them." I read with them quite a lot. I do at least four books on a night …. Then they're saying, "Read with them. That's why he doesn't, you just have to read…. Yes, like it's our fault"*

Furthermore if book reading felt too difficult for the parent/carer either because the child wasn't ready or they themselves had some difficulties, this would likely seem that it was setting them up to fail.

> *P-C-WS1: "Everything needs to be the way Danny*[26] *likes. If I want to read a book to Danny, no, because he wants another book. If you're reading a book to Danny, he's like, "That's enough." He has enough with the book so it's just like…I don't want to be shouting all the time, "Danny Sit down, Danny." I'm like, "You know what? I'm just going to let Danny when he wants it," because I don't want to frustrate him"*

> *P-C-WS1: "So to be honest, I'm not very good at reading books but my husband has a little bit more patience with the language because it's not my language so for me to read, I need to take… a lot of times"*

Whilst other parents would very much welcome support with how to share books with their child.

> *P-C-WS2: "I'm not so creative so maybe if we got a sheet with questions on it, that would help a bit more"*

It was clear that different families needed and preferred different contexts to practice the chosen intervention behaviours

> *P-C-WS5: "I just built it into my day all the time really at the moment, when we had a moment….I just worked it in wherever we were"*

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[26] All names in quotes are pseudonyms

"On the flip side, for me, having multiple children I wouldn't be able to work it into my daily because it's just mental sometimes….but for me, this would be brilliant because I would go, "Actually yes, I do need to find a time in my day to focus and that will be my time. That will be when the others are in the bath, dad is bathing them. He can bath Ella and Jack and I will sit on the sofa with Archie"

Prac-WS4: "I think it's the time when they are together that is the critical time. It's making the most of that together time"

Techniques

In terms of intervention techniques extracted from previous research and discussed in the workshops (see Appendix 7) most were felt to be acceptable if their implementation could be adjusted to the particular family's context, if explained appropriately, and if delivered in the context of a relationship of trust between the parent/caregiver and the practitioner.

The exceptions (techniques which were considered not acceptable) included the parent/caregiver being videoed by the practitioner; the use of a 'language fit bit' which records how much the parent says to the child and gives a daily report; and teaching another family member how to be a responsive communicator.

Barriers and Enablers, Intervention Functions, Techniques and Service Delivery

The work above identified the target behaviour change for the intervention: parents/caregivers increasing the frequency of use of one or more of a set of responsive interaction behaviours.

In order to determine which interventions are required to support families to be able to use the identified target behaviour we applied the guidance and resources in Michie et al (2014).

Barriers and enablers to making the targeted behaviour change were identified from our workshops and review of intervention research. These were then mapped to the Theoretical Domains Framework noting the relevance of the domain. Table 6:3 presents the identified Barriers and Enablers to the use of responsive interaction language promoting behaviours in the home.

Identified domains were then mapped to possible intervention functions and behaviour change techniques, mindful of the evidence review and participant preferences identified (Michie et al 2013). The main relevant intervention functions and techniques identified are listed in Table 6:4.

Finally, Relevant Policy categories were identified for the intervention functions chosen, that is the platform/level at which intervention delivery could effectively occur. The main policy categories (i.e. platform for intervention delivery) were **Service Delivery** approaches with some potential application of **Communications/Marketing**. **Fiscal and Environmental/social planning** policy categories were also identified as potentially relevant to tackle barriers with respect to physical and social opportunities.

Table 6:3 Enablers identified as needing to be in place to engage in the target behaviour change (increase frequency of responsive interaction behaviour) organised with respect to the COM-B components and the TDF domains. Barriers were the absence of or difficulties with these factors.

COM-B	TDF Domain and description of enablers
Capability	**Physical skills** Have skills to follow a child's lead in play or share a book Have literacy skills to share a book
	Knowledge able to choose age appropriate books, toys and activities know what kinds of questions to ask during book sharing/shared activities and how to follow child's interests
	Decision making Able to decide on what they need to change to achieve their goal and choose that goal
	Regulation Able to monitor their own use of the new behaviour and make and stick to an action plan to do it
Motivation	**Belief about capabilities and optimism** Feel they can make the change and increase the use of this behaviour Feel making the change is worthwhile and that there is scope to increase their responsiveness
	Beliefs about consequences Feel child will engage and so will respond or benefit Feel the chosen behaviours are best for the child and other behaviours (e.g. TV viewing) are not equally good – have reason to change Feel that what they do will make a difference
	Intentions and goals Have definite intention to try to increase their use of the behaviour Able to set a clear goal and create action plan for implementing it **Emotion** Do not feel Embarrassed at trying new behaviour and/or have fear of exposure/being judged Do not Feel overwhelmed by additional demands
Opportunity	**Physical Opportunity** Have the books and toys needed to use this new behaviour including books in home language Have access to playgroups, drop-ins or other contexts to support the use of these behaviours
	Physical Opportunity Have a family and/or social network to draw on to support them Have access to/making use of childcare for siblings or child
	Social opportunity See others in their social group using the responsive communication behaviours in a range of contexts Have a family and/or social network to also use the behaviours with their child Have opportunities for supported 'together time' which is intrinsically rewarding for child and parents

Table 6:4 Intervention Functions and Behaviour Change Techniques identified as relevant for the intervention design

Intervention Function	Behaviour Change Technique
Training	• Demonstration of the Behaviour • Instruction on how to perform a behaviour • Self-monitoring of the behaviour • Feedback on the behaviour • Behavioural practice/rehearsal • Habit formation
Education	• Information about health consequences • Feedback on behaviour • Prompts/cues • Self-monitoring of behaviour
Enablement	• Goal setting (behaviour) • Adding objects to the environment • Action planning • Self-monitoring of behaviour • Problem solving • Review behaviour goals • Verbal persuasion about capability • Restructuring social environment
Modelling	• Demonstration of the behaviour
Persuasion	• Credible source • Information about health consequences • Social comparison • Verbal persuasion about capability

Key intervention characteristics necessary for success

The importance of tailoring

The findings above suggest that both the targeted behaviour and the context within which the family will choose to practice it need to be tailored to the individual family's context and preferences for them to engage with the intervention. Without this tailoring there is a risk of an intervention not being manageable for the family and also of making them feel judged, patronised and/or set up to fail.

The importance of practitioners' language and communication

It is difficult to overstate the importance of the specific language used by practitioners to talk about children's difficulties, and what parents/caregivers could do to help support their child. Indeed, it appeared that no behaviour or context was universally unacceptable as long as the language used avoided implications of blame and judgement and invited the parent/caregiver in as an equal in a

process of shared decision-making and goal setting. In this way, the appropriate target behaviour and context for *the specific family* can be agreed.
If not carefully presented, advice can elicit strong negative feelings

> *P-C WS3: "might have thrown something at her to be honest"*

P-C WS3: "you've done everything and you've read every book, every audio book and every study you can find online and someone says, "Have you tried talking to your child?" you just go, "I'm either going to breathe or lose it so I'm just going to go"

Experienced and skilled practitioners invite parent/caregivers to express preferences, try new behaviours and feedback and problem solve together.

Prac-WS7: "it's very much like they feel that you're going in there to tell them they're doing it wrong. It is not about that. It's about them learning the best way for them to do it themselves, isn't it really?"

P-C-WS3: I think if she had said, "I'm sure you're doing a brilliant job but here's a couple of things you might not have thought about. You could just have a look at this list, it might give you a couple of pointers," rather than, "Right, well this is what you've got to be doing to make your child speak. Do you speak to your child?"

P-C-WS3: "I think a dialogue rather than just being told. A dialogue is good"

It is vital to note that if the necessary trust and therapeutic alliance are not built at this stage then continued engagement with the intervention and therefore its success are extremely unlikely.

The importance of modelling

The important role of modelling responsive interaction by the practitioner with the child attending the review was identified by both practitioners and parents and seem to fulfil a number of functions:

- Demonstrating the behaviour in a non-judgemental non-threatening manner

P-C-WS3: "Well I found it useful being shown, not being dictated to but being shown and not in, "I'm now going to show you how to talk to your child," but more just doing it naturally. You think, "Oh." I found that really useful……… I think when you're being told this is what you've got to do but when you see it and you see the way the child engages with it, you see how it works, whereas when you're just being told, "Do this, do this," I don't know, you're butting your head against it a bit and you're feeling a bit just shouted at"

- Demonstrating the value of specific responsive interaction behaviours and the potential for the child to engage and benefit from those behaviours

Prac-WS7: "We model a lot of those kind of behaviours in the visit with the parents themselves but also with the children and then they see the child responding. Then they're building their confidence up to do that themselves as well"

> *Prac-WS7: "I've had that opportunity to get down on the floor and just model. I can see the difference"*
>
> *P-C-WS3: "But I think what was an amazing light bulb moment for me is when I saw the speech and language person speaking to Gemma, engaging and doing things and she was engaging back. It was amazing, "Oh, that happened"*

- Promoting the parent/caregiver's trust in the practitioner

This emerged through a number of mechanisms: demonstrating skills in engaging with their child; ensuring any advice given was informed by the individual child's temperament and developmental level and needs; and problem solving together about how to support the individual child.

The importance of alliance and trust between parent/caregiver and practitioner

As identified with respect to the importance of practitioner language, relationships of trust between practitioner and parent/caregiver were vital. Demonstrating interest, engagement and expertise in interaction with the child at the review, also facilitated trust. As does a communication style which invites partnership, dialogue and shared decision-making

An additional factor which facilitated alliance and trust was continuity of support with the same practitioner supporting the family over an extended period of time.

P-C-WS5: "because the number of times I've told my daughter's story"

Continuity was also seen as being important in supporting practitioners to make correct judgements as to the barriers and enablers, which might exist for a family's ability to engage in responsive interaction and so to choose the level of support required.

The importance of attractive and motivating resources

The number of information sources and media which compete for parents' attention was mentioned a number of times. Practitioners identified the need therefore to design any messaging and intervention resources in a way, which would capture the attention of parents and motivate them to engage.

The importance of inclusiveness and accessibility

Practitioners emphasised that any resources developed must be accessible and inclusive in a number of ways. They must:

- be 'relatable' and represent the range of families served by HV teams in England
- require minimal literacy levels
- be readily adapted to languages other than English
- designed to take account of the range of digital inequalities

Practitioners commented on how effective they found a number of visual resources they use in other aspects of their practice. These included the use of video, attractive visual resources, 'cue cards', and visual reminders.

The importance of fit with current services

It was clear from discussions that the intervention model would need to fit into current service provision both in terms of HV team models of care, early years provision and onward referral pathways for it to be practicable and acceptable.

Synthesis

The findings above fed forward to the intervention design and can be summarised as

- target behaviours for the intervention (responsive interaction)
- appropriate intervention contexts (in daily routines chosen by parents/carers)
- barriers and enablers to the behaviour change to be addressed by intervention
- relevant intervention functions (Training, Enablement, Modelling, Persuasion)
- relevant intervention delivery level/ policy categories (Service delivery, Communications/Marketing, Fiscal and Environmental/social planning)
- key factors for successful, equitable, acceptable, practicable intervention delivery (tailored, language of shared decision-making, modelling, alliance and trust, inclusive, motivating, aligned to current services)

The findings were interpreted with respect to relevant theory outlined in the introduction to this chapter, the contextual details uncovered by the PPI processes and the findings of the survey and interviews (Chapter 4). The intervention was then designed and the model, indicative materials and processes refined through iterative workshops.

The Proposed Intervention

The proposed intervention aims to empower families to act to support their child as soon as the risk of SLCN is identified. It would address delays to access to support inherent in many pathways, meaning action to support the child starts immediately. The opportunity for parents/caregivers to be proactive and to feel they have agency in being able to support their child was important to families. This was reported to reduce their sense of helplessness and anxiety and has been shown to be vital for the development and maintenance of family engagement for any subsequent interventions (Melvin et al., 2019). It also aims to ensure all children and families receive tailored guidance to ensure equity of access to current best evidence regarding how to support their child's language development.

It is vital that the ELIM and the intervention are not seen as replacing SLCN local pathways but rather that they become coordinated and integrated. It is essential that children continue to be referred for support by SLTs and other professionals where they meet local criteria for referral and receive enhanced support in their early years settings as appropriate.

Materials included below (Figures 6.4 – 6.8) are indicative examples and descriptors. All require piloting to ensure their acceptability and practicability in practice. In order to move to piloting it will be necessary to design and produce concrete resources, which include shared decision-making tools, videos, and intervention resources.

The resources have high levels of pictorial and video support and simple language to support access for those with limited abilities to read English. However further adaptation is also likely to be required for families who speak languages other than English. It will also be essential that the resources are developed and trialled in languages other than English and with families who are bilingual.

The intervention model

The overall goal of the intervention is to increase parents/ caregivers' use of specific responsive interaction behaviours for 10 – 15 minutes per day in a specific context, which suits the families resources and constraints and is part of their usual daily routine.

The proposed model has three levels, two optional additional support packages and links to a universal media and social media campaign (i.e. 'Hungry Little Minds' https://hungrylittleminds.campaign.gov.uk/ and 'Tiny Happy People' https://www.bbc.co.uk/tiny-happy-people).

Which level families receive is determined by the outcome from the ELIM and also practitioner judgement as to the assets and challenges for the family and the barriers and enablers to accessing the intervention: a judgement which is guided by resources and training based on the COM-B model and Theoretical Domains Frameworks (Cane et al., 2012, Michie et al., 2014) (see below).

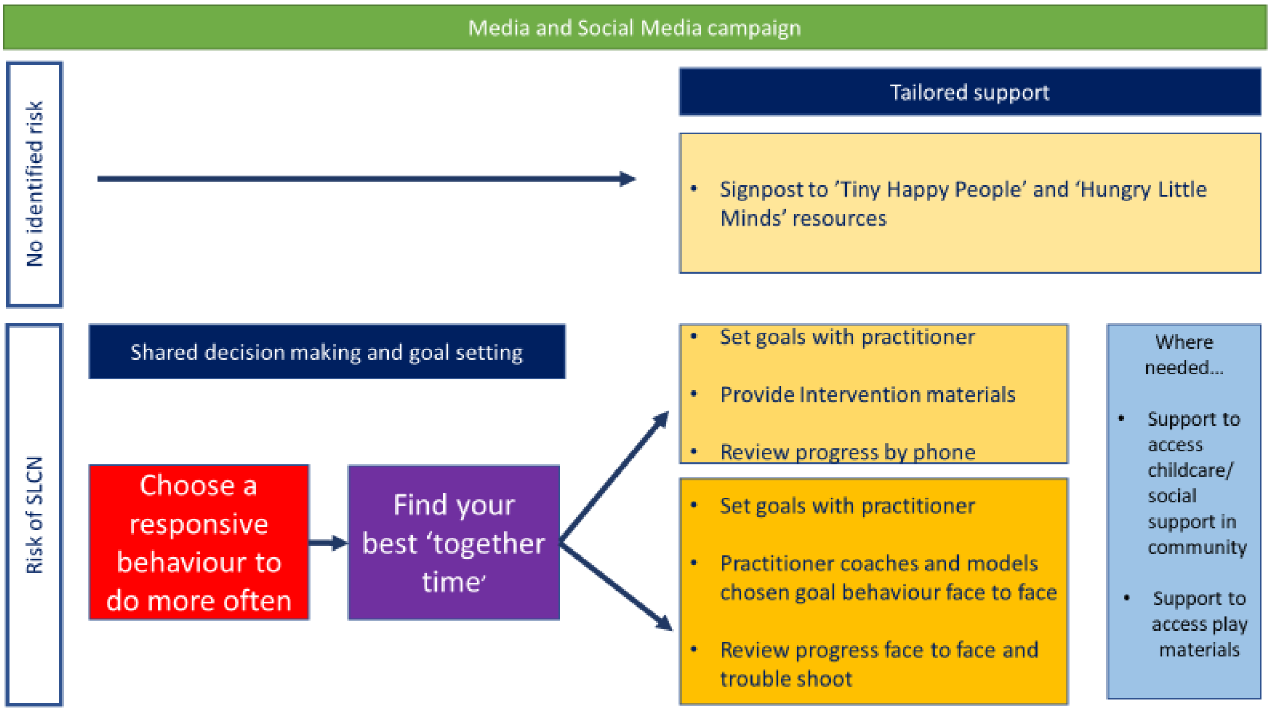
Level 1: Children with no identified risk

We propose that all families are signposted to available resources, which provide guidance as to how to support children's language development. As identified in Chapter 4, parents' perception of the value of the 2-2½ year review is partly influenced by whether they learn something new at that appointment. We recommend the framing of this review as a time to talk about setting the foundations for the child's learning aligning with the Healthy Child Programme and the PHE priority for the Best Start in Life (https://www.gov.uk/government/publications/phe-strategy-2020-to-2025) and the HCP modernisation programme https://www.gov.uk/government/publications/healthy-child-programme-0-to-19-health-visitor-and-school-nurse-commissioning. Setting the expectation that this is the focus prior to the review would also be beneficial encouraging parents to have reflected on any concerns and questions prior to the appointment and perhaps having sampled some of the available sources of support.

The universal provision of accessible information based on current knowledge of child language at this review is important to ensure all children reach their full potential. Importantly we know that trajectories of language development can be unstable and unpredictable between 2 and 4 years of age and some children who appear to be developing well at 2 years may develop language difficulties later. By ensuring, all families are provided with appropriate resources to support them to provide an enriching language environment we therefore provide a 'safety net' for those who may not be identified at this review.

The universal provision of support for children's language development brings an additional advantage over targeted selective approaches. Targeted selective approaches identify particular groups who are more likely than others to develop a particular condition and offer the intervention to them. In the case of language interventions, this is usually families living with social disadvantage. Such approaches carry the risk of unintentional stigmatisation and consequential disengagement of targeted groups (Guttman and Salmon, 2004). This can be avoided where families see that the support is universally offered albeit with varying intensity according to need.

Figure 6:3 The proposed intervention model



Level 2: Children with identified risk –self-directed approach

This level of support is for children identified as potentially being at risk of SLCN using the ELIM. In addition, where practitioners judge there are few barriers to the targeted behaviour change and where they do exist, they mainly relate to the Capabilities category of the COM-B model (see Barriers and Enablers rubric below). If the child meets the criteria for SLT referral for the local pathway then this should be actioned in addition to the following steps:

- Practitioners discuss the need to support their child's language development and the nature of responsive interaction. Language is carefully chosen which promotes the building of trust and engagement and avoids implications of blame or judgement (see materials below). Applying principles of shared decision making and strategies to promote trust and engagement, families are supported to
  - choose a responsive interaction behaviour which they would like to try to do more often
  - identify the times in the day when they will be able to try this for 10 – 15 minutes – their 'Together Time'.
  - record their chosen goal and 'Together Time'
  - Discuss with the parent/carer their preferred method for being reminded to try this every day – e.g. using a paper diary, a reminder on their phone, a text message from an automated texting system etc.
  - Discuss with the parent/carer their preferred option for reflecting regularly on how things are going – e.g. using a paper diary, making audio recorded notes on their phone, texting their HV team.
  - Encourage modelling, review and reflection activities – leave 'exercises' encouraging families to look on Tiny Happy People website for example videos of their chosen goals and note what the parent/caregiver on the video did well to

  - support their child and/or to think of other things they could have done to increase their responsiveness.
  - Provide motivational materials – leave a list of web resources which the parent/caregiver can explore which provide motivational information about why responsive interaction is so important and modelling that it can be a fun way to connect with their child. If this feels like too much information for the family, consider sending a link to each web resource weekly through an automated texting system.
  - Review - after an agreed period contact the family to ask if they wish to meet with the practitioner to choose a new goal, troubleshoot any issues with their chosen goal or check on their child's progress.

- The family then independently follow the programme over 2 – 3 months. They complete a telephone review with the practitioner after that time to determine next steps.

We conceptualise this level as aligning with a HV Universal Pathway (PHE 2018). We acknowledge this may need to be reframed when the modernised HCP is launched.

Level 3: Children with identified risk – coaching approach with additional practitioner support

This pathway is for children identified as potentially being at risk of SLCN using the ELIM and where practitioners judge there are a number of barriers to the targeted behaviour change, particularly in the Motivation and/or Opportunity categories of the C**OM**-B model (see Barriers and Enablers rubric below). This level in essence is the same as level 2 above but with additional face-to face support from the practitioner to tackle motivation and opportunity barriers to change and offer more support for knowledge and skills development where necessary.

  - choose a responsive interaction behaviour which they would like to try to do more often
  - identify the times in the day when they will be able to try this for 10 – 15 minutes – their 'Together Time'
  - Help the parent/carer to record their goal and agree a schedule for visits to work together on this goal.
  - At subsequent visits, watch a video with parent/carer showing families trying out the chosen responsive behaviours in the chosen together time. Support reflection about what the families on the video did well and what else they could have tried.
  - Model the behaviour with the child – e.g. "shall we try out getting down to his level? I will go first – let's play with his favourite toys and I am going to see if I can get down to his level"
  - Encourage the parent to join in the play if they feel comfortable.
  - Ask them to reflect on whether they think the chosen behaviour had an effect on how their child interacted
  - If the parent/carer was confident enough to have a try ask them how that felt.
  - Set a goal for the following week and use a paper diary to record it and set reminders.
  - Repeat the above weekly until the parent/carer is confident they are integrating the behaviour in their daily routines
  - Judge whether to continue coaching with a new responsive interaction goal or suggest parent/carer chooses a new goal and works on it independently

  - Agree when and how you will check in with the family and review the child's progress

We conceptualise this level as aligning with the current HV 'Universal Plus' Pathway (PHE, 2018). We acknowledge this may need to be reframed when the modernised HCP is launched.

Optional additional support package 1 – access to Early Years settings/social support

There was substantial variation across sites as to the accessibility of sources of social support for families, such as parent and toddler groups, and opportunities for early education and care. Barriers to access included transport in more rural communities, recent reduction in local authority provision, and confidence to attend, particularly for more socially disadvantaged families, families who had concerns about their child's behaviour and those from minority ethnic groups. The '2-year offer' of paid childcare hours is also often difficult for families to navigate with some not being sure of how to access this financial support. These social opportunities (C**O**M-B) are a necessary component for many families to increase their use of the targeted responsive interaction behaviour (COM-**B**).

Where these barriers exist, we recommend the practitioner provide an additional support package to address them. These will require knowledge regarding the local offer and the community assets and resources, which can be mobilised. To tackle this issue, action by the practitioner alone is not sufficient if the local offer does not have accessible provision. The nature of local SLCN pathways and landscape of provision of early years and childcare settings and parent-toddler support is also key.

We recommend local co-design of support packages to identify barriers and enable access to parent and toddler groups and early years settings for those families who need it. Co-design work should involve all agencies involved with early years provision, those practitioners who signpost families to them and parents/caregivers.

Optional additional support package 2 – access to age appropriate books and play materials

The responsive interaction behaviours targeted in this intervention do not require the provision of any specific play materials or toys. Indeed the goal of the intervention is to support families to integrate responsive interaction into their usual daily routines. In general, no additional toys or children's books are likely to be required. However in some cases, where the family identifies 'playing with toys' or 'sharing books' as their preferred 'together time' and where the family resources are extremely limited, practitioners should consider a support package to address access to toys and books. This may involve support to access toy libraries and the local library. As in the case of ECEC provision, many barriers to access to these resources exist.

We recommend local co-design of support packages to identify barriers and enable access to local libraries and toy libraries for families who need this support. In addition, we recommend the development of resources to support families to use everyday materials available at home to develop play and language. We note the helpful videos in the Tiny Happy People resources and recommend further development in this vein and signposting. We also recommend a set of videos are developed demonstrating responsive interaction using the specific books provided through 'Book Start' and a set of recommended books to be held in large numbers by all local libraries to enable parents to try out the approaches at home.

Media and Social Media Campaign

The 'Hungry Little Minds' and 'Tiny Happy People' campaigns align closely to this intervention model. They are an important and very welcome resource. There was however, a sense of being overwhelmed from some practitioners we spoke to in terms of the range and sheer volume of materials whilst others were not aware of the Tiny Happy People campaign. There was an identified need from practitioners for help to navigate the resources and identify which might be best for which purposes. Both parents and practitioners suggested many families will not seek this information out and in some cases may be uncomfortable with a perceived 'educational' tone. The use of a range of social media platforms and active campaigns were suggested as being necessary if these messages are to reach all families of young children.

We recommend 'joining up' of this intervention with the development of existing resources and social media campaigns so that the materials developed in this intervention clearly signpost to the high quality resources being developed.

It is vital that children with severe language, social communication and attention difficulties and/or signs of broader developmental or sensory difficulties should be referred to Speech and Language Therapy and/or Community Paediatric services for assessment.

The ELIM and intervention must not replace or delay these referrals but should be a part of the overall pathway meaning that action to support the child can start immediately.

Local referral criteria should continue to be applied. Significant difficulty with the approach (i.e. inability for parent/caregiver and child to engage in responsive interaction) should also act as a trigger for referral.

The steps in intervention delivery:

- Step 1: Preparation
- Step 2: Decide on the need for intervention and/or onward referral
- Step 3: Choose intervention level
- Step 4: Choose a responsive behaviour to do more often
- Step 5: Choose the context in which to practice the behaviour for 10 – 15 mins daily
- Step 6: Deliver tailored support
- Step 7: Offer optional additional support

Step 1 focusses on the preparation, which is necessary for successful shared decision-making and engagement (Joseph-Williams et al., 2014, Levickis et al. 2020). In order to address power imbalances in the practitioner – parent/caregiver relationship (Joseph-Williams et al., 2014) and 'activate' the parent/caregiver (Hibbard and Gilburt, 2014) preparatory materials are needed which welcome and value the parent/caregivers knowledge about their child, establish the focus of the review (Levickis et al. 2020) and encourage the parent/caregiver to arrive with questions and reflections. Step 2 is essential in mobilising and motivating action by the parent/caregiver and creating practitioner-parent/caregiver alliance (Melvin et al., 2019). Steps 3 – 5 focus on shared decision-making and goal setting. Steps 6 and 7 relate to intervention delivery

The intervention and delivery

Steps 1 - 5 of this model require a holistic approach to both child and parent health and wellbeing and knowledge of the family and so we recommend that the HV take the lead at these stages.

Steps 6 and 7 could involve a more mixed model with skill mix in HV teams or EYPs in early years settings delivering the tailored support and/or the optional additional support packages in consultation with the HV team. Level 3 could also involve Speech and Language Therapy services either directly or as advisors to the practitioners delivering the coaching model, depending on the configuration of the local SLCN pathway. This should be negotiated and discussed as part of the local co-design work we recommend above which will be required to develop implementation and sustainability plans for integration into local service delivery context.

We recommend that for implementation and maintenance of this programme of work that an integrated team of HVs, SLTs and Early Years leads is convened and maintained to steer its introduction and safeguard its sustainability.

The intervention presentation, content and materials

The proposed procedures, content and materials of each intervention stage are described in Table 6:5 These include recommendations regarding the language to use and methods of presentation. The figures, which follow, describe or provide mock-ups of the intervention materials.

Table 6:5 The intervention presentation, content and materials for each step of the intervention

Intervention Step	Presentation and Content of the Intervention Step	Intervention Materials
1. Preparation and enablement	The Personal Child Health Record to contain • an introduction to the concept of 'language as a foundation for learning' • descriptions as to what to expect in terms of language and communication milestones between 1 and 3 years • QR code/ web links to the 'Tiny Happy People' and 'Hungry Little Minds' resources. The letter inviting parent/caregiver to the 2-2½ year review will include • a summary version of the detail above • information about what to expect at the review • QR code links/web address to video explaining the processes involved and what they might like to ask • trigger questions to initiate the process of reflection regarding their child's language and communication development. • suggestions for ways to prepare "Here are some ideas of ways that you can prepare for your conversations with the HV: Write down all the words that your child has used on more than one occasion – bring this with you. What happens when you try to look at books with your child – keep a few notes on how it goes.	Personal Child Health Record: Language as a foundation to learning; language and communication milestones, QR codes/web address 'Tiny Happy People' resources curated as most relevant to the 2-2½ year review Review invitation: Summary of above, QR codes/web address, things to think about before you come to the review Video of what to expect at the 2-2½ year review and things you might want to ask.
2. Intervention decision	The results of the ELIM-S are used to determine whether the child is at increased risk of SLCN and, if so, whether they meet the criteria of the local SLCN support pathway for onward referral to SLT or other support services.	*Details to be developed as part of the acceptability and implementation work required for the implementation of the ELIM-S.*

Intervention Step	Presentation and Content of the Intervention Step	Intervention Materials
3: Choose intervention level	Children with no identified risk of SLCN receive Level 1 and jump to Step 6 Children with identified risk of SLCN: the practitioner reflects on whether Level 2 or Level 3 intervention is most appropriate and whether optional additional support is needed. To support with this reflection practitioners will have received training regarding the types of barriers and enablers in families to consider, the rubric and how these map to Level 2 or Level 3 delivery and the provision of Optional Additional Support The rubric will not be used during the review but the practitioner will have access to a decision support tool. It is our expectation that these decision-making processes will be 'normalised' into practice quickly and this decision support tool will not be required by those familiar with the intervention. Practitioners will use their knowledge of the family and information gathered through the ELIM discussions to make this choice. Families offered Levels 2 and 3 continue to steps 4 and 5	COM-B Barriers and Enablers rubric: Practitioners will be trained to consider the Barriers and Enablers on the rubric and how these map to intervention tier. (Figure 6:4) Intervention level mapping: Decision support tool summarising how Barriers and Enablers map onto intervention tiers and options for additional support (Figure 6:5)
	The practitioner discusses how specific kinds of talk and interaction 'turbo charge' children's language development They explain how some children find it harder than others to pick up language and communication. For these children we need we need to become 'super communicators' and increase our responsive communication to help them to learn from us.	Video: 'Super communicator' message reinforced in 2-3 minute video of parent/caregivers modelling responsive communication in everyday contexts - with voice-over pointing out and naming the responsive behaviours

Intervention Step	Presentation and Content of the Intervention Step	Intervention Materials
4: Choose responsive behaviour	The practitioner shows a short video of a parent/caregiver interacting with their toddler and engaging in responsive communication, which has, some of the behaviours tagged and explained. The practitioner says that they are sure the parent/caregiver is doing lots of these behaviours already reinforcing the idea that some children need us to be 'super communicators' and 'dial up' these behaviours for them to learn from us. The practitioner shows the parent/caregiver a set of cards, which list and illustrate responsive behaviours, talks them through to establish shared understanding and sorts them into piles of those they might or might not want to try. The practitioner asks the parent/caregiver to choose one behaviour they would like to try to do more to help their child's language and communication development.	Shared decision-making support tool: responsive communication cards with one behaviour described on each and a picture to support understanding of those behaviours (Figure 6:5)
5: Choose context	Talk through how every family has different rhythms to the day and different times of the day when they might have the time or energy or help from others to be able to tune in to their child's communication Ask the parent/caregiver to reflect on when might be their best time for 'Together Time' Explain this can be based on what the child finds interesting, when they have help from a partner or friend, when they and their child are least tired, when the household is less busy and distracting - whenever they find they are most able to focus on their child	Shared decision-making and goal setting tool: 'Together time' picture list. On the reverse responsive behaviour picture list reproducing the cards from the previous step. A place to write in the agreed goal (Figure 6:6)

Intervention Step	Presentation and Content of the Intervention Step	Intervention Materials
5: Choose context (contd)	Show the parent/caregiver the picture list of possible situations and see if they feel any would work for them – support them to rule out those, which won't work and think of ones, which they feel they could try. Show the parent caregiver the reverse page which includes copies of the responsive behaviour cards and a space to write a 'Together Time' goal – support the parent to fill this in with the chosen behaviour and chosen 'Together Time' - e.g. "I aim get down to my child's level for 10 – 15 minutes per day when we are out and about on the school run."	
6: Deliver tailored support	**Level 1. Children with no identified risk** Families are signposted to available resources which provide guidance as to how to support children's language development **Level 2. A self-directed approach** The practitioner supports the parent to record their chosen goal and 'together time' Discuss with the parent/carer their preferred method for being reminded to try this every day – e.g. using a paper diary, a reminder on their phone, a text message from an automated texting system etc. Discuss with the parent/carer their preferred option for reflecting regularly on how things are going – e.g. using a paper diary, making audio recorded notes on their phone, texting their HV team. Encourage modelling, review and reflection activities – leave 'exercises' encouraging families to look on Tiny Happy People website for example videos of their chosen goals and note what the parent/caregiver on the video did well to support their child and/or to think of other things they could have done to increase their responsiveness.	Diary /self-monitoring and reflection tool Resources leaflet: details of relevant Tiny Happy People resources with suggested reflective activities to support active engagement and application to family's own context. Concrete reminders – based on the responsive behaviour cards – of the

Intervention Step	Presentation and Content of the Intervention Step	Intervention Materials
6: Deliver tailored support (contd)	Provide motivational materials – leave a list of web resources, which the parent/caregiver can explore, which provide motivational information about why responsive interaction is so important and modelling that it can be a fun way to connect with their child. If this feels like too much information for the family, consider sending a link to each web resource weekly through an automated texting system.	parent/caregivers goal for the week to put on their fridge/noticeboard.
	Review - After an agreed period, contact the family to ask if they wish to meet with the practitioner to choose a new goal, troubleshoot any issues with their chosen goal or check on their child's progress.	As for level 2
	Level 3. A 'Coaching' approach – with additional practitioner support The practitioner helps the parent/caregiver to record their goal and agree a schedule for visits to work together on this goal. At subsequent visits, the practitioner watches a video with parent/caregiver showing families trying the chosen responsive behaviours in the chosen together time. The practitioner supports reflection about what the families on the video did well and what else they could have tried. Practitioner and parent/caregiver watch the 'tagged video' together. Practitioner models the behaviour with the child – e.g. "shall we try out getting down to his level? I will go first – let's play with his favourite toys and I am going to see if I can get down to his level" Encourage the parent to join in the play if they feel comfortable. Ask them to reflect on whether they think the chosen behaviour had an effect on how their child interacted	

Intervention Step	Presentation and Content of the Intervention Step	Intervention Materials
	If the parent/caregiver was confident enough to have a try ask them how that felt. Set a goal for the following week and use a paper diary to record it and set reminders. Repeat the above weekly until the parent/caregiver is confident they are integrating the behaviour in their daily routines Practitioner judges whether to continue coaching with a new responsive interaction goal or suggest parent/caregiver chooses a new goal and works on it independently (i.e. Tier 2). Agree when and how will check in with the family and review the child's progress	
7. Optional additional support	If, at step 3, the practitioner identifies additional barriers with respect to physical and social opportunities then additional support packages are offered. Support package 1.access to early years setting/ social support Practitioner provides advice and guidance on accessing ECEC funding and placements. Barriers such as transport links or confidence to attend are problem-solved with the practitioner. Locally designed signposting is provided identifying available local resources and settings. Support package 2: access to age appropriate books and play materials	Locally designed signposting resources to available ECEC settings and parent/toddler sessions. Locally designed signposting resources to available book and toy lending libraries Leaflets about how to use everyday materials available at home to develop

Intervention Step	Presentation and Content of the Intervention Step	Intervention Materials
	Practitioner discusses ways to use everyday materials available at home to develop play and language and provides family with leaflet and links to resources on ‘Tiny Happy People’ and ‘’Hungry Little Minds’ webpages.	play and language with QR code/web address links to ‘Tiny Happy People’ and ’Hungry Little Minds webpages’.

Figure 6:4 Barriers and Enablers Rubric to support decision making regarding intervention level and need for additional support

Are these enablers for the use of responsive communication available for this family or are they harder for this family and so represent a barrier?

	Enabler	Barrier	Unclear
1. Physical skills a. Have skills to follow a child's lead in play or share a book b. Have literacy skills to share a book			
2. Knowledge a. able to choose age appropriate books, toys and activities b. know what kinds of questions to ask during book sharing/shared activities and how to follow child's interests			
3. Decision making a. Able to decide on what they need to change to achieve their goal			
4. Regulation a. Able to monitor their own use of the new behaviour and make and stick to an action plan to do it			
5. Belief about capabilities and optimism a. Feel they can make the change and increase the use of this behaviour b. Feel making the change is worthwhile and that there is scope to increase their responsiveness			
6. Beliefs about consequences a. Feel child will engage and so will respond or benefit b. Feel the chosen behaviours are best for the child and other behaviours (e.g. TV viewing) are not equally good – have reason to change c. Feel that what they do will make a difference			
7. Intentions and goals a. Have definite intention to try to increase their use of the behaviour b. Able to set a clear goal and create action plan for implementing it **8. Emotion** a. Do not feel Embarrassed at trying new behaviour and/or have fear of exposure/being judged b. Do not Feel overwhelmed by additional demands			
9. Physical Opportunity (A) a. Have the books and toys needed to use this new behaviour including books in home language b. Have access to playgroups, drop-ins or other contexts to support the use of these behaviours			
10. Physical Opportunity (B) a. Have a family and/or social network to draw on to support them b. Have access to/making use of childcare for siblings or child			
11. Social opportunity a. See others in their social group using the responsive communication behaviours in a range of contexts b. Have a family and/or social network to also use the behaviours with their child c. Have opportunities for supported 'together time' which is intrinsically rewarding for child and parents			

Figure 6:5 Intervention level mapping - practitioner decision support tool

Barriers and enablers	Support	Description
Family has lots of enablers and few barriers – may not have the knowledge or skills to use the chosen behaviour in their daily routine - only barriers fall in the Green Category – Capabilities	Level 2	Light touch self-directed approach
Family may not have the knowledge, skills, confidence, or beliefs that they can do the behaviours and fit them in to their family life – barriers in green and yellow categories Capabilities and Motivation	Level 3	With more help from the HV/Early Years team
Family may not have access to books and toys to help their child – barriers in the blue category – Physical Opportunities	Optional additional support - Physical	Support to access toys and books and to use available resources to chat and play
Family may not have access to social support - childcare or playgroups or contexts where others model the behaviours – barriers in the pink category – Social Opportunities	Optional additional support - Social	Support to access childcare and social support in the community

Figure 6:6 Shared decision-making tool: responsive communication behaviours

Responsive behaviours	• Get down to your child's level • Follow your child's lead and interests • Pause and wait for your child to show you what they are interested in • Listen watch and respond to their communication – this can be words, points, sounds or movements • Describe what your child is doing or looking at – imagine what they are thinking and feeling and say that	• Show them you are having fun and use an interesting voice • If they do communicate copy what they say or mean to say and add a word • Try to use fewer questions and instead describe what is happening. • When you do ask questions try to keep them open – where, who, when and why rather than Yes No questions

Figure 6:7 Shared decision-making and goal-setting tool: 'Together time' picture list and goal setting

Contexts	• Bath time • Getting out and about in the pram to the shops or park • Breakfast, lunch or tea time • Nappy change time	• Playing with toys • Sharing books • At the library or toddler group • Bedtimes • Any other 'together time'

Box 6.1 Jamal: An example of a level 2 intervention journey – a self-directed approach

Jamal is the second child of Carol and Jason. He only uses 2 or 3 recognisable words and his parents are beginning to be concerned when they compare him to his older sister but think he will probably catch up. Jamal attends a private nursery 2 days per week and Carol attends a number of parent-toddler groups regularly. She has lots of peer support around her.

Step 1: Preparation
Carol and Jason receive the letter from their HV team preparing them for the 2-2½ year review. This contains detail about Language as a Foundation for Learning and links to a video, which explains what to expect at the review. It also includes links to Tiny Happy People/Hungry Little Minds resources and encourages them to think about and write down any questions they might want to ask the HV, describing the review as an opportunity to ask questions and with examples of the types of questions they might ask.

Step 2: Decide on the need for intervention and/or onward referral
At the review, the Talking2gether assessment is completed and Jamal's score suggests he may be at risk of having language needs. The HV discusses this with the parents. The HV also consults the local SLT and Local Authority referral criteria, refers if Jamal fits these criteria and calls the SLT if they are not sure. Jamal seems to be developing well in other areas so no other referrals are considered.

Step 3. Choose the intervention tier
The HV now decides whether to offer level 2 or level 3 support. Carol and Jason are keen to help Jamal and talk to the HV about not being sure what they should do to help. The HV considers the barriers and enablers in place and feels that most barriers are in the green category – Capacity and Skills. Therefore, level 2 is offered – a self-directed approach.

Step 4: Choose a responsive behaviour to do more often
The HV talks about some children needing us to be 'super communicators', shows the video demonstrating responsive behaviours and helps Carol choose a behaviour she would like to try more often with the shared decision making tool. Carol feels she maybe doesn't wait long enough to follow Jamal's lead and follow his attention.

Step 5: Choose the context
Jason and Carol share childcare and so daily routines can be unpredictable. They feel that the walk home from the school run is a good time for them to focus on Jamal. The HV uses a shared decision making tool to set the goal together of what and when they will try to increase the times they follow Jamal's lead and focus of attention.

Step 6: Deliver tailored support
The HV helps the family to set up reminders to do their chosen behaviour every day, and talks through the resources for reflection, motivation and learning available
They agree a check in date (4 weeks) to see how the family are going with their goal and how Jamal is progressing. The HV liaises with the nursery to share the plan.

Box 6.2 Adam: An example of a level 3 3-intervention journey – a 'coaching' approach

Adam is Catrin's first child. She and her partner Sam moved to the area recently and do not have any family support nearby. Adam uses about 10 words and finds it difficult to settle to an activity. He often has tantrums and Catrin is embarrassed to take him out. She feels people stare when he becomes frustrated and she does not know how to manage things. Adam has just started at a new early years setting for 2 half days per week. Sam is a lorry driver and often away from home for extended periods. They do not have a car and there are no playgroups in the village where they live.

Step 1: Preparation
Catrin and Sam receive the letter from their HV team preparing them for the 2-2½ year review. This contains detail about Language as a Foundation for Learning and links to a video, which explains what to expect at the review. It includes links to Hungry Little Minds/Tiny Happy People resources It also encourages them to think about and write down any questions they might want to ask the HV, describing the review as an opportunity to ask questions, and with examples of the types of questions, they might ask.

Step 2: Decide on the need for intervention and/or onward referral
At the review, the ELIM assessment process is completed and Adam's score suggests he may be at risk of having language needs. The HV notices he does not appear to understand simple instructions and even his mum finds him very difficult to understand. The HV consults the local SLT referral criteria, and decides to refer to SLT.

Step 3. Choose the intervention tier
The HV now decides if whether to offer Tier 2 or Tier 3 support. The HV considers the barriers and enablers in place and feels that there are barriers in the Green, Yellow and Pink categories (see Figures 6:4 and 6:5) (Capability and Skills, Motivation (emotion and optimism) and Social Opportunities). Tier 3 is chosen and an additional support package to enable access to early years and parent-toddler provision.

Step 4: Choose a responsive behaviour to do more often
The HV talks about some children needing us to be 'super communicators', shows the video demonstrating responsive behaviours and helps Catrin choose a behaviour she would like to try more often with the shared decision making tool. Catrin feels she wants to try getting down to Adam's level more often to interact with him.

Step 5: Choose the context
Catrin says the time Adam is calmest is in his bath so they choose the bath time for their 'together time' with his favourite bath toys. The HV uses the shared decision making tool to set the goal together and the context.

Step 6: Deliver tailored support
The HV agrees a schedule for the EYP in the HV team to visit (every 2 weeks) to help with this goal and begins the coaching model. (Watching videos – reflection - modelling – self-reflection – goal setting – review). The HV supports Catrin to access early years setting and a parent-toddler group using the local support package. The Early Years Practioner in the setting take on the coaching model of support once Adam has settled in.

Conclusions

Our aim was to develop an intervention to promote robust language development to be offered to children and families at the 2-2½ year review. Our goal was for it to be acceptable, equitable, practicable, and able to be delivered at scale, based on current best evidence and underpinned by relevant theory.

Practitioners have an appetite and indeed an enthusiasm to promote children's speech, language and communication development, see it as aligning with their role and skills and have 'bought in' to delivering interventions to support child language development.

However, we found that practitioners were not sure *precisely how* to deliver support to families.

The missing link identified was a concrete intervention model and accompanying set of resources to allow successful universal and equitable delivery of key public health messages and interventions to encourage responsive parenting to promote child language development.

For an equitable intervention to be designed we must not only create a *proportionate* model but also a *tailored* one, considering the specific barriers and enablers, assets and challenges in each family. We have designed an approach, which enables 'universal reach and a personalised response', and which provides the necessary specificity for the effective implementation of additional and intensive services identified as necessary in the HCP modernisation programme.

This chapter outlines just such an intervention and the methods used to develop it, which are based on the most recent guidance regarding best practice in complex intervention design and behaviour change interventions.

A piloting phase is now required to test the approach and resources in practice and so refine the final set of intervention materials prior to full implementation.

Chapter 7: Understanding the context of practice for future implementation of robust assessment of SLC and interventions

Summary of findings in Chapter 7

- In the final Public, Patient Involvement (PPI) sessions we explored the key messages parents and practitioners wanted to see reported from the project, and began to understand the context in which the Early Language Identification Measure-Shortened (ELIM-S) may be implemented in the future.
- Practitioners (Health Visitors (HV) and Speech Language Therapists (SLT)) were keen to see the final shortened ELIM-S and wanted to know how it would perform in comparison to the Ages and Stages Questionnaire-3 (ASQ-3).
- Parents wanted to know whether the ELIM-S could identify children's language difficulties earlier and what the outcomes would mean for them; were there specific things they could do to avoid a 'watch and wait' period?
- Health visitor teams and Speech Language Therapists felt the ELIM-S could be easily integrated into the 2-2½ year review but highlighted the importance of considering the skill and expertise of other practitioners in carrying out the ELIM-S.
- They were particularly supportive of the intervention element stating that this is very much needed so they could support parents at this early stage of development.
- Parents fed back that they would be happy to complete the ELIM-S however, some concerns were raised around completing it with those other than a Health Visitor particularly if any questions were asked that were sensitive in nature. They reported having established relationships with HVs was important to enable them to trust the advice provided.
- Early Years Practitioners (EYPs) are from a variety of backgrounds and levels of training. This needs to be carefully considered as regards the delivery of the ELIM-S. The EYPs expressed that some didn't have the confidence or skills to use the ELIM-S, suggesting HVs may be better placed. EYPs in education settings do not have significant contact with parents or the Home Learning Environment (HLE) and therefore expressed it would be harder for them to interact/establish relationships with parents to carry out the ELIM-S and interventions.
- The importance of integrated working and shared pathways was expressed by EYP and SLT PPI groups.
- There is a need for information sharing as multiple assessments are in place, which leads to confusion for parents.
- EYPs raised the need for training for all workers to support best practice.
- Parents with English as an Additional Language (EAL) fed back the importance of use of English in the HLE, the value of working with local community groups to raise awareness of SLC and the need to understand the needs of each individual family and their culture.

Introduction

In this chapter we continue our reporting on the Public, Patient Involvement (PPI) (also referred to here as Parent, Practitioner Involvement) element of the project. Again, we have parents and practitioners represented. Here they comment on issues associated with the ELIM and its administration and how the findings should be disseminated.

Phase Two PPI: Final report and recommendations

The PPI sessions in the final stages of the project focused on gathering general views from the project sites alongside the views of specific groups including Early Years Practitioners (EYP) from settings, Speech and Language Therapists (SLT) and parents where English is an Additional Language (EAL). A summary is offered below.

General PPI sessions with practitioners and parents

What we did - our approach to the sessions

A total of 5 sessions were held in this final stage of the PPI. It was planned that all 5 sites would take part in these PPI sessions; however 4 sessions in 2 sites had to be cancelled due to Covid-19. The table below provides details of attendees for each session and where and when each session was held.

Table 7:1 Dates, attendees, and location of Phase 2 PPI sessions

Date for each session	Participants	Site
02.03.20 02.03.20	Parents: n=5 Practitioners: HV Skill Mix n=5, EYP n= 0, SLT n=1	Wiltshire
10.03.20	Practitioners: HV Skill Mix: n=5, EYP n=0, SLT n=1	Derbyshire
11.03.20 11.03.20	Parents: n=0 Practitioners: HV Skill Mix n=4, EYP n=0, SLT n=3	Middlesbrough
17.03.20	Parent and practitioner sessions cancelled due to Covid-19	Wakefield
24.03.20	Parent and practitioner sessions cancelled due to Covid-19	Newham

The aim of these five PPI sessions was to gather feedback on the project progress and inform our next steps and recommendations.

1. The practitioner sessions offered an overview of the project progress to date. Time was given for exploration of the experiences and context of the use of the ELIM-E. Finally, the sessions explored what support would be needed in practice to facilitate the use of the ELIM-E in the future.
2. The parent session followed the same structure as the practitioners, with a focus on how the use of the ELIM-E may be supported, what further information they would like and advice. Finally, how the project findings should be shared.

What was the feedback from Phase two PPI sessions and what did this inform?

The tables below outline the main topics of the PPI sessions in this phase, alongside the key messages that were relayed in practitioner and parent feedback, and how the research team used these messages to inform the project.

Table 7:2 Combined feedback from the practitioner (HVs and SLTs) sessions

Topic / Area discussed	Key Points	What did this inform
Sensitivity and specificity of the ELIM-E compared to the ASQ-3	Practitioners wish to understand the outcomes of the project including the final ELIM resource and how it compared with the ASQ-3	This needs to be considered with PHE and DfE and a clear communication plan to the sites that participated in the project
Impact of new models on future roles of HV or SLT	Concerned this would increase workload	This needs to be considered in the implementation planning
Future use of the ELIM-E with current health visitor provision	Practitioners felt that the ELIM could be easily integrated into 2 -2 ½ year review alongside ASQ-3. There was consensus that the ELIM should be used with all children at the 2-2 ½ year review by health visitors	This supports the consideration to introduce the ELIM within the current context of health visiting to all children at the 2 -2 ½ year review
Future use of the ELIM-E within settings	The practitioners were concerned re: the skill and qualification of settings staff with wide variability, specific concerns were raised regarding the ability of settings to ask sensitive questions with parents	Further exploration and consideration in the EYP PPI sessions, as acknowledged this is the view of health visiting / SLT
Training	Knowledge was important for practitioners and they felt all practitioners need awareness of language development	Multi agency awareness training on SLC could be considered
Sharing information with parents	Suggestion that the Personal Child Health Record (red book) could provide information on early stages of SLC development to inform parents of what to expect when	Consider how key information on SLC development is provided to parents as early as possible to support understanding and awareness potentially in the PCHR
Interventions	This is needed and would be useful for practitioners to aid parents to support their children	Consider further development of interventions to support families

Dissemination of project findings	Practitioners in the group suggested use of iHV, Royal Colleges and magazine, local and regional meetings and conferences. Work with Higher Education Institutions for training of and engagement with students	Work with PHE and DfE to agree a clear dissemination plan that involves wide range of networks. Consider use of Communities of Practice that were established as part of the training of health visitors on SLC

Table 7:3 Combined feedback from parent sessions

Topic / Area	**Key Points**	**What did this inform**
Children identified by the ELIM-E	Parents queried would the use of the ELIM-E prevent "watch and wait" approach. Would it identify children earlier?	Need to ensure if ELIM is implemented & clear advice to parents is offered, local pathways are followed to avoid any future watch and wait messages
Support for parents on SLC and interventions	Parents wanted to know the recommendations and what would be provided for them to help support their children. They wanted more interventions they could use.	Consideration of support for parents and early intervention strategies are communicated to them in the intervention
Use of the ELIM-E in settings	Parents raised concerns about engaging with a nursery worker to complete it, saying they would feel uncomfortable answering some of the questions, whereas with a health visitor they were comfortable and used to talking about more sensitive and personal issues/ areas	Consider which practitioners should use the ELIM and the acceptability of this to parents
Importance of relationships	Want stronger relationships between SLT, HV and parents themselves. The parents reported having established relationships with practitioners was important to enable them to trust the advice	Consider the importance of continuity of practitioner and the relationship with the parent in the future implementation
Need for information on SLC development earlier	Parents wanted information earlier (9-12 months)	Consider how to provide information on SLC development to parents
Use of the PCHR (red book)	Mixed views were offered on the use of the red book.	Consider the use of the red book to provide information and advice
Dissemination of the project findings	Suggested local papers, Facebook. Liked infographics to display in	Recognise the importance of sharing the findings of the project

	snappy parent friendly language with shortened lengths of text	with parents in a user-friendly format

Early Years Practitioner PPI sessions

What we did – our approach to the sessions

The aim of the sessions was to explore the current working practice of early years practitioners (EYP) and health visiting skill mix teams when promoting, assessing and supporting families with speech, language and communication needs. As requested by Department for Education (DfE) the sessions explored the potential use of the ELIM-E by EYPs as part of the current local delivery.

Four focus groups were planned in a variety of locations to represent diverse demographics; all locations had either been involved as a site for the ELIM-E, in the Public Health England (PHE) Speech Language and Communication training, or as a pilot site for the Speech and Language training with EYPs. The table below provides details of attendees for each session and where and when each session was held.

Table 7:4 Dates, attendees. and location of Early Years PPI sessions

Date	Participants	Site
24.02.20	7 (HV skill mix team n= 1 HV, 2 Community Nursery Nurses, EYP n= 1 Nursery Manager/ Play Specialist, 1 Health Advocate, 1 Deputy head teacher, 1 play worker, 2 EYP)	Tower Hamlets
26.02.20	11 (HV skill mix team= 2 HV, 3 Practice teachers, 1 Community Nursery Nurse, 1 HV Manager, EYP n=, 1 Childminder, 2 Early years advisors, 1 Early Years Manager, Other n= 1 SLT, 1 PHE observer)	Surrey
28.02.20	3 (n=1 HV, 1 EYP Nursery Manager, 1 Early years advisor)	Wiltshire
23.03.20	Cancelled due to Covid-19	Northumberland

What was the feedback from the Early Years PPI sessions and what did this inform?

The table below outlines the main topics of the PPI sessions with Early Years Practitioners in this phase, alongside the key messages that were relayed, and how these messages inform the project.

Table 7:5 Combined feedback from the Early Years Practitioner sessions

Topic / Area of discussion	**Key Points**	**What did this inform**
EYP workforce and considerations for potential use of the ELIM- E		
Qualifications and training of the EYP	For the EYP who attended the majority had NVQ level 3/4 qualification	Need to consider training and qualifications of staff carrying out assessment
Roles and responsibility of EYP	The EYP in the session highlighted the transient nature of the EYP in settings alongside a significant number of inexperienced staff and unqualified employees	Not all EYP have experience or confidence to assess and offer advice and guidance – this needs to be considered when thinking about who can use the ELIM

Access to parents	EYP from settings highlighted they had limited access to parents as only see parents at drop off and pick up which limited ability to influence and opportunity to engage	Consider current contact with parents within settings and if realistic to complete assessments with them
Relationships with parents	The importance of a trusting/trusted relationship with the practitioner was raised as an important facilitator, this was raised as it was reported during the PPI session that it was hard for EYP in settings to build a relationship as not all have structured time with parents (drop off - pick up)	As above and inability to form relationships with parents as focus is on the child in the setting although acknowledged that in some settings EYP do develop strong relationships with parents, this is not consistent
Influence in the home learning environment	This was seen as important by all. The EYP in the session highlighted that they had limited influence on this as they did not routinely see children in their own HLE	Important to consider the limited access of EYP to HLE as don't see children at home routinely
Current assessment processes in settings	All children have the EYFS assessment. Reported no standard level of qualification or responsibility needed to carry this out	Consider risk of introducing an assessment measure to a workforce with variable competence/ qualifications in this area
Professional respect	EYP fed back that the role of the health visitors was seen as 'professional' in contrast to EYPs - reported that they sometimes do not receive the same amount of respect from parents in giving advice	Risk that the parents do not respect the outcomes of assessment if provided by early years settings as not seen as health care professionals.
Feedback on the ELIM-E		
Sections of the ELIM -E, mental health and education of parents	EYP expressed that some questions including mental health fell outside their remit. EYP expressed they don't access parents to ask these types of questions and this felt intrusive	Need to consider carefully who is equipped to carry out assessment in partnership with parents
Lack of confidence of EYP to share concerns with parents if identified through use of the ELIM -E	EYP highlighted not all were confident to feedback concerns with SLC to the parents and expressed a view that health visitors were better placed to	As above, there is a risk in introducing assessment to a workforce that cannot then offer the intervention and have to seek support from others leading to multiple conversations with the

	have challenging conversations and make referrals to SLT.	parents. This could be addressed through interagency working to increase confidence among the early years workforce
View that health visitors best placed to carry out the ELIM-E	EYP in the sessions expressed that health visitors were better equipped to discuss mental health and wider health concerns than EYP.	Consider how to support EYP to be aware of mental health and wider health concerns to support their practice
Context and wider areas for consideration		
Current delivery of the 2 -2 ½ year review by health visitor teams	Wide variation in the current offer. In one area HVs reported they only offer home visits to those families with additional needs (universal plus), the universal families were offered a group session with some individual time.	Consideration of an agreed standard approach to assessment by health visitors
Use of ASQ-3	Concerns that not completed by parents, and then needed to repeat in review	Consideration of approach to ASQ-3
Integrated assessment	Both HV and EYP raised potential benefit for integrated assessment. Currently some children can have the EYFS, 2 -2 ½ review and a progress check in short space of time. One area HV and EYP did joint assessments received positively by parents and practitioners	Consideration of future integrated assessment with EYP
Information sharing	Information not easily transferred between health, social care and education leading to duplication, missed information, communication breakdown due to information governance / consent issues. Red book was raised as a potential solution, however we heard that as it is optional for parents to share with settings this didn't often happen	Consider clear pathways for information sharing between health and education to prevent duplication and support clear & consistent communication with parents
Communication	Strong desire to improve communication between health visiting and the settings providers. Co-location was seen	Consider joint training and implementation of local SLC pathways

	as a facilitator to this. Local joint pathways were seen as positive in promoting joint work	
Interventions & access to resources and support	SLT support variable both positive examples and others with significant waits. Concerns that identify a need and then no support available, reported postcode lottery to access and support.	Align to PHE pathway work and roll out
Complexity of referral process to SLT	Variation in process, only some workers can complete and then time consuming	Consider local referral pathways

PPI sessions with Speech Language Therapists (SLT)

What we did – our approach to the sessions

A total of 11 SLT's contributed in groups or individually, face-to-face or on the telephone depending on convenience and preferences. These were from all five-project sites.

The aim of the discussions was to explore the process of identification and referral prior to the ELIM-E project, their perception of impact of ELIM-E since its introduction and their ideas for future process.

What was the feedback from Speech Language Therapists PPI sessions and what did this inform?

The table below outlines the main topics of the PPI sessions with Speech Language Therapists in this phase, alongside the key messages that were relayed, and how these messages inform the project.

Table 7:6 Combined feedback from the Speech Language Therapists sessions

Topic / Area of discussion	**Key Points**	**What did this inform**
Previous processes	Processes were in place in most sites to support referrals protocols, training sessions and development of materials. Noted that not always current and challenge to keep all staff up to date. Having standard induction across HVs and SLTs was helpful to share referral processes	Need to consider how to keep training and processes current and communicated to multi agency teams
Shared electronic records with HVs	Helpful to understand background cases and interventions offered by HVs	Consider how to address access to shared records

Impact of ELIM-E	No reported change to quality or numbers of referrals, appreciate this is new so may not have impacted. Improved contact between SLTs and HVs due to project	Consider how to continue to strengthen joint working with HV and SLT
Structure of ELIM-E	Concerns on numbers of items on the ELIM-E, interpretation of the items and risk of the word list being a tick list exercise	Amendments to the ELIM- E final version
Future processes and implementation	ELIM welcomed – felt it supports initial contact with families assisting in decision-making and greater awareness of family contexts to support intervention. Key to decision making.	SLTs supportive of ELIM as a supportive tool
Importance of HV role with families	ELIM needs to go beyond tick box and observation and clinical judgment of HV important. Need systems to maintain training of workforce. Positive about increasing HV early input to families providing simple strategies for families coupled with HV review and support while waiting for SLT appointments or as a preliminary step for children with only expressive language difficulties	Consider the role of the HV in observation and clinical judgment to inform assessment. Importance of early intervention by HV with simple strategies.

Parents with English as an additional language

The aim of the session was to consider the needs of parents where who had English as an Additional Langage (EAL). A specific PPI session with EAL parents was held to consider this in more depth.

Table 7:7 Dates, attendees, and location of EAL PPI sessions

Date for each session	Participants	Site
25.02.20	3 parents (2 were EYPs), mixed BAME (Pakistan, Nigeria, Cypriot)	Newham

Conclusions

Due to the small number attending we cannot draw any firm conclusions from this group, however the key areas they raised are summarised below.

Use of English at home

Interestingly there was a perception from the group some communities saw English as more valuable and therefore should be spoken at home. There was an expressed need to support families to remain proud of their language and continue to use it within their home and community. Lee (2002) proposes that the use of English at home can invite friction, with some parents expecting their children to learn the heritage language to 'maintain' a cultural or ethnic identity, or 'connect' with certain cultural values. Little (2017) proposes the more that families understand each other's attitudes and agree on a family language policy, the more harmonious family relations will be and the better the language environment for their children.

What does this inform

It is important that both EYP and Practitioners working with families promote the use of the heritage language at home whilst respecting the reasons why the family may believe English should be used, this is widely supported in the literature to support early language development (Grey et al, 2018).

Health care professionals from the same BAME group as the parents

The group raised their views on whether practitioners need to understand their culture or be from the same background when working with them. This elicited a range of responses however, the over-riding message was that this was not important and could be seen as a barrier where professionals from the same background could be viewed as judging and intrusive, as they knew the individuals and their community.

What does this inform

The important message was for the health care professional to relate and communicate with the person. A review on access to, and uptake of, NHS services by ethnic minorities (Atkinson, 2001) identified three dimensions of equitable access:

- having equal access via appropriate information;
- having access to services that are relevant, timely, and sensitive to the person's needs;
- being able to use the health service with ease, and having confidence that you will be treated with respect.

These views align with the NICE (2018) Quality standard GS167.

Access to information and support

Access to information and support was explored and the group highlighted the importance of working with local community leaders including places of worship to help share information and how to access support. This view is supported by the Local Government Association (LGA, 2016).

What does this inform

Involvement of community groups in health promotion should be considered as part of local pathways for Speech Language and Communication Needs.

Chapter 8: The proposed model of service delivery and recommendations

Summary of findings in Chapter 8

- The combination of the Early Language Identification Measure-Shortened (ELIM-S) and the Intervention are brought together into a three-step programme: The Early Language Identification Measure and Intervention.
- The three steps include Assessment (Step 1) where need is assessed using the word list and observation sections of the ELIM, a Conversation (Step 2) which involves further exploration and signposting for those children for which a need has been identified or for whom any parental concerns have been expressed, and Intervention (Step 3) whereby tailored support is offered. Steps 2 and 3 are underpinned by Review of progress.
- The ELIM and intervention is intended for use only with children between the ages of 24 and 30 months.
- While it is recognised that a number of different professional groups may be working with families the **ELIM and Intervention** needs to be over seen by the professional with the greatest oversight of the family context and we consider the health visitor to be the most appropriate person to carry this out.
- The **ELIM and Intervention** needs to be integrated into local SLC Pathways.
- Training will be needed for all staff involved in the delivery of **the ELIM and Intervention** (Health Visitor teams, Early Years Practitioners, Speech and Language Therapists) and rolled out across the UK through training leads in each local authority.
- We make a series of recommendations associated with the adoption of **the ELIM and Intervention** for commissioners, for practitioners and for research.

Introduction

In this chapter, we draw together the findings from across the report and recommend a specific way of managing the language development element of the 2-2½ year review. We propose a combination of the two elements described in detail in Chapters 4 and 7 above – i.e. the Early Language Identification Measure-Shortened (ELIM-S) and the intervention, forming the **Early Language Identification Measure and Intervention**.

The ELIM and Intervention process

The process of identification and engagement with parents and children is described in three Steps below (see Table 8:1).

Step 1: Assessment: Identifying Need

Parents are sent out invites asking them to attend their child's 2- 2½ year review by the Health Visitor (HV). In the invite, there is information about the purpose of the review plus a QR code to a short video telling them what to expect and how to prepare themselves, questions to ask etc. At this point, they will be asked to refer to their Personal Child Health Record "red book" which will include information about the importance of the review and again some prompts about what to look for before they attend. It will be necessary to consider that language development is an important, but not the only aspect, of this visit and the parent may well have concerns about other areas such as sleeping, toileting behaviour, their own emotional wellbeing etc.

Key to this process is using a personalised approach and the tailoring of services to meet the need of the family concerned. Thus, it is a universal service available for all but personalised in response. Step 1 is effectively the universal element of this process; in Steps 2 and 3, the process becomes increasingly personalised and intensive.

ELIM delivery

After receiving initial invites, the child then attends the 2- 2½ year review with their parent. The parent is asked by the HV if they have any concerns about their child's development as part of the current 2 - 2½ year review. To allow for sufficient observation of the child interacting with the parent, the HV may provide toys for the child to play with during the review and complete the ELIM towards the end of the appointment. The HV notes how the parent interacts with the child by completing the observation section of the ELIM. The parent and HV also go through the ELIM 50-item vocabulary list together. A handbook has been developed which includes information about how to deliver and interpret the outcomes of the ELIM.

ELIM outcomes and actions

If the HV has not observed one or more of the behaviours listed in the observation section, *or* if the child has a vocabulary score falling at or below 17 words, or, the child will automatically move on to Step 2, the Conversation.

If the HV has observed all of the interactions indicated in the observation section, *and* the child says 18 or more words on the ELIM word list, *and* there are no parent concerns, the parent is given the universal offer – i.e. told about the Tiny Happy People and Hungry Little Minds resources, and about local facilities that they might like to use. In the event that a child 'passes' both sections of the ELIM but there are parent concerns, a conversation (Step 2) must take place between the practitioner and parent in which these concerns are fully addressed.

It is important that guidance is given to those using the ELIM so that they understand what they are doing and most importantly are able to explain it to the child's parent. We have developed a handbook specifically for the use of the ELIM and for the practitioner-parent conversation. The guidance for sections relevant for the two elements of the ELIM are as follows:

For the vocabulary list

- Please ask the parent/carer whether they have heard their child **say** the following words. We want to know whether the child uses it in their day-to day conversation not just, if the parent asks them to repeat it for them during the interview.
- If the child says the word, place a tick next to the word. If a child says a word differently (e.g. they say 'tar' instead of 'car') the word can still be ticked.
- If the child says a completely different word for the same item (i.e., 'motor' for car, 'dog' for cat) please write it down on the sheet. If possible, please note **if** this is standard for the local dialect.

- If a child speaks more than one language at home, please tick the word if they say it in **either** of their languages.
- Don't forget that we do not expect that children will say **all** these words. It needs to be able to capture the youngest child who has just started speaking and the oldest child at 30 months who could be using all these words.
- When you have completed the list, please tot up how many the child says and put the number in the box.

For the professional observations

- This section is for what you have seen rather than what the parent/carer reports. We don't say how you should make this observation but you can use the child's behaviour while the 2 to 2 ½ year review is being carried out. Many health visitors let the child have some toys to play with while they are carrying out the check with the parent/carer and use this to help them observe what the child does.
- By intelligible we mean the child's ability to convey meaning verbally to the parent/carer. In many cases at this age, parents can understand their child when you cannot. What we are looking for here is the situation in which the child's speech is very difficult to understand – indeed so much that even their parent/carer does not understand.
- The question about gestures is intended to capture behaviours where the child gestures to the parent because they are not able to use the words. So it is not just the gesture that we are interested in here but the fact that they clearly have the meaning but do not have the word.
- We are very interested in the child's reciprocal turn taking with the parent/carer. Do they have more than one "exchange" – can they keep a turn going? If this does not happen naturally, you might give the child a toy and ask them to give it to their parent/carer and ask them to respond. As we have said this is really about observation rather than "testing" the child's performance but this type of activity can elicit turns.
- In the last observation, we are interested in whether the child just buzzes around the room or whether they can focus on one thing/toy for a period of time. At this age many children continue focusing on something even when the parent/carer is talking about something but some children are able to switch their attention between the toy that they are enjoying playing with and what someone else is saying and then switch back again once they have responded

The results of both the observation and the word list are then recorded in the health visitor records for the child and added to the Snomed codes set up specifically for this purpose.

Step 2: Conversation: Further Exploration and Signposting.

The aim of the conversation with parents at this step is to explore in greater detail the needs of the child from the point of view of both health visitor and parent. If there, any concerns coming from either the professional or the parent at Step 2 the practitioner explores different avenues of support with the parent. If both parent and practitioner agree about the need, this can be relatively straightforward but this is not always the case. For example, if the practitioner identifies a need but the parent does not, this needs to be resolved to the satisfaction of both parties. Similarly if the parent is concerned but the practitioner (HVs, SLT) does not think that the child has a language need, alternative options need to be discussed. The conversation might lead to the practitioner needing more information about the parent's concerns, about what the child is saying, about family history, opportunities for taking the child out to the park/libraries etc. The handbook provides guidance to practitioners about how to shape these conversations and draws upon the outstanding ELIM-E sections (not the word list or observation sections) to do so. The parent may have concerns around behaviour or attention and in which case the health visitor could carry out the ASQ-Social-Emotional (SE) or the SDQ to further identify the needs and offer a personalised approach. Concerns about motor function or overall cognitive ability should trigger appropriate further assessment. Concerns about the family environment would also require detailed evaluation.

As we have seen in Chapter 4 the subscales of the ELIM-E that address each of these all have value, but function best as part of the practitioner-parent conversation in order to address specificity and filter any over-identified children, than as an initial measurement tool. The key issue is that the health visitor is exploring with the parent what they perceive to be the needs of their child alongside their own professional judgement to inform shared decision-making. The practitioner must use this conversation as an opportunity to explore the child's needs further whilst also drawing upon their own knowledge and expertise to identify the appropriate level of support for the child. This would include defining the potential barriers and facilitators to support and intervention, which then takes us into Step 3 of the process; Intervention. Any decision making at this stage needs to be within the local pathway and with the knowledge of what is available in the local context.

Step 3: Intervention: Offering Tailored Support

In Step 3 parent and health visitor agree what they think would help promote the child's language development. In some more extreme cases for example where the child is completely non-verbal, is displaying autistic symptoms or other developmental difficulties, the decision at this point may be to refer the child to the child development service for the opinion of a paediatrician, psychologists and other specialists as per the local referral pathways. It is important that this is seen as likely in only a relatively small number of cases at this point. In the majority of cases, the management will remain with the health visitor and the detail discussed with parents.

Review of Progress

For each child where a need has been identified and tailored support is offered practitioners must carry out frequent reviews of progress made. This review process will depend on what is indicated from the conversation with parents/carers. In the majority of circumstances, the family will remain with the health visitor and the detail of support under progress review will be discussed with parents/carers. Where other professionals are involved, such as early years practitioners and speech and language therapists, it is imperative that practitioners work together to make sure that they are reviewing children's assessment and development effectively and that they are able to share data across settings as agreed locally. The process for review is agreed between the practitioner and parents/carers, and dates are set for a return visit where the child's progress is reviewed at a time, which suits both parties. Following the review there are three options: If the child has met the agreed goals, parents may be told there is no further need of intervention. If they have not, a decision has to be made as to whether they are referred to local speech and language therapy services, or a further period of review is warranted. Key to this process is that the shared decisions are recorded. More detail on this step is presented in Table 6:3 in chapter 6.

The age of the children

The measure and the intervention programme are targeted at children age 24-30 months and all the data discussed relate to this age group. The use of both the ELIM and the intervention should be restricted to this age group.

The timing of the steps

The three-step process described above does not have a time specification because this largely depends on the issues raised. Technically it would be possible to carry out all three steps in one session but realistically, given the time that the HV has to spend on wider health and development at the 2 -2½ year review, we would suggest that Step 1 was carried out in a single session and that Steps 2 and 3 would take place in a follow-up session. The reviewing of individual children will depend on what is indicated from Steps 2 and 3. In short, this is a universal service at Step 1 but becomes increasingly personalised in response by Steps 2 and 3.

Where the ELIM and Intervention takes place

It is anticipated that the ELIM and intervention process will take place in one of three locations. Two of these locations are those in which 2- 2 ½ year reviews typically and currently take place in; the health visitor or child health clinic, including Children's Centres or other community settings, or in the child's home. We found that some services were only delivered in the home and this of course offers many opportunities for observing interaction between parent and child as well as the richness of the home environment. A third location in which the assessment element (Step 1) of the **ELIM** may take place is the early years setting, nursery etc which the child attends. However this can only work effectively if communication between the EYP and HV prior to and after Step 1 is clear and information is shared between these services, for example, the results of the ELIM are fed directly back to the HV team and a discussion would occur in which Steps 2 and 3 are outlined (who delivers which element). This is further discussed below. It is important that in early years settings the ELIM assessment involves a dedicated space to carry out appropriate observation of the child and parent, and that the parent is invited specifically for this purpose.

Who should carry out the ELIM and Intervention?

As indicated throughout our document the identification and intervention process is delivered by the health visitor and supported by the early years practitioner under their guidance in cases where a child has not received the ELIM assessment with their HV. We believe that the health visitor is ideally suited to deliver this process as the only service to offer a universal service for families and children this age, their home visiting capacity, their ability to build trusting relationships and expertise in speaking with families often about difficult issues, in observing children, in making holistic assessments of developmental risk, all areas highlighted through the research and Patient, Public Involvement (PPI) as part of this project. They also hold the health records for these children ensuring decisions are recorded and shared within health services. As such, HVs are unique in being able to observe the child's development and behaviour and place it within the context of family circumstances. In many cases health visitors are familiar with the families and have already seen older children in the same family; they are widely respected by parents.

It is recognised that a small number of families do not access the 2-2½ year review. The aggregate percentage of children receiving a 2–2½ year review from HV's by the age of 2½ for England was 77.6% in 2018/2019. A number of families will take up the selective targeted 2-year offer in early years settings without having seen their health visitor, in which case an appropriately qualified Early Years

Practitioner (EYP) may carry out Step 1 of the ELIM and then refer back to the HV. There therefore needs to be some flexibility in the system to ensure all children are offered the assessment at 2-2½ of their speech, language and communication needs (SLCN).

Of course the process of the EYP carrying out the ELIM will only work if there is an environment where the EYP is able to observe naturalistic interaction between parent and child (as stipulated in the section 4 of the ELIM-E and now part of the final ELIM). It will also be essential for the HV and EYP to collaborate closely on who is to carry out the review to avoid duplication or missing the review altogether. For example, a health visitor sends out the invite for the review to a child that does not attend. The HV knows that the child attends a specific nursery and would then contact the staff in the nursery to notify them and ask them to carry out the assessment. Similarly, EYP may admit a new child to their setting but express concern about some aspect of the child's communication development. Their first recourse should be to the HV to ascertain whether the review had been carried out. Of course, this potentially raises data protection issues but these should be resolved locally. There is no technical reason why this should be problematic but parents' views on such matters need to be taken seriously and integration and trust in the settings and HV teams is key to success here.

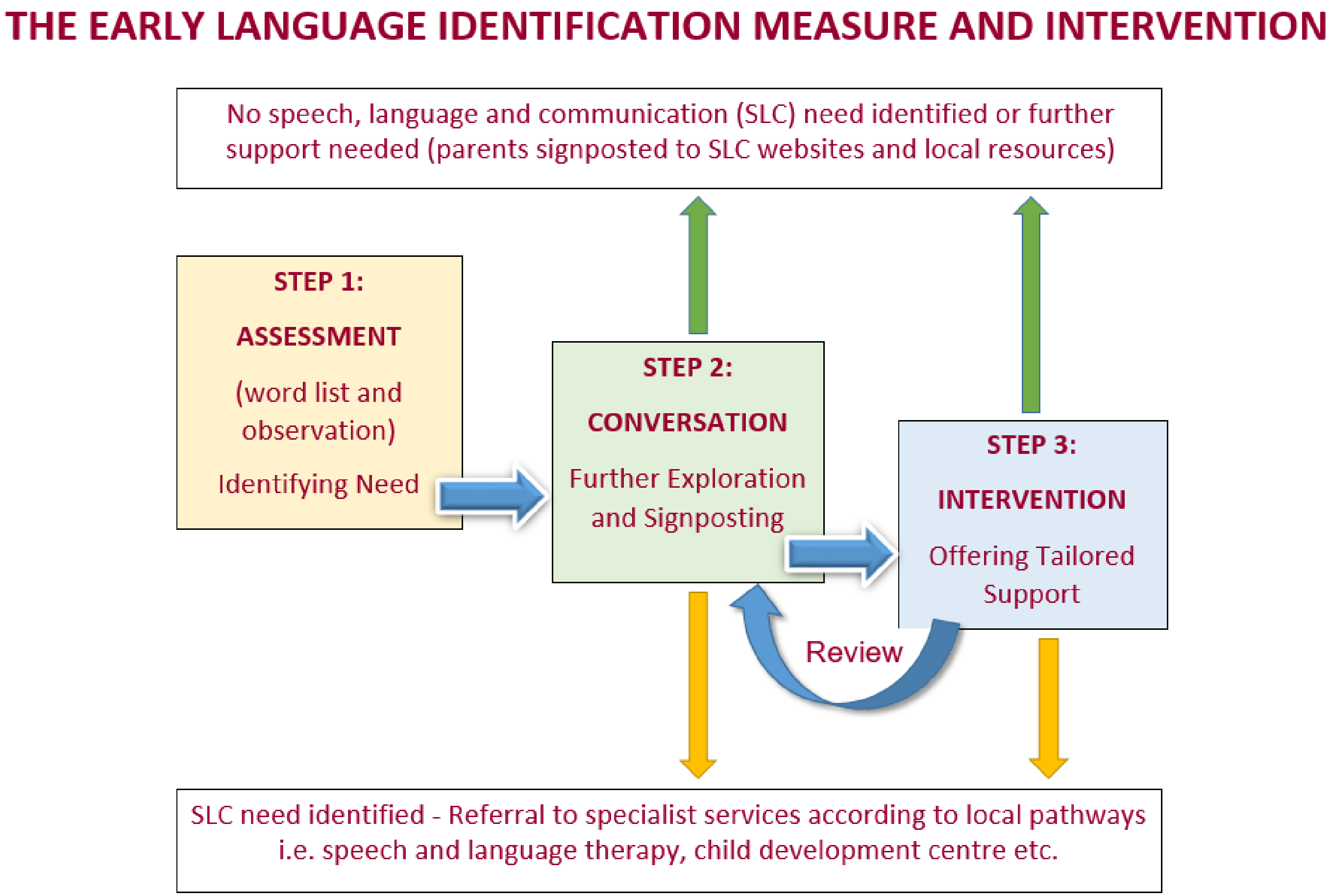
Developing the conversation element of the package and delivering the intervention, (Steps 2 and 3 above) could be carried out by members of the HV team or the EYP under the guidance of the HV. The key issue here is that the HV is central and accountable for this process and incorporates the information from the Steps above with what is known about the family already. The process needs to be seamless for the parent and one where practitioners speak with a single voice and everyone needs to understand who is responsible for which element of the process.

The training

All professionals involved in the **ELIM and Intervention** process will need to be trained. This will require training in the administration of the ELIM and of the process for conversation and intervention delivery described for Steps 2 and 3. It is important that the cascade process is designed for designated individuals in the early years settings. It is also important that this training should be delivered across services to encourage integrated working and for all those involved to think together about the process and how they might interact effectively across their services.

It would be sensible to conceptualise these training elements as two modules – the one providing essential basic information about the development of early language and communication skills, building on the training that PHE developed for HVs and the other providing the detail on what to do about it i.e. the delivery of the **Early Language Identification Measure and Intervention**

Figure 8:1



THE EARLY LANGUAGE IDENTIFICATION MEASURE AND INTERVENTION

No speech, language and communication (SLC) need identified or further support needed (parents signposted to SLC websites and local resources)

STEP 1:

ASSESSMENT

(word list and observation)

Identifying Need

STEP 2:

CONVERSATION

Further Exploration and Signposting

STEP 3:

INTERVENTION

Offering Tailored Support

SLC need identified - Referral to specialist services according to local pathways i.e. speech and language therapy, child development centre etc.

Considerations for future development

In this final section, we provide a series of options as to how the process of identifying need and working with families associated with the 2-2½ year review should be taken forward.

For Commissioners

The future format and delivery of the 2-2½ year review as part of the Healthy Child Programme (HCP) currently delivered by health visiting services, is a policy issue both at a national and a local level. The more universal the programme is across the country – even if it is subject to local pathways – the more coherent it will be. A key here is the PHE 0-19 *Commissioning Guidance* issued to all commissioners in England. As has been discussed above, central to this is that the commissioning needs to be integrated across all the different professionals involved –health visitors and their teams, speech and language therapists and early years practitioners.

Named leads in health visiting and early years settings could be identified to strengthen communication and shared approaches across services to support the individual needs of children and their parents. These practitioners would be responsible for supporting a coordinated approach to assessment and referrals using local pathways. This would strengthen pathways and communication ensuring clear messages for parents about their child's needs and future plans for intervention. Each HV team would remain responsible for the children on their caseload and should ensure they build relationships with local settings to ensure good communication of needs.

Appropriate interagency training for all practitioners using the ELIM and the intervention to enhance joint local working across HV, EYP and SLT services. This training would include the rationale for aspects of the review process so that they can share this with parents. It is important that those using the ELIM understand the reasoning behind the questions and how best to observe and interact effectively with parents and their children. The training also needs to take into consideration barriers and enablers to parental engagement.

Key SLC related text be introduced into the Personal child health record (red book) at a national level to support parents to consider their child's speech, language and communication development and areas they may wish to discuss with the health visitor at the 2-2½ year review. From what parents told us there is a need for there to be "something for everyone" so that all parents feel supported. At a universal level, pages in the PCHR could signpost parents to reliable quality assured resources, for example, Tiny Happy People/Hungry Little Minds programmes and relevant apps.

There is a need for these arrangements to explicitly include data sharing between health and education services to maximise opportunities for sharing assessments, identified needs and interventions across agencies. This would avoid duplication of assessment alongside reinforcement of interventions in all settings.

That the outputs of the ELIM be developed for inclusion as Systematized Nomenclature of Human Medicine [SNOMED] codes for the NHS. We propose that this should be a staged data capture process including the key elements of the identification measure and the referrals that come from it. Those carrying out the ELIM will then add the results into the SNOMED system for every child seen. If the ELIM is to be used by the broader group of early years practitioners, procedures will need to be developed at a local level to ensure that those working in settings are able to transfer their data appropriately. This could be done through an obligated meeting between the appropriate health and education practitioners. We also recommend that data be shared with General Practitioners also.

For Practitioners

One of the key features that emerged from our discussions with practitioners and parents is that the 2-2½ year review is important for all concerned. It is intended as a holistic assessment that is of value to all concerned. It is an essential element of the offer to parents and because there are few other systematic points at which this happens, it can play a critical role in the child's and indeed the parent's wellbeing. For the parents' part, they also acknowledge the importance of the visit and many indicated that they had been looking forward to it – although a lack of clarity and understanding of the ASQ-3 form when it was received led to additional concern for some parents. Many found the appointment interesting but expressed concern about some practitioners not giving their children enough time or not making their own observations, relying too heavily on box ticking rather than knowing their child. Parents were clearly uncertain about how measures used in the various early years settings related to those used by health visitors and indeed how health visitor teams interacted or did not with early years practitioners in nurseries – who knew what about whom.

The importance of recognising and acting on parental concern needs to be recognised in the identification of a SLCN and also the development of the intervention. Parents' views need to be sought at regular intervals to ensure that the outcomes of the appointment were perceived as being worth the time invested as far as the parent is concerned. The parents should be involved in co-designing local pathways and the review of this process.

Channels of communication between the parties (health visitors, early years practitioners, speech and language therapists, general practitioners etc.) concerned need to be strengthened where necessary through integrated pathways.

For Further Research

Developing the most coherent evidence-based practice depends on ongoing monitoring and research to evaluate the optimum way of delivering different aspects of the review process. While it is tempting to see this as a one-off process – for example the present research study – the fact is that there are many issues, which have yet to be investigated effectively. Here we provide options for research, which we consider central to the present study.

Testing **the ELIM and Intervention.** The revised ELIM measure needs to be tested in different settings with both health visitor teams and a limited number of early years practitioners with the relevant experience and qualifications in education settings. This needs to be built into available training for the staff concerned. It also needs to be tested for the acceptability to parents and even for the children themselves. It is important to note that the young children are also part of the process and are entitled to have their perspectives taken into account. This gives us some insight into the range of experience from the child's perspective although research has shown that parents' and professionals' views do not always concur with those of the children. Future investigations of the effectiveness and efficiency of the language component of the developmental check should consider how best to explore the child's perspective more directly, perhaps using mosaic approaches that are observational and interpretive in nature.

The intervention should also be piloted across health visiting and early years settings to examine feasibility and acceptability. The intervention should be further developed and evaluated for implementation in the following stages:

- Design and production of final materials (e.g. visual, video and digital)
- Piloting through methods such as Trials of Improved practice
- A 'stepped wedge trial' involving a phased roll-out with parallel evaluation to test effectiveness and cost-effectiveness

At a local level, there is a need for co-design of support packages to enable access to parent and toddler groups and early years settings for those families who need it, and co-design of support packages to identify barriers and enable access to local libraries and toy libraries for families who need this support. The intervention should also be joined up with the development of the 'Tiny Happy People' and 'Hungry Little Minds' resources and social media campaigns.

Our suggestion would be that this would be a piece of funded work. This could be combined with the suggestion above using a stepped wedge design.

More work needs to be carried out with English as an Additional Language (EAL) parents to ensure that the process of both identification and intervention meets the needs of diverse communities.

The children in the study need to be followed up given what we know about change over time for children with developmental language disorders. This could be at the Early Years Foundation Stage (EYFS) but should also include specific language assessment.

Study limitations

On drawing conclusions from any research, it is important to reflect on any limitations of the study. There are three main ones for this study. The first concerns the five sites (Derbyshire, Middlesbrough, Newham, Wakefield and Wiltshire) which were identified by PHE where the data collection was to take place. These were selected because they had well developed data collection systems. They also have relatively socially disadvantaged populations. They were not selected because they were "representative" of England as a whole. We asked health visitor departments to engage all parents attending the check in the process but because of the imbalance between the numbers seen by health visitors and their teams and the numbers that could realistically be seen by speech and language therapist there were likely to be issues about the nature of the sample. As can been seen from our first table in Chapter 3 (above) the sample was, in fact, reasonably well spread from a socio-demographic (IDACI) point of view with a slight skew negative skew. We are, therefore, reasonably confident that we have a good mix of respondents but there are always risks of selection biases creeping in. Secondly, as indicated above, the numbers in our paired sample (i.e. those who were seen by both the health visitor and the speech and language therapist) was approximately half those who were unpaired. We anticipated that there might have been biases here perhaps with those with parents expressing greater levels of concern of children with higher levels of need. In fact, that proved not to be the case for most of the variables. Thirdly, although the team endeavoured to obtain a good cross section of people to contribute to our PPI, survey and focus groups and co-design, we consider that we were successful when it came to practitioner response but it is less easy to say this for the parents. More motivated parents are more likely to want to contribute. There is always the possibility of another group of parents saying something different. And finally, our recommendations arise directly out of what we found but in practical terms there is a case for going out again to our contributors to check that our recommendations are acceptable and indeed lead to demonstrably better outcomes. But this is another piece of work and would not have been feasible in the time we had available.

Next Steps for the ELIM and intervention

The quantity of work that has gone into the current project has led to the identification of a number of outstanding elements that are yet to be addressed or developed. It is clear from our data that there is a need to provide parents with clear accessible information early on about language and communication development alongside a wealth of information and assessment they already review for the 2-2½ year review. There is a need to prepare parents for the review so that they are fully informed as to what to expect, and can begin to think about their child's language and communication prior to attending the review. We propose that an **Early Language Identification Measure and Intervention** QR code is used in the red book and any information materials associated with the ELIM and review, including the invitation letter, which automatically links parents to an informative video to be developed by the research team and colleagues in which the process of the review is explained alongside prompts about what parents might like to ask practitioners.

Conclusions

This project collected data from parents, professionals and children in five sites across England between May 2019 and March 2020. There were three strands of activity, the development of the Early Language Identification Measure – Extended (ELIM-E), collecting the views of parents and practitioners about the 2-2½ year review and the development of an evidence based co-designed intervention to promote the language development of children attending the review and especially those with identified difficulties. Underpinning all three strands was a PPI process whereby different elements of the project were discussed with parents and practitioners in each of our five sites. Over eight hundred children were seen across our sites with the ELIM-E and of these half also received our gold standard assessment, the Preschool Language Scale-5th Edition, carried out blind to the results of the earlier stages in the review by local speech and language therapy services. The ELIM-E comprised five elements: early language milestones, a 50-item vocabulary list, a list of social and familial risk factors, health visitor observations and a list of questions about parental concerns. The results from the ELIM-E suggest that, as predicted, some of the items had more utility than others and predicted our gold standard assessment outcome. We then looked at the utility of the five sections in relation to what parents and practitioners were telling us about what they wanted out of the 2-2½ year review delivered by the health visitor.

Our preferred solution is a three-step process whereby the ELIM comprises practitioner observation and a word list, which act as a starting point for identification, followed by a practitioner-parent conversation. Both of these are underpinned by parental concern. The third step involves shared decision making to define and deliver support and intervention. The conversation and intervention elements are underpinned by review of progress. Clearly the review process is one which involves a great many people – the parents and children, the health visitors and their teams, the early years practitioners in the settings where a proportion of the children attend and the speech and language therapists to whom the children with the more marked difficulties will be referred but who are also likely to be instrumental in supporting the other members of the team. Inevitably there are challenges in ensuring that all the members of the team share goals, expertise and expectations around guidance so that the parents feel that the services are working with them in this all important review process.

Acknowledgements

We would like to thank the practitioners in our five sites for their contribution to this project. Perhaps it goes without saying that it would not have been possible without their input but we would like to thank them especially for their enthusiasm about the project and for contributing to the different elements of the project. Similarly, we would like to thank the parents who gave so readily their time to contribute to the project. It was clear that they valued the service and wanted to improve it for other parents. We are especially grateful to our PPI groups who helped steer the project, as did the Expert Advisory Group hosted by Public Health England and the Department for Education. And, finally, we would like to thank Nikki Hawley, administrator at Newcastle University, for help in data entry and support for the project.

References

Armstrong, R., Scott, J.G., Whitehouse,A.J.O., Copland,D.A., Mcmahon, K.L. & Arnott, W. (2017) Late talkers and later language outcomes: Predicting the different language trajectories, *International Journal of Speech-Language Pathology*, 19:3, 237-250. DOI: 10.1080/17549507.2017.1296191

Asmussen, K., et al., *Foundations for life: what works to support parent child interaction in the early years.* 2016: Early Intervention Foundation

Atkins, L., et al., A guide to using the Theoretical Domains Framework of behaviour change to investigate implementation problems. *Implementation Science*, 2017. 12(77).

Atkinson M, Clark M, Clay D, et al., (2001) *Systematic review of ethnicity and health service access for London.* Coventry: Centre for Health Services Studies, University of Warwick

Auert, E.J., Trembath, D., Arciuli, J. & Thomas, D. (2012), Parents' expectations, awareness, and experiences of accessing evidence-based speech-language pathology services for their children with autism. *International Journal of Speech-Language Pathology*, 2012; 14(2): 109–118.

Axford, N., et al., *The best start at home*, in *Early Intervention Foundation Evidence*. 2015, Early Intervention Foundation: London

Axford,N., Barlow, J., Coad, J., Schrader-McMillan, A., Bjornstad, G.,Berry , V., Wrigley , Z., Goodwin,A., Ohlson , C., Sonthalia, S., Toft, A., Whybra, L. & Wilkinson, T. (2015) *Rapid Review to Update Evidence for the Healthy Child Programme 0–5* London: Public Health England https://www.england.nhs.uk/ltphimenu/children-and-young-people/best-start-in-life/

Becker, B., Social disparities in children's vocabulary in early childhood. Does pre-school education help to close the gap? *British Journal of Sociology*, 2011. 62(1): p. 69-88.

Beitchman, J.H. , Nair, R. , Clegg, M. & Patel, P.G. (1986). Prevalence of speech and language disorders in 5-year-old kindergarten children in the Ottawa-Carleton region. *Journal of Speech and Hearing Disorders*, 51, 98-110.

Bibby, W. & Deacon, C. (2020) *Parents Helping Parents It takes a village to raise a child* London: NESTA.

Bishop DV, Snowling MJ, Thompson PA, Greenhalgh T, CATALISE-2 consortium.(2016a) CATALISE: a multinational and multidisciplinary Delphi consensus study of problems with language development. Phase 2. Terminology. *PeerJ Preprints4*:e2484v1 https://doi.org/10.7287/peerj.preprints.2484v1

Bishop, D. V. M., Snowling, M. J., Thompson, P. A., Greenhalgh, T., & The CATALISE Consortium. (2016b). CATALISE: a multinational and multidisciplinary Delphi consensus study. Identifying language impairments in children. *PLOS One*, 11(7), http://dx.doi.org/10.1371/journal.pone.0158753

Bishop DVM, Snowling MJ, Thompson PA, Greenhalgh T, CATALISE consortium (2016) CATALISE: A Multinational and Multidisciplinary Delphi Consensus Study. Identifying Language Impairments in Children. PLoS ONE 11(7): e0158753. https://doi.org/10.1371/journal.pone.0158753

Bishop, D.V., Snowling, M.J., Thompson, P.A., Greenhalgh, T. and (2017), Phase 2 of CATALISE: a multinational and multidisciplinary Delphi consensus study of problems with language development: Terminology. J Child Psychol Psychiatr, 58: 1068-1080. doi:10.1111/jcpp.12721

Braun, V. and Clarke, V., 2006, Using thematic analysis in psychology. *Qualitative Research in Psychology,* 3, 77–101. https://doi.org/10.1191/1478088706qp063oa

Brushe, M.E., Lynch,J.W., Reilly, S., Melhuish, E.,& Brinkman,S.A. (2020) How many words are Australian children hearing in the first year of life? *BMC Pediatrics* 20:52 https://doi.org/10.1186/s12887-020-1946-0

Brushe, M.E., Lynch,J.W., Reilly, S., Melhuish, E.,& Brinkman,S.A. (submitted) The Word Gap – At What Age Does it Emerge? *JAMA Pediatrics* – Research Letter.

Christensen, D., Taylor, C.L. and Zubrick, S.R. (2017) Patterns of Multiple Risk Exposures for Low Receptive Vocabulary Growth 4-8 Years in the Longitudinal Study of Australian Children. *PLoS One,* 2017. **12**(1): p. e0168804

Cane, J., D. O'Connor, and S. Michie, Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implementation Science*, 2012. 7(1): p. 37. .

Conti-Ramsden, G., St Clair, M. C., Pickles, A., and Durkin, K. (2012). Developmental trajectories of verbal and nonverbals skills in individuals with a history of specific language impairment: from childhood to adolescence. *Journal of Speech Language and Hearing Research*, 55, pp. 1716-35

Coplan J, Gleason JR, Ryan R, Burke MG, Williams ML. Validation of an Early Language Milestone Scale in a high-risk population. *Pediatrics* 1982;70(5):677–83.

Craig, P., et al., *Developing and evaluating complex interventions: new guidance*. 2008, Medical Research Council

CRE-CL and CfCCH, *Every Toddler Talking (Phase 1) Final report*. 2015, MCRI: Melbourne.

Dale PS, Bates E, Reznick JS, Morisset C. The validity of a parent report instrument of child language at twenty months. *J Child Lang* 1989;16(2):239–49.

Davies, K.E., Marshall, J., Brown, L.J.E. & Goldbart, J. (2016). Co-working: Parents' conception of roles in supporting their children's speech and language development. *Child Language Teaching and Therapy* 33(2), 171-185.

Davies, R., Gibson, A., Griffiths, S. (2019) Patient and Public Involvement. In *Dobinson, C. and Wren, Y. (Eds.) Creating Practice-based Evidence. A guide for SLTs (2nd ed.)* Guildford: J&R Press.

Department of Children Schools and Families (2008) *The Bercow Report: a review of services for children and young people with speech, language and communication needs.* Crown Copyright.

Department of Health (2009) The Healthy Child Programme: Pregnancy and the first five years of life. https://www.gov.uk/government/publications/healthy-child-programme-pregnancy-and-the-first-5-years-of-life

Dockrell, J. E., and Marshall, C. (2015). Measurement Issues: Assessing language skills in young children. *Child and Adolescent Mental Health*, 20, 116-25.

Donnellan, E., et al., Infants' intentionally communicative vocalizations elicit responses from caregivers and are the best predictors of the transition to language: A longitudinal investigation of infants' vocalizations, gestures and word production. *Developmental Science*, 2020. 23(1): p. e12843.

Donetto, S., Malone, M., Hughes, J., Morrow, E., Cowley, S. & Maben, J. (2013) *Health visiting: the voice of service users - Learning from service users' experiences to inform the development of UK health visiting practice and services.* London: National Nursing Research Unit, King's College London

Doyle, O., Harmon, C.P. & Heckman.J.J. (2009) Investing in early human development: Timing and economic efficiency *Economics & Human Biology* 7, 1-6.

Dyer, T.A., Owens, J. and Robinson, P.G. (2016) The acceptability of healthcare: from satisfaction to trust. *Community Dental Health, 33,* 242-251

Evans D, Coad J, Cottrell K, Dalrymple J, Davies R, Donald C, et al. Public involvement in research: assessing impact through a realist evaluation. *Health Serv Deliv Res* 2014;2(36).

Fenson L, Dale PS, Reznick JS, Bates E, Thal DJ, Pethick SJ, *et al.* Variability in early communicative development.*Monogr Soc Res Child Dev* 1994;595(242):1–185.

Fernald, A., Marchman, V.A. and Weisleder, A. (2013), SES differences in language processing skill and vocabulary are evident at 18 months. *Dev Sci,* 16: 234-248. doi:10.1111/desc.12019

Gair, D. (2017) Ages and Stages Questionnaire (ASQ-3) Analysis Children and Young People's Health Services Data Set (CYPHS), Experimental Statistics, October 2016 - March 2017 NHS Digital.

https://www.gov.uk/government/publications/ages-and-stages-questionnaire-asq-3-analysis-october-2016-to-march-2017

Glascoe FP, Altemeier WA, MacLean WE. The importance of parents' concerns about their child's development. *Am J Dis Child* 1989;143(8):955–8.

Glascoe FP. Parents' concerns about children's development: prescreening technique or screening test? *Pediatrics* 1997;99(4):522–8.

Glascoe FP. Can clinical judgment detect children with speech-language problems? *Pediatrics* 1991;87(3):317–22.

Glogowska, M. & Campbell, R. (2004) Parental views of surveillance for early speech and language difficulties. *Children and Society*, 18, 266-277.

Glogowska, M. & Campbell, R. (2000). Investigating parental views of involvement in pre-school speech and language therapy. *International Journal of Language and Communication Disorders*. 35(3), 391-405.

Golinkoff, R.M., Hoff, E., Rowe, M.L., Tamis-LeMonda, C.S. and Hirsh-Pasek, K. (2019), Language Matters: Denying the Existence of the 30-Million-Word Gap Has Serious Consequences. *Child Dev,* 90: 985-992. doi:10.1111/cdev.13128.

Goodman R. Psychometric Properties of the Strengths and Difficulties Questionnaire. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2001; 40: 1337-45.

Goodman R. The Strengths and Difficulties Questionnaire: a research note. *Journal of Child Psychology and Psychiatry*. 1997; 38: 581-6.

Greenwood, C. R. Schnitz, A. G., JudiCarta,J.J., Wallisch,A. & Irvin,D.W. (2020) A systematic review of language intervention research with low-income families: A word gap prevention perspective, *Early Childhood Research Quarterly*, 50, 230-45, https://doi.org/10.1016/j.ecresq.2019.04.001.

Grey, S., Sanz, C., Morgan-Short, K., & Ullman, M. T. (2018). Bilingual and monolingual adults learning an additional language: ERPs reveal differences in syntactic processing. *Bilingualism: Language and Cognition*, *21*(5), 970-994.

Harris, F., Law,J. & Roy, P. (2002). *Report of the first implementation of the Sure Start Language Measure* Nottingham: DFES, Sure Start.

Harris, F., Law,J., Roy, P, & Kermani, S. (2004). *Report of the second implementation of the Sure Start Language Measure.* Nottingham: DFES Sure Start

Harris, F. Law,J. & Roy, P. (2005). *The third implementation of the Sure Start Language Measure* Nottingham: DFES, Sure Start.

Harris, F, Law,J, Roy, P. (2004). The development of a 50 word adaptation of the UK short form of the MCDI for use with two years olds in Sure Start Programmes in England Paper prepared by the team responsible for this further development of the CDI in the UK for Professor Larry Fenson and the MCDI team in San Diego, USA. Available from the second author c/o School of Education, Communication and Language Sciences, University of Newcastle, Newcastle-upon-Tyne NE1 7RU e: James.Law@ncl.ac.uk

Hart, B. & T Risley, (1995) *Meaningful Differences in the Everyday Experience of Young American Children* Boston: Paul Brookes.

Heckman J (2013) *James Heckman changes the equation for American prosperity.* https://heckmanequation.org/www/assets/2014/05/F_Heckman_Brochure_041515.pdf

Sekhon, M., Cartwright, M. and Francis, J.J. (2018) Acceptability of health care interventions: A theoretical framework and proposed research agenda. *British Journal of Health Psychology*, *23:3*

Kuchirko, Y. (2017). On differences and deficits: A critique of the theoretical and methodological underpinnings of the word gap. *Journal of Early Childhood Literacy*. https://doi.org/10.1177/1468798417747029

Institute of Health Visiting (2019) *Health Visiting in England: a vision for the future.* https://ihv.org.uk/wp-content/uploads/2019/11/7.11.19-Health-Visiting-in-England-Vision-FINAL-VERSION.pdf

Institute of Health Visiting (2020) What do parents want from a health visiting service? Results from a Channel mum survey. https://ihv.org.uk/wp-content/uploads/2020/01/HV-Vision-Channel-Mum-Study-FINAL-VERSION-24.1.20.pdf

INVOLVE (2013*) Exploring the impact of public involvement on the quality of research: examples* Eastleigh: INVOLVE

Information Services Division (ISD) (2014) *Child Health 27-30 month review statistics* Edinburgh: Information Services Division.

Johnson, C. J., Beitchman, J. H., and Brownlie, E. B. (2010). Twentyyear follow-up of children with and without speech-language impairments: Family, educational, occupational, and quality of life outcomes. *American Journal of Speech-Language Pathology*, 9, pp. 51-65;

Landry, S. H., Smith, K. E., Swank, P. R., & Guttentag, C. (2008). A responsive parenting intervention: The optimal timing across early childhood for impacting maternal behaviors and child outcomes. *Developmental Psychology, 44*(5), 1335–1353. https://doi.org/10.1037/a0013030

Law, J., Boyle, J., Harris, F., and Harkness, A. (1998). Child Health Surveillance: Screening for Speech and Language Delay. *Health Technology Assessment*. 2 (9), 1-184

Law,J. Rush, R, Parsons, S. & Schoon, I. (2009) Modelling developmental language difficulties from school entry into adulthood: Literacy, mental health and employment outcomes. *Journal of Speech, Language and Hearing Research* 52, 1401-1416. DOI: 10.1044/1092-4388(2009/08-0142)

Law, J., Charlton, J. and Asmussen, K. (2017). *Language as a child wellbeing indicator.* London: The Early Intervention Foundation. https://www.eif.org.uk/files/pdf/language-child-wellbeing-indicator.pdf

Law J, Reilly S, Snow P. (2013.) Child speech, language and communication need in the context of public health: A new direction for the speech and language therapy profession. *Int J Lang Commun Disord*. 48(5):486-96.

Law, J., Charlton, J. and Dennis, J. (2017) Cochrane Protocol B9805a: Speech and language therapy interventions for children with primary speech and/or language disorders *Cochrane Library* http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD012490/full

Law, J., et al., *Early Language Development: Needs, provision, and intervention for preschool children from socio-economically disadvantage backgrounds.* 2017, London: Education Endowment Foundation.

Law, J., et al., *Parent-child reading to improve language development and school readiness: A systematic review and meta-analysis.* 2018: Newcastle University and Queen Margaret University.

Law, J., Z. Garrett, and C. Nye, Speech and language therapy interventions for children with primary speech and language delay or disorder. *Cochrane Database of Systematic Reviews 2010, 2010(5), CD004110*, in *Cochrane Database of Systematic Reviews*. 2010.

Levickis, P., et al., Associations between maternal responsive linguistic input and child language performance at age 4 in a community-based sample of slow-to-talk toddlers. *Child: Care, Health and Development*, 2018. 44(5): p. 776-783.

Levickis, P., et al., Maternal behaviors that promote early language acquisition in slow-to-talk toddlers: Prospective community-based study. *Journal of Developmental & Behavioral Pediatrics*, 2014.

Levickis, P., et al., *A review of interventions to promote language development in early childhood*, in *Handbook of language development and disorders in a social context* J. Law, C. McKean, & S. Reilly, Editors. in press, Cambridge University Press: Cambridge.

Little, S. (2017). Whose heritage? What inheritance?: Conceptualising family language identities. *International Journal of Bilingual Education and Bilingualism*, 1-15.

Lee, J. S. 2002. The Korean Language in America: The Role of Cultural Identity in Heritage Language Learning. *Language, Culture and Curriculum* 15 (2): 117–133. doi:

Local Government Association (2016) Working with Working with faith groups to promote health and wellbeing

https://www.local.gov.uk/sites/default/files/documents/working-faith-groups-prom-6ff.pdf

Local Government Association (2017) Improving outcomes for children and families in the early years A key role for health visiting services https://ihv.org.uk/news-and-views/news/lga-improving-outcomes-children-families-early-years-key-role-health-visiting-services/

Locke, A., Ginsborg, J., & Peers, I. (2002). Development and disadvantage: Implications for the early years and beyond. *International Journal of Language and Communication Disorders*, *37*, 3– 15

Lyons, R., O'Malley, M.P., O'Connor, P. & Monaghan, U. (2010). Its just so lovely to hear him talking: Exploring the early intervention expectation and experiences of parents. *Child Language Teaching and Therapy.* 26(1), 61-76.

Maggi,S. L Irwin, A Siddiqi, and C Hertzman, (2012) 'The social determinants of early child development: An overview', *Journal of Paediatrics and Child Health*, 2010, 46(11):627-35

https://www.local.gov.uk/sites/default/files/documents/improving-outcomes-childr-bf1.pdf Marmot M, Allen J, Goldblatt P, Boyce T, McNeish D, Grady M et al. (2010) *Fair Society, Healthy Lives: The Marmot Review. Strategic review of health inequalities in England post-2010*. London: Marmot Review; 2010. https://www.parliament.uk/documents/fair-society-healthy-lives-full-report.pdf

Marmot, M., Allen, J. Boyce, T., Goldblatt,P. & Morrison, J. (2020) *Health Equity in England: The Marmot Review 10 Years On*. London The Health Foundation https://www.health.org.uk/publications/reports/the-marmot-review-10-years-on

Marshall, J., Goldbart, J & Phillips, J. (2007) 'Parents' and speech and language therapists' explanatory models of language development, language delay and intervention', *International Journal of Language & Communication Disorders*, 42:5, 533 - 555

Marulis, L.M. and S.B. Neuman, How Vocabulary Interventions Affect Young Children at Risk: A Meta-Analytic Review. *Journal of Research on Educational Effectiveness*, 2013. 6(3): p. 223-262.

McCartney,M., Fell,G., Finnikin S., Hunt, H. , McHugh, M. & Gray, M. (2020),

Why 'case finding' is bad science *Journal of the Royal Society of Medicine* 113(2) 54–58 DOI: 10.1177/0141076819891422.

McGillion, M., et al., A randomised controlled trial to test the effect of promoting caregiver contingent talk on language development in infants from diverse socioeconomic status backgrounds. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 2017. 58(10): p. 1122-1131.

McKean, C., Reilly, S., Bavin, E. L., Bretherton, L., Cini, E., Conway, L., Cook, F., Eadie, P., Prior, M., Wake, M., & Mensah, F. (2017). Language outcomes at 7 Years: early predictors and co-occurring difficulties. *Pediatrics*(e20161684).

McKean, C., et al., Levers for language growth: Characteristics and predictors of language trajectories between 4 and 7 years. *PLoS ONE*, 2015. **10**(8): p. e0134251.

McKean, C., Law, J. , Morgan, A. and Reilly, S., (2018) 'Developmental Language Disorder', in Rueschemeyer, S. and Gaskell, G.M. (eds.) *Oxford Handbook of Psycholinguistics*. Oxford: Oxford University Press.

Michie, S., L. Atkins, and R. West, *The behaviour change wheel: a guide to designing interventions*. 2014, Surrey: England: Silverback Publishing.

Michie, S., Richardson, M., Johnston, M., Abraham, C., Francis, J., Hardeman, W., ... & Wood, C. E. (2013). The behavior change technique taxonomy (v1) of 93 hierarchically clustered techniques: building an international consensus for the reporting of behavior change interventions. *Annals of behavioral medicine*, *46*(1), 81-95.

Morgan, L., et al., 'It depends': Characterizing speech and language therapy for preschool children with developmental speech and language disorders*. International Journal of Language & Communication Disorders*, 2019. 54(6), 954-970.

Morgan-Short, K., & Ullman, M. T. (2018). Bilingual and monolingual adults learning an additional language: ERPs reveal differences in syntactic processing. *Bilingualism: Language and Cognition*, *21*(5), 970-994.

Nelson, C. A. (2000). *The neurobiological bases of early intervention.* In J. P. Shonkoff & S. J. Meisels (Eds.), *Handbook of early childhood intervention* (p. 204–227). Cambridge University Press. https://doi.org/10.1017/CBO9780511529320.012

Nelson, H. D., Nygren, P., Walker, M., and Panoscha, R. (2006). Screening for speech and language delay: Systematic evidence review for the US Preventive Services Task Force. *Pediatrics*, 117 (2)

NICE (2014) PHE Behaviour Change: Individual approaches Public health guideline https://www.nice.org/guidance/ph49

NICE, (2018) Promoting health and preventing premature mortality in black, Asian and other minority ethnic groups. https://www.nice.org.uk/guidance/qs167

NIRH (2018) *Patient and Public Involvement in Health and Social Care Research.* Available at; https://www.rds-sc.nihr.ac.uk/ppi-information-resources/

NHS England (2017) *Patient and public participation policy.* Available at; https://www.england.nhs.uk/wp-content/uploads/2017/04/ppp-policy.pdf

Norbury, C.F., Gooch, D., Wray, C., Baird, G., Charman, T., Simonoff, E., Vamvakas, G. and Pickles, A. (2016), The impact of nonverbal ability on prevalence and clinical presentation of language disorder: evidence from a population study. *J Child Psychol Psychiatr*, 57: 1247-1257. doi:10.1111/jcpp.12573

O'Brien, N., et al., Integrating evidence from systematic reviews, qualitative research, and expert knowledge using co-design techniques to develop a web-based intervention for people in the retirement transition. *Journal of Medical Internet Research*, 2016. 18(8): p. e210.

O'Cathain, A., et al., Guidance on how to develop complex interventions to improve health and healthcare. *BMJ Open*, 2019. 9(8): p. e029954.

Pruitt, J. and T. Adlin, *The persona lifecycle: keeping people in mind throughout product design*. 2006, Amsterdam: Elsevier.

Public Health England (2018) *Best start in life and beyond: Improving public health outcomes for children, young people and families Guidance to support the commissioning of the Healthy Child Programme 0-19: Health visiting and school nursing services.* https://www.gov.uk/government/publications/healthy-child-programme-0-to-19-health-visitor-and-school-nurse-commissioning

Public Health England (2018) Early Years High Impact Area 6: Health, wellbeing and development of the child aged 2: Ready to learn, narrowing the 'word gap'. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/756700/early_years_high_impact_area_6.pdf

Public Health England (2018) Supporting public health: children, young people and families – Early Years High Impact Areas. https://www.gov.uk/government/publications/commissioning-of-public-health-services-for-children

Public Health England (2019) PHE Strategy 2020-2025. https://www.gov.uk/government/publications/phe-strategy-2020-to-2025

Public Health England (2020) Health Visitor Service Delivery Metrics (Experimental Statistics). https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/880220/2019_2020_Q3_Health_Visitor_Statistical_Commentary_FINAL.pdf

Rannard, A., Lyons, C.& Glenn, S. (2004) Children with specific language impairment: parents' accounts of the early years. *Journal of Child Health Care*.8, 165-176.

Reilly,S. Tomblin, B., Law, J. McKean, C., Mensah, F. Morgan, A., Goldfeld, S., Nicholson, J. & Wake, M. (2014) Specific Language Impairment: a convenient label for whom? *International Journal of Language and Communication Disorders* 49, 416-451. DOI: 10.1111/1460-6984.12102

Reilly S, McKean C, Levickis P. (2014) *Late talking: can it predict later language difficulties?* Centre for Research Excellence in Child Language, 2014. Research Snapshot **2**.

Rescorla L, Hadicke-Wiley M, Escarce E. Epidemiological investigation of expressive language delay at age two. Special Issue: Language development in special populations. *First Lang* 1993;13(37 Pt 1):5–22.

Richmond Group & King's Fund (2010) How to deliver high-quality, patient-centred, cost-effective care - https://www.kingsfund.org.uk/publications/articles/how-deliver-high-quality-patient-centred-cost-effective-care

Roberts, M.Y. and A.P. Kaiser, *The effectiveness of parent-implemented language interventions: A meta-analysis.* American Journal of Speech-Language Pathology, 2011. 20(3): p. 180-199.

Roberts, M.Y. and A.P. Kaiser, *Early Intervention for Toddlers With Language Delays: A Randomized Controlled Trial.* Pediatrics, 2015: p. peds.2014-2134.

Roy, P., Kersley, H. & Law, J. (2004). *The Sure Start Language Measure Standardisation Study: Report to the Sure Start Unit London* Available from the first author c/o Department of Language and Communication Science, City University, London p.j.roy@city.ac.uk

Sekhon, M., Cartwright, M., Francis, J.J. (2017). Acceptability of healthcare interventions: an overview of reviews and development of a theoretical framework. *BMC Health Services Research, 17:88*

Sekhon, M., M. Cartwright, and J.J. Francis, *Acceptability of healthcare interventions: an overview of reviews and development of a theoretical framework.* BMC Health Services Research, 2017. 17(1) 88.

Sim,F., Haig,C., O'Dowd,J., Thompson,L., Law,J., McConnachie,A., Gillberg, C. & Wilson,P (2015) Development of a triage tool for neurodevelopmental risk in children aged 30 months, *Research in Developmental Disabilities*, 45–46,69-2,https://doi.org/10.1016/j.ridd.2015.07.017

Sim F, O'Dowd J, Thompson L, Law J, Macmillan S, Affleck M, et al. Language and social/emotional problems identified at a universal developmental assessment at 30 months. *BMC Pediatrics*. 2013;13(1):206.

Sim F, Haig C, O'Dowd J, et al. Development of a triage tool for neurodevelopmental risk in children aged 30 months. *Research in Developmental Disabilities*. 2015; 45–46: 69-82.

Siu, A. L. (2015) Screening for Speech and Language Delay and Disorders in Children Aged 5 Years or Younger: US Preventive Services Task Force Recommendation Statement, *Pediatrics*, 136 (2).

Smith, K.E., Bambra,C. and Hill,S.E. *Health Inequalities: Critical Perspectives*. 2015, Oxford: Oxford University Press.

Squires JK, Potter L, Bricker DD, Lamorey S. (1998) Parent completed developmental questionnaires: effectiveness with low and middle income parents. *Early Child Res Q*; 13: 345–54.

Squires J, Twombly E, Bricker D, LaWanda Potter MS. (2009).*ASQ-3 -3 User's Guide.* Baltimore, MD: Paul H Brookes Publishing.

Ruben, R . (2000) 'Redefining the survival of the fittest: Communication disorders in the 21st century', *The Laryngoscope*, 110:241-5.

Taylor, C., Christensen, D., Lawrence, D., Mitrou, F., & Zubrick, S. (2013). Risk factors for children's receptive vocabulary development from four to eight years in the Longitudinal Study of Australian Children. *PLOS ONE, 8*(9). doi:10.1371/journal.pone.0073046.

Tomasello, M., First steps toward a usage-based theory of language acquisition. *Cognitive Linguistics*, 2000. 11(1-2): p. 61-82.

Tomasello, M., *Origins of human communications*. 2008, London, England: MIT Press.

Tomblin, J.B., Records, N. L., Buckwalter P., Xuyang, Z., Smith, E. & O'Brien, M. (1997) Prevalence of Specific Language Impairment in Kindergarten *Children Journal of Speech, Language and Hearing Research* 40, 1245-1260 https://doi.org/10.1044/jslhr.4006.1245

Walker D, Gugenheim S, Downs M, Northern JL. Early Language Milestone Scale and language screening of young children. *Pediatrics* 1989;83(2):284–8 [Comment in *Pediatrics* 1989;84(3):586–7]

Wallace, I. F., Berkman, N. D., Watson, L. R., Coyne-Beasley, T., Charles, T., Wood, C. T., Cullen, K., and Lohr, K. N. (2015) Screening for Speech and Language Delay in Children 5 Years Old and Younger: A Systematic Review. *Pediatrics,* 136 (2)

Wasik, B. A., & Hindman, A. H. (2015). Talk alone won't close the 30-million word gap. *Phi Delta Kappan*, *96*(6), 50–54. https://doi.org/10.1177/0031721715575300

Wilson C, Hogg R, Henderson M, Wilson P. Patterns of primary care service use by families with young children*. Family Practice*. 2013;30(6):679-94

Wilson JMG, Jungner G. *Principles and practice of screening for disease.* WHO, Geneva; 1968.

Wilson, P. & Law J. (2019) Developmental reviews and identification of impairments Chapter 23 in Emond, A. & Elliman, D. (Eds) *Health for Children 5*. Oxford: Oxford University Press.

Wilson P, McQuaige F, Thompson L, McConnachie A. Language Delay Is Not Predictable from Available Risk Factors. *The ScientificWorld Journal*. 2013; Article ID 947018.

Wilson P, Wood R, Lykke K, Hauskov Graungaard A, Ertmann RK, Andersen MK, et al. International variation in programmes for assessment of children's neurodevelopment in the community: Understanding disparate approaches to evaluation of motor, social, emotional, behavioural and cognitive function. *Scand J Public Health*. 2018;46:805-16

APPENDICES

1. Slides for initial CPD session with local services to be carrying out the ELIM-E

2. ELIM-E (extended)

3. Guidance manual for the ELIM-E

4. ELIM-S (shortened)

5. Parent survey

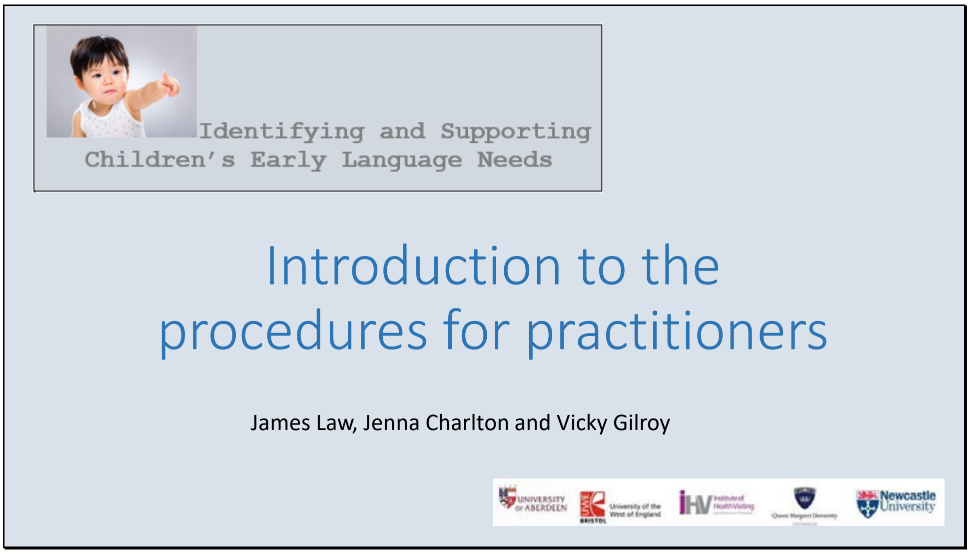
6. Intervention design example workshop materials

7. Intervention behaviours and technowies

8. Final list of intervention papers

1. Slides for initial CPD session with local services to be carrying out the ELIM-E

Slide 1

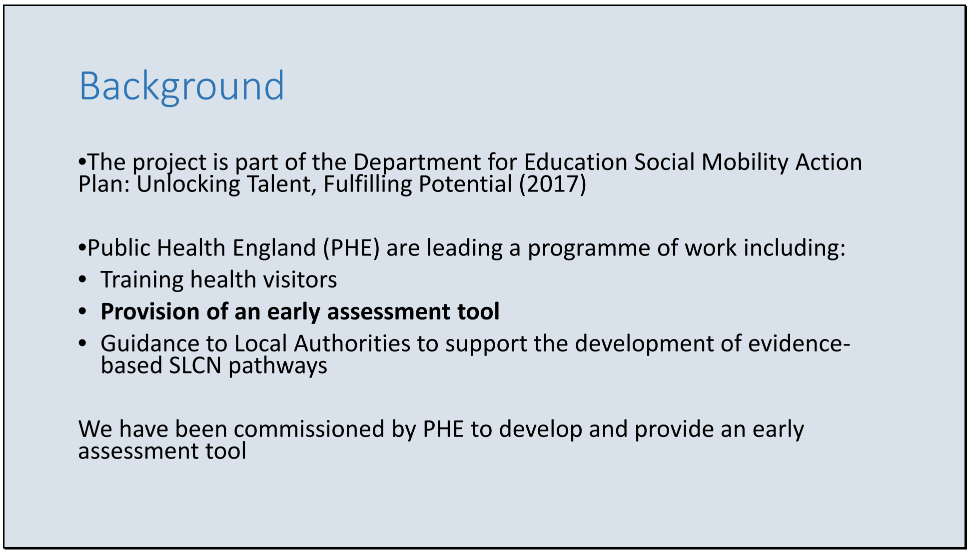


Identifying and Supporting Children’s Early Language Needs

Introduction to the procedures for practitioners

James Law, Jenna Charlton and Vicky Gilroy

Slide 2



Background

•The project is part of the Department for Education Social Mobility Action Plan: Unlocking Talent, Fulfilling Potential (2017)

•Public Health England (PHE) are leading a programme of work including:

- Training health visitors
- **Provision of an early assessment tool**
- Guidance to Local Authorities to support the development of evidence-based SLCN pathways

We have been commissioned by PHE to develop and provide an early assessment tool

Slide 3

Overall aims of the session

To

- Introduce you to the programme of work related to the identification and supporting children with early language needs
- Link it into your existing training provided by the iHV
- Show you how the measure (ELIM-E) works
- Have a discussion and incorporate your feedback
- Tell you about the other elements of the programme
- Make sure that we develop a set of procedures that will work for you in Wiltshire

Slide 4

Identifying and supporting children’s early language needs

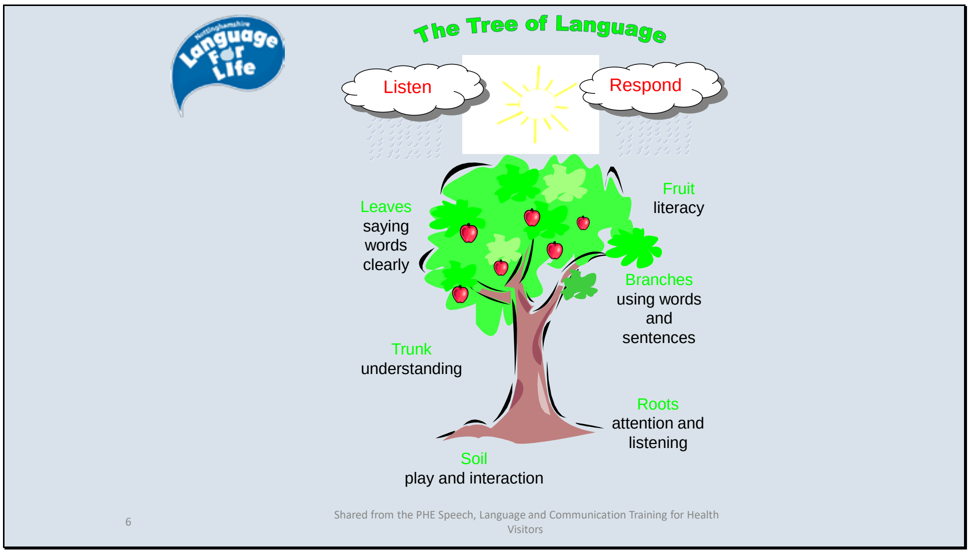
Slide 5

Overview of health visitor training

The training was developed and delivered by the iHV and aimed to:

- Equip health visitors with additional skills and knowledge to support families in promoting early language acquisition in the home learning environment, to support improved health and wellbeing outcomes including school readiness
- This will include clarity regarding timely and appropriate referrals and pathways for children when speech, language and communication needs are identified

Slide 6



The Tree of Language

Listen

Respond

Fruit
literacy

Leaves
saying words clearly

Branches
using words and sentences

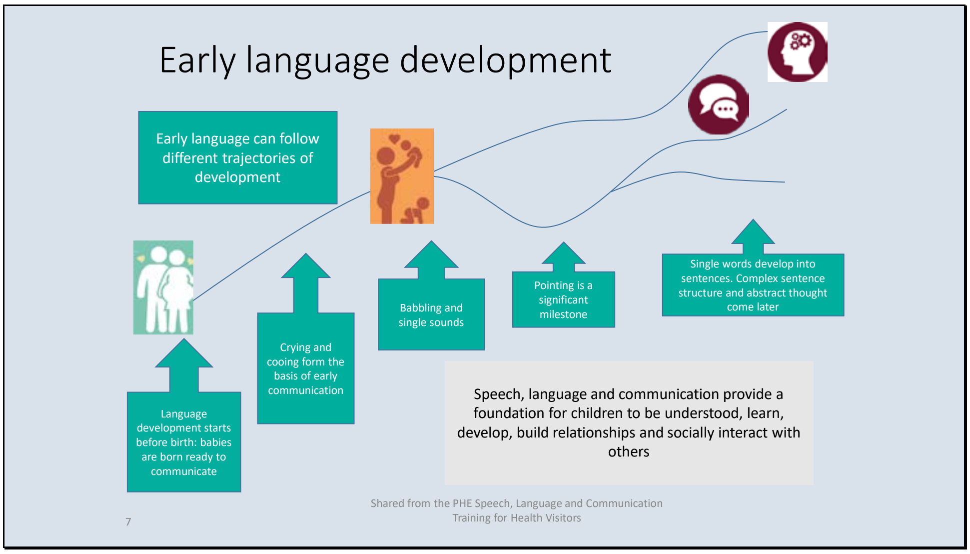
Trunk
understanding

Roots
attention and listening

Soil
play and interaction

Shared from the PHE Speech, Language and Communication Training for Health Visitors

Slide 7



Early language development

Early language can follow different trajectories of development

Language development starts before birth: babies are born ready to communicate

Crying and cooing form the basis of early communication

Babbling and single sounds

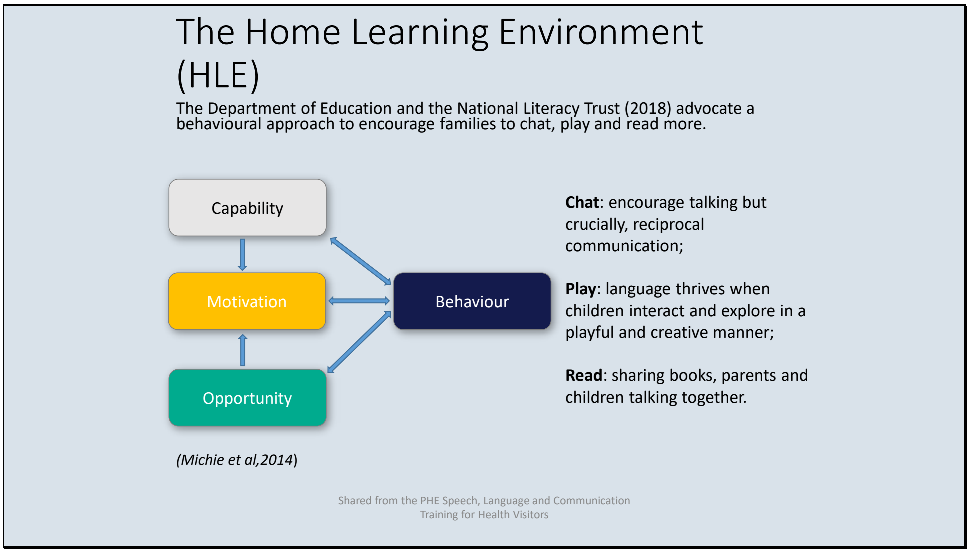
Pointing is a significant milestone

Single words develop into sentences. Complex sentence structure and abstract thought come later

Speech, language and communication provide a foundation for children to be understood, learn, develop, build relationships and socially interact with others

Shared from the PHE Speech, Language and Communication Training for Health Visitors

Slide 8



The Home Learning Environment (HLE)

The Department of Education and the National Literacy Trust (2018) advocate a behavioural approach to encourage families to chat, play and read more.

Chat: encourage talking but crucially, reciprocal communication;

Play: language thrives when children interact and explore in a playful and creative manner;

Read: sharing books, parents and children talking together.

(Michie et al,2014)

Shared from the PHE Speech, Language and Communication Training for Health Visitors

Slide 9

What helps? Child-directed language

Children who hear language directed towards them specifically go on to make more gestures and have a wider vocabulary

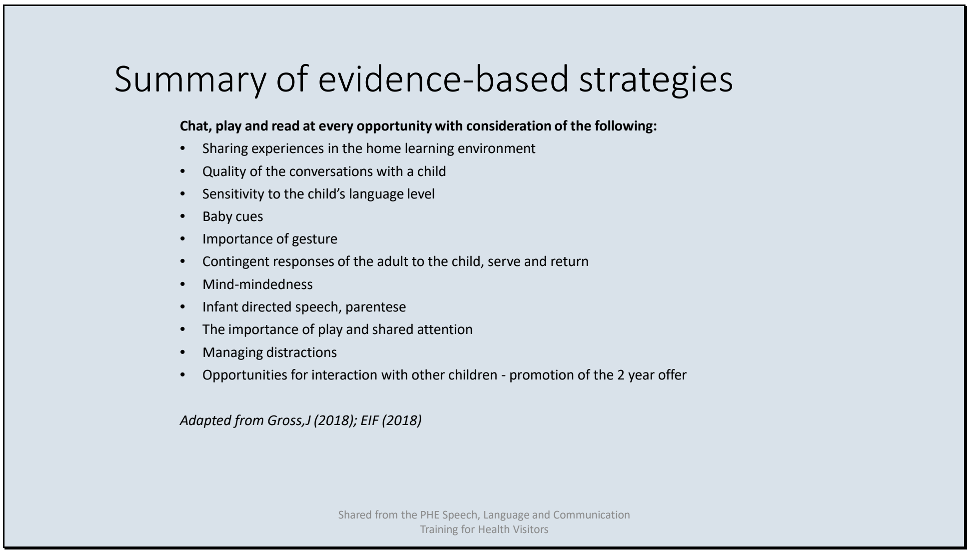
Adults are role models of eye contact and turn-taking and communication and listening

Maximising talk during everyday routines to provide opportunities for their child to hear language used in clear and predictable ways

(Shneidman, Arroyo, Levine, Goldin-Meadow, 2013)

Shared from the PHE Speech, Language and Communication Training for Health Visitors

Slide 10



Summary of evidence-based strategies

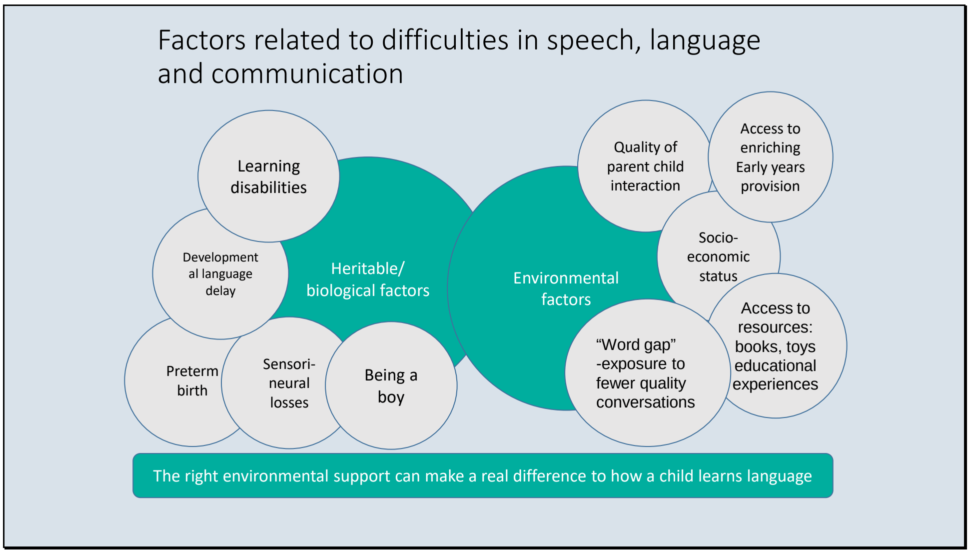
Chat, play and read at every opportunity with consideration of the following:

- Sharing experiences in the home learning environment
- Quality of the conversations with a child
- Sensitivity to the child’s language level
- Baby cues
- Importance of gesture
- Contingent responses of the adult to the child, serve and return
- Mind-mindedness
- Infant directed speech, parentese
- The importance of play and shared attention
- Managing distractions
- Opportunities for interaction with other children - promotion of the 2 year offer

Adapted from Gross,J (2018); EIF (2018)

Shared from the PHE Speech, Language and Communication Training for Health Visitors

Slide 11



Factors related to difficulties in speech, language and communication

Heritable/ biological factors

Learning disabilities

Developmental language delay

Preterm birth

Sensori-neural losses

Being a boy

Environmental factors

Quality of parent child interaction

Access to enriching Early years provision

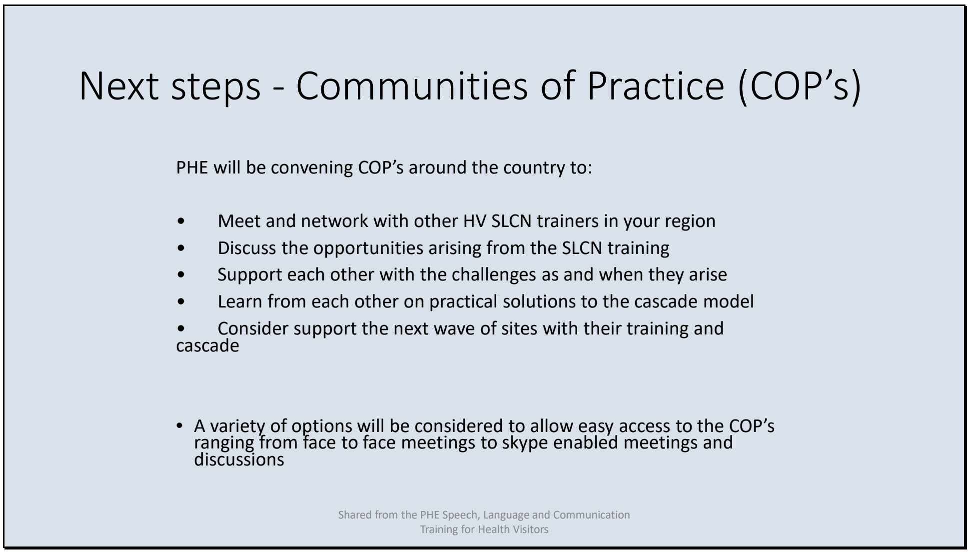
Socio-economic status

Access to resources: books, toys educational experiences

“Word gap” -exposure to fewer quality conversations

The right environmental support can make a real difference to how a child learns language

Slide 12



Next steps - Communities of Practice (COP’s)

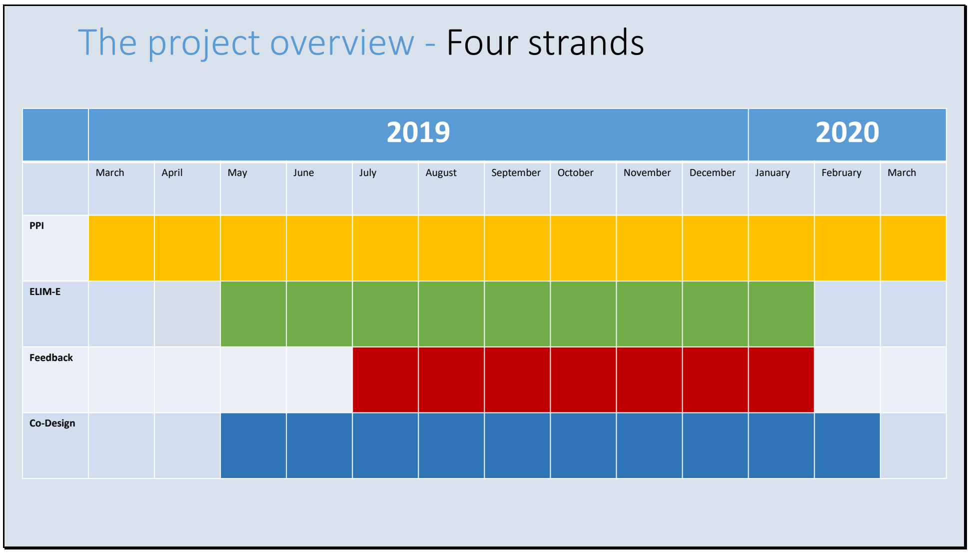
PHE will be convening COP’s around the country to:

- Meet and network with other HV SLCN trainers in your region
- Discuss the opportunities arising from the SLCN training
- Support each other with the challenges as and when they arise
- Learn from each other on practical solutions to the cascade model
- Consider support the next wave of sites with their training and cascade

- A variety of options will be considered to allow easy access to the COP’s ranging from face to face meetings to skype enabled meetings and discussions

Shared from the PHE Speech, Language and Communication
Training for Health Visitors

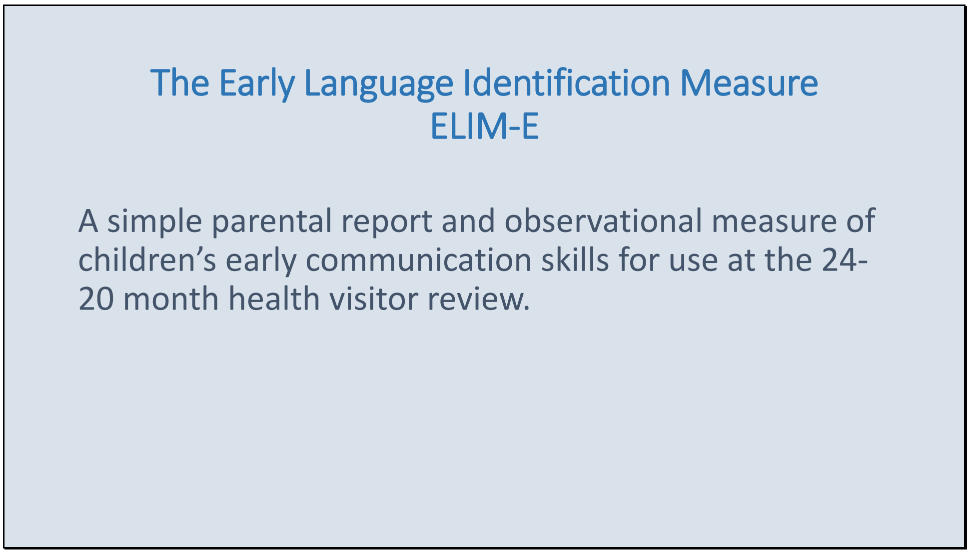
Slide 13



The project overview - Four strands

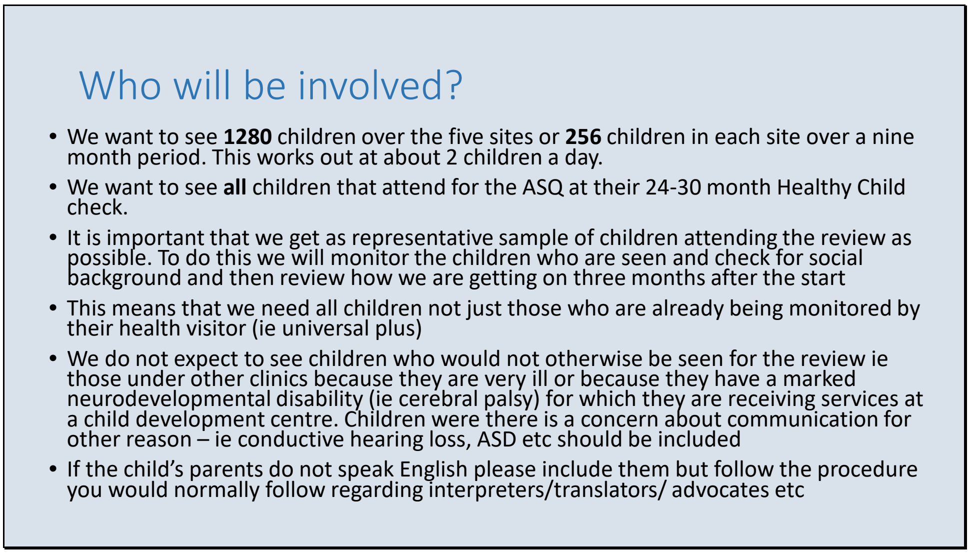
	2019										2020		
	March	April	May	June	July	August	September	October	November	December	January	February	March
PPI	🟨	🟨	🟨	🟨	🟨	🟨	🟨	🟨	🟨	🟨	🟨	🟨	🟨
ELIM-E			🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩		
Feedback					🟥	🟥	🟥	🟥	🟥	🟥	🟥		
Co-Design			🟦	🟦	🟦	🟦	🟦	🟦	🟦	🟦	🟦	🟦	

Slide 14



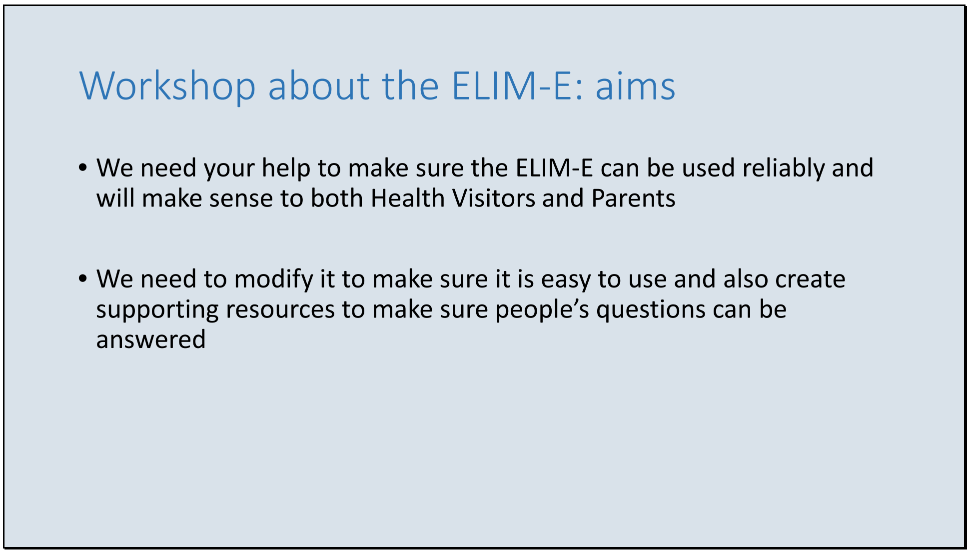
The Early Language Identification Measure ELIM-E

A simple parental report and observational measure of children’s early communication skills for use at the 24-20 month health visitor review.



Who will be involved?

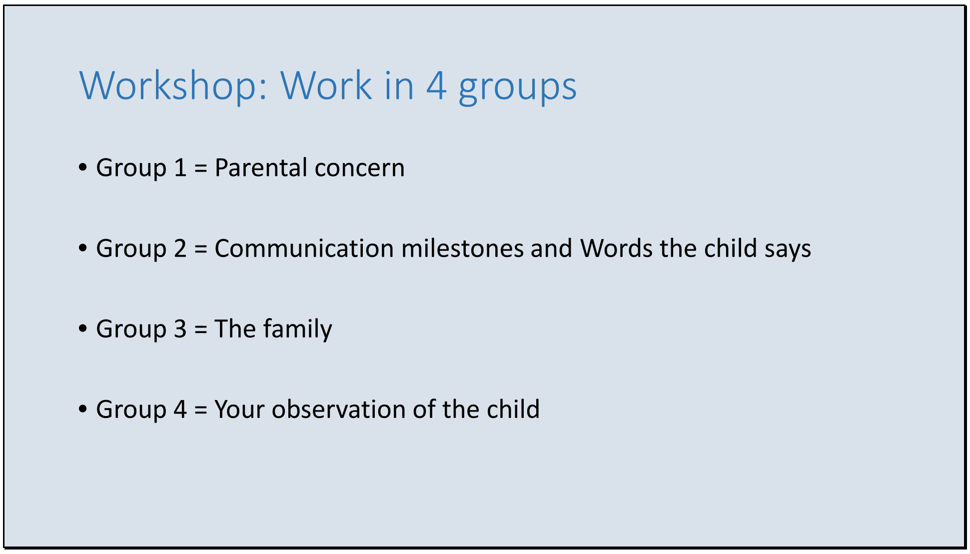
- We want to see **1280** children over the five sites or **256** children in each site over a nine month period. This works out at about 2 children a day.
- We want to see **all** children that attend for the ASQ at their 24-30 month Healthy Child check.
- It is important that we get as representative sample of children attending the review as possible. To do this we will monitor the children who are seen and check for social background and then review how we are getting on three months after the start
- This means that we need all children not just those who are already being monitored by their health visitor (ie universal plus)
- We do not expect to see children who would not otherwise be seen for the review ie those under other clinics because they are very ill or because they have a marked neurodevelopmental disability (ie cerebral palsy) for which they are receiving services at a child development centre. Children were there is a concern about communication for other reason – ie conductive hearing loss, ASD etc should be included
- If the child's parents do not speak English please include them but follow the procedure you would normally follow regarding interpreters/translators/ advocates etc



Workshop about the ELIM-E: aims

- We need your help to make sure the ELIM-E can be used reliably and will make sense to both Health Visitors and Parents
- We need to modify it to make sure it is easy to use and also create supporting resources to make sure people's questions can be answered

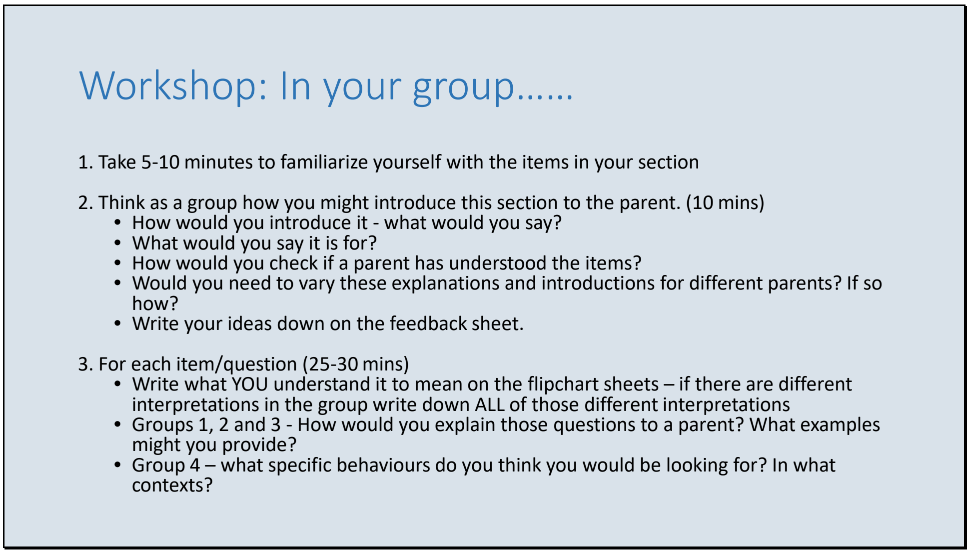
Slide 17



Workshop: Work in 4 groups

- Group 1 = Parental concern
- Group 2 = Communication milestones and Words the child says
- Group 3 = The family
- Group 4 = Your observation of the child

Slide 18



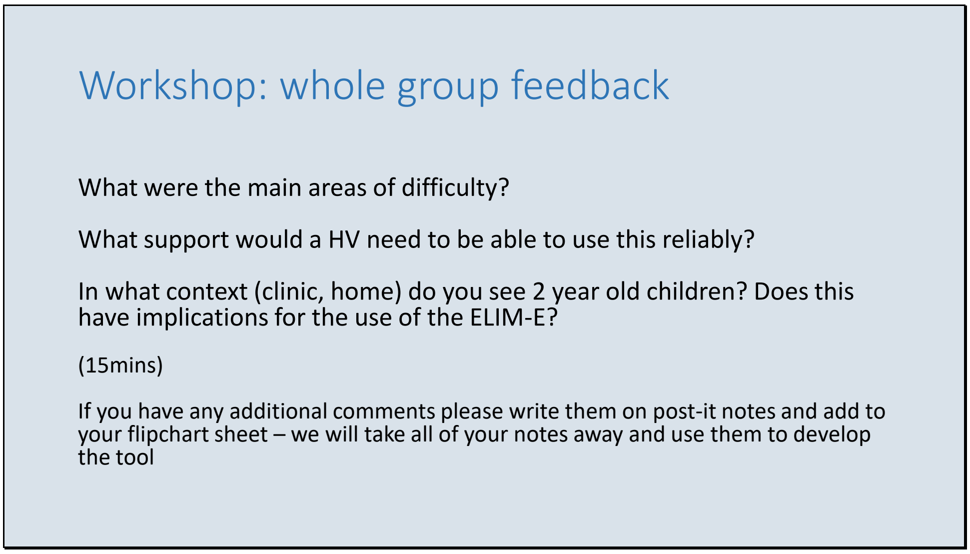
Workshop: In your group……

1. Take 5-10 minutes to familiarize yourself with the items in your section

2. Think as a group how you might introduce this section to the parent. (10 mins)
   - How would you introduce it - what would you say?
   - What would you say it is for?
   - How would you check if a parent has understood the items?
   - Would you need to vary these explanations and introductions for different parents? If so how?
   - Write your ideas down on the feedback sheet.

3. For each item/question (25-30 mins)
   - Write what YOU understand it to mean on the flipchart sheets – if there are different interpretations in the group write down ALL of those different interpretations
   - Groups 1, 2 and 3 - How would you explain those questions to a parent? What examples might you provide?
   - Group 4 – what specific behaviours do you think you would be looking for? In what contexts?

Slide 19



Workshop: whole group feedback

What were the main areas of difficulty?

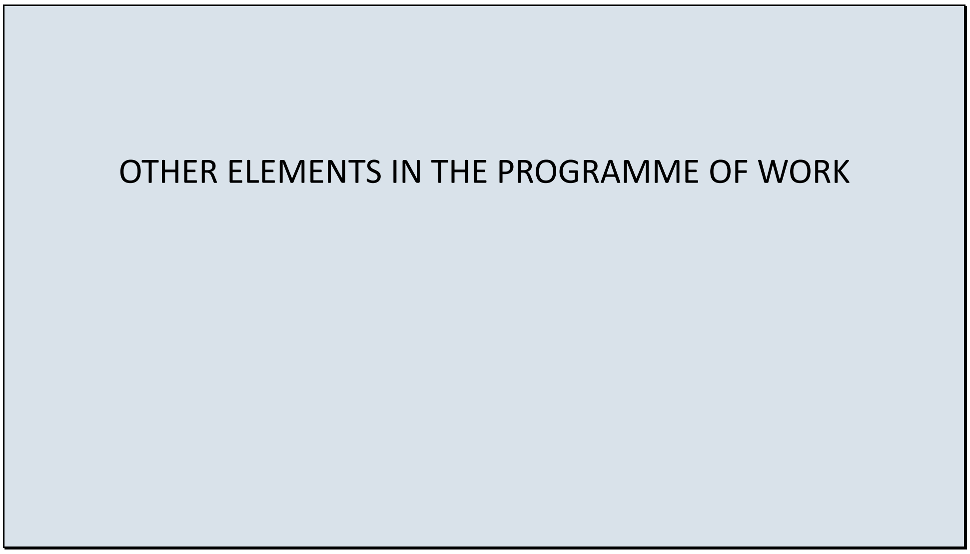
What support would a HV need to be able to use this reliably?

In what context (clinic, home) do you see 2 year old children? Does this have implications for the use of the ELIM-E?

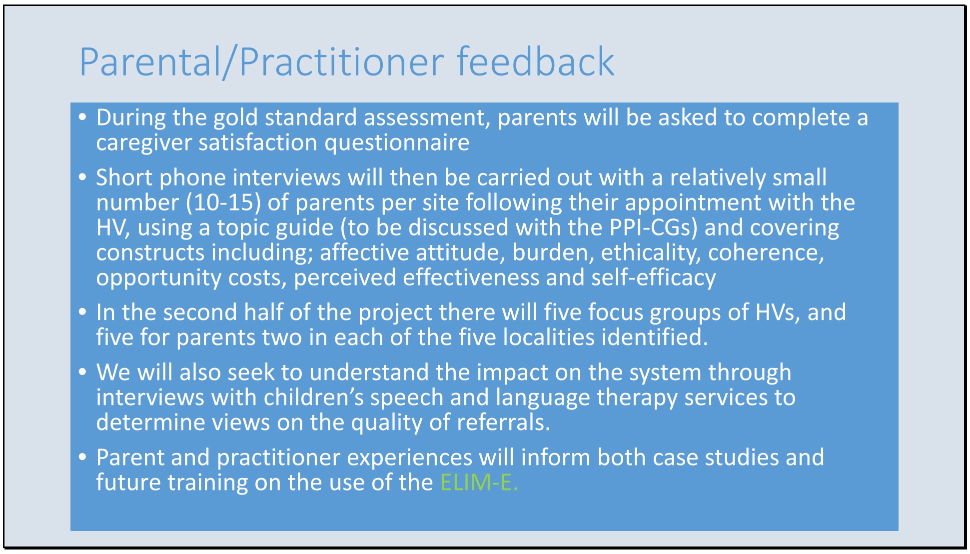
(15mins)

If you have any additional comments please write them on post-it notes and add to your flipchart sheet – we will take all of your notes away and use them to develop the tool

Slide 20

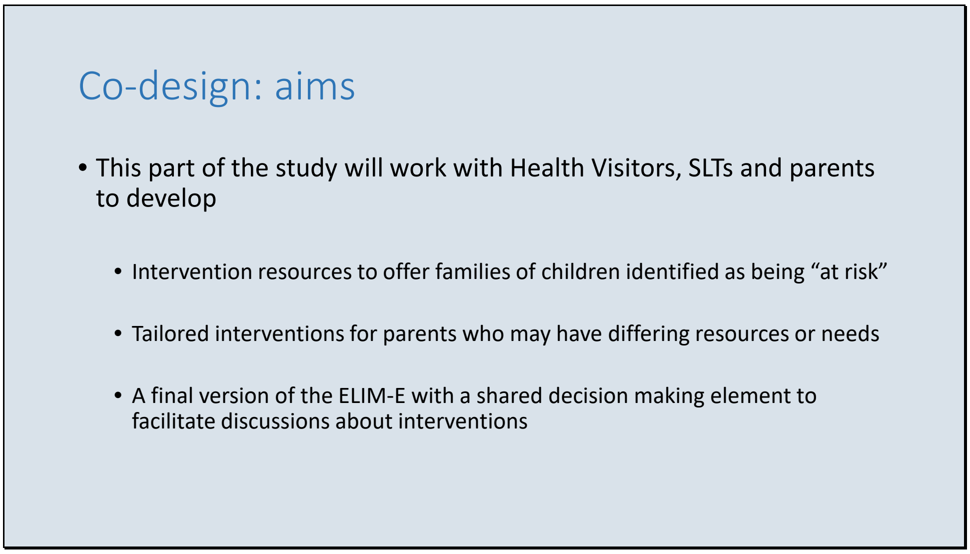


OTHER ELEMENTS IN THE PROGRAMME OF WORK



Parental/Practitioner feedback

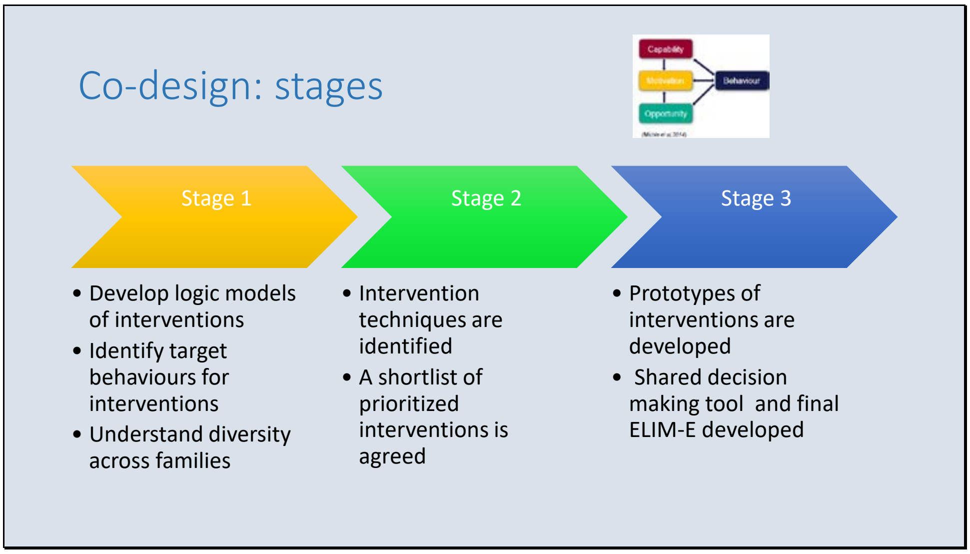
- During the gold standard assessment, parents will be asked to complete a caregiver satisfaction questionnaire
- Short phone interviews will then be carried out with a relatively small number (10-15) of parents per site following their appointment with the HV, using a topic guide (to be discussed with the PPI-CGs) and covering constructs including; affective attitude, burden, ethicality, coherence, opportunity costs, perceived effectiveness and self-efficacy
- In the second half of the project there will five focus groups of HVs, and five for parents two in each of the five localities identified.
- We will also seek to understand the impact on the system through interviews with children’s speech and language therapy services to determine views on the quality of referrals.
- Parent and practitioner experiences will inform both case studies and future training on the use of the ELIM-E.



Co-design: aims

- This part of the study will work with Health Visitors, SLTs and parents to develop
  - Intervention resources to offer families of children identified as being “at risk”
  - Tailored interventions for parents who may have differing resources or needs
  - A final version of the ELIM-E with a shared decision making element to facilitate discussions about interventions

Slide 23



Co-design: stages

Stage 1

- Develop logic models of interventions
- Identify target behaviours for interventions
- Understand diversity across families

Stage 2

- Intervention techniques are identified
- A shortlist of prioritized interventions is agreed

Stage 3

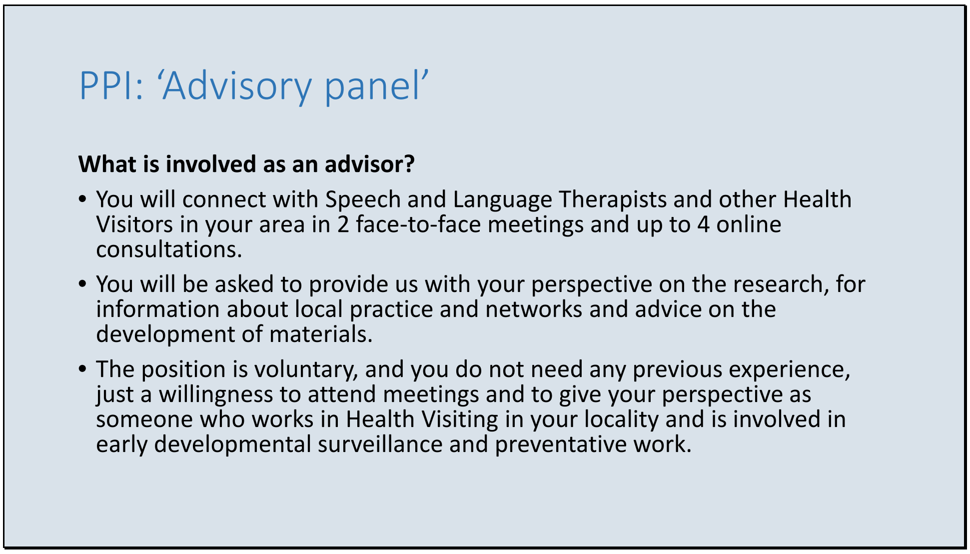
- Prototypes of interventions are developed
- Shared decision making tool and final ELIM-E developed

Slide 24

PPI: ‘Advisory panel’

- Across the whole study we will be consulting practitioners and parents to advise us on the research methods, processes and findings
- The first element you have helped us with today – the development of the ELIM-E
- We also be asking for a small group of volunteers to act as advisors across the study
- We will also be asking for one volunteer in each locality to help us coordinate PPI work

Slide 25

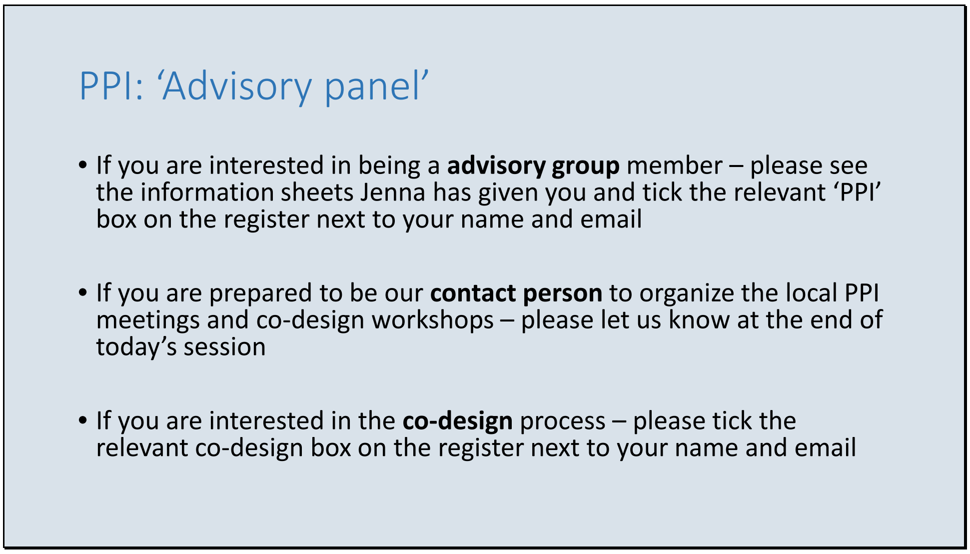


PPI: ‘Advisory panel’

What is involved as an advisor?

- You will connect with Speech and Language Therapists and other Health Visitors in your area in 2 face-to-face meetings and up to 4 online consultations.
- You will be asked to provide us with your perspective on the research, for information about local practice and networks and advice on the development of materials.
- The position is voluntary, and you do not need any previous experience, just a willingness to attend meetings and to give your perspective as someone who works in Health Visiting in your locality and is involved in early developmental surveillance and preventative work.

Slide 26



PPI: ‘Advisory panel’

- If you are interested in being a **advisory group** member – please see the information sheets Jenna has given you and tick the relevant ‘PPI’ box on the register next to your name and email
- If you are prepared to be our **contact person** to organize the local PPI meetings and co-design workshops – please let us know at the end of today’s session
- If you are interested in the **co-design** process – please tick the relevant co-design box on the register next to your name and email

Slide 27

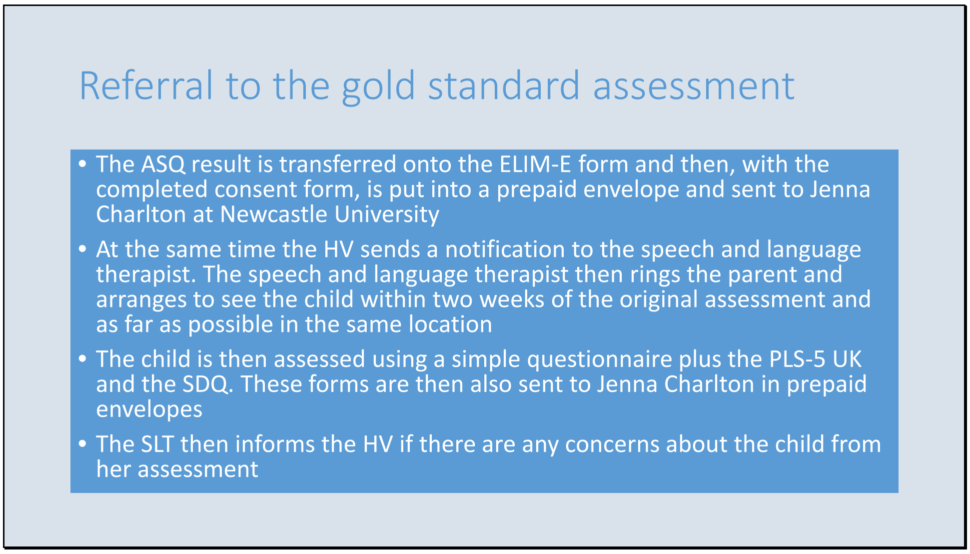
PROCEDURES

Slide 28

The HV appointment

- The appointment letter asking the parent to attend the clinic needs to include the information sheet and the consent form
- The information sheet and consent form will be supplied by the Newcastle Team
- Parents bring both to the clinic and the health visitor answers any questions and makes sure that the consent form is signed and attached to the document which goes to the speech and language therapist
- The child then attends the clinic with their parent. At this appoint two things happen
  - the normal procedure is followed with the ASQ
  - the ELIM-E is administered
- The ASQ result is transferred onto the ELIM-E form and then, with the completed consent form, is put into a sealed envelope and given to the speech and language therapist with the parents contact details

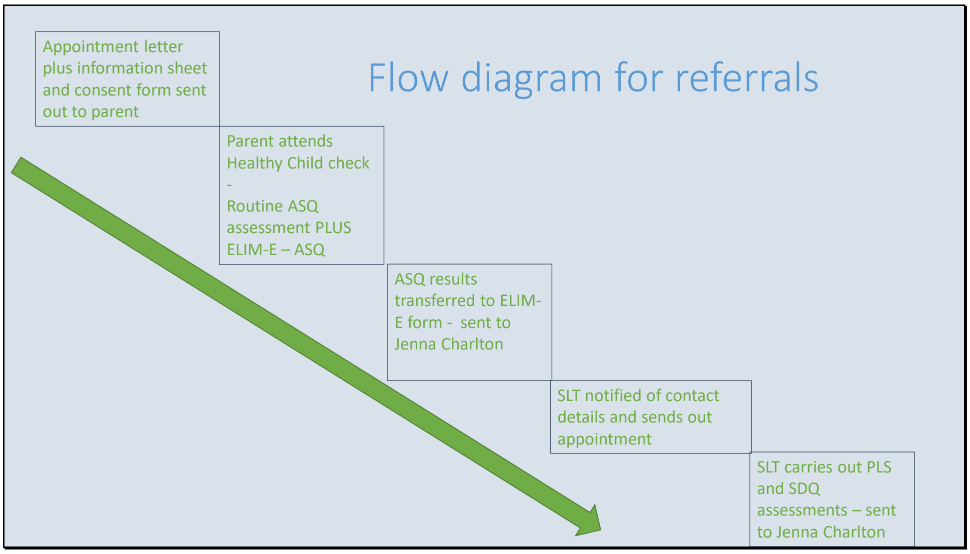
Slide 29



Referral to the gold standard assessment

- The ASQ result is transferred onto the ELIM-E form and then, with the completed consent form, is put into a prepaid envelope and sent to Jenna Charlton at Newcastle University
- At the same time the HV sends a notification to the speech and language therapist. The speech and language therapist then rings the parent and arranges to see the child within two weeks of the original assessment and as far as possible in the same location
- The child is then assessed using a simple questionnaire plus the PLS-5 UK and the SDQ. These forms are then also sent to Jenna Charlton in prepaid envelopes
- The SLT then informs the HV if there are any concerns about the child from her assessment

Slide 30



Flow diagram for referrals

Appointment letter plus information sheet and consent form sent out to parent

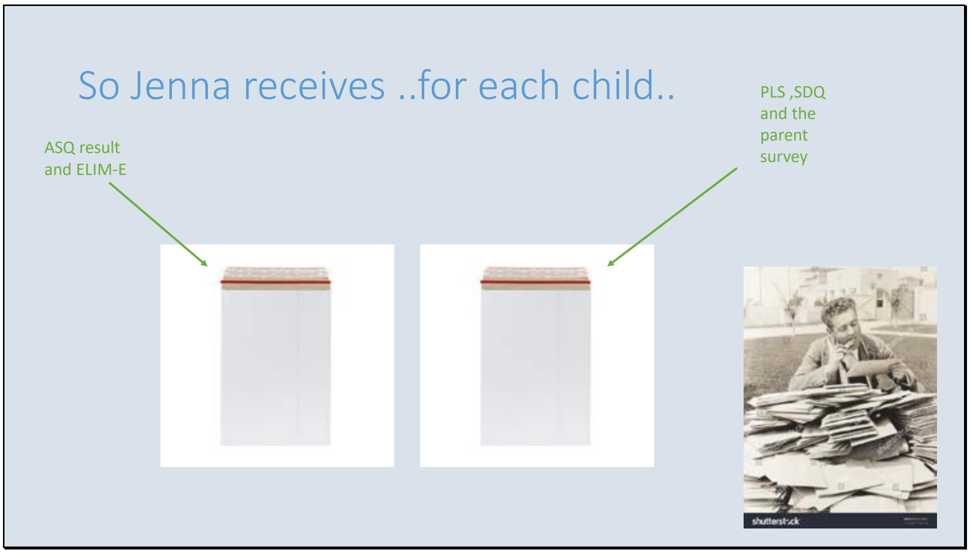
Parent attends Healthy Child check - Routine ASQ assessment PLUS ELIM-E – ASQ

ASQ results transferred to ELIM-E form - sent to Jenna Charlton

SLT notified of contact details and sends out appointment

SLT carries out PLS and SDQ assessments – sent to Jenna Charlton

Slide 31

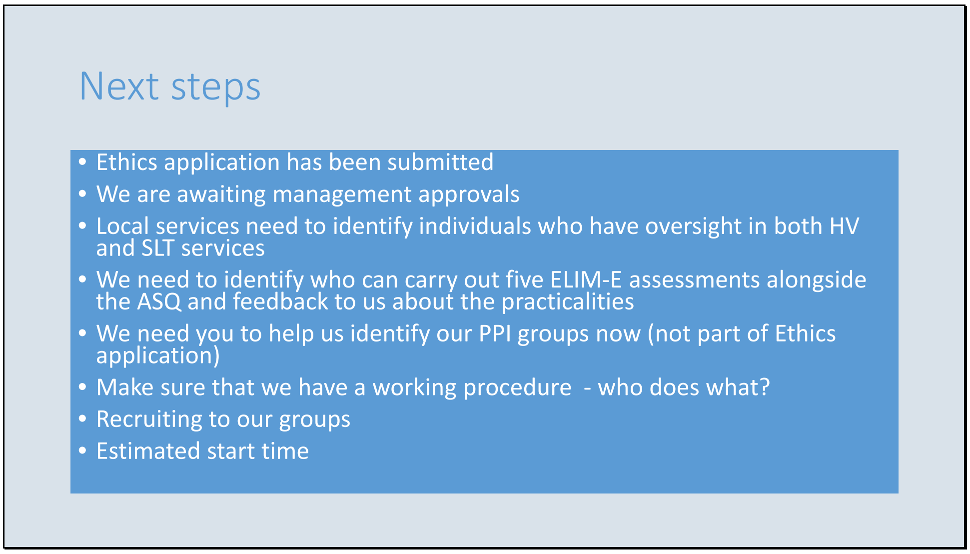


So Jenna receives ..for each child..

ASQ result and ELIM-E

PLS ,SDQ and the parent survey

Slide 32



Next steps

- Ethics application has been submitted
- We are awaiting management approvals
- Local services need to identify individuals who have oversight in both HV and SLT services
- We need to identify who can carry out five ELIM-E assessments alongside the ASQ and feedback to us about the practicalities
- We need you to help us identify our PPI groups now (not part of Ethics application)
- Make sure that we have a working procedure - who does what?
- Recruiting to our groups
- Estimated start time

Slide 33

Any questions

Slide 34

Project Website: www.research.ncl.ac.uk/SLCN

THANK YOU

..

Any further questions etc:
james.law@newcastle.ac.uk
jenna.charlton@newcastle.ac.uk
vicky.gilroy@ihv.org.uk

..and we look forward to working with you.

2. ELIM-E (extended)

Public Health England

Department for Education

EARLY LANGUAGE IDENTIFICATION MEASURE – EXTENDED [ELIM-E]

To be used with parents of children between 24 and 30 months by designated Health Visitor teams between May 2019 and January 2020

Developed by:

Newcastle University

The EARLY LANGUAGE IDENTIFICATION MEASURE – EXTENDED [ELIM-E] has been developed as a part of the project IDENTIFYING AND SUPPORTING CHILDREN'S EARLY LANGUAGE NEEDS funded by PHE and the DfE.

The project will run between May 2019 and January 2020 in five sites in England – namely Derbyshire, Middlesbrough, Newham, Wakefield and Wiltshire.

The aim of the project is to develop and test a measure for use alongside the Ages and Stages Questionnaire in the routine developmental review carried out for children aged between 24 and 30 months.

Parents who provide their consent to take part in the project will complete the ELIM-E with the Health Visitor (HV) during their 2-year developmental review appointment. We will be including **all** children coming through that consent to take part; whether they have been identified as having speech and language needs or not. All the children for whom the ELIM-E is completed will then receive an additional assessment of their language carried out by a Speech and Language Therapist (SLT) working for the project. The aim will be for the SLT to see the child in the same location as they were seen for their developmental review and within two weeks of that review.

The ELIM-E includes a page of background information and the measure itself which is designed in five sections:

SECTION 1: Can you tell me about your child's communication?
SECTION 2: Which words does your child say?
SECTION 3: Can you tell me about you and your family?
SECTION 4: Assessors observation of the child
SECTION 5: Do you have any concerns about your child's development?

Please refer to the ELIM-E Handbook for guidance to complete each section.

Study Identifier

PLEASE START BY ALLOCATING THE CHILD A STUDY IDENTIFIER

- This is a seven item code made up as follows
- Up to two letters for the location – De = Derbyshire, Mi = Middlesbrough, Ne=Newham, Wa=Wakefield, Wi=Wiltshire
- Two letters for your initials
- A number representing the sequence of the child that you have seen – for the second put 002, the thirtieth 030 the hundredth 100 etc
- So, if you are from Middlesbrough, your initials are SD, and this is the fifteenth child you have seen it would be MiSD015

Location		**Your initials**		**The number of the child that you have seen**		

Now transfer the identifier to the Background Information section and the final page of the ELIM-E which goes to the speech and language therapist

ENSURE THE IDENTIFIER IS ON ALL DOCUMENTS RELATED TO THE CHILD BEFORE RETURNING TO THE RESEARCH TEAM

EARLY LANGUAGE IDENTIFICATION MEASURE – EXTENDED [ELIM-E]

ELIM-E ASSESSOR CHECKLIST

Please ensure the following documents are returned to the Research Team at Newcastle University using the stamped addressed envelope provided:

Please tick that you have:

☐ Completed ELIM-E Assessment with the identifier code on the front (minus back page to be sent to the research speech and language therapist assessing the children for this project)

☐ Obtained the signed parent/carer consent form

☐ Written the child identifier code on all documents

Background Information

(to be filled out by the Health Visitor after obtaining consent)

The child’s name and full address needs to be put on the final page of the ELIM-E and passed on to the Speech and Language Therapist seeing the child			
Child’s study identifier:	_ _ / _ _ / _ _ _	Postcode	
Age of child (in months) at time of assessment		Date of ELIM-E assessment	
Gender (please highlight or circle)	Boy --- Girl---		
How many children in the family?		Where does he/she come in the order of children?	
Birthweight (kg)		Length of pregnancy (weeks)	
Location of assessment (please highlight or circle)		Home --- Clinic --- Other (please specify)----	
Has the consent form been completed (please highlight or circle)		YES	NO
What is the role of the person completing the ELIM-E? (please highlight or circle)		Health visitor --- Health visitor team member (please state role)	
What recent SLC training has the assessor (completing this form) received? (please highlight or circle)		National PHE training --- Newcastle University training --- Local cascaded training –- None ---	
What is the title of the person providing the information (please highlight or circle)		Mum --- Dad --- Carer --- Other (please specify) ---	

EARLY LANGUAGE IDENTIFICATION MEASURE – EXTENDED [ELIM-E]

Please add the ASQ results in here

ASQ RESULTS	ASQ form used			Domain Score
	ASQ 24 months	ASQ 27 months	ASQ 30 months	
ASQ domain-Communication				
ASQ domain - Gross motor				
ASQ domain - Fine motor				
ASQ domain - Problem solving				
ASQ domain – Personal/ Social				

Then please ask the parent/carer about the languages that the child experiences in the home

LANGUAGE BACKGROUND				
Does your child speak or hear more than one language at home? (please highlight or circle)	Yes		No	
	Main Language	Language 2	Language 3	Language 4
Which languages does your child **hear** at home? (please name the languages)				
Which languages does your child **use** at home?				

EARLY LANGUAGE IDENTIFICATION MEASURE – EXTENDED [ELIM-E]

SECTION 1: Can you tell me about your child's communication?

Has your child demonstrated the following things?

Number	Over the last few months	Yes	Not sure	No
1	By the time they were eighteen months was your child walking independently?			
2	By the time they were 24 months was your child able to put two words together (mummy sock, my drink, eat dinner)?			
	Now	**Yes**	**Sometimes**	**No**
3	Does your child understand what people say to them?			
4	Is your child able to find two objects when you ask them (e.g. Show me the teddy and the ball)?			
5	Does your child ask simple questions ("Where ball?" "What Daddy doing?" "What colour?")?			
6	Can you understand what he/she is saying?			
7	Can other people understand what he/she is saying?			
8	Is your child able to talk about something they are interested in?			

SECTION 2: Which words does your child say?

Please take a look at the words below and tick which words you have heard your child say.

1. Mummy/mum		11. Aeroplane		21. Towel		31. Fit		41. Wet	
2. Bye/bye bye		12. Car		22. Bed		32. Like		42. After	
3. No		13. Book		23. Settee/sofa		33. Rip/tear		43. Day	
4. Ball		14. Milk		24. School		34. Shake		44. This	
5. Juice		15. Hat		25. Friend		35. Think		45. Our	
6. Owch/ow		16. Shoe		26. Person		36. Gentle		46. Where	
7. Cat		17. Leg		27. Hello/hi		37. Fast		47. All	
8. Thank you		18. Pillow		28. Shopping		38. Happy		48. Much	
9. Cold		19. Rubbish		29. Carry		39. Last		49. Need to	
10. Hug/cuddle		20. Plate		30. Finish		40. Tiny		50. If	
Column Total		**Column Total**		**Column Total**		**Column Total**		**Column Total**	

9: Total number of words:

SECTION 3: Can you tell me about you and your family?

Number	Parent-child interactions					
10	Some people share books with their child although the amount of time spent doing this can vary a lot. In an average week, how often do you share books with your child? (please highlight or circle)	Everyday	3 or 4 times	1 or 2 times	Too busy	
11	Which activities outside the home have you enjoyed with your child this week? For example, going to the park, to the shops (please state how many)					
12	How often do you talk to your child about the toy they are playing with? (please highlight or circle)	All the time	Sometimes	Very rarely		
	Family history					
13	Does anyone in your family have a learning difficulty or a speech and language difficulty? (please highlight or circle)	Yes	No	Don't know		
14	If so, which of the child's relatives has the difficulty (please highlight or circle)	Brother/sister	Mum/Dad	Aunt/Uncle	Grandparent	Other (please specify)
15	If so, please indicate what the difficulty was called (please highlight or circle)	Speech and/or language difficulties	Autism spectrum disorder (ASD)	Attention deficit hyperactivity disorder (ADHD)?	Reading and/or writing	Other (please specify)
16	Is there any history of mental health difficulties in the family home (for example anxiety or depression)? (please highlight or circle)	Yes	No	Don't know		
17	How old were you (or the primary carer) when you left full time education?					
18	What was your highest level of qualification achieved? (please highlight or circle)	GCSE	Practical qual. (e.g. NVQ)	A-level	Degree	
	The child					
19	Does your child suffer from any long-term health concerns requiring regular visits to the nurse or doctor? (please highlight or circle)	Yes	No	Don't know		
20	Has your child had recurring ear infections? (please highlight or circle)	Yes	No	Don't know		

SECTION 4: Assessors observation of the child

Please tick which of the following behaviours you (the health professional) observed or heard when speaking with his/her carer during the 2- 2 ½ year review.

<table>
<tr><td>Number</td><td colspan="2"></td><td colspan="2">Yes</td><td>No</td></tr>
<tr><td>21</td><td colspan="2">Observed communicative intent (child means to communicate something verbally to parent/carer)</td><td colspan="2"></td><td></td></tr>
<tr><td>22</td><td colspan="2">Speech mostly intelligible to parents/carers</td><td colspan="2"></td><td></td></tr>
<tr><td>23</td><td colspan="2">Observed using single words only</td><td colspan="2"></td><td></td></tr>
<tr><td>24</td><td colspan="2">Observed putting words together</td><td colspan="2"></td><td></td></tr>
<tr><td>25</td><td colspan="2">Does the child use gestures instead of spoken language to get their message across?</td><td colspan="2"></td><td></td></tr>
<tr><td>26</td><td colspan="2">Do the parent/carer and child take turns when communicating?</td><td colspan="2"></td><td></td></tr>
<tr><td>27</td><td colspan="2">Does the child understand what is being said to him/her when their parent/carer asks them something which is obvious from the context? (i.e. when showing toys to the child)</td><td colspan="2"></td><td></td></tr>
<tr><td>28</td><td>Attention: (please circle)</td><td>Fleeting
(flits from one thing to another)</td><td>Single channelled
(attention can’t easily be shifted)</td><td colspan="2">Accepts adult direction</td></tr>
</table>

SECTION 5: Do you have any concerns about your child's development?

Number		Yes	Sometimes	No
29	Do you have any worries/concerns about how clearly your child speaks compared to other children of the same age?			
30	Do you have any worries/concerns about how your child uses words or speaks in short sentences compared to other children of the same age?			
31	Do you have any worries/concerns about whether your child understands what you say to him/her compared to other children of the same age?			
32	Physical movement and language development can sometimes be connected. Do you have any worries/concerns about how your child uses their arms and legs compared to other children of the same age?			
33	Are you worried / concerned about your child's behaviour compared to that of other children of the same age?			

Thank you for completing the ELIM-E

✂ ……

INFORMATION SHEET- TO BE SENT TO SPEECH AND LANGUAGE THERAPIST CARRYING OUT THE FOLLOWING ASSESSMENT

Please tear this sheet off and send it to the designated speech and language therapist. This sheet only has basic contact information.

Child's seven item study identifier brought forward from the front page	__ __ / __ __ / __ __ __
Child's first name	
Child's family name	
Child's address	
Postcode	
Parent's phone number	
Date seen by member of the health visitor team	

SLT CHECKLIST

Please ensure the following completed documents are returned to the Research Team at Newcastle University in the stamped addressed envelope provided:

Please tick that you have:

☐ Completed the PLS-5

☐ Completed the SDQ

☐ Completed the parent/carer feedback survey

☐ Written the child identifier code on all documents

ENSURE THE IDENTIFIER CODE IS ON ALL DOCUMENTS RELATED TO THE CHILD BEFORE RETURNING THEM TO THE RESARCH TEAM

3. Guidance manual for the ELIM-E

EARLY LANGUAGE IDENTIFICATION MEASURE – EXTENDED [ELIM-E]

Public Health England

Department for Education

Identifying and Supporting Children's Early Language Needs

Handbook

To support the use of the Early Language Identification Measure – Extended [ELIM-E]

To be used with parents/carers of children between 24 and 30 months

EARLY LANGUAGE IDENTIFICATION MEASURE – EXTENDED [ELIM-E]

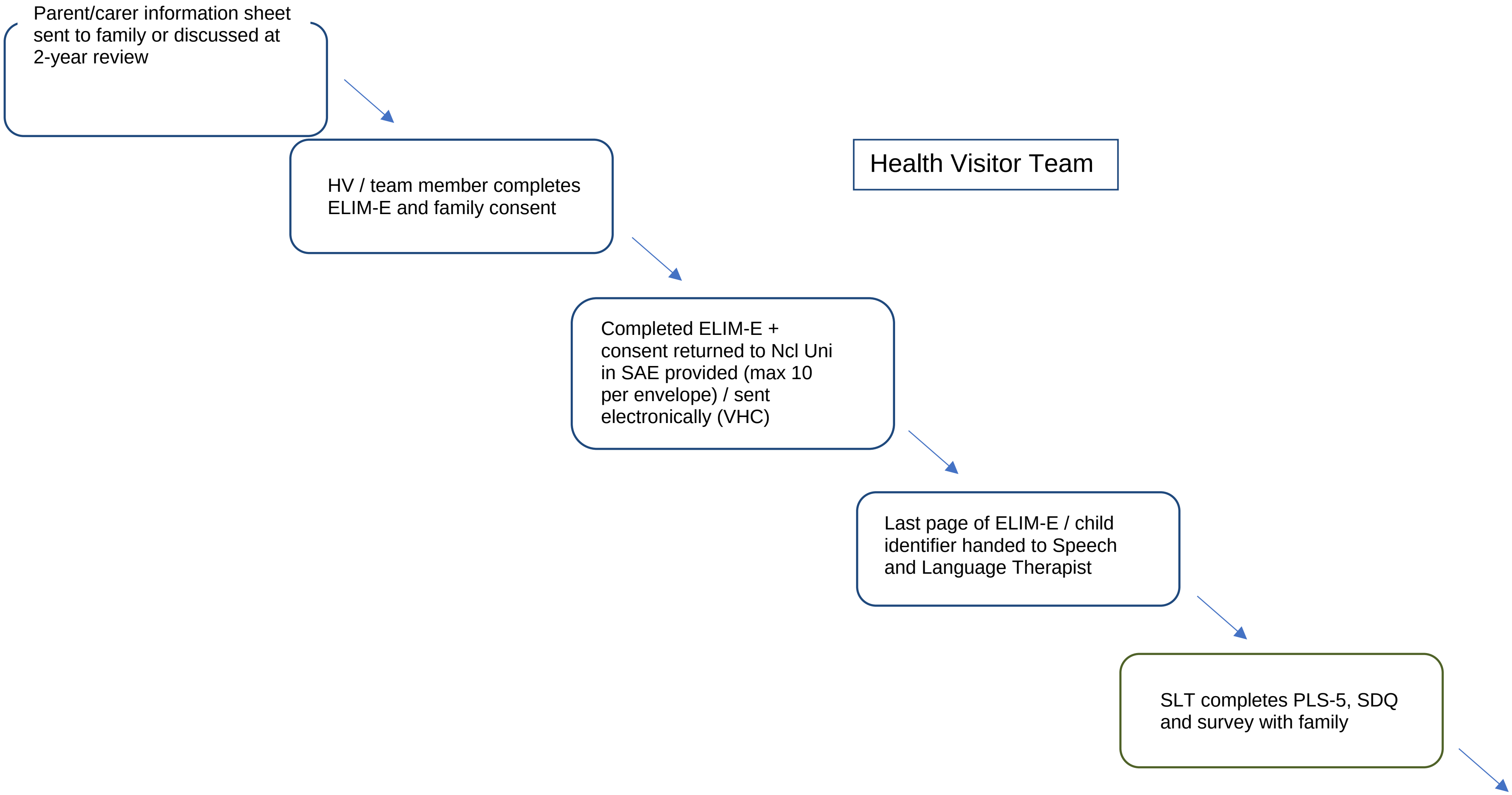
The EARLY LANGUAGE IDENTIFICATION MEASURE – EXTENDED [ELIM-E] has been developed as a part of the project IDENTIFYING AND SUPPORTING CHILDREN'S EARLY LANGUAGE NEEDS funded by Public Health England and the Department for Education.

The project will run between May 2019 and January 2020 in five sites in England – namely Derbyshire, Middlesbrough, Newham, Wakefield and Wiltshire. The aim of the project is to develop and test a measure for use alongside the Ages and Stages Questionnaire in the routine developmental review carried out for children aged between 24 and 30 months (the ELIM-E).

Parents who provide their consent to take part in the project will complete the ELIM-E with the Health Visitor during their 2-year developmental review appointment. We will be including **all** children coming through that consent to take part; whether they have been identified as having speech and language needs or not. All the children for whom the ELIM-E is completed will then receive an additional assessment of their language carried out by a speech and language therapist working for the project. The aim will be for the speech and language therapist to see the child in the same location as they were seen for their developmental review and within two weeks of that review.

Alongside the review there will also be some working with Parent and Practitioner Involvement (PPI) groups in each site and we will carry out some interviews with parents and practitioners about their views on the review.

The Data Collection Process



Parent/carer information sheet sent to family or discussed at 2-year review

HV / team member completes ELIM-E and family consent

Completed ELIM-E + consent returned to Ncl Uni in SAE provided (max 10 per envelope) / sent electronically (VHC)

Last page of ELIM-E / child identifier handed to Speech and Language Therapist

SLT completes PLS-5, SDQ and survey with family

Health Visitor Team

Speech and Language Team

Completed SLT documents returned to Ncl Uni in SAE provided (max 10 per envelope)

In the pages below we provide each page of the ELIM-E measure plus a series of **Guidance Notes**.

The first page of the ELIM-E is where the child is allocated a study identifier code. This is followed by background information which is completed by the assessor prior to the appointment.

The measure itself is designed in five sections. Sections 1, 2, 3 and 5 are introduced by a question to elicit a conversation between the assessor and parent/carer. Section 4 is for you the assessor to complete yourself. The sections are as follows:

SECTION 1: Can you tell me about your child's communication?
SECTION 2: Which words does your child say?
SECTION 3: Can you tell me about you and your family?
SECTION 4: Assessors observation of the child
SECTION 5: Do you have any concerns about your child's development?

Each section has a series of questions or observations that need to be completed at the developmental review.

The final page of the ELIM-E is information for the Speech and Language Therapist. This must be completed by the ELIM-E assessor, torn off and handed to the Speech and Language Therapist involved in the project.

From the questions that follow, we are interested in finding out about the child's speech, language and communication needs. By **language development** we mean what the child is able to **say** (expressive language), what they **understand** (comprehension) and how clearly they **speak** (speech). The measure links directly into the PHE/iHV training that you have received about early speech and language and communication.

Study Identifier

GUIDANCE NOTES

The first page of the ELIM-E is where you (the assessor) will allocate the child a study identifier code.

The page tells you how to create this code; it includes the first 2 letters of your location, your initials and the sequence number of the child **you** have seen (please keep a record of the number of children you have seen so you can complete this accurately). If two assessors at a location have the same, initials please include the second letter of the surname also to differentiate between the two.

It is vitally important that this code is completed and **transferred onto the final page** of the ELIM-E which is torn off and handed to the Speech and Language Therapist. **This code will enable us to match the child's ELIM-E data with their SLT data**. We advise that the child identifier code is placed on **all** documents relating to each child.

On the back of the cover page is a checklist of documents you are to return to the Research Team at Newcastle University in the stamped addressed envelopes provided. Please ensure you send the ELIM-E (minus the back page) AND the signed parent/carer consent form both with the child identifier code on.

Study Identifier

PLEASE START BY ALLOCATING THE CHILD A STUDY IDENTIFIER

- This is a seven-number made up as follows
- Up to two letters for the location – De = Derbyshire, Mi = Middlesbrough, Ne=Newham, Wa=Wakefield, Wi=Wiltshire
- Two letters for your initials
- A number representing the sequence of the child that you have seen – for the second put 002, the thirtieth 030 the hundredth 100 etc
- So, if you are from Middlesbrough, your initials are SD, and this is the fifteenth child you have seen it would be MiSD015

Location		Your initials		The number of the child that you have seen		

Now transfer the identifier to the Background Information section and the final page which goes to the Speech and Language Therapist

ENSURE THE IDENTIFIER IS ON ALL DOCUMENTS RELATED TO THE CHILD BEFORE RETURNING TO THE RESEARCH TEAM

Background Information

GUIDANCE NOTES

Once you have obtained consent from the parent/carer to take part in the project you may complete the background information section. You will have information about the child and their family and the child's basic medical history in your notes. If anything is not in your notes just ask the parent/carer and fill in the missing information.

We are interested in the parent/carer and some details about the child. We would also like to know about you, where you work and the details about where and when you are carrying out the assessment.

At this stage in the process you will need to make sure that we know that you have received the consent form that the parents/carers were sent by circling yes against the question about the consent form.

When the parent arrives and gives you their consent form please make sure that they know what is going to happen – refer to the ASQ and the ELIM-E and inform them that following this appointment they will meet with a Speech Language Therapist who will carry out the next part of the project. Remember to tell the parent that, because of the project and wanting to make sure that we know how the child's language specifically is developing, he/she will be assessed by a speech and language therapists in the next two weeks. Please stress that this is NOT because we think that the child necessarily has a difficulty, but merely because we want to check how well the ELIM-E matches up to a more formal assessment of the child's language.

Introducing the ELIM-E - Once the first page of the background information section is completed you can start the ELIM-E with the parent/carer. Introduce the ELIM-E with a positive statement, for example by saying, 'this is a short questionnaire about your child's speech, language and communication development, I will be asking you a number of brief questions and completing the form while we talk, its fine for [child's name] to play while we do this'. Inform the parent/carer that if they do not wish to answer any of the questions that is ok. Do **NOT** say that the ELIM-E identifies/assesses/screens language difficulties/disorders or delay.

On the second page of the background information section we need two things.
First, we need the results from your ASQ assessment. We would like you to fill this in with information about both the version of the ASQ that you used and the scores for the five domains.
Second, there is a little information about the languages that the child hears and uses at home. We would first like to know if the child speaks or hears more than one language at home. We would then like the names of the languages identified and how many languages

the child uses and hears. At this point we assume that you do not have detail like this in your notes. If you do have this information already, please check your information is correct with the parent/carer.

Background Information

(to be filled out by the Health Visitor after obtaining consent)

The child’s name and full address needs to be put on the final page of the ELIM-E and passed on to the Speech and Language Therapist seeing the child			
Child’s study identifier:	_ _ / _ _ / _ _ _	Postcode	
Age of child (in months) at time of assessment		Date of ELIM-E assessment	
Gender (please highlight or circle)	Boy --- Girl---		
How many children in the family?		Where does he/she come in the order of children?	
Birthweight (kg)		Length of pregnancy (weeks)	
Location of assessment (please highlight or circle)		Home --- Clinic --- Other (please specify)----	
Has the consent form been completed (please highlight or circle)		YES	NO
What is the role of the person completing the ELIM-E? (please highlight or circle)		Health visitor --- Health visitor team member (please state role)	
What recent SLC training has the assessor (completing this form) received? (please highlight or circle)		National PHE training --- Newcastle University training --- Local cascaded training –- None ---	
What is the title of the person providing the information (please highlight or circle)		Mum --- Dad --- Carer --- Other (please specify) ---	

Please add the ASQ results in here

ASQ RESULTS	ASQ form used			Domain Score
	ASQ 24 months	ASQ 27 months	ASQ 30 months	
ASQ domain- Communication				
ASQ domain - Gross motor				
ASQ domain - Fine motor				
ASQ domain - Problem solving				
ASQ domain – Personal/ Social				

Then please ask the parent/carer about the languages that the child experiences in the home

LANGUAGE BACKGROUND				
Does your child speak or hear more than one language at home? (please highlight or circle)	Yes		No	
	Main Language	Language 2	Language 3	Language 4
Which languages does your child **hear** at home? (please name the languages)				
Which languages does your child **use** at home?				

SECTION 1: Can you tell me about your child's communication?

GUIDANCE NOTES

Q.1 and 2: Over the last few months

Here we ask about some recent milestones that we think parents/carers will find it straightforward to recall.
If they have difficulty casting their mind back to the two earlier milestones help them by referring to what else might have been happening at the time – for example public holidays such as Christmas or Eid, summer holidays, other children in the family starting school.

Q.3-8: Now

We then ask you to ask the parent/carer about what they are doing now. This does not need to be demonstrated to you just reported as having happened in the past week or so.

Q.4: When asking about finding two objects the key here is that they are asked to find the objects without the parent/carer pointing them out. So, it is what they understand just from what they hear not from what they have been shown.

SECTION 1: Can you tell me about your child's communication?

Has your child demonstrated the following things?

Number	Over the last few months	Yes	Not sure	No
1	By the time they were eighteen months was your child walking independently?			
2	By the time they were 24 months was your child able to put two words together (mummy sock, my drink, eat dinner)?			
	Now	**Yes**	**Sometimes**	**No**
3	Does your child understand what people say to them?			
4	Is your child able to find two objects when you ask them (e.g. Show me the teddy and the ball)?			
5	Does your child ask simple questions ("Where ball?" "What Daddy doing?" "What colour?")?			
6	Can you understand what he/she is saying?			
7	Can other people understand what he/she is saying?			
8	Is your child able to talk about something they are interested in?			

SECTION 2: Which words does your child say?

GUIDANCE NOTES

Please show the list of words to the parent/carer and ask them to tick which words they have heard their child say. We want to know whether the child uses it in their day-to day conversation not just if the parent asks them to repeat it for them during the interview.

Please inform the parent/carer that if their child says a word differently (e.g. they say 'tar' instead of 'car') the word should still be ticked. If a child speaks more than one language at home, they are to tick the word if they say it in **either** of their languages.

If the child says a completely different word for the same item (i.e. ginger for juice, motor for car, dog for cat) please write it down on the sheet. If possible, please note if this is standard for the local dialect.

Don't forget that we do not expect that children will say **all** these words. It needs to be able to capture the youngest child who has just started speaking and the oldest child at 30 months who could be using all these words. Reassure the parent /carer of this as they may worry or be concerned if they think they should say all the words.

When they have completed the list please add up how many words the child says and put the number in the box. If the parent/carer asks about this result (for example, whether it is 'good' or 'bad'), please respond positively saying the number of words alone that a child says is no indication of any difficulty or problem, and/or that this measure is part of a research project and is not looking for any difficulties.

SECTION 2: Which words does your child say?

Please take a look at the words below and tick which words you have heard your child say.

1. Mummy/mum		11. Aeroplane		21. Towel		31. Fit		41. Wet	
2. Bye/bye bye		12. Car		22. Bed		32. Like		42. After	
3. No		13. Book		23. Settee/sofa		33. Rip/tear		43. Day	
4. Ball		14. Milk		24. School		34. Shake		44. This	
5. Juice		15. Hat		25. Friend		35. Think		45. Our	
6. Owch/ow		16. Shoe		26. Person		36. Gentle		46. Where	
7. Cat		17. Leg		27. Hello/hi		37. Fast		47. All	
8. Thank you		18. Pillow		28. Shopping		38. Happy		48. Much	
9. Cold		19. Rubbish		29. Carry		39. Last		49. Need to	
10. Hug/cuddle		20. Plate		30. Finish		40. Tiny		50. If	
Column Total		**Column Total**		**Column Total**		**Column Total**		**Column Total**	

9: Total number of words:

SECTION 3: Can you tell me about you and your family?

GUIDANCE NOTES

In this section we are looking at some areas that have been identified as potentially being linked to difficulties with early language development. It is important to recognise that these are not predicative in isolation of a problem and therefore we need to not alarm parents and carers. Questions 10-12 are about what the parent/carer does with the child. Questions 13-18 are about the family history and questions 19 and 20 are about the child. All of these questions are supported in the literature.

Q.10: This question asks about book sharing with the child. This includes e-books such as tablets and kindles, and books that include pictures only. The important thing here is to capture how much the parent/carer is sharing and interacting with the child using books.

Q.11: Here we want to know how many times in the last week the parent/carer has done activities with their child outside of the home. We introduce this question by asking the parent/carer to think about which activities they have done, then we would like you to sum these and enter a number representing how many times they did activities outside of home as a response.

Q.12: The key here is to capture whether the parent/carer interacts and engages verbally with their child when they are playing with a toy; the talk must be relative to the play activity and not off topic.

Q.13: We have left in a general question about difficulties in case parents have no idea what sort of disabilities their family member had. If the parent/carer asks what you mean here we would suggest describing some examples rather than using the diagnostic labels in Q.15. For some, it is the labels which will make all the difference. Others may have a general awareness that something was different but not know the details.

Q.16: As the family HV/team member you are likely to be aware of mental health difficulties that are present in the family we are interested in ascertaining here whether the primary care giver has had any significant difficulties requiring support over the past 2 years. This includes those difficulties that are not clinically diagnosed.

Q.18: Please be sure to specify the highest level of educational qualification the parent/carer has attained. This may include vocational (practical) qualifications as well as academic.

Q.20: When discussing recurring ear infections, we are interested in children who have Otitis media (glue ear) for long periods of time, not just the odd cold. We would assume that they would have been to the GP or nurse for support for this level of difficulty. If they have had grommets inserted, please just write this in the gap after the question as well.

SECTION 3: Can you tell me about you and your family?

Number	**Parent-child interactions**					
10	Some people share books with their child although the amount of time spent doing this can vary a lot. In an average week, how often do you share books with your child? (please highlight or circle)	Everyday	3 or 4 times	1 or 2 times	Too busy	
11	Which activities outside the home have you enjoyed with your child this week? For example, going to the park, to the shops (please state how many)					
12	How often do you talk to your child about the toy they are playing with? (please highlight or circle)	All the time	Sometimes	Very rarely		
	Family history					
13	Does anyone in your family have a learning difficulty or a speech and language difficulty? (please highlight or circle)	Yes	No	Don't know		
14	If so, which of the child's relatives has the difficulty (please highlight or circle)	Brother/sister	Mum/Dad	Aunt/Uncle	Grandparent	Other (please specify)
15	If so, please indicate what the difficulty was called (please highlight or circle)	Speech and/or language difficulties	Autism spectrum disorder (ASD)	Attention deficit hyperactivity disorder (ADHD)?	Reading and/or writing	Other (please specify)
16	Is there any history of mental health difficulties in the family home (for example anxiety or depression)? (please highlight or circle)	Yes	No	Don't know		
17	How old were you (or the primary carer) when you left full time education?					
18	What was your highest level of qualification achieved? (please highlight or circle)	GCSE	Practical qual. (e.g. NVQ)	A-level	Degree	
	The child					
19	Does your child suffer from any long-term health concerns requiring regular visits to the nurse or doctor? (please highlight or circle)	Yes	No	Don't know		
20	Has your child had recurring ear infections? (please highlight or circle)	Yes	No	Don't know		

SECTION 4: Assessors observation of the child

GUIDANCE NOTES

This section is for what **you** have seen rather than what the parent/carer reports. We don't say how you should make this observation, but you can use the child's behaviour while the 2 to 2 ½ year review is being carried out. Many health visitors let the child have some toys to play with while they are carrying out the review with the parent/carer and use this to help them observe what the child does.

Q.22: By intelligible we mean the child's ability to convey meaning verbally to the parent/carer. In many cases at this age parents can understand their child when you cannot. What we are looking for here is the situation in which the child's speech is very difficult to understand – indeed so much that even their parent/carer does not understand.

Q.25: This question about gestures is intended to capture behaviours where the child gestures to the parent because they are not able to use the words. So, it is not just the gesture that we are interested in here, but the fact that the child clearly has the meaning but does not have the word.

Q.26: We are very interested in the child's reciprocal turn taking with the parent/carer, whether verbally or non-verbally. Do they have more than one "exchange" – can they keep a turn going? If this does not happen naturally you might give the child a toy and ask them to give it to their parent/carer and ask them to respond. As we have said this is really about observation rather than "testing" the child's performance, but this type of activity can elicit turns.

Q.28: In the last observation we are interested in the child's attention. Do they just buzz around the room (fleeting) or do they focus on one thing/toy for a period of time (single channelled)? At this age many children continue focusing on something even when the parent/carer is talking about something, but some children are able to switch their attention between the toy that they are enjoying playing with and what someone else is saying and then switch back again once they have responded (accepts direction).

SECTION 4: Assessors observation of the child

Please tick which of the following behaviours you (the health professional) observed or heard when speaking with his/her carer during the 2- 2 ½ year review.

<table>
<tr><td>Number</td><td colspan="3"></td><td>Yes</td><td>No</td></tr>
<tr><td>21</td><td colspan="3">Observed communicative intent (child means to communicate something verbally to parent/carer)</td><td></td><td></td></tr>
<tr><td>22</td><td colspan="3">Speech mostly intelligible to parents/carers</td><td></td><td></td></tr>
<tr><td>23</td><td colspan="3">Observed using single words only</td><td></td><td></td></tr>
<tr><td>24</td><td colspan="3">Observed putting words together</td><td></td><td></td></tr>
<tr><td>25</td><td colspan="3">Does the child use gestures instead of spoken language to get their message across?</td><td></td><td></td></tr>
<tr><td>26</td><td colspan="3">Do the parent/carer and child take turns when communicating?</td><td></td><td></td></tr>
<tr><td>27</td><td colspan="3">Does the child understand what is being said to him/her when their parent/carer asks them something which is obvious from the context? (i.e. when showing toys to the child)</td><td></td><td></td></tr>
<tr><td>28</td><td>Attention: (please circle)</td><td>Fleeting
(flits from one thing to another)</td><td colspan="2">Single channelled
(attention can't easily be shifted)</td><td>Accepts adult direction</td></tr>
</table>

SECTION 5: Do you have any concerns about your child's development?

GUIDANCE NOTES

In this section we want to know whether the parent/carer is currently concerned about the child's development at the moment – i.e. at the time when they came for their 2- 2 ½ year review.

We have found that parents/carers may respond differently to the word worries and concerns. What we are trying to get at is whether the parent/carer is worried enough to do something about it. We don't need to know if the parent/carer was a little concerned when the child was a year old but is no longer concerned.

You will see we have included the child's physical co-ordination and their behaviour because both tend to be associated with speech and language development and parents/carers might have noticed these other aspects of the child's development first.

It is possible that parents/carers will have no other experience of children and such comparative judgements may be difficult for them. If so, perhaps offer them examples of what they might expect at this age but please don't lead them into assuming there must be something wrong.

Once you have completed the ELIM-E please fill in the final page 'INFORMATION SHEET' and hand it to the Speech and Language Therapist.

IT IS VITALLY IMPORTANT THAT THE SLT HAS THE CHILD IDENTIFIER CODE AND THAT THIS CODE IS ON ALL DOCUMENTS RELATING TO THE CHILD

SECTION 5: Do you have any concerns about your child's development?

Number		Yes	Sometimes	No
29	Do you have any worries/concerns about how clearly your child speaks compared to other children of the same age?			
30	Do you have any worries/concerns about how your child uses words or speaks in short sentences compared to other children of the same age?			
31	Do you have any worries/concerns about whether your child understands what you say to him/her compared to other children of the same age?			
32	Physical movement and language development can sometimes be connected. Do you have any worries/concerns about how your child uses their arms and legs compared to other children of the same age?			
33	Are you worried / concerned about your child's behaviour compared to that of other children of the same age?			

Frequently Asked Questions

1. **What do I tell the parent the ELIM-E is for?**
   The ELIM-E is a measure of children's speech, language and communication, and you may introduce it to the parent/carer as such. What we want to avoid is using terminology like 'screening', 'difficulties' (e.g. the ELIM-E is 'measuring language difficulties') or 'delay'. The ELIM-E aims to capture language strengths as well as areas of difficulty to gain a holistic view of the child's ability.

2. **What if a parent/carer does not wish to answer a question?**
   If a parent/carer does not wish to answer a question this is fine you can leave it blank. Please inform them before you start the ELIM-E that it is ok if they don't feel comfortable/don't want to answer a question.

3. **How is the ELIM-E completed if the parent/carer has English as an additional language?**
   We anticipate that some parents/carers will not have the English to be able to understand many of the questions, in which case, where possible please use an interpreter or have someone who does speak their language fill it in with them. If a parent/carer has no English and you cannot get an interpreter, then don't include them in the project.

4. **How is the observation section completed? What if I don't have enough time?**
   We would like you to be aware prior to completing the ELIM-E that you will need to observe the child whilst you complete the ELIM-E with the parent/carer. Familiarise yourself with what behaviours you are looking out for in order to complete the observation section. Should you need more time to observe, you may give the child a toy or ask the parent to play with the child for a couple of minutes. Do **not** say to the parent/carer that you are observing the child for any problems/difficulties, simply say (for example) that the parent may play with the child whilst you complete the questionnaire.

5. **How long will the ELIM-E take to complete?**
   The ELIM-E should take around 15-20 minutes to complete; make sure the parent/carer sticks to the questions you are asking.

6. **I identify a need during my assessment and use of the measure what should I do next?**
   Explain to the parent as you would do in any other review that what you are thinking and your concerns and follow the referral process using normal local pathway. Make sure you note this on the form for the SLT as part of the project, so they are aware of your actions.

7. **A parent/ carer asks about results of the measure what do I say?**
   Explain this is part of a study and we are not looking for difficulties it is about is the measure helpful in supporting speech, language and communication development and part of a project.

8. **Can I give advice about strategies to support speech, language and communication development for example when we talk about book sharing as part of the ELIM?**
   Yes, you should offer routine advice and support as you would in all your two-year reviews.

4. ELIM-S (shortened)

Public Health
England

Department
for Education

EARLY LANGUAGE IDENTIFICATION MEASURE – SHORTENED [ELIM-S]

To be used with parents of children between 24 and 30 months

<table>
<tr><td>Number</td><td colspan="2"></td><td>Yes</td><td>No</td></tr>
<tr><td>1</td><td colspan="2">Observed communicative intent (child means to communicate something verbally to parent/carer)</td><td></td><td></td></tr>
<tr><td>2</td><td colspan="2">Speech mostly intelligible to parents/carers</td><td></td><td></td></tr>
<tr><td>3</td><td colspan="2">Observed using single words only</td><td></td><td></td></tr>
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(flits from one thing to another)</td><td>Single channelled
(attention can't easily be shifted)</td><td>Accepts adult direction</td></tr>
</table>

SECTION 2: Which words does your child say?

Please take a look at the words below and tick which words you have heard your child say.

1. Mummy/mum		11. Aeroplane		21. Towel		31. Fit		41. Wet	
2. Bye/bye bye		12. Car		22. Bed		32. Like		42. After	
3. No		13. Book		23. Settee/sofa		33. Rip/tear		43. Day	
4. Ball		14. Milk		24. School		34. Shake		44. This	
5. Juice		15. Hat		25. Friend		35. Think		45. Our	
6. Owch/ow		16. Shoe		26. Person		36. Gentle		46. Where	
7. Cat		17. Leg		27. Hello/hi		37. Fast		47. All	
8. Thank you		18. Pillow		28. Shopping		38. Happy		48. Much	
9. Cold		19. Rubbish		29. Carry		39. Last		49. Need to	
10. Hug/cuddle		20. Plate		30. Finish		40. Tiny		50. If	

Column Total		**Column Total**		**Column Total**		**Column Total**		**Column Total**	

Total number of words:

5. Parent survey

Key
*From survey used by Morelli et al. (2014)
adapted from survey used by Morelli et al. (2014)
@ added to cover concepts from the Theoretical Framework of Acceptability by Sekhon et al. (2017)
+ adapted from NHS England (2014) **(Friends & Family Test Guidance – citation)**
& Suggestions from members of research team
^ Suggestion arising from parent/practitioner PPI group

Before the appointment

1. **@** You met with someone from the Health Visiting Team a couple of weeks ago. Was the time of that appointment convenient for you?

   ☐ Yes - I chose a time that suited me

   ☐ I didn't choose but the time was OK anyway

   ☐ No - the time was not convenient

Please make any suggestions about how the process for making the appointment could be improved

2. **^** Where did the appointment take place?

   ☐ At home

   ☐ At a clinic

   ☐ At a children's centre

   ☐ At another location (please specify)

3. **^** Were you happy with that location?

   ☐ Yes

   ☐ No

   ☐ If no, please explain why

4. **@** In order to attend the appointment, did you have to rearrange other commitments (such as your work or your child's nursery attendance)?

   ☐ Yes – my own commitments (please specify)

   ☐ Yes – my child's routines (Please specify)

   ☐ No – it fitted in with our existing commitments

5. * On the day of your appointment, how satisfied were you with how long you waited to see a member of the Health Visiting Team?

Very dissatisfied Dissatisfied Satisfied Very Satisfied Don't remember

6. & Had you met the person who completed your appointment before?

☐ Yes, on several occasions

☐ Yes, once

☐ No, but I have met with other Health Visitors or members of the team about my child

☐ No, but I have spoken with members of the Health visiting team on the phone

☐ No, I have never met anyone from the Health visiting team before

7. @ Before the appointment, did you have any concerns about attending?

☐ Yes, I was very concerned

☐ Yes, I was a bit concerned

☐ No, I was not very concerned

☐ No, I was not concerned at all

☐ Don't remember

If yes, please specify what concerns/questions you had.

8. @ Before attending, how clear was it from the information provided what the appointment would involve?

Very clear Quite clear Neither clear nor unclear Quite unclear Very unclear

<u>During the appointment</u>

9. @ During the appointment, was the purpose of the meeting explained to you?

☐ Yes

☐ No

☐ Don't remember

10. @ How comfortable did you feel answering questions about your child’s development?

☐ Very comfortable

☐ Quite comfortable

☐ Quite uncomfortable

☐ Very uncomfortable

☐ Not sure

If you felt uncomfortable, are you happy to share any questions in particular that made you feel that way?

11. * Did the questions that you were asked make sense to you?

☐ Yes

☐ No

☐ Don’t remember

12. @ How confident did you feel that you were able to answer all of the questions?

☐ Very confident

☐ Quite confident

☐ Quite unconfident

☐ Very unconfident

☐ Not sure

13. # Did the questions help you to learn more about your child’s development?

☐ Yes

☐ No

☐ Don’t remember

14. * Did the questions cover all areas of your child’s development that mattered to you?

☐ Yes

- ☐ No
- ☐ Don't remember

15. # At the appointment, did you learn about activities that would be useful to your child's speech and language development?

- ☐ Yes, I learnt a lot
- ☐ Yes, I learnt some things
- ☐ No, I didn't learn anything
- ☐ Don't remember

16. # Were you given enough time to discuss all your concerns and questions about your child's speech and language development?

- ☐ Yes
- ☐ No
- ☐ Don't remember

If no, please specify what other concerns/questions you had.

17. # Overall, how satisfied were you with how the member of the Health Visiting Team carried out the check/assessment?

Very dissatisfied Dissatisfied Satisfied Very Satisfied Don't remember

18. # How satisfied were you with the overall evaluation of your child's speech and language development?

Very dissatisfied Dissatisfied Satisfied Very Satisfied Don't remember

19. # Did the member of the Health Visiting Team recommend that your child should see a speech & language therapist? (This would be in addition to today's appointment, which is part of the research study).

- ☐ Yes
- ☐ No
- ☐ Don't remember

20. ^ Did the member of the Health Visiting Team refer you to any other local services/resources to help with your child's development?

   ☐ Yes

   ☐ No

   ☐ Don't remember

   If yes, please specify below:

21. * Did you agree with the recommendations that were made?

   ☐ Yes

   ☐ No

   ☐ Not sure

   If no, what would you have liked to be done differently?

<u>After the appointment</u>

22. @ Since having the appointment, have you noticed any change in how confident you feel about your child's speech and language development?

   ☐ I feel more confident

   ☐ I feel the same

   ☐ I feel less confident

   ☐ Not sure

23. ^ If you have any concerns that were not addressed in the appointment, do you know who you can contact for further advice?

   ☐ Yes (please specify below)

   ☐ No

   ☐ Not sure

24. + How likely are you to recommend attending this appointment to friends and family if they were offered a similar service?

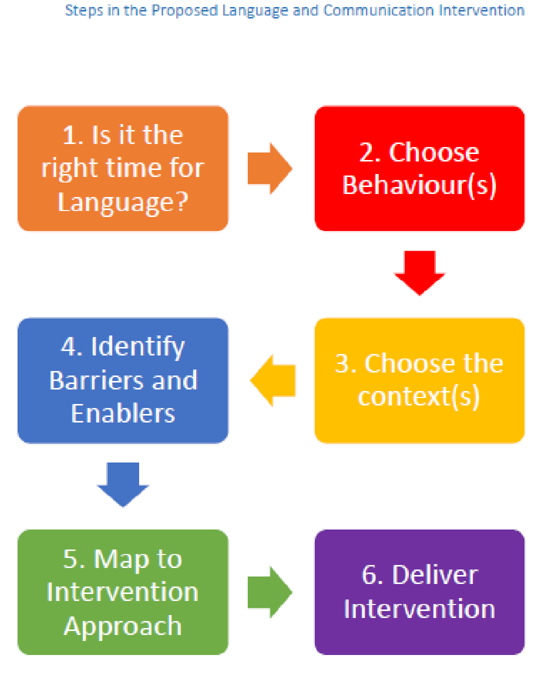
Very likely Likely Neither likely nor unlikely Unlikely Very unlikely Don't know

Any additional comments you would like to add?

6. Intervention design example workshop materials

Example workshop materials stage 5

Materials at Stage 5 presented the stages of the proposed intervention with cues to elicit opinions on its appropriateness and fit, on how the stage should be discussed, including the language which should be used and the resources required. Between workshops, the model was improved and developed in response to feedback and 'mock up' resources created in response to ideas were also discussed. Below we present portions of an early iteration.



Steps in the Proposed Language and Communication Intervention

1. Is it the right time for Language?

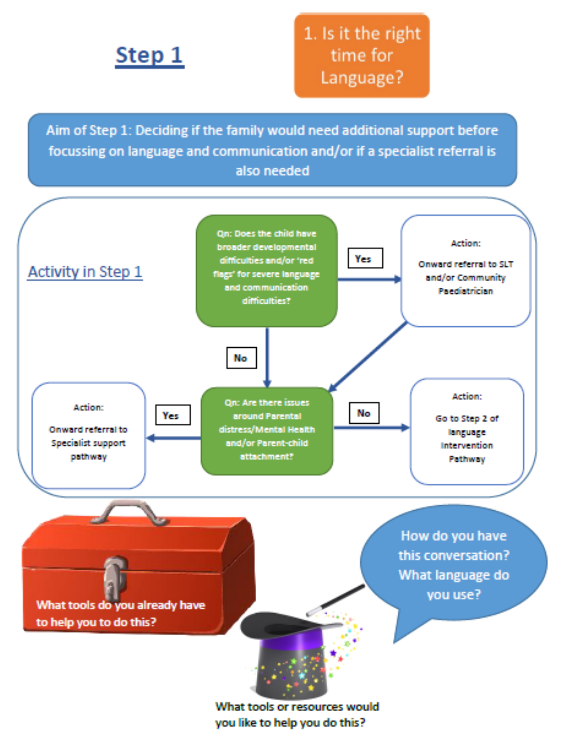
2. Choose Behaviour(s)

3. Choose the context(s)

4. Identify Barriers and Enablers

5. Map to Intervention Approach

6. Deliver Intervention



Step 1

1. Is it the right time for Language?

Aim of Step 1: Deciding if the family would need additional support before focussing on language and communication and/or if a specialist referral is also needed

Activity in Step 1

Qn: Does the child have broader developmental difficulties and/or 'red flags' for severe language and communication difficulties?

Yes

Action: Onward referral to SLT and/or Community Paediatrician

No

Qn: Are there issues around Parental distress/Mental Health and/or Parent-child attachment?

Yes

Action: Onward referral to Specialist support pathway

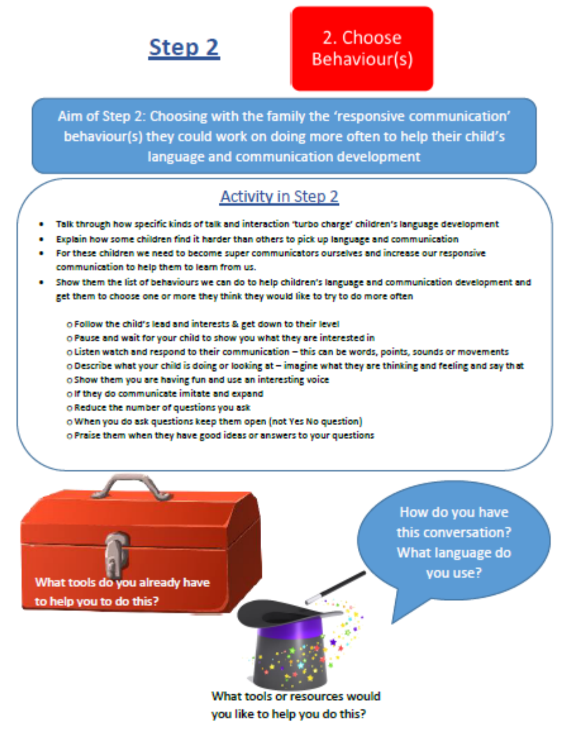
No

Action: Go to Step 2 of language Intervention Pathway

What tools do you already have to help you to do this?

How do you have this conversation? What language do you use?

What tools or resources would you like to help you do this?



Step 2

2. Choose Behaviour(s)

Aim of Step 2: Choosing with the family the 'responsive communication' behaviour(s) they could work on doing more often to help their child's language and communication development

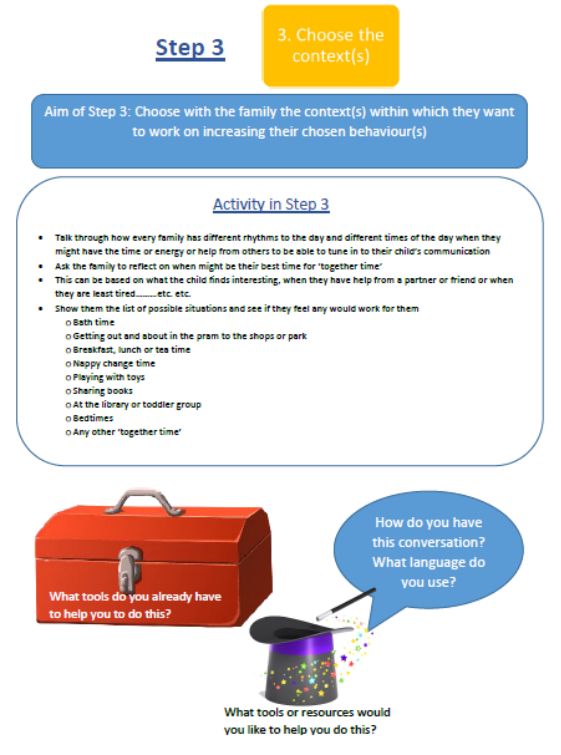
Activity in Step 2

- Talk through how specific kinds of talk and interaction 'turbo charge' children's language development
- Explain how some children find it harder than others to pick up language and communication
- For these children we need to become super communicators ourselves and increase our responsive communication to help them to learn from us.
- Show them the list of behaviours we can do to help children's language and communication development and get them to choose one or more they think they would like to try to do more often
    - Follow the child's lead and interests & get down to their level
    - Pause and wait for your child to show you what they are interested in
    - Listen watch and respond to their communication – this can be words, points, sounds or movements
    - Describe what your child is doing or looking at – imagine what they are thinking and feeling and say that
    - Show them you are having fun and use an interesting voice
    - If they do communicate imitate and expand
    - Reduce the number of questions you ask
    - When you do ask questions keep them open (not Yes No question)
    - Praise them when they have good ideas or answers to your questions

What tools do you already have to help you to do this?

How do you have this conversation? What language do you use?

What tools or resources would you like to help you do this?



Step 3

3. Choose the context(s)

Aim of Step 3: Choose with the family the context(s) within which they want to work on increasing their chosen behaviour(s)

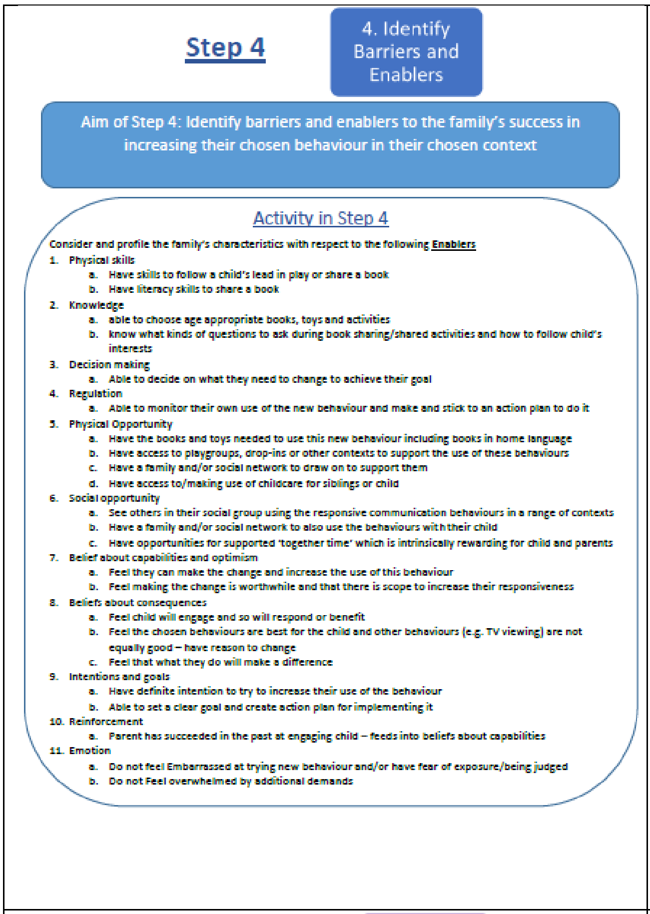
Activity in Step 3

- Talk through how every family has different rhythms to the day and different times of the day when they might have the time or energy or help from others to be able to tune in to their child's communication
- Ask the family to reflect on when might be their best time for 'together time'
- This can be based on what the child finds interesting, when they have help from a partner or friend or when they are least tired.........etc. etc.
- Show them the list of possible situations and see if they feel any would work for them
    - Bath time
    - Getting out and about in the pram to the shops or park
    - Breakfast, lunch or tea time
    - Nappy change time
    - Playing with toys
    - Sharing books
    - At the library or toddler group
    - Bedtimes
    - Any other 'together time'

What tools do you already have to help you to do this?

How do you have this conversation? What language do you use?

What tools or resources would you like to help you do this?



Step 4

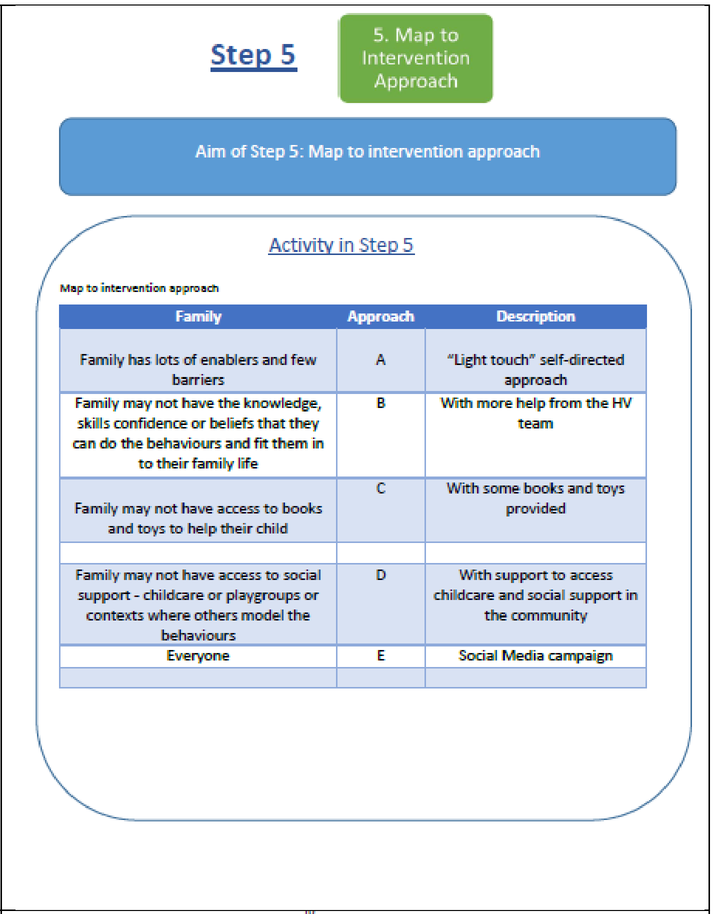
4. Identify Barriers and Enablers

Aim of Step 4: Identify barriers and enablers to the family's success in increasing their chosen behaviour in their chosen context

Activity in Step 4

Consider and profile the family's characteristics with respect to the following **Enablers**

1. Physical skills
   a. Have skills to follow a child's lead in play or share a book
   b. Have literacy skills to share a book
2. Knowledge
   a. able to choose age appropriate books, toys and activities
   b. know what kinds of questions to ask during book sharing/shared activities and how to follow child's interests
3. Decision making
   a. Able to decide on what they need to change to achieve their goal
4. Regulation
   a. Able to monitor their own use of the new behaviour and make and stick to an action plan to do it
5. Physical Opportunity
   a. Have the books and toys needed to use this new behaviour including books in home language
   b. Have access to playgroups, drop-ins or other contexts to support the use of these behaviours
   c. Have a family and/or social network to draw on to support them
   d. Have access to/making use of childcare for siblings or child
6. Social opportunity
   a. See others in their social group using the responsive communication behaviours in a range of contexts
   b. Have a family and/or social network to also use the behaviours with their child
   c. Have opportunities for supported 'together time' which is intrinsically rewarding for child and parents
7. Belief about capabilities and optimism
   a. Feel they can make the change and increase the use of this behaviour
   b. Feel making the change is worthwhile and that there is scope to increase their responsiveness
8. Beliefs about consequences
   a. Feel child will engage and so will respond or benefit
   b. Feel the chosen behaviours are best for the child and other behaviours (e.g. TV viewing) are not equally good – have reason to change
   c. Feel that what they do will make a difference
9. Intentions and goals
   a. Have definite intention to try to increase their use of the behaviour
   b. Able to set a clear goal and create action plan for implementing it
10. Reinforcement
   a. Parent has succeeded in the past at engaging child – feeds into beliefs about capabilities
11. Emotion
   a. Do not feel Embarrassed at trying new behaviour and/or have fear of exposure/being judged
   b. Do not Feel overwhelmed by additional demands



Step 5

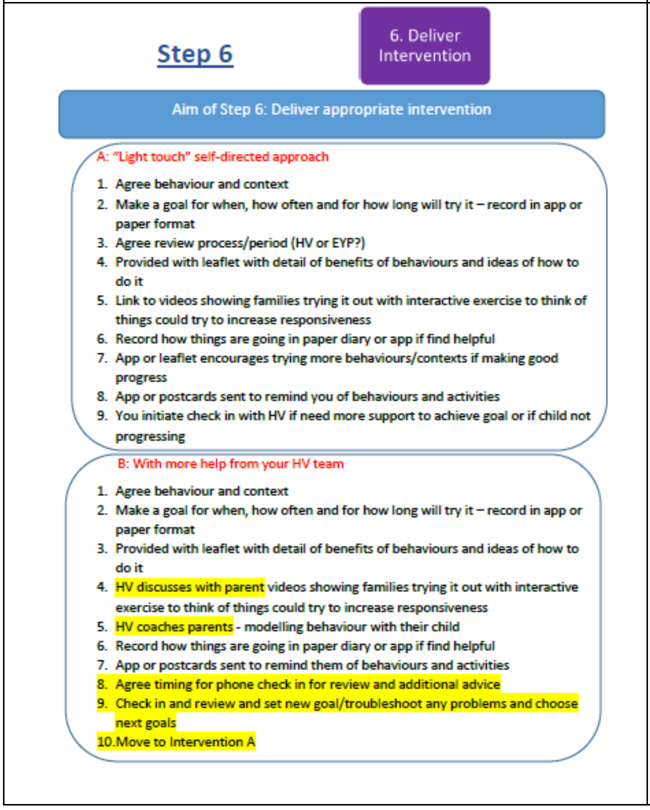
5. Map to Intervention Approach

Aim of Step 5: Map to intervention approach

Activity in Step 5

Map to intervention approach

Family	Approach	Description
Family has lots of enablers and few barriers	A	"Light touch" self-directed approach
Family may not have the knowledge, skills confidence or beliefs that they can do the behaviours and fit them in to their family life	B	With more help from the HV team
Family may not have access to books and toys to help their child	C	With some books and toys provided
Family may not have access to social support - childcare or playgroups or contexts where others model the behaviours	D	With support to access childcare and social support in the community
Everyone	E	Social Media campaign



Step 6

6. Deliver Intervention

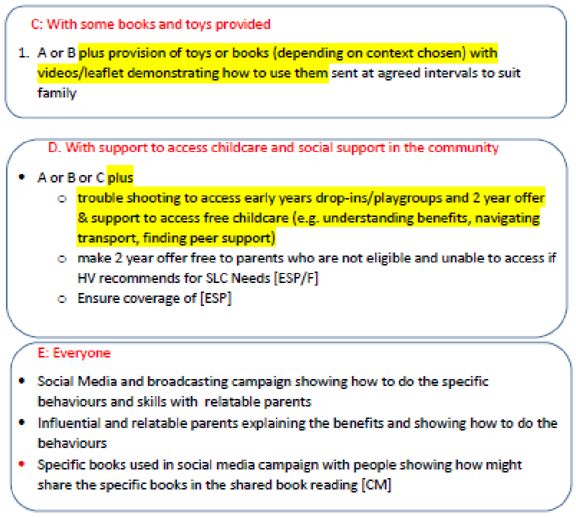
Aim of Step 6: Deliver appropriate intervention

A: "Light touch" self-directed approach

1. Agree behaviour and context
2. Make a goal for when, how often and for how long will try it – record in app or paper format
3. Agree review process/period (HV or EYP?)
4. Provided with leaflet with detail of benefits of behaviours and ideas of how to do it
5. Link to videos showing families trying it out with interactive exercise to think of things could try to increase responsiveness
6. Record how things are going in paper diary or app if find helpful
7. App or leaflet encourages trying more behaviours/contexts if making good progress
8. App or postcards sent to remind you of behaviours and activities
9. You initiate check in with HV if need more support to achieve goal or if child not progressing

B: With more help from your HV team

1. Agree behaviour and context
2. Make a goal for when, how often and for how long will try it – record in app or paper format
3. Provided with leaflet with detail of benefits of behaviours and ideas of how to do it
4. HV discusses with parent videos showing families trying it out with interactive exercise to think of things could try to increase responsiveness
5. HV coaches parents - modelling behaviour with their child
6. Record how things are going in paper diary or app if find helpful
7. App or postcards sent to remind them of behaviours and activities
8. Agree timing for phone check in for review and additional advice
9. Check in and review and set new goal/troubleshoot any problems and choose next goals
10. Move to Intervention A



C: With some books and toys provided

1. A or B plus provision of toys or books (depending on context chosen) with videos/leaflet demonstrating how to use them sent at agreed intervals to suit family

D. With support to access childcare and social support in the community

- A or B or C plus
  - trouble shooting to access early years drop-ins/playgroups and 2 year offer & support to access free childcare (e.g. understanding benefits, navigating transport, finding peer support)
  - make 2 year offer free to parents who are not eligible and unable to access if HV recommends for SLC Needs [ESP/F]
  - Ensure coverage of [ESP]

E: Everyone

- Social Media and broadcasting campaign showing how to do the specific behaviours and skills with relatable parents
- Influential and relatable parents explaining the benefits and showing how to do the behaviours
- Specific books used in social media campaign with people showing how might share the specific books in the shared book reading [CM]

7. Intervention behaviours and techniques

Intervention behaviours and techniques

List of target intervention behaviours and techniques drawn from the intervention literature and discussed with parents and practitioners at Stage 3 of the intervention design methodology.

Interventions in the review fell broadly into categories of

Shared/dialogic book reading
Responsive/contingent interaction
Focussed stimulation

They were not labelled as such in the workshops but were explored through detailed descriptions of their components (see below).

Behaviour	Intervention Techniques
Share an age appropriate book with your child for 10 – 15 minutes per day for 5 or more times per week **While sharing the book** **1. Ask open questions like 'where, who what……..'** **2. Avoid questions where your child might answer 'yes' or 'no' or just point** **3. When your child answers - follow up with another question** **4. Follow the child's interests in the book** **5. Praise them for good answers and ideas** **6. Expand what the child says – so if they say 'ball' you say 'yes – a big ball'**	• You are given gifts of age appropriate books • You watch the Health Visitor show you how to share the book using the recommended behaviours • While you share the book using the recommended behaviours you are videoed and then you and the Health Visitor look at the video together and see what you might change • You attend a group at a community centre or library to work with other parents to learn the recommended techniques for book sharing – you watch videos of other parents sharing books with their child and discuss what they might change • You are phoned weekly to see how you are doing • You are given a leaflet describing the techniques to use when sharing books with your child • You are asked to keep a diary of when, where and for how long you share a book with your child • The Health visitor explains to you how shared book reading benefits your child
During every-day activities and routines you are asked to communicate with your child in a 'responsive' way by………. **1. Following the child's lead and interests** **2. Pausing and waiting to see what they are interested in**	• You are given gifts of age appropriate toys which will help you to follow their lead You watch the Health Visitor show you how to play with your child using the recommended 'responsive communication' behaviours • While you play with your child using the recommended 'responsive communication'

3. Listening, watching and responding to their communication – these may be words, points, sounds or movements **4. Describe what your child is doing** **5. If they say anything imitate and expand what they have said – so if the say – 'shoe' say – 'yes - that's Molly's shoe'** **6. Have fun - and show them you are having fun**	behaviours you are videoed and then you and the Health Visitor look at the video together and see what you might change • You attend a group at a community centre or library to work with other parents to learn the recommended techniques for 'responsive communication' – you watch videos of other parents playing with their child and discuss what they might change • You are phoned weekly to see how you are doing • You are given a leaflet describing the responsive communication behaviours to use when playing or in everyday activities with your child • You are asked to set aside 15 minutes per day to practice this responsive communication and to keep a diary of when, where and for how long you manage to do this • The Health visitor explains to you how shared book reading benefits your child • You have a wristband – like a fit bit – which records how much you say to your child and you get a daily report • You and the Health Visitor make a plan together about the best times in the day and activities to practice this responsive communication • You and the Health Visitor reflect on how things have gone this week and what you might change • You are given fridge magnets to help you to remember how to be a responsive communicator with your child • You are asked to teach a close family member how to be a responsive communicator and to support you • Over the weeks you create a library of you and your child playing and communicating to look back over and share with your family • You are helped to identify resources in your local community where you can get help and

	advice, meet other parents and where your child can experience play with other children
Work with a practitioner to choose a language goal for your child - this can be target sentences or target words. **Identify activities in the day to use that target sentence or target words with your child** **Set up play activities to encourage your child to use the target words or sentences.** **Ask your child to follow instructions and copy you saying these words or sentences.**	• You watch the professional show you how to play with your child using focussed stimulation • While you play with your child using the recommended 'focussed stimulation' you are videoed and then you and the professional look at the video together and see what you might change • You attend a group at a community centre or library to work with other parents to learn the recommended techniques for focussed stimulation – you problem solve how to create play situations to encourage certain kinds of words and sentences • You are helped to plan games to play with your child to encourage certain kinds of words and sentences • You agree goals to work on over the next two weeks – choosing games to play and how often to try them • You are asked to think back and reflect on how well you have done over the past fortnight and think about things you might change • You receive toys in the post with a newsletter explaining how to play to encourage certain target language structures appropriate for your child's age

Example workshop materials Stage 3

Workshop materials to elicit views on acceptability and barriers and enablers for each target behaviour and technique

Example behaviour and technique 'cards'

Share an age appropriate book with your child for 10 – 15 minutes per day for 5 or more times per week

While sharing the book

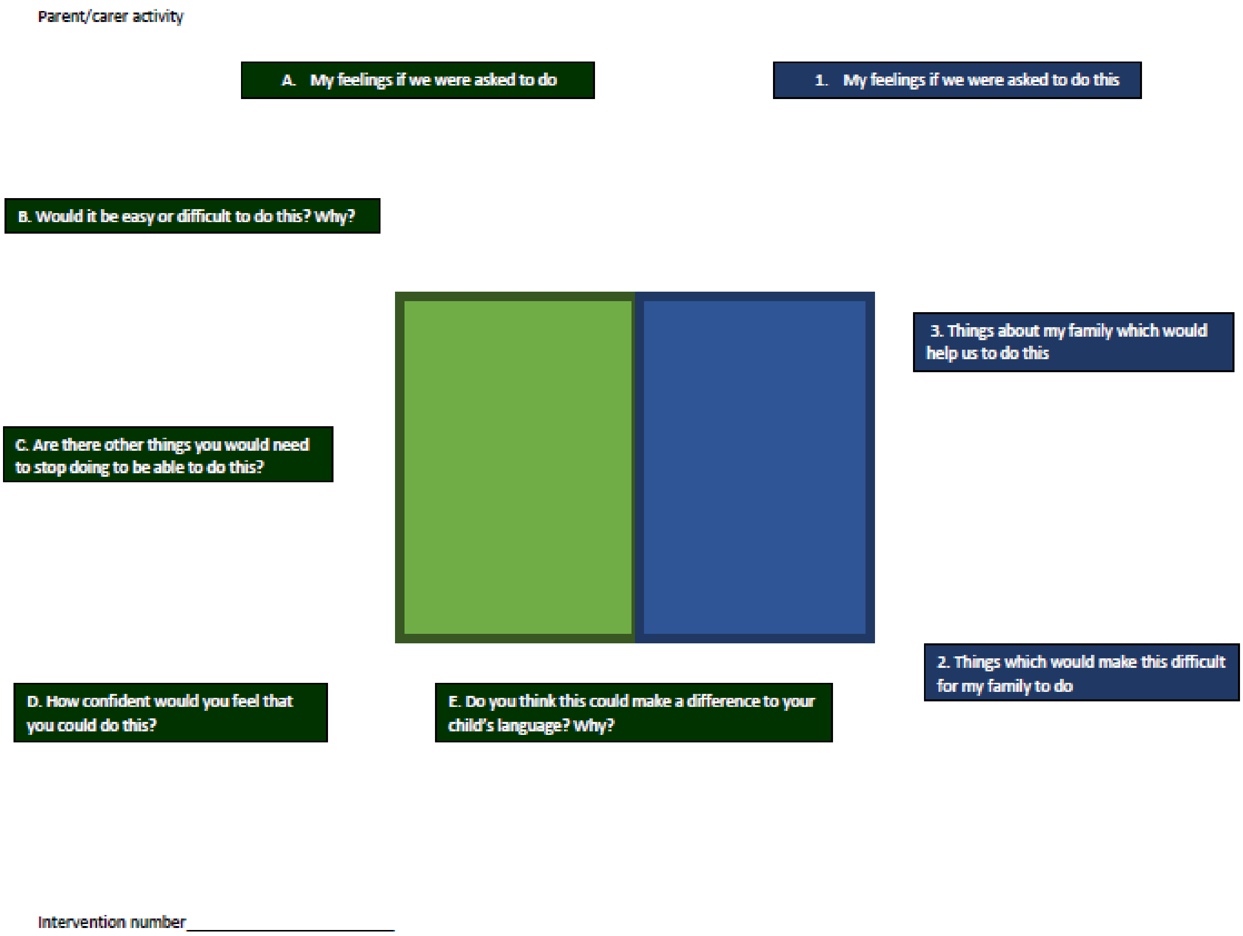
1. Ask open questions like 'where, who what……..'
2. Avoid questions where your child might answer 'yes' or 'no' or just point
3. When your child answers - follow up with another question
4. Follow the child's interests in the book
5. Praise them for good answers and ideas
6. Expand what the child says – so if they say 'ball' you say 'yes – a big ball'

You are given gifts of age appropriate books

While you share the book using the recommended behaviours you are videoed and then you and the Health Visitor look at the video together and see what you might change

You are phoned weekly to see how you are doing

Workshop visual resource used to structure discussions and scaffold understanding



Parent/carer activity

A. My feelings if we were asked to do

1. My feelings if we were asked to do this

B. Would it be easy or difficult to do this? Why?

3. Things about my family which would help us to do this

C. Are there other things you would need to stop doing to be able to do this?

2. Things which would make this difficult for my family to do

D. How confident would you feel that you could do this?

E. Do you think this could make a difference to your child's language? Why?

Intervention number_______________________

Example Persona

Family 1

Sam and Joe have four children. The child you are visiting has two older brothers and a younger sister aged 4 months. The family live in social housing and receive benefits. Sam works full time in a bar near home. Joe works 2 or 3 hours a week for a cleaning company. Joe and Sam both left school at sixteen. Most of their extended family live nearby. They try to manage their shifts so as not to have any additional childcare and call on family and friends for support.

Family 4

Susie is a first-time parent who was pregnant when she left school. She is not in paid work and receives benefits. She lives with her parents in social housing. Her parents are also both long-term unemployed. She has a large community of friends and family nearby.

8. Final list of intervention papers

Final list of papers of effective interventions used to extract details of potential intervention target behaviours and intervention techniques

1. Arnold, D. H., Lonigan, C. J., Whitehurst, G. J., & Epstein, J. N. (1994). Accelerating Language Development Through Picture Book Reading: Replication and Extension to a Videotape Training Format. *Journal of Educational Psychology, 86*(2), 235-243. doi:10.1037/0022-0663.86.2.235
2. Buschmann, A., Jooss, B., Rupp, A., Feldhusen, F., Pietz, J., & Philippi, H. (2009). Parent based language intervention for 2-year-old children with specific expressive language delay: a randomised controlled trial. *Archives of disease in childhood, 94*(2), 110-116.
3. Christakis, D. A., Zimmerman, F. J., & Garrison, M. M. (2007). Effect of block play on language acquisition and attention in toddlers: A pilot randomized controlled trial. *Archives of Pediatrics and Adolescent Medicine, 161*(10), 967-971. doi:10.1001/archpedi.161.10.967
4. Cooper, P. J., Vally, Z., Cooper, H., Radford, T., Sharples, A., Tomlinson, M., & Murray, L. (2014). Promoting Mother-Infant Book Sharing and Infant Attention and Language Development in an Impoverished South African Population: A Pilot Study. *Early Childhood Education Journal, 42*(2), 143-152. doi:10.1007/s10643-013-0591-8
5. Cronan, T. A., Cruz, S. G., Arriaga, R. I., & Sarkin, A. J. (1996). The Effects of a Community-Based Literacy Program on Young Children's Language and Conceptual Development. *American Journal of Community Psychology, 24*(2), 251-272. doi:10.1007/BF02510401
6. Gibbard, D., Coglan, L., & MacDonald, J. (2004). Cost-effectiveness analysis of current practice and parent intervention for children under 3 years presenting with expressive language delay. *International Journal of Language & Communication Disorders, 39*(2), 229-244.
7. Garcia, D., Bagner, D. M., Pruden, S. M., & Nichols-Lopez, K. (2015). Language Production in Children With and At Risk for Delay: Mediating Role of Parenting Skills. *Journal of Clinical Child and Adolescent Psychology, 44*(5), 814-825. doi:10.1080/15374416.2014.900718
8. Huebner, C. E. (2000). Promoting Toddlers' Language Development Through Community-Based Intervention. *Journal of Applied Developmental Psychology, 21*(5), 513-535. doi:10.1016/S0193-3973(00)00052-6
9. Landry, S. H., Smith, K. E., Swank, P. R., & Guttentag, C. (2008). A Responsive Parenting Intervention: The Optimal Timing Across Early Childhood for Impacting Maternal Behaviors and Child Outcomes. *Developmental Psychology, 44*(5), 1335-1353. doi:10.1037/a0013030
10. McGillion, M., Pine, J. M., Herbert, J. S., & Matthews, D. (2017). A randomised controlled trial to test the effect of promoting caregiver contingent talk on language development in infants from diverse socioeconomic status backgrounds. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 58*(10), 1122-1131.
11. Lim, Y. S., & Cole, K. N. (2002). Facilitating first language development in young korean children through parent training in picture book interactions. *Bilingual Research Journal, 26*(2), 367-381. doi:10.1080/15235882.2002.10668716
12. Love, J. M., Kisker, E. E., Ross, C., Constantine, J., Boller, K., Chazan-Cohen, R., . . . Vogel, C. (2005). The effectiveness of early head start for 3-year-old children and their parents: Lessons for policy and programs. *Developmental Psychology, 41*(6), 885-901. doi:10.1037/0012-1649.41.6.885
13. Mendelsohn, A. L., Dreyer, B. P., Flynn, V., Tomopoulos, S., Rovira, I., Tineo, W., . . . Nixon, A. F. (2005). Use of videotaped interactions during pediatric well-child care to promote child

development: A randomized, controlled trial. *Journal of Developmental and Behavioral Pediatrics, 26*(1), 34-41.

14. Olds, D. L., Robinson, J., O'Brien, R., Luckey, D. W., Pettitt, L. M., Henderson Jr, C. R., . . . Talmi, A. (2002). Home visiting by paraprofessionals and by nurses: A randomized, controlled trial. *Pediatrics, 110*(3), 486-496. doi:10.1542/peds.110.3.486
15. Roberts, M. Y., & Kaiser, A. P. (2011). The effectiveness of parent-implemented language interventions: A meta-analysis. *American Journal of Speech-Language Pathology, 20*(3), 180-199. doi:10.1044/1058-0360(2011/10-0055)
16. Whitehurst, G. J., Arnold, D. S., Epstein, J. N., Angell, A. L., Smith, M., & Fischel, J. E. (1994). A Picture Book Reading Intervention in Day Care and Home for Children From Low-Income Families. *Developmental Psychology, 30*(5), 679-689. doi:10.1037/0012-1649.30.5.679