Public Health England

Identifying and supporting children's early language needs

Summary report

Department of Health & Social Care

Department for Education

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Background

The gap in the cognitive development and specifically oral language skills between children from different social backgrounds is widely acknowledged(1-5). This gap is identifiable very early in life and well established by school entry(6-8) 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(12-14) but matching the right intervention to the child's needs 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 at the Healthy Child Programme 2 to 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 this would not meet standard criteria(17). Instead, there has been a focus on developing approaches which improve early identification of children with speech, language and communication needs. These approaches should foster a conversation between parent/carer and practitioner about a child's needs, and equip parents/carers with the skills needed to support their child's development.

Introduction

The development of a new Early Language Identification Measure (ELIM) and accompanying intervention was commissioned in 2018 as part of the UK government's Social Mobility Action Plan(18) and was 1 of 3 dimensions to a programme of work delivered by Public Health England and the Department for Education in England.

The other programmes of work included:

1. the provision of enhanced training for health visitors to identify Speech, Language and Communication Needs (SLCN)
2. the development of guidance to support local areas to develop evidence-based Speech, Language and Communication (SLC) pathways

This document summarises the methodology behind the development of the Early Language Identification Measure (ELIM) and intervention model developed by Newcastle University.

For more details see the full report: Identifying and Supporting Children's Early Language Needs. A handbook outlining the identification procedure and the intervention model is provided at: Best Start in Speech, Language and Communication.

Methodology

Research was conducted between January 2019 and March 2020 in 5 sites in England:

- Derbyshire
- Middlesbrough
- Newham
- Wakefield
- Wiltshire

A selection process was undertaken to identify the 5 sites based on prevalence of SLCN (as indicated by school readiness); prevalence of risk factors associated with SLCN (including free school meal eligibility as a proxy for socio-economic status and English as an additional language); and the availability of site data.

The voice of parents/carers and practitioners was an important element of the project 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 which are designed to complement each other.

The Early Language Identification Measure

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 PHE; expert groups; and parent/carer forums. It was then tested and rolled out across the 5 evaluation sites.

The ELIM-E comprised 5 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 was then used to reduce the ELIM-E to the factors that best predicted which children were at risk of language difficulties and in need of further engagement with health visitors and other professionals. This resulted in a shortened version being produced, the Early Language Identification Measure-Shortened (ELIM-S).

The extended version of the measure was carried out by health visitors and their skill mix teams as part of the Healthy Child Programme (HCP) 2 to 2½ 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 to 2½ year reviews by health visitors 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, fifth 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(22-25) was set at the tenth percentile, which indicates that it would pick up only those children whose language scores fell in the bottom 10% of the population.

When identifying need, it is important to consider the risk of missing something important (false negatives) or identifying something that is unimportant (false positives). The performance of a tool is judged by:

a) sensitivity – the proportion of positive cases that it accurately identifies (true positives)
b) specificity – the proportion of negative cases that it accurately identifies (true negatives)

The threshold at which an assessment is made can be varied. Choosing a low threshold increases the chance of greater sensitivity and all children with need will be identified. However, there is a risk that specificity will decrease and more children without language problems will be identified; this will mean additional children being referred for specialist assessment and treatment when there is no need. This has practical implications for how services respond to language problems identified through such assessments.

Reviews of screening instruments for developmental conditions indicate that many commonly miss too many children in need of support(24-25). This is partly due to insufficient sensitivity, which is important in the identification of child language problems. In this project the emphasis was on optimising sensitivity – not missing children with SLCN, and on initiating a conversation with parents/carers about what would best meet the needs of their child, thus managing the needs of the child without necessarily referring to specialist services unless there was a need to do so.

Underlying the process of identifying children with SLCN is the delivery of both universal and targeted interventions, to promote robust language development to all children and families at the 2 to 2½ year review. Within the ELIM process, the measure identifies the children and the intervention element then informs the support that is offered to them.

Main findings

Data from 894 children was 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 positives). Alongside sensitivity, specificity was also measured to test the ability of the measure to correctly identify those children without SLCN (true negatives).

The rationale for a shortened measure

Analysis of the data suggested that each section of the ELIM-E provided valuable assessment data, but this varied considerably. The observation section gave the highest sensitivity and the vocabulary list section gave the highest specificity. These 2 sections taken in combination produced a sensitivity of 0.94 and a specificity of 0.65. In contrast against the same criteria, the ASQ-3 has good specificity of 0.93 but a relatively low sensitivity of 0.64.

Out of 403 children seen on the combination of the practitioner observation and the word list, only 6 children with language difficulties were not picked up by the observation and/or the vocabulary list combination.

The proportion of children overidentified was higher – 108 children out of 306 were false positives. This emphasises the importance of the vital next step which is the conversation that follows the ELIM assessment (observation and word list), as this allows the practitioner to combine their knowledge of the child and the family with the views of the parent/carer. This way they can identify those most likely to need further engagement and equip parents/carers with the skills needed to support their child's development. These 2 sections, practitioner observation and the vocabulary list, were retained in the revised and shortened version of the ELIM (ELIM-S).

Parent and practitioner feedback

Parents/carers' responses to a survey and telephone interviews carried out after their child had been seen at the 2 to 2½ year review suggested that the majority found their experience of the ELIM-E process to be acceptable. Acceptability was influenced by communication with the health visitor; convenience and ease of the review; the perceived expertise of the professional; and the relationship that the health visitor established with the parent/carer and their child.

From the perspective of the health visitor, the acceptability of the ELIM-E was related to the:

- clarity of the rationale for items
- interface between the timing of the review and related services such as speech and language therapy
- potential of the ELIM-E to support their decision making and facilitate constructive conversations with parents/carers

Health visitors suggested 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 rather than the measure itself. For health visitors, the management of the conversation with the parent/carer was crucial to the success of the review.

Given the high sensitivity and lower specificity of the measure, the effective management of the needs of the child and parent/carer is critical. The identification of need is only the first stage, and the resultant conversation needs to help the practitioner and parent/carer consider other contributing factors, such as:

- parental/carer concern
- behavioural and attention issues
- whether the child speaks more than 1 language

The health visitor or practitioner must then work with parents/carers to determine the most appropriate level of support or intervention based on a continuum of need.

This will include decisions on whether there is good evidence that the child needs to be referred to child development or speech and language therapy services. An important element of the conversation is the practitioner drawing upon their own knowledge and expertise to determine the most appropriate means of supporting child and parent/carer. The needs of most children can be supported by the health visiting team and other professionals working together to equip parents/carers with the skills needed to support their child's development. The aim is not to increase referrals to other services but to ensure that the child receives the right level of support for their speech, language and communication development.

Some children will respond to targeted interventions and may therefore no longer require further targeted support. These children will return to universal services, 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/carers and taking the parents/carers' views into consideration, that is shared decision-making.

The intervention

In developing the intervention model, the project team synthesised child language intervention research evidence; guidance regarding best practice in complex intervention design; and behaviour change interventions. It also included extensive stakeholder involvement and co-design, with expert knowledge, practitioner expertise and parent/carer views and preferences.

PPI feedback on intervention design:

- practitioners were enthusiastic about promoting children's speech, language and communication development, but were not sure precisely **how** to work with families to deliver the most appropriate and acceptable support

- parents/carers wanted to be supported; to be proactive; and take an active role in the development of their child as soon as possible

Parent/carer and practitioner preferences and intervention evidence informed the development of an intervention model to support families. The model advocates the health visitor or professional helping parents/carers to create daily routines where their interactions with their child require them to respond (responsive behaviours) in contexts tailored to individual family circumstances.

The aim of the co-design element of the project was to develop a universal intervention to be delivered as part of the 2 to 2½ year Healthy Child Programme review. An intervention was created that was both needs-led and tailored. 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/carer was identified as vital to success: language which invites partnership, dialogue and shared decision-making is essential. The combined measure and intervention focus on the conversations between child and parent/carer; also between parent/carer and practitioner at the 2 to 2½ year review.

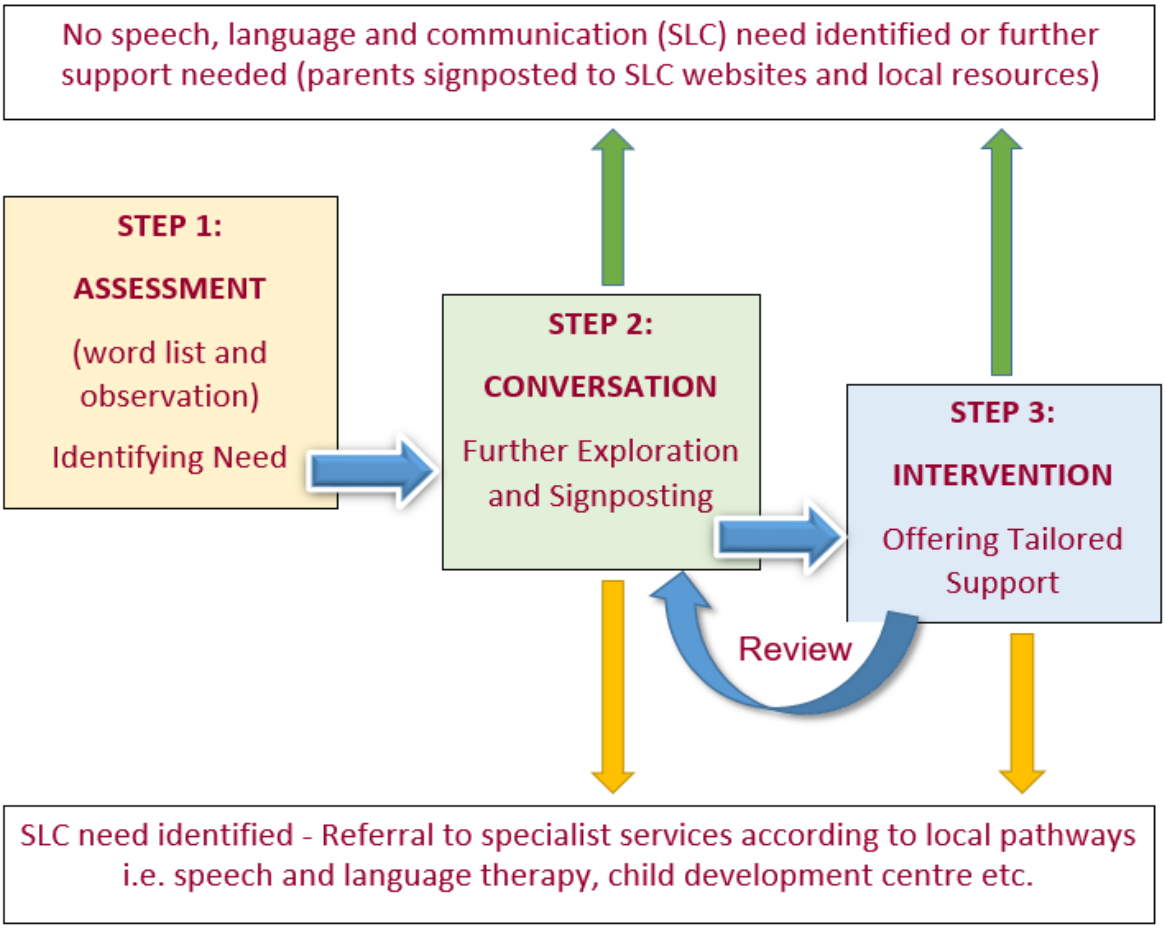
Iterative workshops with stakeholders ensured that the intervention model was acceptable, practicable and equitable to users.

Further details on the development of the intervention model are described in the full report: Identifying and Supporting Children's Early Language Needs.

The Early Language Identification Measure and Intervention Process

The final, shortened version is called the Early Language and Identification Measure and Intervention. The process is shown in figure 1 below. It outlines a 3-step process, whereby practitioner observation and the 50-word vocabulary list act as a starting point for identification. This is then underpinned by a preliminary exploration of parental concern.

Figure 1: Early Language Identification Measure and intervention flowchart



The 3 steps of the Early Language Identification Measure (ELIM) and Intervention process include:

Step 1

ELIM Assessment – where need is identified using the word list and practitioner observation

Step 2

Conversation between practitioner and parent/carer. Any parent/carer concerns are discussed, and there is further exploration where a need has been identified in step 1, the assessment. If there is a pronounced need, consider referral to specialist services. If there is no need identified, parents/carers are signposted to SLC websites and local resources

Step 3

Intervention – where a risk of language and or communication need is identified, the practitioner offers tailored support to parents/carers.

If a speech, language and communication need is identified, referral is made to specialist services according to local pathways, that is speech and language therapy, child development centres etc.

Note: Steps 2 and 3 are underpinned by review of progress

It is important to stress that while the face value of this approach has been demonstrated and there are preliminary indicators for how practitioners should respond to the findings of the ELIM, further testing of the intervention model is required.

Conclusions

The Early Language Identification Measure and Intervention has the potential to be a powerful universal tool in identifying children with SLCN at the 2 to 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/carer.

It is important that the ELIM process is delivered as a universal 3-stage process – that is the identification; the resulting conversation between the practitioner and the parent/carer; and the subsequent intervention. It is recommended that the ELIM process is offered to all children to ensure that parents/carers receive advice on supporting their children's SLC and that those who need additional support are identified early.

The project has demonstrated an enthusiasm amongst practitioners for a focus on SLCN and the importance of the practitioner-parent/carer relationship. It is clear that parents/carers want to be heard. The trust that comes from this relationship is critical to shared decision-making that, in turn, is fundamental to the guidance that is offered to parents/carers. Underpinning this is:

- appropriate levels of training for those involved in identifying and working with children
- 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/carers with the skills needed to support their child's development; and providing interventions in collaboration with parents/carers

The 2 to 2½ year review process is one which involves a great many people – the parents/carers and children; the health visitors and their teams and the early years practitioners in the settings where a proportion of the children attend. This process also involves the speech and language therapists to whom some children will be referred; they are also likely to be instrumental in supporting the other members of the early years workforce.

For further information about guidance for local areas in developing a whole systems approach to speech, language and communication see: Best Start in Speech, Language and Communication.

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