

Applying behavioural insights to improve early speech and language in GM

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THE
BEHAVIOURAL
INSIGHTS
TEAM



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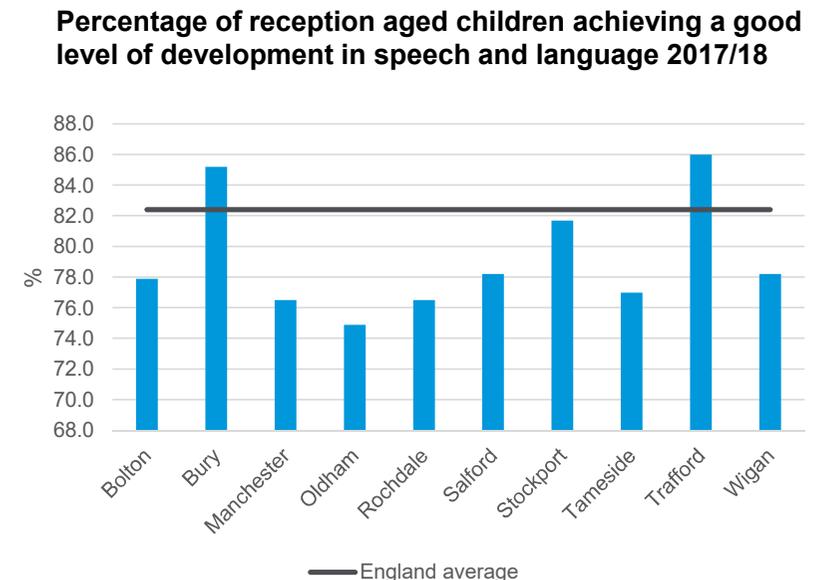
Introduction: Project overview & goals

- The goal: Improve early childhood speech and language development in Greater Manchester.
- The opportunity: Use behavioural insights to design a new approach
- The approach: Reviewing the evidence, understand the context and develop a solution



The goal: Support early speech and language development in GM

- Early speech and language is one of the key factors of successful development in early life. Children who have poor vocabulary skills at age five do worse at school and are also at greater risk of mental health problems and unemployment in adulthood.
- In GM the number of children reaching a good level of development (GLD) in speech and language by the end of their reception year is below the England average of 82% and varies significantly across the region.
- The GM Early Years New Delivery Model (NDM) was introduced to tackle the gap between GM and the national average. Children with more acute problems are identified earlier. The number of referrals to specialist Speech and Language Therapy have increased by an average of 33% since the NDM was introduced.
- Anecdotal evidence from S&L specialists suggests that support for children with mild-moderate difficulties (who may not need direct clinical speech and language support) is more varied across GM.



Source: Early years foundation stage profile results: 2017 to 2018. Dept for Education



The opportunity: Apply behavioural insights

- In parts of the UK, particularly in areas of social deprivation, over 50% of children start school without adequate communication skills.¹ **The more time parents spend talking to and playing with their children, the more children achieve when they eventually reach school.**²
- **Children differ enormously in how quickly they learn to talk.** For example, at 18 months, children's knowledge of words can range from 4-320. The fastest children not only start learning words earlier, they learn more words per day than the slowest children.³
- Although genetic factors play a role, **the home learning environment also has a big influence.**⁴ **Language development** (which includes vocabulary, the ability to link words and phrases together etc.) **seems to be primarily influenced by environmental factors**, whereas speech development (which relates to making particular sounds) is largely genetic.⁵
- Supporting children's language development requires **parents to learn the habit of talking to their child throughout each day.**
- We believe that **behavioural science**—the **interdisciplinary study of how and why people make the decisions they do**—gives us new tools to approach this problem. Through identifying the barriers and designing policy and services to go with the grain of human nature, behaviourally-informed approaches can help people create new habits.



The approach: Review the evidence, understand the context and develop a solution

Our project had three components:

- 1. Fieldwork with parents and professionals.** We spent time talking to parents, speech and language professionals, health visitors and nursery nurses. We also observed a number of home visits with parents and health visitors. This fieldwork allowed us to identify the barriers which might be stopping parents supporting their children's speech and language as effectively as possible. It also supplemented our literature review by helping us to understand the details and nuances which don't always come out in an academic paper (e.g. how parents see their role, the impact of the wider environment and the practicalities of administering ASQ and other child development checks). The findings from our fieldwork are available separately.
- 2. A literature review.** Our literature review had three parts. First, we explored the specific parental behaviours that support good language development in the first years of a child's life. Next, we reviewed programmes which have used behavioural science to encourage parents to do particular things to support their children's communication skills. Finally, we explored other behavioural approaches that could be adapted to promote language development but have not yet been tested with language skills specifically. The full literature review is available separately.
- 3. A proposed solution designed to increase the quality and quantity of vocabulary and parent child interactions and suggested evaluation approach.** We have proposed an approach designed to encourage parents to sign up to receive reminders and information to talk and play with their children more. We have developed an outline evaluation plan for our suggested solution.



Section One: Understanding the context and existing evidence

- Overview
- Fieldwork – methods and high level findings
- Evidence review - summary



Overview

- At the beginning of the project we wanted to answer the following questions:
 - **What do parents need to do to support their children's communication skills?**
 - **What stops parents supporting their children as effectively as possible?**
 - **If we designed a new programme/service to support language development, what should it do?**
 - **How will we measure the impact of any new programme/service we design?**
- In the following slides, we present more detail about our methods, and summarise our research findings.



Fieldwork: Summary of methods

	Informal conversation	Semi-structured interview	Structured interview	Observation
Parents – stay and play sessions	✓	✓		✓
Parents – home visits for 9 month ASQ check	✓			✓
Children’s Centre staff	✓		✓	✓
Professionals (SLT, HV, nursery)		✓	✓	✓

We spoke to 50 parents, 20 professionals and visited 6 Children’s Centres. We also observed 5 home visits to complete the 9 month ASQ check.

We spoke to and observed parents from the following groups: White British, Black British, Asian British (Urdu/Punjabi/Guajarati/Bengali/Hindi speakers), Eastern European background (polish/Slovak speaking), Sub-Saharan African background (Somali/Amharic/Arabic speaking) and Middle Eastern background (Arabic/Farsi speakers).

Within these groups, we spoke to young mothers, grandparents and childminders. We also attended a session specifically for dads.



Fieldwork: Summary of parents' views



There is a strong intention/action gap (it isn't all about knowledge)

- Most parents know what to do e.g. reading, singing, playing games but real life gets in the way.
- The primary barrier seems to be lack of time, energy and the (mental and physical) space to engage.



However, there are still some key gaps in knowledge (for example on the value of incidental communication and 'serve and return' interactions)

- Not all parents realise the value of 'incidental communication' (talking little and often throughout the day) or 'contingent talk' (talking about what the parent/the child is doing in the moment).
- There was lower understanding of how important modelling 'serve and return' behaviour is for the child's brain development (including language skills).
- Some parents don't understand what professionals mean by 'speech and language development'. They can think it is about mispronunciation when it is actually about communication (does the child respond, do they know what words mean, can they listen, can they express themselves etc).



The wider environment matters: technology can play a negative role and it can be difficult to spot language delay in an area where it is the norm

- Phones play a crucial role, distracting parents from incidental communication with their child.
- Some parents believe (largely falsely) that television/phone apps help to develop children's vocabulary.
- Parents compare their children with other children they know. This means parents may not realise that their child is behind where they should be if most children in their area are also delayed.



Fieldwork: Summary of professionals' views (1)



The wider environment matters: professionals can also be led astray in an area where most children are delayed. A family's wider social circle are also important influences.

- Similar to parents, professionals judgement may be influenced if most children in an area are delayed.
- It doesn't really matter who talks to the child, all language helps the child learn to communicate. This suggests a potential role for extended family/friends.



Best practice suggests that young children should have no, or very limited, time with technology. However practitioners also have to offer realistic advice to parents.

- Technology can impede children's development but it is unrealistic to remove it all together. The focus should be on encouraging parents to use it as a tool rather than a babysitter.



Parents' views matter, whether disengaged or overly engaged. Some parents have a passive view of their role in a child's development (seeing it as an automatic process) while others can get overly worried. Staff need to provide honest feedback to parents without causing excessive worry.

- Many parents see themselves as custodians rather than active participators in their child's development. This means they do not realise the importance of their actions in helping their child learn to talk/communicate effectively and instead think someone else e.g. school will sort out any problems.
- Not all parents understand the importance of play in language development.
- Staff wanted to avoid causing parents unnecessary worry when a child seemed like they may be behind.



Fieldwork: Summary of professionals' views (2)



Both the ASQ and WellComm are useful tools, but have their limitations. There are many things professionals need to consider when visiting a family's home

- At 9 months, parents concentrate on their child's movement and the introduction of solid food.
- Home visits through the Healthy Child Programme need to cover lots of topics. For staff who are not speech and language experts, language and communication is just one area of development looked at in the ASQ (and not necessarily the top priority).
- The ASQ itself may also only form a small part of the discussion during the visit. For example, professionals may need to discuss the home environment, progress of other children, maternal mental health and many other topics.
- Even where the ASQ flags a concern, staff don't have consistent, good quality resources to give parents to help them support their children's communication.
- The ASQ is completed at different times across GM and even within districts. For example some staff did the ASQ at the beginning of the 9-12 month window so that if any delays were identified they could suggest some actions to parents and then return a few months later to reassess the child. Other professionals did the screening at the upper age limit to allow the child as long as possible to develop the various skills measured.
- Professionals we spoke to who weren't speech and language specialists had only carried out a Wellcomm assessment a handful of times. All of them said they didn't feel particularly confident completing it. This seemed to be because of a lack of experience and also the limited training they had received on completing the Wellcomm assessment.



Evidence review: Summary

The table below summarises our key findings. The full Literature Review is available separately.

Theme	Key findings
Parental behaviours that are important during each year of a child's early life	<ul style="list-style-type: none">• Early in a child's life, any and all interaction is important.• From one to two years, quantity of communication is more important than quality. Parent-child interactions should focus on what the child is doing at that moment (contingent talk).• As children get older (two to four years), parents should shift toward more complex vocabulary and begin talking about the past and future (not just the here and now)
Studies which have used behavioural science to help parents support their children's communication skills	<ul style="list-style-type: none">• Feedback seems to be important. Several studies provide parents with feedback about their how their child's language is progressing or how many words they are hearing.• Several studies use regular timely prompts, taking a 'little and often' approach to providing parents with information and activities• Several studies concentrate on encouraging regular, contingent conversation rather than conventional 'reading'• There is early indicative evidence that an intensive, 30 week language development programme (STOKE speaks out) may be effective, although it is expensive.
Other behavioural approaches which seem promising, but haven't previously been tested in this specific context	<ul style="list-style-type: none">• There is good evidence (albeit from studies involving teachers) that teaching children 'print knowledge' has significant and lasting effects on their reading skills for at least two years.• Helping parents to make effective plans may support them to engage more with their child's development (though this has only been well-tested with parents of older children).



Section Two: Developing a behaviourally-informed intervention

- Solution overview
- Overarching focus: reduce the intention-action gap and build new habits
- Behavioural approaches: planning, feedback and timely prompts
- Intervention from the parent's point of view



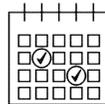
Solution: Overview

Question	Recommendation
What should GM do to support language development?	<p>We recommend that GM concentrates on helping parents/carers to build a new positive habit of talking to their child by reducing the gap between their good intentions and their action through:</p> <ul style="list-style-type: none">• Helping parents make concrete plans about when, where and how they will talk to their children.• Giving parents feedback about their behaviour and/or their child's development so they can see progress.• Contact parents regularly and including a small amount of information in each contact.
Who will we target?	<p>We suggest prompting parents to sign up for the new service during their 9 month universal ASQ check (at home or in a clinic). This is the right time in a child's development, these checks are universal and Health Visitors and other professionals would welcome a concrete resource to refer parents to.</p>
How could we do this?	<p>There are two options:</p> <ol style="list-style-type: none">1. BIT could partner with another organisation to build the above principles into another service which is already available or being developed in GM (like Essential Parent) (<i>preferred if possible</i>)2. BIT could independently develop a new, light-touch offer to pilot with parents (such as a text messaging service which helps them make better plans). This could then be built up over time, testing and iterating as we go before evaluating at scale.
How would we pilot and scale?	<p>We suggest a three-step process:</p> <ol style="list-style-type: none">1. Pilot. Launch a light-touch service for parents soon (late 2018/early 2019). Use the pilot to test different ways of encouraging parents to sign up for the service and to test practical logistics.2. Expand. Add additional behavioural components into the service and roll out to a wider group of parents and professionals. Begin testing which components and messages maximise parents' engagement.3. Evaluate. Systematically roll out and evaluate the approach using a 'stepped-wedge' evaluation design.



Solution: Our focus is reducing the intention-action gap

- The vast majority of parents **want the best for their children**. Our research suggests that most parents broadly know the types of activities they need to do to support their children's language development (reading, singing, etc.) The relatively high incidence of speech delays suggests they aren't doing these things as often as they should.
- In addition, we often suffer **a gap between our intentions and our actions**: even motivated people can forget to follow through on their intentions or procrastinate.¹ In behavioural research, this is known as the 'intention-action' gap. As a consequence, **our attitudes and beliefs do not always affect our behaviour as much as we might expect.**²
- Because of the intention-action gap, and parents' generally good understanding of what they should be doing, **we think that providing more information alone is unlikely to change behaviour.**
- Our suggested approach is about making it easier for parents to talk to their children by providing hints and tips to parents in an accessible way, at a useful time. We think providing **well focused, timely** support will help parents to overcome the intention-action gap and **build new habits** by to help them turn their intentions into action.
- We suggest using three key behavioural approaches:



Helping parents to make effective plans



Giving parents feedback on their behaviour or their child's progress



Providing regular, timely prompts with small games and activities



Solution: Behavioural approach I - Planning



- Making a **plan** about **when and how** you will do something makes it **more likely you will achieve your aim**. For example a parent may want to spend more time reading with their child. How you make a plan matters and there are a number of ways to make plans more effective:
 - **Chunking**. Achieving goals can be made much easier, and less intimidating, by breaking big, longer-term goals down into small 'chunks'.¹ This helps people to see how the long-term goal can be reached through smaller steps and also gives them a small reward and feeling of accomplishment as they reach each sub-goal. For example, the aim of reading to a child for an hour each week can be broken down into reading for 10 minutes at a time.
 - **Setting implementation intentions**. Another effective way to help people achieve their goals is to get them to create 'implementation intentions'.² Implementation intentions are not the same as setting a simple goal (where someone plans to achieve a certain behaviour or outcome). Implementation intentions specify the when, where and how of achieving the goal. Setting an implementation intention involves creating a plan with the structure of 'When situation x arises, I will perform response y'. For example for the parent who wants to read to their child for an hour each week broken down into 10 minute sessions an implementation intention could take the form of 'at bedtime I will spend 10 minutes reading to my child'. This ties the chunked goal to a specific situation and also augments an existing routine rather than asking parents to do something entirely new.
- We will include prompts for people to plan when they are going to carry out the suggested activities/games that we send them.

A

Andy, you wanted to read to Sam for an hour this week. You could do this by reading for just 10 mins each day.

A

Fatima, we know sometimes it can be difficult to spend time with Mo if you get stuck at work. If you're late home next week, what could you do to make sure you still got some quality time with him?

Now



Solution: Behavioural approach II - Feedback

- Feedback is central to how we learn. Getting **feedback** on our behaviour gives us information about how we're performing (which is not always obvious to us) and **presents an opportunity to adjust our behaviour**.¹ We think feedback is a promising approach in this case because:
 1. Children's development happens slowly. This can mean that parents don't always notice the incremental improvements in a child's speech and communication skills. Providing feedback on a child's development and crucially linking it to specific actions parents have done is likely to encourage parents to continue repeating those actions.
 2. We think that providing feedback to parents about the role they play in helping their child's language skills develop may also help give parents confidence that they can have a direct effect on how their children learn and grow. This might be expected to help parents realise their prime importance in helping their children learn.
 3. Parents already routinely film their children doing daily activities (e.g. learning to walk, saying particular phrases). If we prompt them to film their child and then review it a few weeks later this would be building on existing behaviour rather than doing something new.
- **Personalised feedback is important for habit formation.** Habit formation involves gradually learning an association between the context and a response, meaning once individuals have developed a habit, the context automatically triggers the behaviour.² The main aim of this project is to help build parents' positive habits in relation to talking and listening to their children.



Now • MMS

A Sarah, last month you filmed Jo saying her alphabet. She knew four letters then. Why not try again and see how many she knows now?

Now



Solution: Behavioural approach III - Regular, timely prompts



- Timing matters. We **respond differently to prompts depending on when they occur**. For example, we are particularly likely to change our habits during periods of transition - after we move house, get married, have a child or lose a close relative.¹ Moreover, our decisions, thoughts and behaviour are often influenced by the ideas, objects and people we experience from moment to moment.²
- We have incorporated 'timeliness' in 2 ways in our suggested approach:
 1. Targeting parents at the 9 month check. This is a practical suggestion because there is already universal screening at this age but it also coincides with when a lot of mothers will be returning to work (statutory maternity pay is for 9 months). This means that families will be developing new habits and routines e.g. taking their child to nursery. This means it is a good opportunity to create new habits which support speech and language development.
 2. When we send suggestions for games or activities to do we will link them with universal activities for e.g. 'at bathtime try...'

A

Ola, it's nursery pick up time. As you're driving home, ask Ade to count how many blue cars go past.

Now



Solution: Intervention from the parent's point of view



At the nine-month development check, a professional completes the ASQ as normal (at home or in clinic)



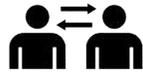
If the child scores grey or black on the language component of ASQ, parents are invited to sign up for the new service. This could be done in several ways:



If they sign up, they will receive regular messages (SMS or app notifications). These will provide tips and games they can use to build their child's language skills. The service will use three core behavioural principles:



By helping parents have more regular interactions with their child, we hope this will improve children's language development. Long-term, we could try to measure this change (e.g. using WellComm)



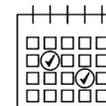
Direct referral by Health Visitor or other professional (possibly followed up with reminder text/postcard)



SMS with direct link to App Store or easy reply to sign up



Postcard or letter (e.g. for the X% of parents who don't attend the 9 month check)



Helping parents to make effective plans



Giving parents feedback on their behaviour or their child's progress



Providing regular, timely prompts with small games and activities



Section Three: Evaluation and expansion

- Overview
- Stage 1 – Pilot
- Stage 2 – Expand
- Stage 3 – Evaluate



Evaluation and expansion: Overview I

We suggest a three stage approach to developing a comprehensive GM wide service to support parents:

- **Pilot.** Start in a small area of GM. Either develop a minimum viable product (a text message service which incorporates planning and timely prompts), or build some behavioural approaches into an existing product or service (like Essential Parent). At this stage the goals are:
 1. Test the logistics of rolling this out to parents and delivering it effectively (working with frontline staff).
 2. Run one or two messaging trials, testing different wording and approaches to see which is most effective in getting parents to sign up.
- **Expand.** Build up the service to include more behavioural approaches (including feedback). Test this in a single GM district. At this stage the goals are:
 1. Continue testing and refining the approach to getting parents to sign up (working with frontline staff).
 2. Begin testing the content of the service through randomised controlled trials (RCTs) on specific messages and collecting qualitative or self-reported data from parents about the impact of the service on their behaviour.
- **Evaluate.** Roll the service out across GM, using an approach known as a 'stepped wedge' to systematically measure the impact of the service as it is rolled out. At this stage the goals are:
 1. Measure the impact of the service on child development outcomes (either using routine screening via ASQ or WellComm or through extra assessments with a sample of children)



Evaluation and expansion: Overview II

Important points to note about our suggested evaluation approach:

- We have proposed using a mix of qualitative and quantitative measures. It is important to note that the approach set out here is only indicative. If this project does go ahead we will need to spend more time understanding existing data sources (e.g. the number of ASQ checks carried out in each ward each month) and practical aspects of setting up the evaluation (e.g. whether there are records of parents' mobile phone numbers, how ASQ scores are recorded etc).
- It is likely to be difficult to measure the impact of this suggested service on overall levels of speech and language skills because ASQ is not detailed enough and coverage is incomplete. Instead we have suggested introducing universal Wellcomm screening in Stage 2 (expand). We suggest this is done in a small area of GM to test the feasibility of the approach. Another possible approach is to use an existing speech and language assessment tool.



Evaluation: Stage 1 - Pilot

Intervention	Research Question(s)	Possible evaluation approach(es)	Outcome measure(s)
<p>SMS service/existing app which sends parents tips and hints about activities to do with their child. Service will also encourage parents to plan when they will carry out these suggested activities.</p> <p>This service is rolled out to parents in a specific area of GM.</p>	<p>What are the practical and logistical factors which are important in rolling this service out to parents?</p>	<p>Process evaluation and qualitative interviews with practitioners and other key staff to understand roll out.</p>	<p>N/A</p>
<p>Parents are invited by frontline staff to sign up for the service at the 9 month ASQ check. We will test a number of ways of maximising take-up of the service e.g. postcards/ texts/ phone call after the 9 month ASQ check.</p>	<p>What are the most effective ways of encouraging parents to sign up for the speech and language intervention (e.g. test different wordings on material, different messengers etc)</p>	<p>Randomised controlled trial (at individual parent level or practitioner level) testing different methods of encouraging parents to sign up.</p>	<p>Sign up for the service and/or click-throughs to find out more information</p>



Evaluation: Stage 2 - Expand

Intervention	Research Question(s)	Possible evaluation approach(es)	Outcome measure(s)
<p>Expand the service to give a more comprehensive offering which incorporates more behavioural approaches (e.g. using videos to provide parents with feedback). This might include working with an existing app (e.g. Essential Parent) to incorporate behavioural approaches.</p> <p>Use rapid testing of specific messages to guide the development of the approach. Because of the ease of delivery and timely delivery, we expect to continue using SMS messages.</p> <p>Develop a set of materials and an approach for staff in an area to begin prompting parents to enrol/sign up for the service during the 9 month check.</p>	What are the most effective ways of encouraging parents to sign up for the speech and language support service?	RCT (at individual parent level or practitioner level) testing different methods of encouraging parents to sign up.	Sign up for the service and/or click-throughs to find out more information
	What types of content/material do parents engage most with?	RCT (at individual level) testing different messages or content against each other.	Click-throughs, reads or some other measurement of engagement with individual messages
	Does signing up for the service change parents' behaviour in relation to supporting speech and language development?	Qualitative or survey-based evaluation of parents and practitioners views on the efficacy of the intervention on changing parents' behaviour (NB this will involve a relatively small number of parents so will be indicative evidence only).	Use a standardised measure of parental confidence/engagement with their child's language development (self-reported/qualitative).



Evaluation: Stage 3 - Evaluate

Intervention	Research Question(s)	Possible evaluation approach(es)	Outcome measure(s)
<p>At this stage, there is a well-developed product/service. There is a good understanding about the logistics and practicalities of rolling this out to parents.</p> <p>Focus on systematically rolling this out at scale across GM, structuring the roll out in a way which means the impact on children's communication skills can be measured.</p>	<p>Does signing up for the service change parents' behaviour in relation to supporting speech and language development?</p> <p>What is the impact on language development of rolling out a new approach where staff systematically encourage parents to enrol into the new service?</p>	<p>Programme is rolled out in a step-wedge across GM wards, with the intervention being introduced into one ward at a time.</p> <p>Each month, staff in a new area are asked to begin encouraging parents to enrol during routine development checks (9 month, 18 month or two year)</p>	<p>Take up of the service</p> <p>Impact on parents' behaviour (self-reported/qualitative)</p> <p>WellComm/standard language assessment tool scores. This will need delivering universally (which doesn't currently happen). Possible ways to do this are to use research assistants (e.g. from the University) to carry out the assessment. Alternatively focus on a group/area where it already happens or could happen (e.g. specific set of nurseries).</p> <p>Ward-level measurement of 2 year check and/or GLD on school entry</p>



Section Four: Next steps

- Overview



Conclusions & Next Steps: Overview

- We think there is real potential for a new product/service, embedding behavioural approaches into the design, to improve early speech and language development in GM.
- This could be done by developing a new service, or through embedding three key behavioural approaches into an existing product/service already available in GM. The behavioural approaches are:
 1. Helping parents make **concrete plans** about when, where and how they will talk to their children.
 2. Giving parents **feedback** about their behaviour and/or their child's development so they can see progress.
 3. Contact parents **regularly** and only including a small amount of information in each contact.
- We have suggested a three stage process for piloting, scaling and evaluating this new approach:
 1. **Pilot.** Launch a light-touch service for parents soon (late 2018/early 2019). Use the pilot to test different ways of encouraging parents to sign up for the service and to test practical logistics.
 2. **Expand.** Add additional behavioural components into the service and roll out to a wider group of parents and professionals. Begin testing which components and messages maximise parents' engagement.
 3. **Evaluate.** Systematically roll out and evaluate the approach using a 'stepped-wedge' evaluation design.



Annex 1: References



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