Nuffield Foundation Research Award
Research Title

• A randomised controlled trial of the effectiveness of parent-based models of speech and language therapy intervention for 2 to 3 year old children with primary language delay in areas of social disadvantage.
Research Team

• **Principal Investigator (Grant holder) : Dr Deborah Gibbard** (Integrated Locality Manager, & Solent Trust Professional Advisor SLT)
• **Dr Chris Markham** (Head of School of health sciences and social work, University of Portsmouth)
• **Dr Ngianga Il Kandala (Shadrack)** (Senior Lecturer in Medical Statistics and Epidemiology at Portsmouth University)
• **Professor Sue Roulstone** (Professor of Speech & Language Therapy, Faculty of Health and Life Sciences, UWE)
• **Dr Clare Smith** (Clinical expert pathway lead SLT)
• **Dr Lydia Morgan** (Research Speech and Language Therapist, Bristol Speech & Language Therapy Research Unit)
• **Dr Sam Harding** (Psychologist & Senior Research Associate, Bristol Speech and Language Therapy Unit)
• Odette Edwards, Research Assessment SLT 0.6 wte (commences 16 June 2017)
• Michelle Habgood, Research Intervention SLT 0.5 wte
• To be employed - Qualified early years teacher

External steering group members: Professor Courtney Norbury, UCL; Professor James Law, University of Newcastle; The Communication Trust.
Background

- Primary language delay remains one of the most prevalent developmental delays in early childhood and in disadvantaged areas, the prevalence is higher than elsewhere. In the UK, at school entry, around 7.5% of children are estimated to have a significant language delay (Norbury et al, 2016) which could rise to almost 50% in areas of social disadvantage (Locke et al, 2002).
- Research has established that the prevalence and prognosis of early language delay is exacerbated by social disadvantage in two ways:
  (a) Firstly, low socio-economic status has been identified as a predictive factor in indicating persisting language difficulties and adverse outcomes (Paul & Roth, 2011; Henrichs et al, 2011; Fernald et al, 2013; Clegg et al, 2015), although there is less known about what it is in the early environment that leads to this.
  (b) Secondly, in disadvantaged areas, access and engagement with services is a challenge, and health outcomes are affected by both social and geographical factors (Maggi et al, 2010).
- However, research also indicates that the negative effects of social disadvantage can be mediated by a positive parenting environment (Gutman & Feinstein, 2007; Raviv et al, 2004).
What is Parent based Intervention (PBI)?

• PBI is a 10-week, group based intervention programme (8 to 10 families per group), designed to teach parents how to develop their child’s language at home in functional ways, employing language enhancing techniques and using a combination of the setting of linguistic objectives and an interactional approach. It is a fully manualised intervention (Gibbard, 1998) with the treatment rationale and aims for each session outlined in full, along with suggestions on how to deliver the session.

• During the group sessions, language objectives are set for the parents to work on at home with their child, with explanations and demonstrations provided. Practice activities are devised during the sessions to encourage the parents to think about each language objective flexibly. Each parent implements the language objectives set at home with their child in line with the particular routines and interests of their child. For example, parents are encouraged to follow their child’s lead at home and strong emphasis is placed on achieving the language objectives by using daily routines and naturally occurring situations.

• PBI is based on research showing that aspects of the parenting environment can support language development, specifically that providing a frequent, familiar, repetitive and salient input facilitates language development.
Parent-based Intervention (PBI)

• PBI has been shown to be an effective intervention for 2 to 3 year old children clinically diagnosed with primary language delay (Gibbard, 1994, 2004; Cochrane Review 2003/09), and is used throughout England (cited in the Cochrane Systematic Review for early language interventions, The Communication Trust What Works web-site and the RCSLT Resource Manual for Commissioning and Planning Services for SLCN).

• However, as engagement with services is low in areas of social disadvantage, families often opt out of intervention and children in these areas fail to develop their language potential.

• The challenge is therefore to provide a PBI service that is accessible to families from disadvantaged areas.
Enhanced PBI (EPBI)

- Gibbard & Smith developed Enhanced PBI (EPBI) in Portsmouth, in line with DCSF and DfES recommendations, and the NHS Five Year Forward Plan, as an enhanced, interagency, integrated form of the standard PBI care, aiming to increase engagement by reducing barriers, such as location of sessions, childcare availability, lack of confidence, attitudes and motivation.

- EPBI is an enhanced form of the standard PBI care (standard plus intervention), delivered by an integrated team. A model of Enhanced PBI was developed for delivering PBI in Children’s Centres within areas of social disadvantage and evaluated via a pilot project.

- The Enhanced PBI therefore differs from the existing standard PBI service by a number of parameters. As cited in the research evidence and feedback to the service via parents, these aim to reduce some of the barriers to engaging with parent support services, such as location and timing of sessions, childcare availability, attitudes towards the service, fear of judgement, lack of confidence, motivation. The Enhanced service aims to show parents that engaging in their child’s development can make a difference.
## Differences between Standard PBI & Enhanced PBI

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<thead>
<tr>
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<th>Standard Parent based Intervention</th>
<th>Enhanced Parent based Intervention</th>
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<tbody>
<tr>
<td><strong>Staff</strong></td>
<td>NHS SLT</td>
<td>NHS SLT</td>
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<td>Children’s Centre qualified Teacher</td>
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<td></td>
<td>Créche staff</td>
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<td><strong>Location</strong></td>
<td>Health Centre</td>
<td>Local Children’s Centre</td>
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<td><strong>Sessions</strong></td>
<td>10 sessions of approximately 1.5 hours duration over a 20 week period delivered by an SLT.</td>
<td>10 PBI sessions of approximately 1.5 hours duration over a 20 week period delivered by an SLT.</td>
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<td>Additional opportunity for 10 sessions drop-in support at the Children’s Centre with a Children’s</td>
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<td>Centre teacher available to clarify and model the activities and strategies discussed in the previous</td>
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<td>week’s PBI group.</td>
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<td><strong>Home Visit</strong></td>
<td>None</td>
<td>Initial home visit by Children’s Centre teacher to make contact, establish a relationship, encourage</td>
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<td>attendance, provide information about parent’s role in their child’s language development and answer</td>
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<td></td>
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<td>any questions about the intervention</td>
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<td><strong>Crèche</strong></td>
<td>Not available</td>
<td>Children’s crèche – arts &amp; crafts activity linked to the PBI session (e.g. making a posting box) and</td>
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<td>learning journey to support PBI activities, &amp; usual crèche activities</td>
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<tr>
<td><strong>Contact</strong></td>
<td>None</td>
<td>Children’s Centre support worker contacts all families by either phone, text, email or Facebook</td>
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<td></td>
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<td>every week to remind them to attend</td>
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A local pilot project evaluated EPBI in areas of social disadvantage and demonstrated increased parental engagement with the service (Gibbard & Smith, 2016).

When the EPBI service was offered in disadvantaged areas, take-up rates increased from 35% to 100% and engagement rates increased from 50% to 80% (compared to 88% engagement rates in non-disadvantaged areas).

On evaluation, children made comparable language gains to children receiving the original PBI in non-disadvantaged areas.

The key themes emerging from parent reported outcomes were improved knowledge of language development and communication, improved skills on how to support their children, improved relationships, decreased frustration and improved confidence and self-esteem.
Aims of RCT & expected outcomes

• (1) to evaluate the impact of parent based intervention on the language of 2 to 3 year old children from socially disadvantaged populations with a clinical diagnosis of primary language delay. These outcomes will lead to a clearer understanding of the impact of delivering parent based intervention with socially disadvantaged clinical populations.

• (2) to evaluate the effect of parental skills, attitude and confidence to engage with treatment, and child outcomes. These outcomes will lead to a clearer understanding of the practical, physical and psychosocial effects of the home learning environment on children’s language development.
Design & Interventions

• **Design**
  A randomised controlled trial with a clinical population of 192 two to three year old children clinically diagnosed with primary language delay, assigned to receive one of two different indirect, parent interventions, carried out in socially disadvantaged areas.

• **Interventions**
  Two interventions, standard care (PBI) and Enhanced parent based intervention (EPBI), will be compared across socially disadvantaged areas within two cities (Southampton and Portsmouth):
Outcome Measures

- Child language levels will be assessed pre intervention, at the end of the intervention period (to evaluate any immediate change), and 6 months post-intervention (to evaluate any potential longer term change).
- The planned primary outcome measure for the RCT is a quantitative measure of child language using a standardised assessment measure, The Pre-School Language Scales 5 UK (PLS 5 UK) (Zimmerman et al, 2014).
- A secondary outcome measure, the MacCarthur Bates Communicative Development Inventory which is a valid, norm-referenced, parent report of vocabulary and early language that has been adapted for British English (Klee et al, 1999).
- Further secondary outcome measures include: (a) changes in child vocalisation count, adult word count and conversational turn count as measured using the automated analysis of LENA Pro (Language Environment Analysis) technology, an audio digital language capture and analysis device (Lena Foundation, 2014) (b) the Patient Activation Measure (Insignia Health, 2014) to assess the effects of parent’s underlying knowledge, skills and confidence related to the management of their child’s language. (c) a semi-structured interview with parents to assess their perspectives on accessibility of the intervention.
Participants

- Pre-determined inclusion criteria (age, aetiology and language profile) will be applied to diagnose primary language delay in 2 to 3 year olds.

- After referral to the SLT service, each parent and child will attend an initial assessment (current practice) which will establish whether the child meets the following selection criteria (to diagnose primary language delay): (1) 24-36 months (2) Little or no expressive language (a vocabulary of 40 or less single words) (3) No known aetiology; the language delay is not secondary to sensory, structural, neurological or cognitive impairments

- Participants will be recruited from two geographical areas that are recognised as having low socioeconomic status populations. The study will use the Index of Multiple Deprivation (IMD) as a basis to determining a measure of deprivation. However, as this is a geographical ranking, the RCT will include further refinement of eligibility of social disadvantage via assessment of individual measures of income deprivation, employment deprivation and education attainment. This information will be collected via case history questionnaire to determine eligibility.

- Where English is not the first language, children would be excluded.
Recruitment

- Following routine assessment, if the child meets the eligibility criteria, families will be informed about the study and be invited to participate. The NHS clinician will explain the purpose and nature of the research, what it involves, & the potential benefits, risks & burdens. The alternatives to taking part will be made clear. A participant information sheet will be provided. If a family is interested in participating at this stage, they will be invited to attend a research assessment appointment.

- At the research assessment appt, families will then be recruited through letters of invitation, with accompanying information sheets and signed informed consent forms.
- If families are interested in being part of the study and meet the eligibility criteria, mark the application form with ‘Research study?’
Any Questions?