

# The language explorer clinical evaluation study

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| <b>Submission date</b><br>12/11/2020   | <b>Recruitment status</b><br>No longer recruiting             | <input type="checkbox"/> Prospectively registered<br><input checked="" type="checkbox"/> Protocol |
| <b>Registration date</b><br>23/11/2020 | <b>Overall study status</b><br>Completed                      | <input type="checkbox"/> Statistical analysis plan<br><input checked="" type="checkbox"/> Results |
| <b>Last Edited</b><br>13/01/2023       | <b>Condition category</b><br>Mental and Behavioural Disorders | <input type="checkbox"/> Individual participant data  |

## Plain English summary of protocol

### Background and study aims

Ten percent of children have delayed language in the preschool years. Some make progress without help; others need advice from a health visitor or a speech and language therapist (SLT). If a child's problems with language development continue, they may be diagnosed with Developmental Language Disorder, which can affect their learning and development. A technology company called Therapy Box has developed an app called Language Explorer. The aim of this app is to help SLTs analyse children's language abilities. It is hoped that it will support SLTs to make timely decisions about which children need therapy and what the focus of therapy should be, as well as which children may need advice and monitoring only. The Language Explorer app could save money in the NHS by reducing the time needed to carry out language assessment and potentially ensure more children receive the help they need. The app requires children to listen to a story told with pictures via the app, and then re-tell the story in their own words. This will provide an example of their language which is recorded and analysed by the app to provide a report on the child's language skills. The children will also be asked questions about the story and to repeat ten sentences. The aim of this study is to trial the app with children who have problems with their language development to see whether the Language Explorer app can be used to assess their language skills accurately. The researchers will also be asking parents and speech and language therapists about their views and experiences of using Language Explorer.

### Who can participate?

Children aged between 4 years and 7 years 11 months old who have a developmental language disorder, and their parents

### What does the study involve?

Children aged 6 years and 0 months to 7 years and 11 months will be invited to attend a remote appointment session with their parents. Children aged 4 years and 0 months to 5 years and 11 months will be invited to attend a face-to-face appointment in a clinical setting with their parents. All children will be asked to complete the Language Explorer app and additional language assessments. The researchers will also ask parents if they are happy to be interviewed about their child's experiences using the app. Once the software has been evaluated, it is hoped that the app can be used in NHS services across the country.

What are the possible benefits and risks of participating?

While there are no benefits to the participant, the study will provide information on how children perform on the Language Explorer app and participants' views and experiences of using the app. This information will help complete the development of the app which in turn may give speech and language therapists more time to work with more children and to reduce waiting times.

It is believed that there are no risks to the participant. However, in the unlikely event that something does go wrong and the participant is harmed during the research study there are no special compensation arrangements. If the participant is harmed and this is due to someone's negligence then the participant may have grounds for legal action for compensation against North Bristol NHS Trust but the participant may have to pay participants' legal costs. The normal National Health Service complaints mechanisms will still be available to the participant.

Where is the study run from?

The study is being run and co-ordinated by the Bristol Speech and Language Therapy Research Unit (UK)

When is the study starting and how long is it expected to run for?

November 2020 to October 2021

Who is funding the study?

National Institute for Health Research (NIHR) (UK)

Who is the main contact?

Dr Yvonne Wren, [Yvonne.Wren@bristol.ac.uk](mailto:Yvonne.Wren@bristol.ac.uk)

### **Study website**

<https://www.languageexplorer.app/>

## **Contact information**

### **Type(s)**

Scientific

### **Contact name**

Dr Yvonne Wren

### **ORCID ID**

<http://orcid.org/0000-0002-1575-453X>

### **Contact details**

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# Additional identifiers

## EudraCT/CTIS number

Nil known

## IRAS number

276718

## ClinicalTrials.gov number

Nil known

## Secondary identifying numbers

IRAS 276718, CPMS 44784

# Study information

## Scientific Title

Clinical evaluation of an automated language transcription and analysis app to assist speech and language therapists with clinical decision making in the evaluation of developmental language disorders

## Acronym

ATLAS

## Study objectives

1. Does Language Explorer distinguish children with Developmental Language Disorder (DLD) from children who have typically developing language skills?
2. Does the Language Explorer identify patterns of performance which distinguish groups of children with DLD?
3. What are clinicians' (speech and language therapists) and parents/carers' views of Language Explorer?

## Ethics approval required

Old ethics approval format

## Ethics approval(s)

Approved 11/11/2020, North of Scotland Research Ethics Committee 1, (Summerfield House, 2 Eday Road, Aberdeen, AB15 6RE, UK; +44 (0)1224 558458; nosres@nhs.net), ref: 20/NS/0128

## Study design

Multi-site prospective cohort study

## Primary study design

Observational

## Secondary study design

Cohort study

## Study setting(s)

Other

## **Study type(s)**

Screening

## **Participant information sheet**

See additional files for children aged 4-5 years

(ISRCTN12718815\_PIS\_Child4to5yrs\_06Nov20\_V1), children aged 6-7

(ISRCTN12718815\_PIS\_Child6to7yrs\_06Nov20\_V1), parents

(ISRCTN12718815\_PIS\_Parent\_06Nov20\_V2), and clinicians

(ISRCTN12718815\_PIS\_Clinician\_06Nov20\_V2) (added 02/12/2020)

## **Health condition(s) or problem(s) studied**

Children with or suspected to have Developmental Language Disorder (DLD)

## **Interventions**

Three types of participants will be enrolled in the trial:

1. Children with confirmed or suspected DLD
2. The parents/carers of these children
3. The SLTs carrying out the Language Explorer assessments

Following enrolment into the study, the child will attend for a single assessment session held either remotely or in an SLT clinic, lasting 20 minutes to 1 hour. Children aged 6 years and 0 months to 7 years and 11 months will attend a remote appointment session at home with their parent/carer, facilitated by the local SLT in the clinic. In this session, the child will be asked to complete the Language Explorer App, and the CELF-5 UK assessment, with support from a parent /carer to access these resources on a tablet device. Children aged 4 years and 0 months to 5 years and 11 months will attend a face to face appointment in a clinical setting with their parent /carer. In this session, the local SLT will support the child to complete the Language Explorer App, and the CELF- Preschool 2 UK assessment.

Parents and carers who consent to be interviewed will complete a session by telephone on a separate occasion within 1 month following their child's appointment. The session will take 20 to 30 minutes and will involve an interview about their child's experiences using the Language Explorer app.

The SLTs facilitating the Language Explorer assessment sessions will be enrolled as study participants, as the researchers will collect interview data about their experience of using the Language Explorer app. Immediately following the assessment session, a member of the research team will complete the telephone interview with the participating SLT, which will take 20 to 30 minutes.

Four types of data will be collected and analysed:

1. Language Explorer transcription and analysis scores
2. Clinical Evaluation of Language Fundamentals (specifically CELF- Preschool 2 UK and CELF-5 UK) assessment forms and subtest scores
3. SLT Clinical Judgement Form
4. Parent and SLT interview

All children recruited to the study will be assessed on the Language Explorer app. All children will also have the SLT Clinical Judgement Form completed for them. Where the appointment happens remotely, the child will be assessed on the Q-Interactive version of the Clinical

Evaluation of Language Fundamentals(CELF-5). Where it takes places in person in a clinical setting, the child will also be assessed on the Clinical Evaluation of Language Fundamentals (CELF-Preschool 2 UK).

### **Intervention Type**

Other

### **Primary outcome measure**

Language ability will be measured using the Language Explorer subscores and total score at a single timepoint (assessment session)

### **Secondary outcome measures**

1. For children aged 4 years and 0 months to 5 years and 11 months, language ability will be measured by CELF-preschool 2 UK word structure and recalling sentences subtests at a single timepoint (assessment session)
2. For children aged 6 years and 0 months to 7 years and 11 months, language ability will be measured by CELF-5 UK Word Structure, Recalling Sentences, Formulated Sentences, and Understanding Spoken Paragraphs subtests at a single timepoint (assessment session)
3. Areas of language impairment will be identified via the clinical judgement form using Catalise consortium categories, completed by an SLT at a single timepoint
4. Clinician and parent views of the Language Explorer app will be measured by deriving themes from semi-structured interviews completed within 1 month of the Language Explorer assessment session

### **Overall study start date**

01/11/2020

### **Completion date**

31/10/2021

## **Eligibility**

### **Key inclusion criteria**

1. Children aged between 4 and 7 years inclusive
2. Children who speak and are exposed to only English in the home
3. Children who have been identified by a speech and language therapist as having DLD
4. Case histories that are unremarkable in terms of birth, overall development and general health

### **Participant type(s)**

Patient

### **Age group**

Child

### **Lower age limit**

4 Years

### **Upper age limit**

7 Years

**Sex**

Both

**Target number of participants**

60

**Total final enrolment**

15

**Key exclusion criteria**

1. Children with history of significant hearing problems (e.g. sensori-neural hearing loss or use of hearing aids in the case of severe and recurrent otitis media)
2. Evidence of structural or neurological disorders (e.g. cleft palate, cerebral palsy, autism)
3. Children with significant speech difficulties which impact their intelligibility
4. Children who have been assessed using one of the Clinical Evaluation of Language Fundamentals (CELF) tools in the previous 6 months

**Date of first enrolment**

16/11/2020

**Date of final enrolment**

31/08/2021

**Locations****Countries of recruitment**

England

United Kingdom

**Study participating centre**

**Children's Speech and Language Therapy Sirona Care & Health**

Eastgate Centre

Eastgate Road

Bristol

United Kingdom

BS6 6XX

**Study participating centre**

**Children's Integrated Speech and Language Therapy Service for Hackney and the City**

Homerton University Hospital NHS Foundation Trust & Hackney Learning Trust

London

United Kingdom

E9 6SR

**Study participating centre**  
**Paediatric Speech and Language Therapy**  
Newcastle upon Tyne NHS Foundation Trust  
Level 3, Regent Point  
Regent Farm Rd  
Newcastle upon Tyne  
United Kingdom  
NE3 3HD

## **Sponsor information**

### **Organisation**

Therapy Box Limited

### **Sponsor details**

Sun Studios  
Unit 3  
30 Warple Way  
London  
United Kingdom  
W3 0RX  
+44 (0)208 7493474  
rbright@therapy-box.co.uk

### **Sponsor type**

Industry

### **Website**

<https://therapy-box.co.uk/>

### **Organisation**

North Bristol NHS Trust

### **Sponsor details**

Research and Innovation  
Level 3, Learning and Research Building  
Southmead Hospital  
Bristol  
England  
United Kingdom  
BS10 5NB  
+44 (0)117 4149330  
researchsponsor@nbt.nhs.uk

### **Sponsor type**

Hospital/treatment centre

**Website**

<https://www.nbt.nhs.uk/research-innovation>

**ROR**

<https://ror.org/036x6gt55>

## **Funder(s)**

**Funder type**

Government

**Funder Name**

National Institute for Health Research

**Alternative Name(s)**

National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

**Funding Body Type**

Government organisation

**Funding Body Subtype**

National government

**Location**

United Kingdom

## **Results and Publications**

**Publication and dissemination plan**

1. Submitting abstracts for verbal and poster presentations at conferences such as RCSLT conference, DLD Clinical Excellence Networks
2. Submitting research papers to journals such as International Journal of Language and Communication Disorders, Child Language and Teaching Therapy
3. Through the Bristol Speech and Language Therapy Research Unit newsletter
4. Emailing the clinical teams of the three research sites (Bristol, Newcastle, Hackney) through their service leads
5. Planned publication in high-impact peer-review journals

**Intention to publish date**

01/02/2022

**Individual participant data (IPD) sharing plan**



The data-sharing plans for the current study are unknown and will be made available at a later date.

## IPD sharing plan summary

Data sharing statement to be made available at a later date

## Study outputs

| Output type                                   | Details    | Date created | Date added | Peer reviewed? | Patient-facing? |
|---|------------|--------------|------------|----------------|-----------------|
| <a href="#">Participant information sheet</a> | version V2 | 06/11/2020   | 02/12/2020 | No             | Yes             |
| <a href="#">Participant information sheet</a> | version V2 | 06/11/2020   | 02/12/2020 | No             | Yes             |
| <a href="#">Participant information sheet</a> | version V1 | 06/11/2020   | 02/12/2020 | No             | Yes             |
| <a href="#">Participant information sheet</a> | version V1 | 06/11/2020   | 02/12/2020 | No             | Yes             |
| <a href="#">Protocol file</a>                 | version V2 | 06/11/2020   | 02/12/2020 | No             | No              |
| <a href="#">Basic results</a>                 |            |              | 13/01/2023 | No             | No              |
| <a href="#">HRA research summary</a>          |            |              | 28/06/2023 | No             | No              |