

# Screening for type 1 diabetes

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<b>Registration date</b> 17/06/2024	<b>Overall study status</b> Ongoing	<input checked="" type="checkbox"/> Record updated in last year
<b>Last Edited</b> 07/05/2025	<b>Condition category</b> Nutritional, Metabolic, Endocrine	

## Plain English summary of protocol

### Background and study aims

Type 1 diabetes (T1D) is the most common form of childhood diabetes. Here, cells that make insulin don't work as they should. Therefore, to stay alive and avoid the complications of diabetes, children have to monitor their glucose levels and inject insulin to keep the glucose levels within range for the rest of their lives.

Studies have recently shown that some medicines can safely delay children from getting T1D. Many children and parents tell us that these studies are very exciting because it could mean the end to T1D in children.

Other countries are developing surveillance systems to accurately tell which children are at risk of T1D. These children can then be offered participation in prevention studies. Such a system will also prevent children being diagnosed as an emergency. The UK does not have such a system. However, when we discuss setting up a T1D surveillance system with UK parents, they have different views on whether/how they would take part. No one has previously explored these questions in detail with parents and children and they tell us it is important to do so. We also do not know the best way to recruit large numbers of children into a surveillance programme.

The aim of this study is to develop a system for identifying children within the UK general population who are at risk of developing T1D. Such a system will allow children to take part in clinical trials for the prevention of T1D and help to reduce late diagnosis of T1D and the associated deaths in children. This study will explore three crucial questions:

1. What is the best way to recruit children to an early detection programme?
2. What are the views of parents and children about taking part in an early detection programme?
3. What are the views of doctors, nurses and school staff who will be involved in running an early detection programme?

### Who can participate?

Any child between the ages of 3 and 13 years who does not already have T1D

### What does the study involve?

Over 3 years, this study will test different approaches to recruiting a total of 20,000 children aged 3-13 years to take part in a pilot surveillance programme. These approaches will include:

1. GP practices
2. Online
3. Vaccination programmes

#### 4. Schools

#### 5. National T1D networks

The researchers will ensure different ethnicities and levels of deprivation are represented and explore which recruitment approach(es) works best across all these populations.

Those who agree to participate will be asked to take a finger-prick blood sample from their child to analyse for T1D risk. This simple blood test can tell if a child will develop T1D over the next 15 years. The child will be managed according to the result. This may involve reassurance if the test is negative, and enrolment into a prevention trial or referral to a doctor for insulin treatment if the test is positive.

All parents, regardless of their child's participation in the blood test, will be interviewed about their views on testing for T1D risk to help us to understand how best to design a surveillance programme and how best to address any barriers to participation. The researchers will also interview doctors, nurses and school staff who may be involved in this study.

What are the benefits and risks of participating?

The immediate benefit is reducing the number of children being diagnosed as a diabetic emergency (DKA). Currently 750 children with T1D in the UK are diagnosed as a DKA and up to three of them will unfortunately not survive. Surveillance programmes reduce this fivefold, and this benefit will be there as soon as the programme starts.

The longer-term benefit will be offering prevention studies to those children found to be at risk of T1D. Some medicines have been shown to safely delay children getting T1D by over 3 years. In the UK, this therapy would delay T1D in 1800 children every year. Parents and children with T1D are very clear that "even one day without insulin injection would be great". With an estimated cost of £3000 per year for each child with T1D, a 3-year delay equates to an estimated £5.5 million pounds saving a year just for treatment costs. Other medicines are becoming available which need to be tested. We will be able to offer these medicines to explore which is the most effective and whether they can be used together to delay T1D for even longer.

This study has the potential to completely change how we manage T1D in the UK. It is hoped that it will help bring about the beginning of the end of this condition.

It will be the first study to tell us the views of children and parents about taking part in a study of T1D risk, how best to address any problems, and what is the best way to recruit children into the programme. It will also tell us the views of professionals who will be involved in running the programme.

The researchers will use the results of this study to design the most patient-friendly and easy-to-implement programme for children at risk of T1D.

The design of the final implementation programme will depend on the results of this study, but it will likely require the researchers to work with public health. For example, if GP surgeries are found to be a good way to recruit to studies, they will work with Public Health England to explore how GP surgeries can support the national roll-out of the study. With this end in mind, the researchers have already asked people with expertise in public health to be involved in this study.

There are also risks with the study. Firstly, there is the pain associated with a fingerprick blood test and possibly other blood tests if the first fingerprint blood test is positive. These blood tests are minor and at worst may be associated with untoward effects such as fainting or bruising at the site of the blood taking. There is also the risk of anxiety that may come with a positive screening result. If families find this particularly upsetting, the researchers have a number of ways to support them. First, they can offer an intensive education program so families are fully aware of what the future may hold and they are prepared for it. If necessary, they can also refer them to a clinical psychologist who can help talk through the problem and use their experience and techniques to help the families manage their anxiety.

Where is the study run from?  
University of Birmingham (UK)

When is the start date?  
November 2019 to August 2025

Who is funding the study?  
1. Diabetes UK  
2. Juvenile Diabetes Research Foundation (UK)

Who is the main contact?  
elsa@contacts.bham.ac.uk

**Study website**  
<https://www.elsadiabetes.nhs.uk/>

## Contact information

**Type(s)**  
Public, Scientific, Principal Investigator

**Contact name**  
Prof Parth Narendran

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## Additional identifiers

**EudraCT/CTIS number**  
Nil known

**IRAS number**  
309252

**ClinicalTrials.gov number**  
Nil known

**Secondary identifying numbers**

## Study information

### Scientific Title

Early Surveillance for Autoimmune diabetes: the ELSA study

### Acronym

ELSA

### Study objectives

#### Research aims

The overarching aim is to develop a system for identifying children in the general population who are at risk of

type 1 diabetes (T1D). This will:

1. Increase participation in clinical trials to accelerate strategies to delay onset and prevent this condition.
2. Reduce late presentation of T1D, associated mortality and long-term complications.
3. Consequently, pave the way for a national early surveillance programme for T1D in the general population.

#### Research Objectives

1. Understand the perceptions and acceptability of families in the UK to be involved in a surveillance programme for early T1D, to establish how they would want to be informed and participate, and how any barriers to recruitment and participation can be addressed.
2. Determine the best approach to recruitment into a surveillance programme for T1D risk through examining the feasibility of a variety of approaches.
3. Understand the views of health care professionals, school staff and other stakeholders involved in the testing programme.

### Ethics approval required

Ethics approval required

### Ethics approval(s)

Approved 28/06/2022, Wales Research Ethics Committee 4 Wrexham (Health and Care Research wales, Castlebridge 4, 15-19 Cowbridge Road, East Cardiff, CF11 9AB, United Kingdom; +44 (0) 2920 785738; Wales.REC4.@wales.nhs.uk), ref: 22/WA/0119

### Study design

Observational cross-sectional study

### Primary study design

Observational

### Secondary study design

Cross sectional study

### Study setting(s)

University/medical school/dental school

## **Study type(s)**

Screening

## **Participant information sheet**

Not available in web format, please use the contact details to request a participant information sheet

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

Type 1 diabetes

## **Interventions**

The ELSA study is a screening programme to find out children's risk of developing T1D. Families will be recruited from the community, including general practices, schools, and vaccination programmes. The first screening test is a finger stick dried blood spot (DBS), which can be performed at home, at GP practices or in the community and will test for islet antibodies including IAA, IA2, GAD, and ZnT8.

Children who are positive for any of the antibodies will attend for a confirmatory venous blood test (gold standard) at a regional clinical research facility (CRF). Parents of children who are DBS negative will be informed by text message and email/letter, and no further follow-up is required.

Children who are single or double antibody positive or venous confirmation negative will be informed by a phone call from a clinical member of the ELSA study team followed by an email /letter. Children who are multiple antibody positive will be invited to attend for an oral glucose tolerance test to further stratify their stage of T1D risk.

All children who are single or multiple antibody positive will be invited to attend an education session to provide information on their risk of future T1D and about research studies they may be eligible for, including trials, monitoring programmes, and natural history studies. Children at stage 3 will be referred into clinical service to commence insulin therapy. They will also receive information about any research studies they may be eligible for.

Families who have participated in the ELSA study or who expressed interest will be invited to take part in qualitative interviews to understand acceptability for screening. Stakeholders who were involved in the delivery of the ELSA study, including recruitment, consenting, and sampling of children enrolled in ELSA will also be invited to take part in a qualitative interview to obtain feedback on the screening process. This will be a purposive sample. Families who decided not to proceed with the ELSA study but were eligible and expressed interest, will also be invited to a qualitative interview to understand their reasons for not proceeding.

## **Intervention Type**

Other

## **Primary outcome measure**

1. Recruitment rate recorded as the number of eligible participants who consent to participate in the study by 24 months through online, primary care, school-based and other routes of recruitment
2. Acceptability of screening for diabetes as assessed by qualitative interviews with families and stakeholders at a single timepoint

## **Secondary outcome measures**

There are no secondary outcome measures

**Overall study start date**

14/11/2019

**Completion date**

31/08/2025

## **Eligibility**

**Key inclusion criteria**

1. Children aged 3-13 years inclusive
2. Children of parents/guardians who consent to participation

**Participant type(s)**

Healthy volunteer

**Age group**

Child

**Lower age limit**

3 Days

**Upper age limit**

13 Days

**Sex**

Both

**Target number of participants**

20,000

**Key exclusion criteria**

1. Children with a previous diagnosis of T1D
2. Children of parents/guardians who are unable/unwilling to consent to participation
3. Currently enrolled in any other screening programme for T1D
4. Where in the view of the PI, participation is not in the best interests of the child

**Date of first enrolment**

01/11/2022

**Date of final enrolment**

30/08/2024

## **Locations**

**Countries of recruitment**

England

Northern Ireland

Scotland

United Kingdom

Wales

**Study participating centre**  
**Birmingham Children's Hospital**  
Steelhouse Lane  
Birmingham  
United Kingdom  
B4 6NH

**Study participating centre**  
**Addenbrookes**  
Addenbrookes Hospital  
Hills Road  
Cambridge  
United Kingdom  
CB2 0QQ

**Study participating centre**  
**Alder Hey Children's NHS Foundation Trust ,**  
NIHR Alder Hey Clinical Research Facility  
1st floor Alder Hey Children's NHS Foundation Trust  
East Prescott Road  
Liverpool  
United Kingdom  
L14 5AB

**Study participating centre**  
**Royal Devon and Exeter Hospital**  
Research and Development Child Health Building Room F6  
Barrack Road  
Exeter  
United Kingdom  
XX2 5DW

**Study participating centre**  
**Children and Young Adults Research Unit**  
Noah's Ark Children Hospital for Wales

Cardiff  
United Kingdom  
CF14 4XW

**Study participating centre**

**Leeds Teaching Hospitals NHS Trust**

Paediatric Diabetes Team 1st Floor,  
Multispecialty Unit  
St James University Hospital  
Beckett Street  
Leeds  
United Kingdom  
LS9 7TF

**Study participating centre**

**Freeman Hospital**

Newcastle upon Tyne Hospital NHS Foundation Trust  
Freeman Road  
High Heaton  
Newcastle  
United Kingdom  
NE7 7DN

**Study participating centre**

**Southern Health and Social Care Trust**

Paediatric Outpatients  
Daisy Hill Hospital Road  
Newry County Armagh  
Craigavon  
United Kingdom  
BT35 8DR

**Study participating centre**

**Nottingham University Hospitals NHS Trust - Queen's Medical Centre Campus**

Nottingham University Hospital  
Derby Road  
Nottingham  
United Kingdom  
NG7 2UH

**Study participating centre**



**Oxford University Hospitals NHS Foundation Trust**

John Radcliffe Hospital  
Headley Way  
Headington  
Oxford  
United Kingdom  
OX3 9DU

**Study participating centre**

**East Lancashire Hospitals NHS Trust**

Royal Blackburn Hospital  
Haslingden Road  
Blackburn  
United Kingdom  
BB2 3HH

**Study participating centre**

**Royal Free London NHS Foundation Trust**

Royal Free Hospital  
Pond Street  
London  
United Kingdom  
NW3 2QG

**Study participating centre**

**The Royal London Hospital**

Barts Health NHS Trust  
Whitechapel  
London  
United Kingdom  
E1 1FR

**Study participating centre**

**Royal Aberdeen Children's Hospital**

NHS Grampian  
Paediatrics Beech House  
Aberdeen  
United Kingdom  
AB25 2ZG

**Study participating centre**

**Tayside Children's Hospital**

Ninewells Hospital  
Dundee  
United Kingdom  
DD1 9SY

**Study participating centre****Glasgow Children & Young People's Diabetes Diabetes Service**

West Glasgow Ambulatory Care Hospital  
Dalnair Street  
Glasgow  
United Kingdom  
G3 8SI

**Study participating centre****University Hospital Southampton NHS Foundation Trust**

Tremona Road  
Southampton  
United Kingdom  
SO16 6YD

## **Sponsor information**

**Organisation**

University of Birmingham

**Sponsor details**

Dr Birgit Whitman  
Head of Research Governance and Integrity  
Finance Office  
University of Birmingham  
c/o Room 106 Aston Webb, B Block  
Edgbaston  
Birmingham  
England  
United Kingdom  
B15 2TT  
+44 (0)7814 650003  
[researchgovernance@contacts.bham.ac.uk](mailto:researchgovernance@contacts.bham.ac.uk)

**Sponsor type**

University/education

**Website**

<https://www.birmingham.ac.uk/research/research-integrity>

**ROR**

<https://ror.org/03angcq70>

## Funder(s)

### Funder type

Charity

### Funder Name

Diabetes UK

### Alternative Name(s)

DIABETES UK LIMITED, British Diabetic Association

### Funding Body Type

Private sector organisation

### Funding Body Subtype

Trusts, charities, foundations (both public and private)

### Location

United Kingdom

### Funder Name

Juvenile Diabetes Research Foundation United Kingdom

### Alternative Name(s)

Juvenile Diabetes Research Foundation Ltd, JUVENILE DIABETES RESEARCH FOUNDATION LIMITED, JDRF UK, JDRF

### Funding Body Type

Government organisation

### Funding Body Subtype

Trusts, charities, foundations (both public and private)

### Location

United Kingdom

## Results and Publications

## **Publication and dissemination plan**

The findings of the study will be publicly available through publication or other dissemination tools

## **Intention to publish date**

30/05/2025

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

The following identifiable data will be collected from parents or legal guardians:

1. Title and name (first and last name of parent/guardian)
2. Age (years) – to ensure representation across age groups in the study
3. Ethnicity – to ensure representation across ethnic groups in the study
4. Gender – to ensure representation across genders in the study
5. Address (postcode) – for communication purposes with the study team and to post out study documents
6. Postcode for deprivation level and eligibility
7. Email – for communication purposes with the study team
8. Phone number – for communication purposes with the study team
9. Parent/guardian status – to ensure representation across types of parent/guardian
10. Occupation – to ensure representation across socioeconomic groups

The following identifiable data of children will be collected from consenting parents or legal guardians:

1. Name (first and last name) – for the consent form
2. Age (years) – to check for eligibility for the study
3. Ethnicity – to ensure representation across ethnic groups in our study
4. Gender – to ensure representation across genders in our study
5. Medical history, including coeliac disease and thyroid disease
6. Family history of T1D (FDR)
7. GP details, including address, email and phone number

The following identifiable data will be collected from stakeholders:

1. Title and name (first and last name of parent/guardian)
2. Age (years) – to ensure representation across age groups in the study
3. Ethnicity – to ensure representation across ethnic groups in the study
4. Gender – to ensure representation across genders in the study
5. Address (postcode) – for communication purposes with the study team and to post out study documents
6. Email – for communication purposes with the study team
7. Phone number – for communication purposes with the study team
8. Occupation – to ensure representation across socioeconomic groups

The process for requesting access: Contract basis only with all enquiries to the study sponsor: [elsa@contacts.bham.ac.uk](mailto:elsa@contacts.bham.ac.uk)

Consent was required from parents, and assent from children aged 5 years and above.

All essential documentation and study records will be stored by the Study Team in conformance with the applicable regulatory requirements and access to stored information will be restricted to authorised personnel including sponsor representatives and regulatory authorities.

All clinical, demographic data and personal details will be stored in separate forms in REDCap. The REDCap eligibility form, consent form, assent form and personal details form will predominantly be completed online by the parent/guardian. Alternatively, the participant can arrange a phone call or video consult with the study team, who will transcribe the information into the REDCap forms on behalf and with the consent of the parent/guardian.

All participant data will be pseudo-anonymised in REDCap using a unique study identifier.

All sample study numbers and results will be recorded on the electronic laboratory system Telepath to enable an audit trail which is a UKAS-accredited NHS IT system. Telepath sits within the University Hospitals Birmingham (UHB) NHS secure server despite the laboratory being sited in the University of Birmingham. Only the CIS members of the research team have login access to Telepath for personal details and coding. UHB will be the custodian of this personal data. Pseudo-anonymisation will take place in Telepath using the unique study identifier, year of birth and initials of the child.

### **IPD sharing plan summary**

Stored in publicly available repository