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What is Children of the 90s?

The Children of the 90s study - also known as the Avon Longitudinal Study of Parents and Children (ALSPAC) - is a long-term study of three generations of Bristol families, providing data for ground-breaking global health and social science research.

[The study began by recruiting 14,500 pregnant women living in and around Bristol with an expected delivery date between April 1991-December 1992.](#) There were 14,062 live births and a further 913 participants have joined the study since the age of 7 years (from mothers who did not originally enrol but were eligible).

Since then, biological, environmental and lifestyle data has been collected from the original study mothers, fathers, their children ('the Children of the 90s', known as the original study children) and their grandchildren (of whom there are now 1,200 'Children of the Children of the 90s'). Detailed data and samples are collected via face-to-face clinics, questionnaires and through access to their administrative records (where we have consent).

Today we hold more than 1.5 million bio samples in our Bristol stores. In 2018 the study was recognised as the UK Biobank of the Year by the UKCRC Tissue Directory and Coordination Centre.

Facts & Figures

Study participants:

There are around 27,800 participants currently in the study. This breaks down as approximately:

- 11,900 original study mothers (average age 57 years) and 3,400 study fathers (average age 61 years)
- 11,300 Study children or Children of the 90s (average age is 28 years)
- 1,200 Children of the Children of the 90s (aged 0-11 years) from over 600 families

In 2020, the children of the children ranged in age from < 1 year to 13, and the average age was 5 years

76 per cent of the original study children list a Bristol address as their main point of contact, evidence of the strong Bristol ties that the study still maintains.

Our data and samples:

- 1.5 million biological samples (including blood, urine, placenta, teeth, hair and nails)
- DNA samples (11,000 children, 11,500 mothers, 3,300 partners). Genetic data such as this can be used to help identify individuals who are at greater risk of disease, with the aim of matching treatments and intervening to improve health outcomes for those at risk.
- 1,000+ brain scans
- 40,000+ DXA scans taken at seven different ages – these are whole body scans which can be used as a measure of bone health and to break down body composition in terms of fat, bone and lean mass or muscle.
- 3,000+ heart echo scans
- 2,000 retinal scans i.e. images of the back of the eye
- 4,000 liver scans
- 7,000+ ear drum pictures
- More than 74,000 data variables collected from three generations of study participants (includes questionnaires, blood measures and clinic information)

Our health and social science research:

[More than 2,200 papers have been published using Children of the 90s data.](#) In 2020, 223 papers were published using our data. Almost 1,000 researchers around the world use the data and samples and we receive around 20 new requests per month on average to access the study.

Most research papers published in the past five years cover public health, biological science and clinical medicine. 18 per cent cover psychology, psychiatry and neuroscience and 15 per cent cover education and social science.

In the past five years, more than £33m in grant income has been awarded to research institutions (in the UK and abroad) thanks to Children of the 90s related studies.

Developments in data collection

Linking to official records

We currently collect routine health and education records to supplement the data our participants give us directly such as official birth, GP and hospital records, death certificates, cancer registrations, exam results and geographical data.

Technology

New techniques help us collect data during participants' daily routines at home, the workplace or out and about. This includes tiny wearable head cameras to record parents interacting with their infants at home and wearable monitors to

continuously measure participants' glucose levels during pregnancy. We will also measure Twitter data to examine mental health and use smart watches to record alcohol consumption.

COVID-19 & Children of the 90s

Our study is being used to look at the prevalence of the disease, including asymptomatic cases, and its effects on physical and mental health.

Questionnaires in April, May and December 2020 asked our healthy, young participants and their parents about their COVID-19 like symptoms and explored how their physical and mental health was affected. This information informs the Government's SAGE committee and Public Health England via the [Health Data Research UK reports](#).

One of the first published research papers that used our COVID-19 health data showed that [the proportion of young people experiencing anxiety at the beginning of the pandemic almost doubled](#), at 24 per cent compared with a pre-pandemic level of 13 per cent.

[We are also looking at antibodies in our population](#). In October 2020 COVID-19 antibody home testing kits were posted to all participants who expressed interest, generating 4,750 results of which 4.3% reported a positive antibody test. This is now being repeated (April 21) to look at changes in prevalence and infection and review asymptomatic cases of COVID-19 in our participants.

To help us understand the condition known as long Covid we are part of the [UK Coronavirus Immunology Consortium, seeking to understand the immune response to COVID-19 after infection and](#) recovery. Over 12 months, 300 Children of the 90s participants are visiting the clinic at regular intervals to undertake measures, assessments and give blood and saliva samples. By looking at the study's 30 years of data and samples alongside new data, researchers can learn much more about COVID-19, asymptomatic infections and the long-term immune response.