



Birth Cohort Studies - Health Measures

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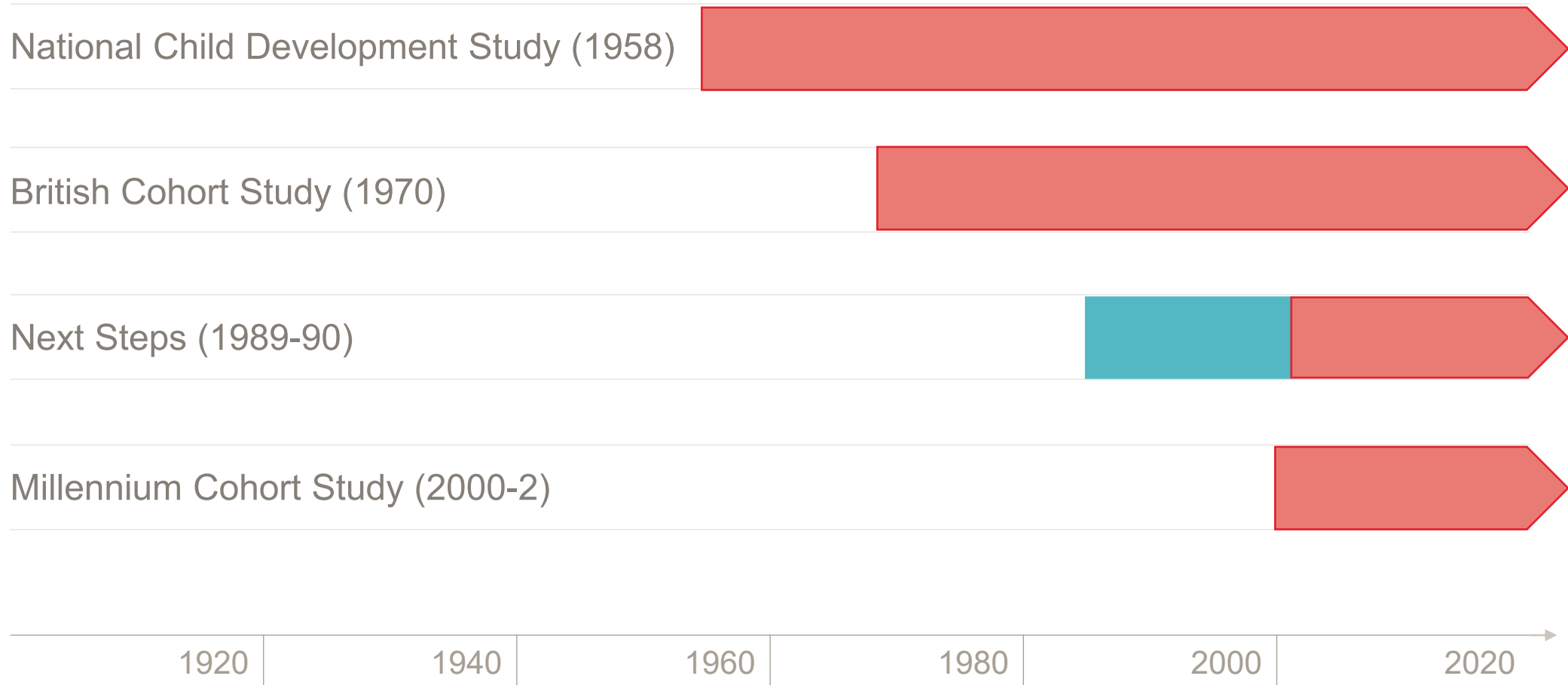
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What we do at CLS

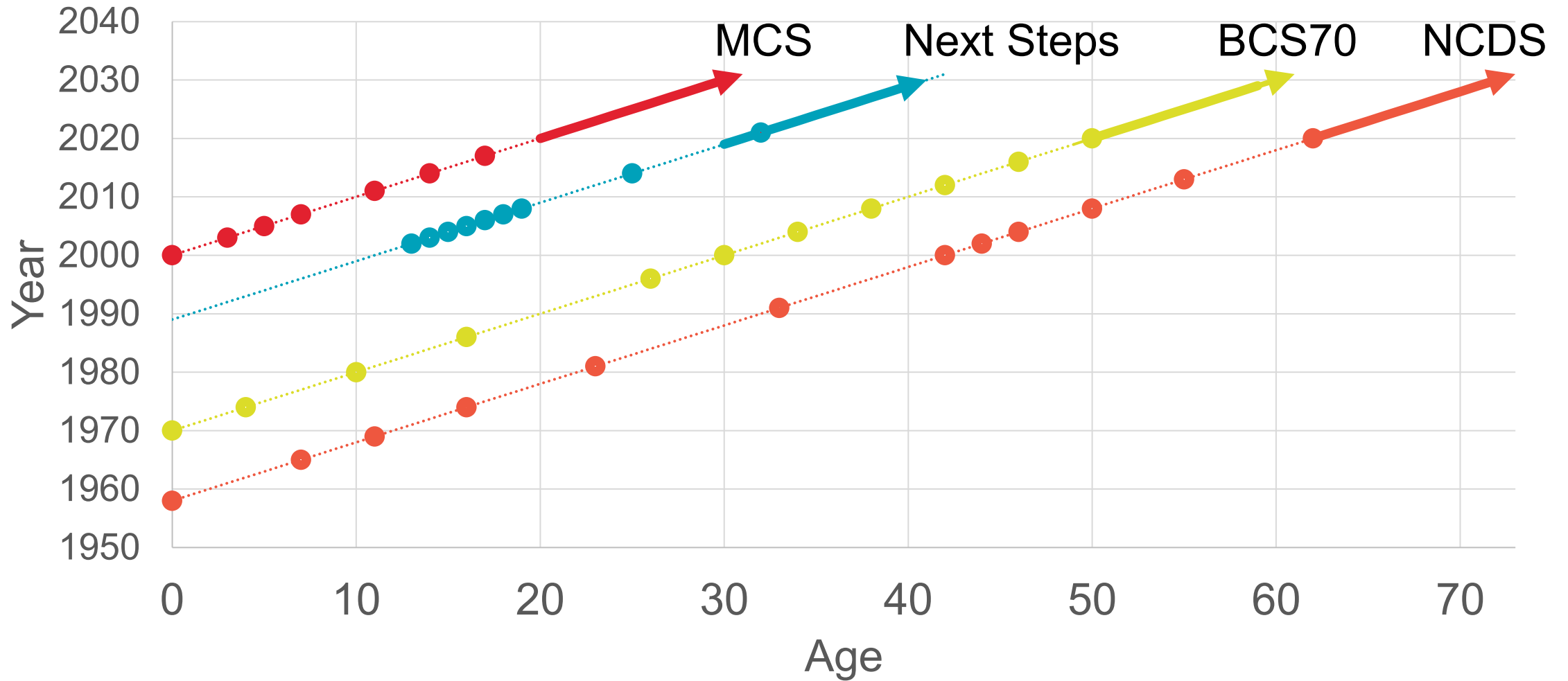
- ESRC-funded Resource Centre
- Run major national longitudinal studies
 - Follow thousands of people across life
 - Collect extensive & rich data
- Provide free data to the research community (e.g. via UK Data Service; more info on CLS website ([link](#)))
 - Documentation, guidance & training
 - Researchers can input on the data we collect (consultations)
- Conduct research
 - Multidisciplinary, substantive & methodological (survey and statistical)

CLS cohorts



Follow-up across life, all N>16,000

Study timelines and future 2020-2030



Typical information covered



Birth

Household composition
 Parental social class
 Obstetric history
 Smoking in pregnancy
 Pregnancy
 (problems, antenatal care)
 Labour
 (length, pain relief, problems)
 Birthweight, length



School years

Household composition
 Parental social class
 Parental employment
 Financial circumstances
 Housing
 Health
 Cognitive tests
 Emotions and behaviour
 School
 Views and expectations
 Attainment



Adult

Household composition
 Employment
 Social class
 Income
 Housing
 Health (including biomarkers)
 Well-being and mental health
 Health-related behaviour
 Training and qualifications
 Basic skills
 Cognitive tests
 Views and expectations

The long shadow cast by childhood physical and mental problems on adult life

Alissa Goodman^a, Robert Joyce^a, and James P. Smith^{b,1}

Time trends in adolescent mental health

Stephan Collishaw,¹ Barbara Maughan,¹ Robert Goodman,² and Andrew Pickles³

Work-family life courses and markers of stress and inflammation in mid-life: evidence from the National Child Development Study

Rebecca E. Lacey,^{1*} Amanda Sacker,¹ Meena Kumari,² Diana Worts,³ Peggy McDonough,³ Cara Booker,² and Anne McMunn¹

Life course trajectories of alcohol consumption in the United Kingdom using longitudinal data from nine cohort studies

Annie Britton^{1*}, Yoav Ben-Shlomo², Michaela Benzeval^{3,4}, Diana Kuh^{1,5} and Steven Bell¹

Factors associated with childhood cancer in a national cohort study

J. Golding¹, M. Paterson¹ & L.J. Kinlen²

Childhood Risk Factors for Lifetime Anorexia Nervosa by Age 30 Years in a National Birth Cohort

DASHA E. NICHOLLS, M.B.B.S., M.D., AND RUSSELL M. VINER, M.B.B.S., PH.D.

Cigarette Smoking in Pregnancy: Its Influence on Birth Weight and Perinatal Mortality

N. R. BUTLER, H. GOLDSTEIN, E. M. ROSS

Breastfeeding and Hospitalization for Diarrheal and Respiratory Infection in the United Kingdom Millennium Cohort Study

Maria A. Quigley, MSc, Yvonne J. Kelly, PhD, Amanda Sacker, PhD

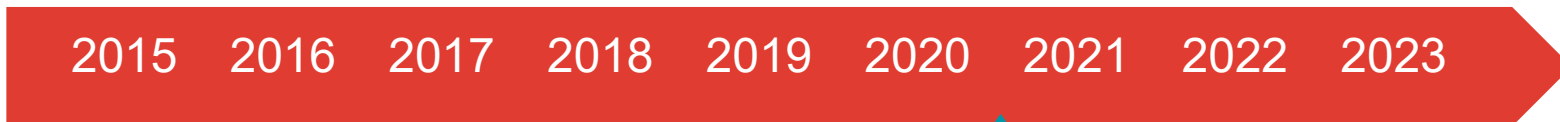
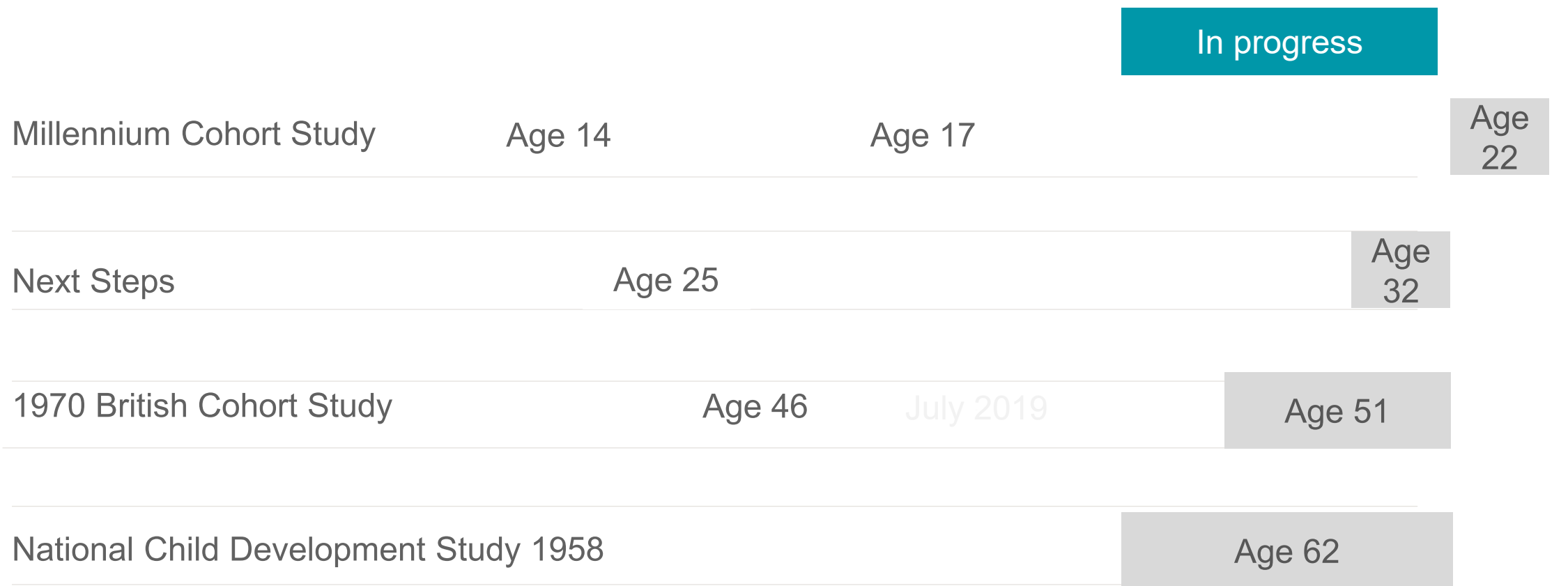
How active are our children? Findings from the Millennium Cohort Study

Lucy J Griffiths,¹ Mario Cortina-Borja,¹ Francesco Sera,¹ Theodora Poulidou,¹ Marco Geraci,¹ Carly Rich,¹ Tim J Cole,¹ Catherine Law,¹ Heather Joshi,² Andrew R Ness,³ Susan A Jebb,⁴ Carol Dezateux¹

Socioeconomic inequalities in blood pressure: co-ordinated analysis of 147,775 participants from repeated birth cohort and cross-sectional datasets, 1989 to 2016

David Bann^{1*}, Meg Fluharty¹, Rebecca Hardy² and Shaun Scholes³

At a glance: core data collections 2015-2022+



COVID-19

Adult biomedical data collections

Cohort	Age	Data available
NCDS 1958	44/45y	Yes (UKDS)
	~62y	~2023
BCS 1970	46y	Yes (UKDS)

Enormous scientific opportunities (both hypothesised and unforeseen):

- Single cohort analysis (e.g. life course determinants of health)
- Cross-cohort analyses (e.g. trends in health, its determinants and consequences)

BCS70 Age 46 Survey Content (N = 8,581)

- Questionnaire:



- Household composition, relationships



- Finances and employment



- Health, well-being and cognition:

- Physical & mental health, mental wellbeing, medical care, medication, smoking, drinking, diet, exercise, cognitive function (as per NCDS Age 50)
- Word list recall – immediate and delayed memory; Animal naming – executive function; Letter cancellation – concentration/attention to detail



- Nurse measures:

- Anthropometry, physical function (grip, balance), blood pressure (sitting), blood sample, accelerometry (ActivPal for 7 days)

- Online diet questionnaire (Oxford WebQ: 2x24 hour recall)



[Link to questionnaires](#)

Main data available now ([link](#)).

Linked health administrative data in the cohorts

Country	Study	Health admin data	Access
England	NCDS, BCS, Next Steps	Hospital Episodes Statistics (HES) <ul style="list-style-type: none"> Admitted Patient Care (APC) Critical Care (CC) – linked to APC Accident & Emergency (A&E) Outpatient Care (OP) 	Available at UKDS (e.g. link) via Secure Lab
Scotland	BCS, NCDS, MCS	Scottish Medical Records (SMR) <ul style="list-style-type: none"> Inpatient Outpatient Birth and neonatal records Prescribing information 	Available at UKDS (e.g. link) via Secure Lab
	BCS, NCDS only	<ul style="list-style-type: none"> Maternity 	
	MCS only	<ul style="list-style-type: none"> Immunisations (SRS), Child Health Review 	
Wales	MCS	<ul style="list-style-type: none"> Health data assets from SAIL Databank (e.g. emergency department, outpatient, COVID data) up to age 14 and for cohort members' parents 	Available at Secure Anonymised Information Linkage (SAIL) Databank; to be deposited with UKDS
		<ul style="list-style-type: none"> Hospitalisations & no. of diagnoses from ICD-10 chapter codes up to age 11 	Available at UKDS via Secure Lab (link)

Coming soon:

- HES data linked to MCS; HES refresh in remaining studies, including COVID-19 data
- Refresh of Welsh health dataset linked to MCS (2001-2012)

Genetic data

- NCDS: now available, multiple chips used (single QC'd dataset forthcoming).
- BCS70: expected genotyping in 2022/23.
- Next Steps: saliva collection underway for age 32 sweep, seeking funding for DNA extraction and genotyping thereafter.
- MCS: now available, single chip (Infinium Global Screening Array ([link](#))).
 - Trios (cohort, mother, father).
- New data access system (typically <1 month for a response, simple form) ([link](#)).
 - In future: polygenic scores for multiple phenotypes.
 - Exciting future space for research across social & health science.

COVID-19 Surveys

- Possible impacts of pandemic on multiple aspects of life; we need empirical evidence to inform this and longitudinal data likely important.
- Five national longitudinal cohort studies.
- Ages 19–74.
- W1 May 2020, W2 Sept-Oct 2020 and W3 Feb-March 2021.
- Wide range of topics including family, employment, home schooling, mental health during lockdown, other effects of the pandemic.
- Data on UKDS ([link](#)) and overview of content, questionnaires and user guide at CLS website ([link](#)).

COVID-19 serology study

- Participants who took part in at least one of the three COVID-19 Surveys were invited to provide a finger-prick blood sample.
- Two antibody tests conducted - N-assay and S-assay:
 - N-assay more likely to identify naturally occurring antibodies through exposure to virus.
 - S-assay more likely to identify antibodies occurring following vaccination.
- Over 10,000 blood samples returned, April - July 2021.
- Same antibody tests conducted in multiple longitudinal studies including ALSPAC, USoc, ELSA, TwinsUK and NSHD (1946 cohort), funded by National Core Studies.
- More info on CLS website ([link](#)); data available from UKDS ([link](#)).

Three new cohorts!

1. Early Life Cohort Feasibility Study
2. Children of the 2020s
3. COVID Social Mobility and Opportunities (COSMO)

Early Life Cohort Feasibility Study

- A two-year ESRC funded project starting in April 2021 that is testing the feasibility of a new UK-wide birth cohort study.
- Will recruit several thousand new babies, collecting information about their families and their development.
- Evaluation early 2023 and if judged to be successful, commissioning of a new, larger main study is anticipated in 2024-5.
- Extensive UK-wide project team and project partners.
- Study Co-Directors: Alissa Goodman, Lisa Calderwood, Pasco Fearon (UCL).
- More info on CLS website ([link](#)).

Children of the 2020s

- A new nationally representative birth cohort study of babies in England, commissioned by the Department for Education.
- Will answer important scientific and policy questions regarding the family, early education and childcare determinants of early school success.
- Sample drawn from HMRC Child Benefit records and includes ~8,500 families with babies born Sept – Nov 2021.
- Consists of a five-wave longitudinal survey of children from nine months to five years.
- Study director: Pasco Fearon (UCL).
- More info on CLS website ([link](#)).

COVID Social Mobility and Opportunities (COSMO)

- A new cohort study of current Year 11 (15/16y) students across England.
- Will explore disruption to schooling during the pandemic as well as longer-term educational and employment inequalities.
- Largest study of its kind – 12,000 young people to take part.
- UKRI-funded, led by researchers from the UCL Centre for Education Policy and Equalising Opportunities (PI: Jake Anders) and the Sutton Trust, in collaboration with CLS.
- More info on UCL website ([link](#)).



Thank you.

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