

# Introduction to the 1958 National Child Development Study

25 January 2023

13.00 - 14.30



# Housekeeping



- Please keep your cameras off and mics muted at all times recording session
- If you have a question, please use the chat function, and please note your question will be visible to all attendees
- Technical issues please email us: <u>ioe.clsevents@ucl.ac.uk</u>
- We would be grateful for your feedback. Please follow the link in the chat at the end of the event for the short survey

Thank you for joining us today

# Plan for today

- About CLS
- Overview of NCDS
- Examples of research
- Data, by theme
- Data enhancements and innovations
- Dealing with attrition
- Available resources and data access
- Outline of next sweep
- Q&A to the panel\*



### Introductions

- Vanessa Moulton, Senior Researcher
- Morag Henderson, Associate Professor
- George Ploubidis, Director of NCDS
- Matt Brown, Senior Survey Manager
- Carole Sanchez, Survey Manager NCDS
- Brian Dodgeon, Research Fellow

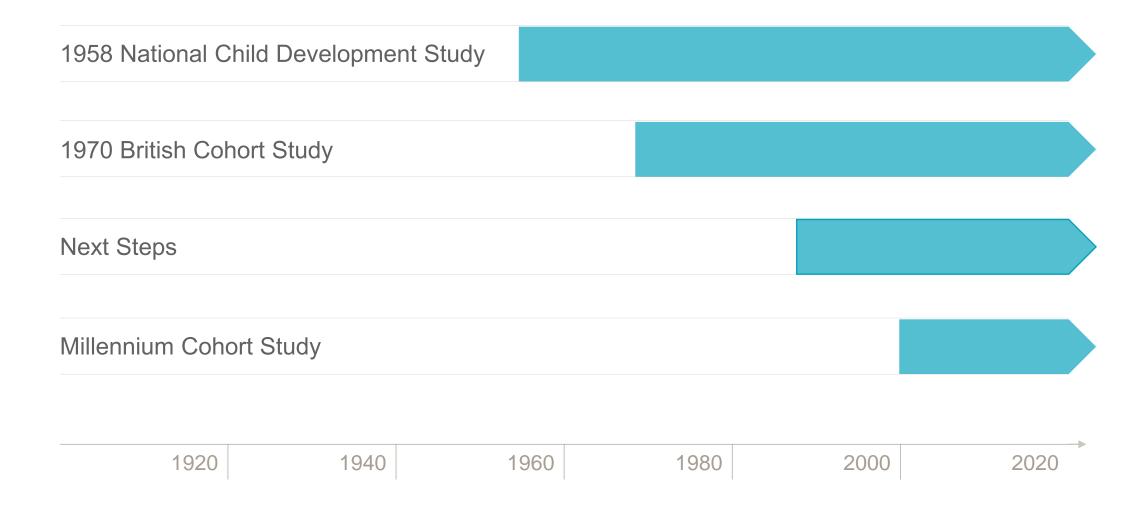


### **About CLS**

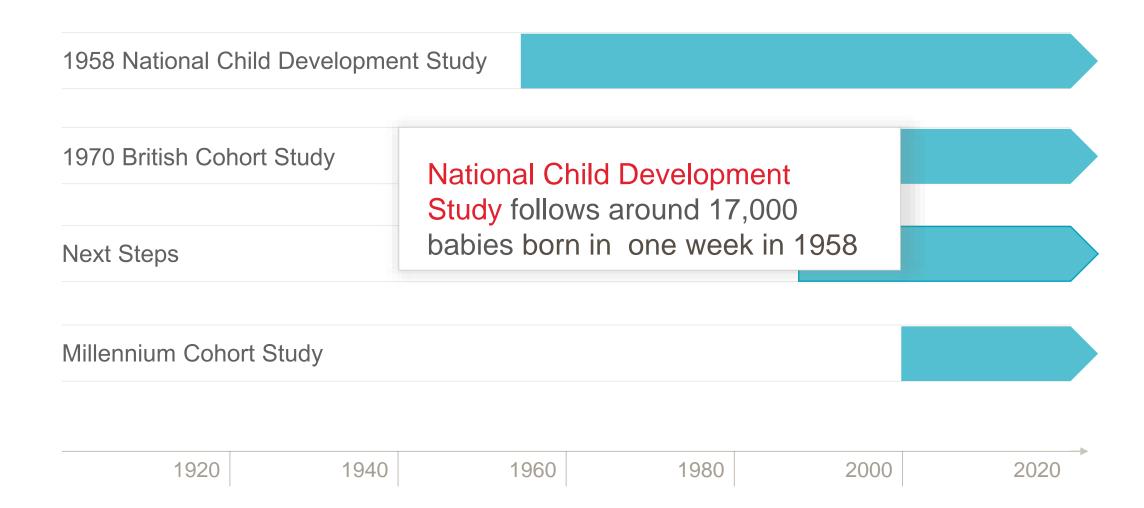
- The Centre for Longitudinal Studies is home to four\* national longitudinal cohort studies, which follow the lives of tens of thousands of people
- Each of our four studies follows large, nationally representative groups of people born in a given time period (week, year etc)
- By collecting information from the same people over time, as they live their lives, our studies are powerful resources for answering important research questions



### Timeline of the studies



### Timeline of the studies



# COVID-19 surveys

Wave	Dates	Context	Mode
Wave 1	May 2020	First national lockdown	Web
Wave 2	Sept/Oct 2020	Eased restrictions	Web
Wave 3	Feb/Mar 2021	Third national lockdown	Web → Telephone

Study	Age in 2020
MCS	19
Next Steps	30
BCS70	50
NCDS	62



### Other CLS-Affiliated Studies

### Early Life Cohort Feasibility Study

 A two-year ESRC funded project which started in April 2021 that will test the feasibility of a new UK-wide birth cohort study

### Children of the 2020s Study

- A new nationally representative birth cohort study of babies in England which has been commissioned by the Department for Education (DfE)
- It will include babies born September November 2021, and seeks to recruit over 8,500 families in mid 2022

### COVID Social Mobility and Opportunities (COSMO) study

- The study began in 2021 with a representative sample of young people in Year 11 across England
- UKRI funded, led by researchers from the UCL Centre for Education Policy and Equalising Opportunities and the Sutton Trust, in collaboration with CLS



# About the 1958 National Child Development Study (NCDS)



### About the 1958 National Child Development Study (NCDS)

 NCDS is multi-purpose and multi-disciplinary study collecting detailed information on different aspects of cohort members lives (economic, social and health)

- Began as a study of Perinatal Mortality
  - Aimed to identify social and obstetric factors linked to stillbirth and neonatal death
  - Findings contributed to the improvement of maternity services in Britain and reduction in perinatal mortality
- Data collected about births and families of just over 17,000 babies born in England, Wales and Scotland in one week in 1958
  - 98.1% of all babies born in the same week took part in the first birth survey



### About the 1958 NCDS

- Early focus was medical but with each sweep the scope has broadened:
  - Childhood sweeps: educational, social and physical development
  - Transitions into adult life: Family formation, employment etc.
  - Formation and maintenance of adult identity
  - Precursors of beneficial and adverse circumstances in mid-life
  - · Later sweeps: economic inactivity, health lifestyles, behaviour



Power, C., & Elliott, J. (2006). Cohort profile: 1958 British birth cohort (national child development study). *International journal of epidemiology*, 35(1), 34-41. <a href="https://doi.org/10.1093/ije/dyi183">https://doi.org/10.1093/ije/dyi183</a>

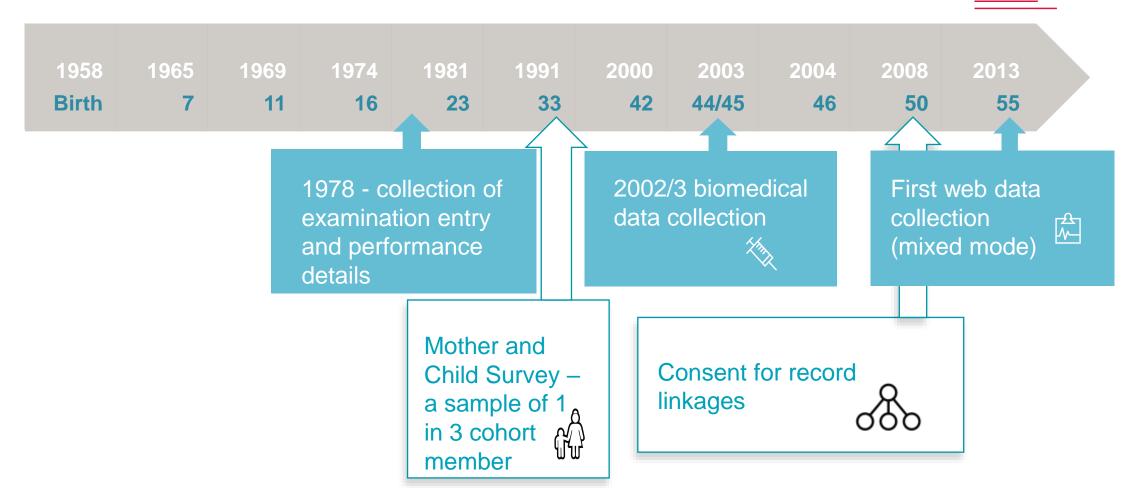
### NCDS A study of everyone born in one week in 1958



	Birth	7	11	16	23	33	42	44	46	50	55
Do main respondent	mother	parents	parents	cohort member / parents	cohort member	cohort member	cohort member	cohort member	cohort member	cohort member	cohort member
secondary respondent	medical	medical / school	medical / school	medical / school		partner mother children					
survey instruments		cognitive assess- ments	cognitive assess- ments	cognitive assess- ments						cognitive assess- ments	
linked data				area of residence (census)	area of residence (census)						
FB response rate	17,415	15,425	15,337	14,654	12,537	11,469	11,419	9,377	9,534	9,790	9,137

### NCDS study timeline





NCDS Sub-studies	18	20	37	50	57	CENTRE FOR LONGITUDINAL STUDIES
<ul> <li>Warnock Study of Handicapped School Leavers</li> <li>Selected CMs handicapped and not @ 500</li> <li>Provide information on how handicapped young people negotiated transition from school to work, opportunities and describe early experiences</li> </ul>	X					
<ul> <li>Feasibility Study and Tobacco Research</li> <li>@ 800: education, employment, marriage, children, housing, income and savings</li> <li>Adult smoking behaviour self-completion</li> </ul>		X				
Literacy and numeracy skills*:  10% representative sample @1,700  Skills tests, employment, education and training			x			
<ul> <li>Twin study**</li> <li>Identify zygosity @240</li> <li>self-report, physical similarity, 'peas-in-a-pod' q's</li> </ul>				Х		
<ul> <li>In-work poverty and retirement attitudes</li> <li>36 qualitative interviews with purposively selected CMs with varied work histories</li> <li>Attitudes, aspirations, plans and expectations for retirement</li> </ul>					Х	
parison with BCS70 age 21 survey conducted in BCS70	1976	1978	1995	2008	2016	



# Examples of research using NCDS



### PERINATAL MORTALITY

THE FIRST REPORT OF THE 1958 BRITISH PERINATAL MORTALITY SURVEY

under the auspices of

THE NATIONAL BIRTHDAY TRUST FUND

BY

#### NEVILLE R. BUTLER M.D., M.R.C.P., D.C.H.

Physician to the Hospital for Sick Children, Great Ormand Street, London Senior Lecturer, Institute of Child Health, University of London Director of the Survey

AND

#### DENNIS G. BONHAM M.A., F.R.C.S., M.R.C.O.G.

Professor of Obstetrics and Gynaecology, University of Auckland, New Zealand formerly Assistant, Obstetric Unit, University College Hospital, London Obstetrician to the Survey

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of Obstetrics Governoopy and
Child Bealth.



E. & S. LIVINGSTONE LTD. EDINBURGH AND LONDON 1963 CENTRE FOR LONGITUDINAL STUDIES

#### Perinatal problems. The Second Report of the 1958, British Perinatal Mortality Survey under the auspices of the National Birthday Trust Fund.

Author(s): <u>Butler, N. R.</u>; <u>Alberman, E. D.</u> Editors: <u>Butler, N. R.</u>; <u>Alberman, E. D.</u>

Book: Perinatal problems. The Second Report of the 1958, British Perinatal Mortality Survey.

under the auspices of the National Birthday Trust Fund. 1969 pp.xx + 395 pp.

Abstract: This is the second volume dealing with a survey conducted in 1958 covering a national sample of over 17000 births and an additional 7000 perinatal and late neonatal deaths. Additional data have been included and a more detailed analysis has been made than in the preceding volume, and the results have been presented in 16 chapters. 7 authors in addition to the 2 editors have contributed individual chapters on particular aspects of perinatal mortality in which they have a special interest and knowledge. The data have been studied in considerable detail and the discussion has been written in a readable and informative style. This report will be a source of reference to all interested in this subject for some time but workers may find some difficulties in making certain comparisons. The data are sometimes illustrated by bar diagrams without the tables from which they were constructed. In some instances the diagrams are given in greater detail than the tables and the recovery of the actual numbers from the diagrams, always difficult, becomes impossible. In the chapter on malformations the associated defects in a number of conditions are shown by small coloured oblongs. This is an ingenious method of attempting to give a pictorial representation of a complex distribution but of no practical use since the recovery of the actual distributions for comparative purposes would be too tedious and uncertain

This report identifies the categories of high risk pregnancies and suggests the possible steps that can be taken to minimize the risk in this group of mothers. The necessity for further work on many aspects of the problem and for the constant review of the trends in perinatal mortality is stressed in order to check how the advances in practice and research and the changes in administration of maternity services are affecting the infant

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# CENTRE FOR LONGITUDINAL STUDIES

Campaigns >

Jobs \*

#### **Papers And Originals**

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

Br Med J 1972; 2 doi: https://doi.org/10.1136/bmj.2.5806.127 (Published 15 April 1972)



Smoking in pregnancy and development into early adulthood.

British Medical Journal 1988; 297 doi: https://doi.org/10.1136/bmj.297.6658.1233 (Published 12 November 1988)

News & Views ~

Cite this as: British Medical Journal 1988;297:1233

Article Related content Metrics Responses Peer review

K. R. Fogelman, O. Manor



Based on NCDS data age 11 - the final few sentences of the book:

If children are indeed the nation's future, then everyone has a stake in their welfare .....Do we mind if children grow up in bad housing when we could do something about it? Do we mind the stress caused by low incomes when we could afford to change it? As a society do we really care sufficiently about our children to reduce drastically the hardships of their families? Do we care that so many are born to fail?

Wedge, P., & Prosser, H. (1973). Born to Fail?: The National Children's Bureau reports on striking differences in the lives of British. JKP.

#### The Review of Economics and Statistics

Issues

Online Early About v

CENTRE FOR LONGITUDINAL STUDIES

#### Volume 84, Issue 1

February 2002



February 01 2002

#### The Effect of School Quality on Educational Attainment and Wages

Lorraine Dearden, Javier Ferri, Costas Meghir

> Author and Article Information

The Review of Economics and Statistics (2002) 84 (1): 1-20.

#### Abstract

The paper examines the effects of pupil-teacher ratios and wages using the British National Child Development Survey



### Evaluating the effect of education on earnings: models, methods and results from the National Child Development Survey

Richard Blundell, Lorraine Dearden, Barbara Sianesi

First published: 10 March 2005 | https://doi.org/10.1111/j.1467-985X.2004.00360.x | Citations: 174

➤ Barbara Sianesi, Institute for Fiscal Studies, 7 Ridgmount Street, London, WC1E 7AE, UK. E-mail: barbara\_s@ifs.org.uk

JOURNAL ARTICLE

### The Impact of Youth Unemployment on Adult Unemployment in the NCDS Get access >

Paul Gregg

*The Economic Journal*, Volume 111, Issue 475, November 2001, Pages F626–F653, https://doi.org/10.1111/1468-0297.00666

Published: 09 October 2008

JOURNAL ARTICLE

### Intergenerational Mobility in Britain 🗟

Get access >

Lorraine Dearden, Stephen Machin, Howard Reed

The Economic Journal, Volume 107, Issue 440, 1 January 1997, Pages 47–66, https://doi.org/10.1111/1468-0297.00141

Published: 01 January 1997





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

Alissa Goodman. Robert Josco, and sames P. Smith #5 Authors into A Affiliations Edited by Kerneth Wachen, Simenery of California, Serialny, CA, and approval February 8, 2011 (recented for review November 11, 2010). March 28, 2011 108 (15): 6032-6037 https://doi.org/10.1073/pras.1016970108 A [] \*\* [\*] AP 16,121 | 200



#### Abstract

In this article we assess and compare long-term adult socioeconomic status impacts from having experienced psychological and physical health problems in childhood. To do so, we use unique prospective data from the British National Child Development Study, a continuing panel study of a cohort of 17,634 children born in Great Britain during a single week in March 1958. To date there have been nine waves for this birth cohort to monitor their physical, educational, and social development, during childhood (at birth and 7, 11, and 16 y) and adulthood (age 23, 33, 42, 46, and 50 y). Excellent contemporaneous information exists throughout childhood on physical and psychological health, captured by doctor and nurse-led medical examinations and detailed parental and teacher questionnaires. This information is combined with a wealth of contemporaneous



#### Psychological distress from early adulthood to early old age: evidence from the 1946, 1958 and 1970 British birth cohorts

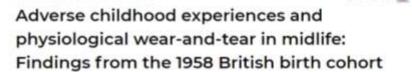
Published online by Cambridge University Press: 21 January 2021

Dawid Gondek (3), David Bann, Praveetha Patalay, Alissa Goodman, Eoin McElroy, Marcus Richards and George B. Ploubidis

Figures Supplementary materials: Metrics

#### **CENTRE FOR** LONGITUDINAL **STUDIES**

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Disting Barbota Soits 53, Michelle Kelly Invited, Romain Familie, 44, and Carolle Delicerce: Authors into & Affiliations Edited by Druce E. McLears, The Rosinshiller University, New York, NY, and appropriate 20, 2014 (received for review Egypenties 2). February 2, 2015 112 (7) E738-E746 https://doi.org/10.1073/pmis.3417325112 A [] \*\* [B] AP 13.854 | 110



Shake author detail

#### Significance

RESTAUDI ARTICLE : MEDICAL SCIENCES : 6

The role of early life experiences on health is of major concern to research. Recent studies have shown that chronic stress may "get under the skin" to alter human developmental processes and impact later health. Our findings suggest that early negative circumstances during childhood, collected prospectively in a British birth cohort, could be associated with physiological wear-and-tear in midlife as measured by allostatic load. This relationship was largely explained by health behaviors, body mass index, and socioeconomic status in adulthood, but not entirely. These results suggest that a biological link between adverse childhood exposures and adult health may be plausible.





Research article | Open Access | Published; 21 September 2022

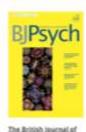
The UK Coronavirus Job Retention Scheme and smoking, alcohol consumption and vaping during the COVID-19 pandemic: evidence from eight longitudinal population surveys

Michael J. Green IIII Jane Maddick. Giorgio Di Gessa Bodma Welgoszwieka San Farsons. Gweth J. Griffith, Jacz Croft, Anna J. Stevenson, Charlotte F, Huppins, Charlotte South, Jacoues Well, Richard J. Silverwood Praveetha Fatales: Alun.D. Hughes: Skithi CheturumS. Laura D. Hows. Emia Fitzermore. Services Vittal Katikkeddi Ib George B. Ploubids

ANC Medicine 20. Article number: \$45 (2022) City this article

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#### **CENTRE FOR** LONGITUDINAL **STUDIES**



Psychiatry

studies

Published ordine by Cardondge University Fresi: 30 September 2021

Gorgio Di Gessa (3), Jane Maddock (3), Michael J. Green (3), Effen J. Thompson (3). Esin McElroy (9), Helena L. Davies (9), Jessica Mundy (9), Anna J. Stevenson (9). Alex S. K. Kwony (B) and Gareth J. Griffith (B) ... Show all authors V.

Pre-pandemic mental health and disruptions to

healthcare, economic and housing outcomes during the

COVID-19 pandemic: evidence from 12 UK longitudinal

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(Free Author Scot)

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Article | Open Access | Published 28 June 2022

#### Long COVID burden and risk factors in 10 UK longitudinal studies and electronic health records

Ellen J. Thompson Ell Dylan M. Williams El. Alex J. Walker, Buth E. Mitchell. Claire L. Niedzwiedz. Tiffany C. Yang, Charlotte F. Huggins, Alex S. F. Kwong, Richard J. Silverwood, Glorgio Di Gessa, Buth C. E. Bowver. Kate Northstone, Bo How Michael J. Green, Brian Dodgeon, Katie J. Doores, Emma L. Duncan, Frances M. K. Williams, OpenSAFELY Collaborative, Andrew Steptoe, David J. Portegus, Rosemary R. C. McEschan, Laurie Tomfinson, Ben Goldacre, ... Claire J. Steves (2) 4 Show authors



Mental health in relation to changes in sleep, exercise, alcohol and diet during the COVID-19 pandemic: examination of four UK cohort studies

Published online by Cambridge University Press: 92 Nevember 2925

Anie Villadien 📵 Fransestra Pataley 🔞 and David Barvi 📵

Supplementary materials Mintrics



# Data, by theme



### Themes

- Family and relationships
- Education and cognition
- Physical health
- Mental health and well-being
- Behaviours, attitudes and identity

...but there are many more





# Family and Relationships



# Family and relationships

- Household composition
- Relationship to cohort member

### **Childhood**

- Biological, step, adoptive parents
- Family context, e.g. marital status and partnership formation / dissolution
- Mothers' pregnancy (history), labour and delivery
- Child care
- Socio-economic context of family e.g. parents' employment, social class, income, housing
- Family relationships



### Family and relationships

Partner	Family	Other
Partnership Histories dataset (1974-2013)  Socio-economic status of CM and partner  Economic activity status  Employment current / history  Cohabiting and non-cohabiting relationships (33, 42, 46, 50, 55)  Partner relationship (33, 42)	<ul> <li>Children (23, 33, 42, 46, 50, 55)</li> <li>Number; own, adopted, partners'</li> <li>Absent (living, contact etc) (42, 46)</li> <li>Older (SES, educ, marital and parental status) (42, 46, 50)</li> <li>Family activities/role (33, 42, 50)</li> <li>CM's parents</li> <li>Alive, age of death (33, 42, 46, 50, 55)</li> <li>Relationship with parents (42, 50)</li> <li>Care provision (50, 55)</li> <li>Grandchildren (46, 50, 55)</li> <li>Care (55)</li> </ul>	Social support and relationships (33, 46, 50) Emotional support (33, 42) Informal care (46)



# Education and cognitive measures



### Educational attainment and skills

- Parents stayed education after min. leaving age (0 M,7 F)
- Early education provision (7)
- Teacher assessment (7,11,16)
  - Learning problems, abilities, class and school profile, future education/occupation
- Special educational needs (11,16)
- Subjects studied (16)
- Study intentions (11,16)
- Qualifications, training and lifelong learning (23,33,42,46, 50, 55)
  - Academic, technical, vocational, skills



# NCDS Cognitive Assessments/Skills

<u>Domain</u>	<u>Test</u>	<u>Age</u>
Verbal skills	Southgate Group Reading Test Reading Comprehension Test (NFER)	7 11,16
Verbal reasoning	General Ability Test (Verbal)	11
Non-verbal reasoning	General Ability Test (Non-verbal)	11
Mathematics and numeracy	Problem Arithmetic Test (NFER) Mathematics Test (NFER)	7 11, 16
Visual/spatial processing	Copying Designs Test Human Figure Drawing	7, 11 7
Memory	Immediate and delayed Word list recall	50
Cognitive function	Timed Letter search/cancellation (processing speed) Animal Naming Test (verbal fluency)	50 50

Adult Basic Skills	
Literacy and numeracy (ALBSU)	37*





# Physical Health



# Medical history

- Birth
  - Abnormalities in pregnancy, labour (induction, progress, medications, mode of delivery), infant (weight, gestational age), obstetric complications
- Immunisation /vaccinations (7,16)
- Childhood illness (7,11,16)
- Hospital admissions (7,11,16, 23, 33, 42, 46)
- Medication (44/5)
- Chronic widespread pain (44/5)

- Linked administrative health records
  - England and Scotland (UKDS secure access)
- Death (1958-2016) UKDS secure access



### Physical Health in NCDS – measurements

### Anthropometrics:

- Height, Weight and BMI (7, 11\*, 16, 23, 33, 44/5, 50, 55)
- Head circumference (7)
- Hip and waist circumference (44/5)

### Measurements (medical examination)

- Blood pressure (44/5)
- Pulse (44/5)
- Vision (7,11,16, 44/5)
- Audiometry (7,11,16, 44/5,)
- Laterality (7)
- Co-ordination (7,11,16)
- Speech (7,(11),16)
- Respiratory symptoms, ventilatory function (FEV1 and FVC)



### Physical Health in NCDS – measurements and samples

### Blood samples (44/5):

- Total / HDL cholesterol
- Glycosylated haemoglobin (HbA1c)
- Insulin-like growth factor 1 (IGF-1)
- Total and allergen-specific immunoglobulin E
- Fibrinogen
- Tissue plasminogen activator (t-PA)
- Von Willebrand factor (9vWF)
- C-reactive protein
- Serum 25-hydroxyvitamin D

- DNA extraction
- Lymphoblastoid cell lines
- Saliva cortisol



### Assessment of Physical Health

- Parent/self-assessment of CM's general health (7, 11, 16, 33, 42, 44/45, 46, 50, 55)
  - (SF-36) General health (50)
- Medical conditions/Long standing illness (0, 7, 11, 23, 33, 42, 44/5, 46, 50, 55)
- Disability (7,16, 23, 33, 46)
- Reproductive health 33
  - Pubertal assessment (11, 16)
  - Contraception (23,42, 44/5, 50)
  - Pregnancy history (23, 33, 42, 46, 50); Infertility (23, 42)
  - Gynaecological problems (50); Hysterectomies/Oophorectomies (44/5, 50)
  - Menopause (44/5, 50, 55); HRT (44/5, 50)



### Health behaviours

### Cohort member (CM)

- Physical activity (11, 16, 23, 33, 42, 44/5, 46, 50, 55)
- Diet (7, 33, 42, 44/5)
- Smoking (23, 33, 42, 46, 50, 55)
- Drinking (16, 23, 33, 42, 44/5, 46, 50, 55)
  - AUDIT (Alcohol Use Disorders Identification Test) – 10 item (44/5, 50)
- Drugs (42)
- Sleep (7,16, 50)

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### CM's parent

- Maternal smoking before and during pregnancy (0)
- Parents smoke (16)

### CM's child

CM smoked during pregnancy (33, 42)



# Mental health and well-being



Mental Health measure	Age
Rutter Behaviour Scales	<b>7</b> , 11, 16, 16
British Social Adjustment Guide	7, 11, 10, 10
Malaise Inventory: Psychological distress	23, 33, 42, 50
GHQ-12: Psychological distress	42
Warwick-Edinburgh Mental Wellbeing Scale (WEMBS)	50
36 Item Short Form Survey (SF-36) - health incl. general mental health	50
Life satisfaction	33, 42, 46, 50
Quality of Life Scale (CASP- 12/6 item)	50, 55

#### Parent, teacher and self-report



# Clinical Interview Schedule –Revised (CIS-R)

- Age 44/45 'Assessing minor psychiatric disorder in the community' (Lewis, Pelosi, Araya and Dunn, 1992)
  - Fatigue
  - Concentration and forgetfulness
  - Sleep problems
  - Irritability
  - Depression
  - Depression ideas
  - Anxiety
  - Phobias
  - Panic





# Behaviours, attitudes and identity



### Behaviours

- Personality Inventory (50)
  - 50 items, summed scores of 'Big-5' extraversion, agreeableness, conscientiousness, emotional stability, and openness
- Self-efficacy (33, 42, 46, 50)
- Risky and antisocial behaviour (42)
  - Criminality, contact with police
- Victim of crime (46)



# Attitudes, values and identity

- Religion (23,33, 42, 50)
- Politics
  - Voting (23, 33, 42, 50, 55)
  - Political participation (46, 50)
- Membership of organisations (23, 33, 42, 46, 50)
- Values (50)
- Range of attitudes and values e.g.
   politics, racism, environment (33, 42, 50)

#### Activities and interests

- Leisure activities (11, 16, 23, 50, 55)
- Newspapers read (23,
- Reading (33, 46)
- Access to / use the internet (46, 55)

#### Attitudes

- School (11, 16)
- Aspirations future (job, education, family) (16)
- Work (33)
- Retirement (55)
- Neighbourhood (50)





### Data enhancements and innovations



### Access to different types of data



Access to data held by the UK Data Service varies depending on how the data is classified:

<u>Tier 1:</u> <u>End User Licence</u> (EUL) for access to data with a low level of sensitivity and disclosivity.

- Most of our data are available under this licence.
- Your application is authorised directly by the UK Data Service, and you can download the data directly from there.

<u>Tier 2a</u>: <u>Special Licence</u> (SL) for access to moderately sensitive or disclosive data. Access through the UK Data Service and application approved by CLS before you can download the data.

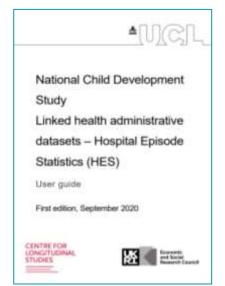
<u>Tier 2b</u>: <u>Secure Access Licence</u> (SA) for access to the most sensitive and/or potentially disclosive data. Access through the UK Data Service and attend a specialised training course.

https://cls.ucl.ac.uk/data-access-training/data-access/

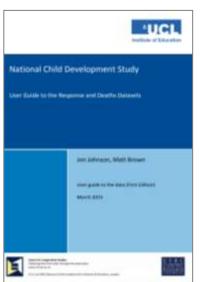
### CLS record linkage programme – available data in NCDS



Domain	Country	Data set / information	Access
Health	England	Hospital Episodes Statistics (HES)	via the UKDS (SA)
	Scotland	Inpatient, Outpatient, Maternity Records, Prescribing Information	via the UKDS (SA)
Deaths	GB	MM/YY and source of death e.g. ONS Death Certificate	via the UKDS (SL)







SA (UKDS Secure Access) SL (UKDS Special Licence)

# Geographical data enhancements

#### Available via the UKDS



Domain	Country	NCDS sweep / year	Data set / information	Access	
Neighbourhood	Great Britain	3 to 5	<ul> <li>Geographical Identifiers</li> <li>Ward, Enumeration / District Boundaries,</li> <li>Parliamentary Constituency, County</li> </ul>	via the UKDS (SA)	
	Great Britain	6 to 9	<ul> <li>Geographical Identifiers</li> <li>Ward, Output Areas, Local Authorities,</li> <li>Parliamentary Constituency</li> </ul>	via the UKDS (SA)	
	Great Britain	3 to 9	<ul> <li>Counties</li> <li>Based on digitised 1981 boundary files</li> </ul>	via the UKDS (SL)	
	Great Britain	1971- 2011	<ul> <li>Townsend Index of Deprivation</li> <li>Population, persons per hectare, urban-rural indicator</li> <li>Townsend Deprivation Score and Quintile:         <ul> <li>Unemployed % of economically active</li> <li>Non-home ownership % households</li> <li>Non-car ownership % households</li> <li>Household overcrowding</li> </ul> </li> </ul>	via the UKDS (SA)	

# Harmonised data sets (in NCDS and across other British cohorts)

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Available via the UKDS (EUL)

Domain	NCDS age	Data set / information
Socio-Economic	age 11 age 41/42	<ul> <li>Highest parental social class (RG 1990 version)</li> <li>CM's social class (RG 1990 version)</li> </ul>
Body Mass Index (BMI)	0,7,11,16,23,33,42,50 7,11,16,23,33,42,50	<ul><li>Weight</li><li>Height</li></ul>
Mental health	age 11	<ul> <li>Four domains: emotional, peer problems, behavioural and attention / hyperactivity problems</li> </ul>
Child environment	Various	<ul> <li>Crowding, Sole use of amenities, Housing tenure, Teen mother and/or father</li> <li>Child rearing and parenting</li> <li>Family instability (divorce, separation, moves</li> <li>Parental and child health</li> <li>Well-being</li> </ul>

# NCDS COVID-19 and serology surveys

Available via the UKDS (EUL)

https://cls.ucl.ac.uk/covid-19-survey/

COVID-19 surveys response		
Wave 1	5,178	
Wave 2	6,282	
Wave 3	6,809	

Serology survey response		
Invited	6,939	
Consented	4,156	
Blood sample returned	3,222	

#### **Serology Survey**:

- Participants who took part in one of three COVID-19 Surveys were invited to provide a finger-prick blood sample
- Two antibody tests conducted Nassay 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



- Sample of one in three CM's families.
- Information was collected directly from 3,438 children of CMs < age</li>
   17
- Age-specific questions to mother on child's:
  - Motor and social development, behaviour, temperament, home environment
- Child:
  - Age-specific (3<17) cognitive assessments</li>
    - Peabody Picture Vocabulary Test Revised (PPVT-R); Peabody Individual Achievement Test (PIAT): Maths, Reading Recognition, Reading Comprehension; McCarthy Scale of Child Abilities: Verbal Memory Subscale; WISC-R Digit Span
  - Height and weight
- Synergy with US National Longitudinal Survey of Youth (NLSY;1990 survey)

- Available via the UKDS (EUL)
- Data on zygosity of twins
- 244 NCDS twins (data imputed if only one twin pair responded)
- Three measures of zygosity:
  - Self-report
  - Based on 5 standardised questions: Teachers, parents, siblings, close friends, strangers telling them apart and 'Peas in a pod' question
  - Physical similarity (eye colour, height, weight, hair colour & texture)
- 18-26% identical twins

- 2002/3 Biomedical Survey collected whole blood and saliva samples from CMs
- DNA was extracted from whole blood (finite) and also a transformed lymphocytes collection (further DNA extraction).
  - Both extensively genotyped
- Forthcoming:
  - Combined genetic dataset from multiple chips (QC'd); polygenic scores for social and health traits
  - Comprehensive documentation of genetic datasets will be available on the CLS website.

CLS | Genetic data and biological samples (ucl.ac.uk)

- Four main types of genomic data available:
  - Genome Wide (GW) genotyping data
    - Across 6 different microarrays
  - Imputed datasets (Based on GW)
    - Combined dataset collated including 7.4 million genetic variants and 6,431 individuals
  - Epigenetic datasets one methylation dataset
    - 1 DNA methylation dataset has been generated for 1,377 samples using the Illumina EPIC array which covers 850,000 DNA methylation sites
  - Sequencing datasets one exome sequence dataset
    - N = 5,841

### Genetic data access

- Data access system via CLS Data Access Committee
- Complete CLS Data Access Request which includes:
  - i. Research project description (up to 500 words)
  - ii. <u>Brief methodology description</u> (up to 500 words)
  - iii. Ethico-legal issues including sensitive or controversial social topics (up to 500 words)
- And attaching NCDS\_Data\_Dictionary.xlsx with requested variables
- Bespoke survey dataset identified by a specific project ID





https://cls.ucl.ac.uk/data-access-training/data-access/accessing-data-directly-from-cls/

(For Genome Wide genotyping data if not linked to any NCDS data apply to the European Genome-phenome Archive (EGA) – more information at link above)

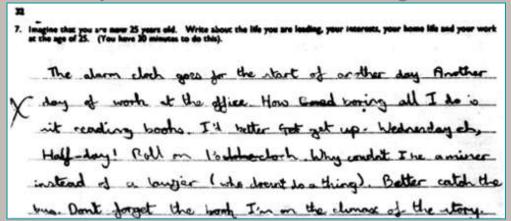
# Imagined futures (1969 - age 11; 2008/9 – age 50)

Available via the UKDS (EUL)

CENTRE FOR LONGITUDINAL STUDIES

'Imagine you are now 25 years old. Write about the life you are leading, your interests, your home life, and your work at the age of 25'

- 10,511 transcribed essays
- Future plan to deposit derived variables using open text analysis with machine learning tools.





'Imagine you are now 60 years old...please write a few lines about the life you are leading (your interests, your home life, your health and well-being and any work you may be doing'

7,383 transcribed essays



# Dealing with attrition

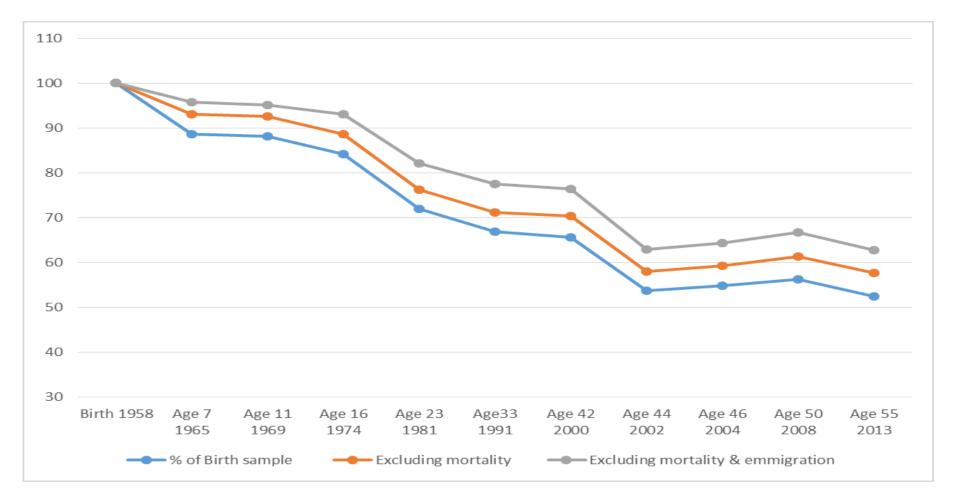


# Attrition and non-response

- Attrition is the discontinued participation of some individuals in a longitudinal survey for reasons that are unknown and/or beyond the control of the researcher
- Unit/wave non-response (attrition) as opposed to item non-response (both types of missing data)
- Types of unit/wave non-response:
  - Non-contact
  - Refusal
  - Inability
- Non-response on the increase in all surveys
- Non-response may not be permanent
- Non-response/attrition can have some important implications



### Sample size in the 1958 cohort as % of the original sample





# Dealing with unit non-response in NCDS

- <u>Case-wise deletion</u> i.e. ignoring non-response (unless missing completely at random)
  - Any individual in a data set is deleted from an analysis if they're missing data on any variable in the analysis
  - Straightforward, but doesn't deal with any non-response bias
- Non-response weights
  - Adjust the sample composition to take account of the loss of particular type of respondents.
  - Inverse probability weighting (IPW)
- Other more advanced methods e.g.multiple imputation
  - MI involves the generation of multiple copies of the dataset in each of which
    missing values are replaced by imputed values sampled from their posterior
    predictive distribution given the observed

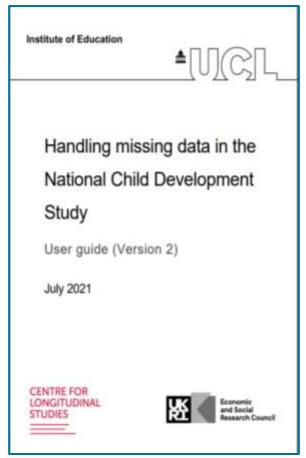


# Dealing with unit non-response in NCDS

 No attrition weights in NCDS dataset\* – cohort specific 'Missing Data Guide' for NCDS

\* except for COVID-19 surveys

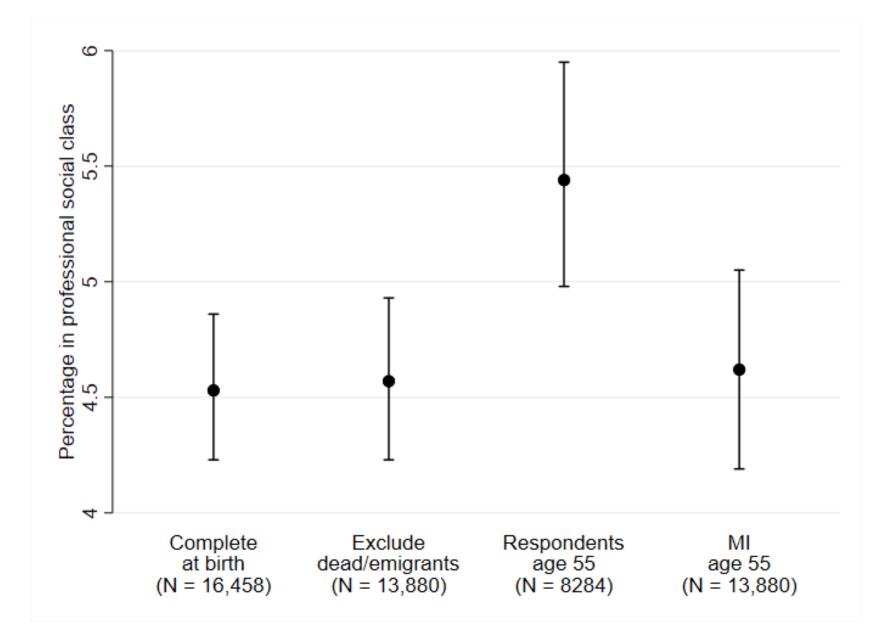
- Relevant examples and useful references:
  - NCDS Missing Data Strategy
  - Multiple imputation (MI)
    - How to develop, prepare, conduct and check MI
  - Inverse probability weights
  - Further reading



CLS | Handling missing data (ucl.ac.uk)







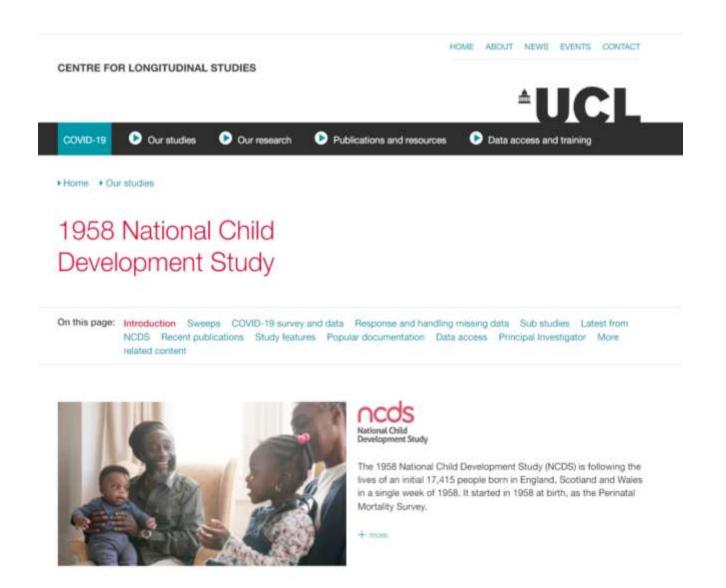


### Resources and data access



#### https://cls.ucl.ac.uk/cls-studies/1958-national-child-development-study/





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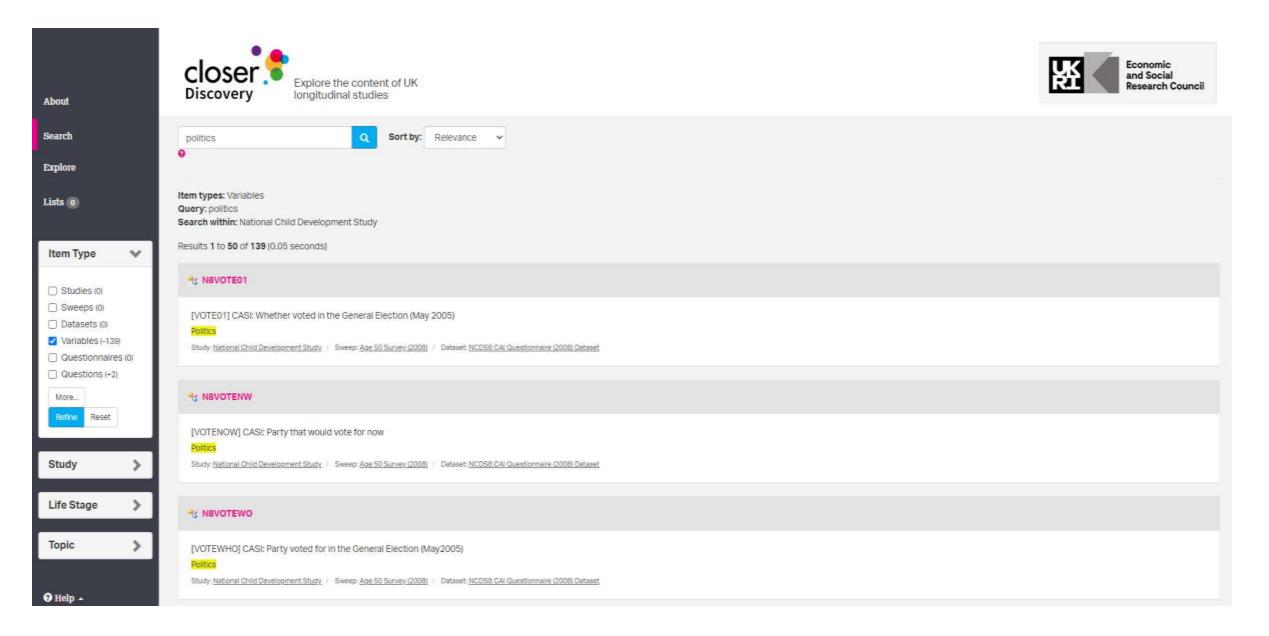




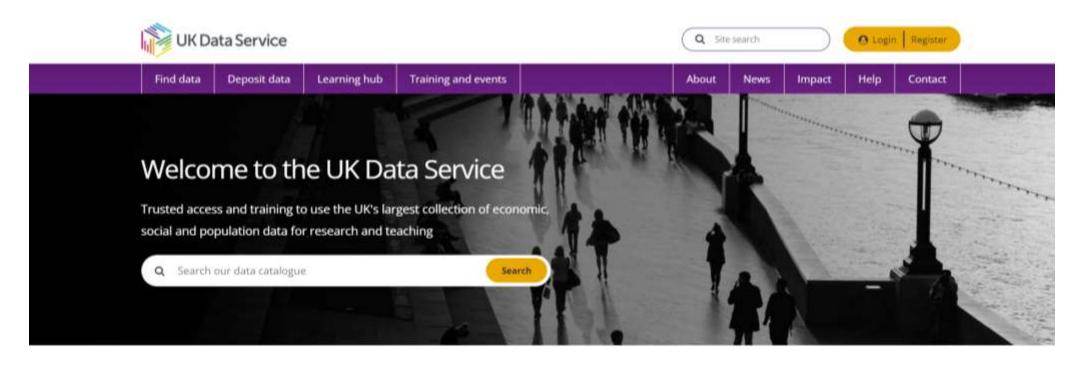
### Available resources

- User guides
  - Overview of measures; Response and weights
- Questionnaires
  - Exact question wording; Question routing; Variable names
- Data documentation
  - Data notes; Coding frames; Variables lists, including derived variables
- Technical reports
  - Sample and questionnaire design, development
  - Fieldwork, response, ethics
  - Coding, editing
- Data dictionaries
- Previous journal publications <a href="https://cls.ucl.ac.uk/publications-and-resources/">https://cls.ucl.ac.uk/publications-and-resources/</a>

# SEARCH Closer Discovery (discovery.closer.ac.uk/)



# Data <u>freely</u> available to researchers, government analysts and third sector workers: <a href="https://ukdataservice.ac.uk/">https://ukdataservice.ac.uk/</a>



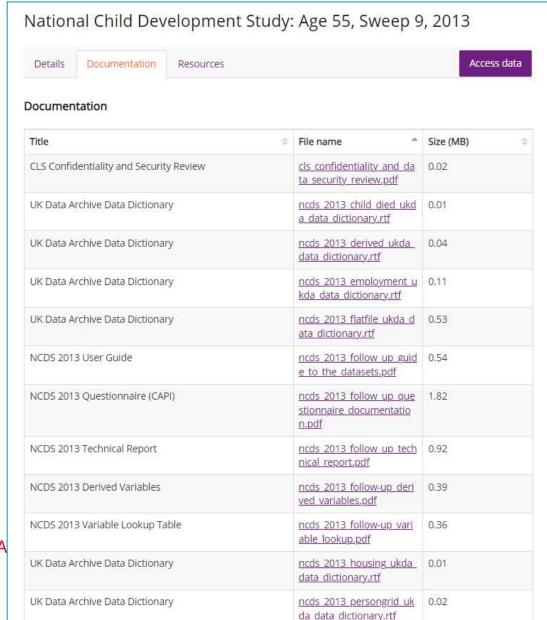
#### Key services







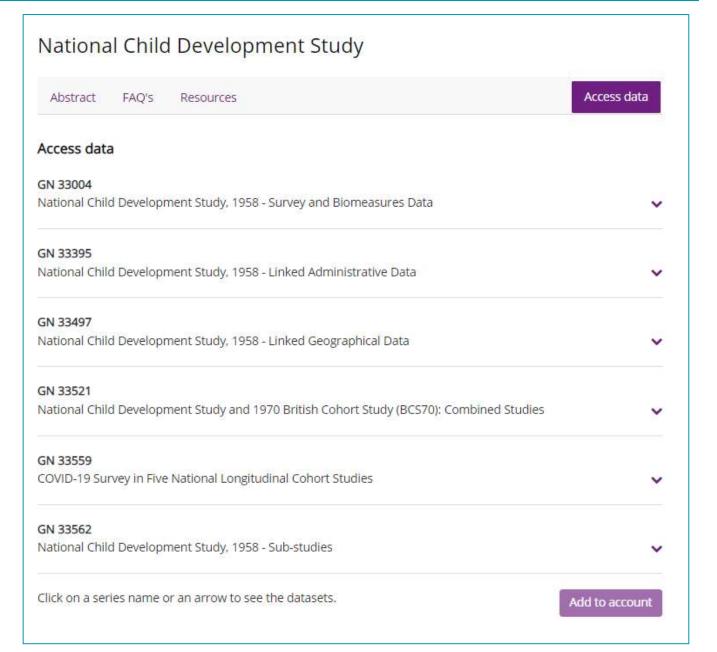
#### Available Resources: UK Data Service





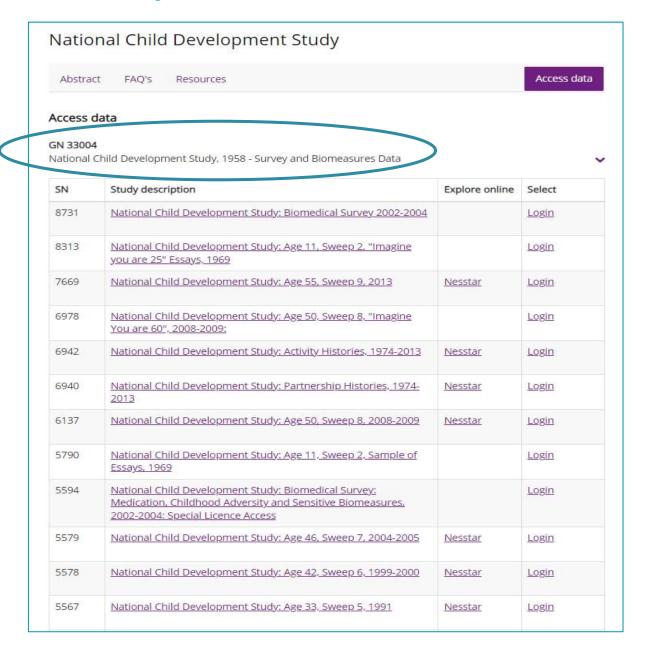
Datase	t, 1958-201	3		
Details	Documentation	Resources		Access data
Documen	tation			
Title			File name	Size (MB)
A Guide to Longitudinal Linkage of NCDS Data			a suide to longitudinal linkage of nods di ata.pdf	1.13
CLS Confidentiality and Data Security Review			cts_confidentiality_and_data_security_review.pdf	0.05
NCDS and BCS70 Response			ncds and bcs70 response.pdf	0.76
NCDS User Guide 2006			ncds user guide 2005.pdf	0.2
UK Data Archive Citation File for Study 5560			UKDA Study 5560 Information.htm	0
UK Data Archive Data Dictionary			ukda data dictionaries.zip	0
UK Data Archive Information for Study 5560			read5560.htm	0
User Guide to NCDS Response and Deaths Dataset			user guide to nods response and deaths datasets protect.pdf	0.73

### http://discover.ukdataservice.ac.uk/series/?sn=2000032





# NCDS 'Survey and Biomeasures Data'





Age 0, 7, 11 and 16 in one file:

National Child Development Study: Childhood

Data from Birth to Age 16, Sweeps 0-3, 1958-1974

### Accessing the data

- Register and set up an account at the UK Data Service
- Search for the data using the 'find data' tab
  - NCDS or the study number '2000032'
- Before downloading the data
  - Click on 'Request Access'
  - Click on 'Complete Actions'
  - Agree to standard 'End User Licence'
  - Read and agree extra conditions
  - Choose data format and download zip file
    - SPSS
    - STATA
    - TAB (tab-delimited file)



# Looking ahead



# Looking ahead

- Age 62-64 survey
  - Currently in the field
    - 90 minute face to face interview\*
    - Paper self-completion
    - 60 minute nurse visit
    - Life history paper questionnaire
    - Online diet questionnaire
  - Data deposit at UKDS ~ summer 2024



# Age 62-64 content I (not exhaustive)



#### **Employment and income**

Occupation

Income

Partner's employment and income

Impact of COVID-19

Benefits

Pensions

Savings and Debts

Intergerational transfers

Retirement

Lifelong learning

#### Family and relationships

Grandchildren

CM's and partners parents

Quality of relationships

Activities, attitudes and opinions

#### **Cognitive function:**

Immediate and delayed recall

Animal naming

Letter cancellation

#### Mental health and well-being

Psychological distress

Mental well-being

Quality of life

Life satisfaction

Loneliness

#### Physical health and health behaviours

General / Longstanding / Physical health problems

Health insurance

COVID tests, symptoms, long COVID

Height/Weight

Exercise

Diet

Drinking and smoking

Pain

Sleep

# Age 62-64 content II (not exhaustive)



#### Nurse visit – bio-measures

Prescribed medications

Seated and standing blood pressure

Maximal grip strength

Blood sampling:

- Total and HDL cholesterol
- Glycated haemoglobin (HbA1c)
- DNA extraction

Anthropometry (weight, body fat, waist and hip)

Timed normal walk

Standing balance: Leg raise

#### Life history questionnaire:

Recall age 7, 11 and 16 years:

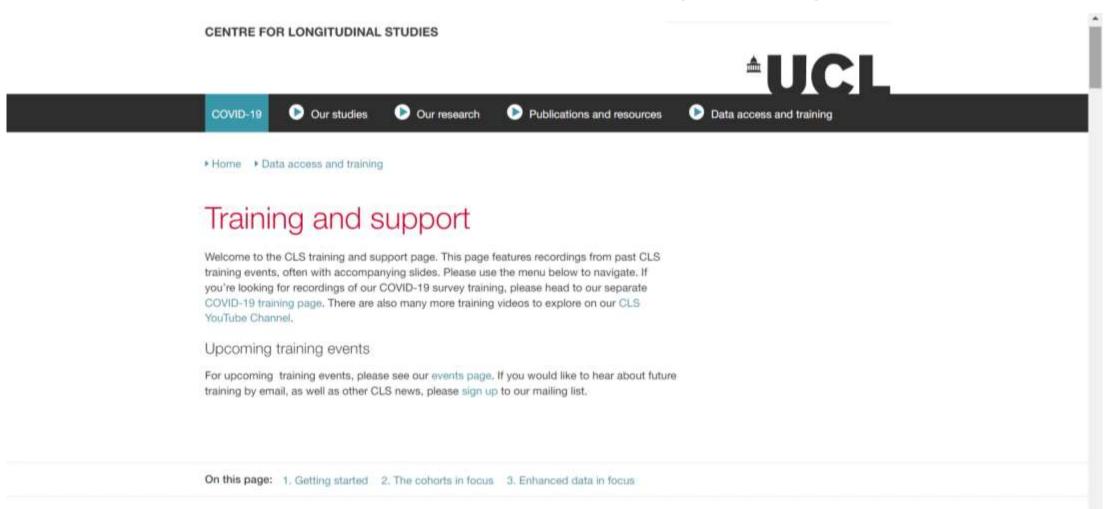
- Education
- Accomodation
- Parent employment and financial situation
- Family relationships
- Health and behaviours
- Negative events
- Feelings

#### We've covered

- A brief overview of CLS and the NCDS
- Examples of the types of research
- Data in the NCDS by themes
- Enhancements and innovations
- Resources available and data access
- Q&A to the panel

# Training and Support

https://cls.ucl.ac.uk/data-access-training/training-and-support-2/





Q&A to the panel

Please complete the feedback form



# Questions to the panel

### NCDS team

- George Ploubidis, Director of NCDS
- Matt Brown, Senior Survey Manager
- Carole Sanchez, Survey Manager NCDS
- Brian Dodgeon, Research Fellow
- Vanessa Moulton, Senior Researcher and
- Morag Henderson, Associate Professor





# IOE.CLS Data User Support

clsfeedback@ucl.ac.uk

Thanks!

