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: ioe.clsevents@ucl.ac.uk
- 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

1958 National Child Development Study

1970 British Cohort Study

Next Steps

Millennium Cohort Study
Timeline of the studies

1958 National Child Development Study

1970 British Cohort Study

Next Steps

Millennium Cohort Study

National Child Development Study follows around 17,000 babies born in one week in 1958
## COVID-19 surveys

<table>
<thead>
<tr>
<th>Wave</th>
<th>Dates</th>
<th>Context</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wave 1</td>
<td>May 2020</td>
<td>First national lockdown</td>
<td>Web</td>
</tr>
<tr>
<td>Wave 2</td>
<td>Sept/Oct 2020</td>
<td>Eased restrictions</td>
<td>Web</td>
</tr>
<tr>
<td>Wave 3</td>
<td>Feb/Mar 2021</td>
<td>Third national lockdown</td>
<td>Web → Telephone</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Study</th>
<th>Age in 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCS</td>
<td>19</td>
</tr>
<tr>
<td>Next Steps</td>
<td>30</td>
</tr>
<tr>
<td>BCS70</td>
<td>50</td>
</tr>
<tr>
<td>NCDS</td>
<td>62</td>
</tr>
</tbody>
</table>

[https://cls.ucl.ac.uk/covid-19-survey/](https://cls.ucl.ac.uk/covid-19-survey/)
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

NCDS A study of everyone born in one week in 1958

<table>
<thead>
<tr>
<th>Birth</th>
<th>7</th>
<th>11</th>
<th>16</th>
<th>23</th>
<th>33</th>
<th>42</th>
<th>44</th>
<th>46</th>
<th>50</th>
<th>55</th>
</tr>
</thead>
<tbody>
<tr>
<td>main respondent</td>
<td>mother</td>
<td>parents</td>
<td>parents</td>
<td>cohort member/parents</td>
<td>cohort member</td>
<td>cohort member</td>
<td>cohort member</td>
<td>cohort member</td>
<td>cohort member</td>
<td>cohort member</td>
</tr>
<tr>
<td>secondary respondent</td>
<td>medical</td>
<td>medical/school</td>
<td>medical/school</td>
<td>medical/school</td>
<td>partner mother children</td>
<td></td>
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</tr>
<tr>
<td>survey instruments</td>
<td>cognitive assessments</td>
<td>cognitive assessments</td>
<td>cognitive assessments</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>cognitive assessments</td>
</tr>
<tr>
<td>linked data</td>
<td></td>
<td></td>
<td></td>
<td>area of residence (census)</td>
<td>area of residence (census)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>response rate</td>
<td>17,415</td>
<td>15,425</td>
<td>15,337</td>
<td>14,654</td>
<td>12,537</td>
<td>11,469</td>
<td>11,419</td>
<td>9,377</td>
<td>9,534</td>
<td>9,790</td>
</tr>
</tbody>
</table>
NCDS study timeline

- **1958**: Birth
- **1965**: 7
- **1969**: 11
- **1974**: 16
- **1981**: 23
- **1991**: 33
- **2000**: 42
- **2003**: 44/45
- **2004**: 46
- **2008**: 50
- **2013**: 55

**1978** - collection of examination entry and performance details

**Mother and Child Survey** – a sample of 1 in 3 cohort member

**2002/3 biomedical data collection**

**Consent for record linkages**

**First web data collection (mixed mode)**
<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>18</th>
<th>20</th>
<th>37</th>
<th>50</th>
<th>57</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Warnock Study of Handicapped School Leavers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Selected CMs handicapped and not @ 500</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>▪ Provide information on how handicapped young people negotiated transition from school to work, opportunities and describe early experiences</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Feasibility Study and Tobacco Research</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>▪ @ 800: education, employment, marriage, children, housing, income and savings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Adult smoking behaviour self-completion</td>
<td></td>
<td></td>
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<tr>
<td><strong>Literacy and numeracy skills</strong>:*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>▪ 10% representative sample @1,700</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Skills tests, employment, education and training</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Twin study</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>▪ Identify zygosity @240</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>▪ self-report, physical similarity, ‘peas-in-a-pod’ q’s</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td><strong>In-work poverty and retirement attitudes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>▪ 36 qualitative interviews with purposively selected CMs with varied work histories</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Attitudes, aspirations, plans and expectations for retirement</td>
<td></td>
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</tbody>
</table>

*Comparison with BCS70 age 21 survey
**also conducted in BCS70
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., F.R.C.S., D.C.H.
Physician to the Hospital for Sick Children, Great Ormond 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 Obstetrician, Obstetric Unit, University College Hospital, London

CHITTARANJAN SEYA BADAN COLL
of Obstetrics, Gynaecology and
Child Health

E. & S. LIVINGSTONE LTD.
EDINBURGH AND LONDON
1963

Perinatal Mortality Survey under the auspices of the
National Birthday Trust Fund.

Author(s): Butler, N. R.; Alberman, E. D.
Editors: Butler, N. R.; Alberman, E. D.

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 ovals. 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.
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)
Cite this as: Br Med J 1972;2:127

N. R. Butler, H. Goldstein, E. M. Ross

Smoking in Pregnancy and Subsequent Child Development

Br Med J 1973; 4 doi: https://doi.org/10.1136/bmj.4.5892.573 (Published 08 December 1973)
Cite this as: Br Med J 1973;4:573

N. R. Butler, H. Goldstein

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

K. R. Fogelmers, 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?*

The Effect of School Quality on Educational Attainment and Wages

Lorraine Dearden, Javier Ferri, Costas Meghir

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 Slanesi


Barbara Slanesi. Institute for Fiscal Studies, 7 Ridgmount Street, London, WC1E 7AE, UK.
E-mail: barbara_s@ifs.org.uk

The Impact of Youth Unemployment on Adult Unemployment in the NCDS

Paul Gregg

Published: 09 October 2008

Intergenerational Mobility in Britain

Lorraine Dearden, Stephen Machin, Howard Reed

Published: 01 January 1997
The long shadow cast by childhood physical and mental problems on adult life

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 evidence from midlife.
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

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

<table>
<thead>
<tr>
<th>Domain</th>
<th>Test</th>
<th>Age</th>
</tr>
</thead>
</table>
| 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

| Adult Basic Skills               | Literacy and numeracy (ALBSU)                                      | 37*       |

- sub-sample
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)

* also parents height and weight
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)

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

*items from Rutter, Conners and Swansea Assessment Battery*
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:

**Tier 1:** End User Licence (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.

**Tier 2a:** Special Licence (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.

**Tier 2b:** Secure Access Licence (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/](https://cls.ucl.ac.uk/data-access-training/data-access/)
## CLS record linkage programme – available data in NCDS

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

SA (UKDS Secure Access)
SL (UKDS Special Licence)
Geographical data enhancements
Available via the UKDS

<table>
<thead>
<tr>
<th>Domain</th>
<th>Country</th>
<th>NCDS sweep / year</th>
<th>Data set / information</th>
<th>Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neighbourhood</td>
<td>Great Britain</td>
<td>3 to 5</td>
<td>• Geographical Identifiers&lt;br&gt;• Ward, Enumeration / District Boundaries, Parliamentary Constituency, County</td>
<td>via the UKDS (SA)</td>
</tr>
<tr>
<td></td>
<td>Great Britain</td>
<td>6 to 9</td>
<td>• Geographical Identifiers&lt;br&gt;• Ward, Output Areas, Local Authorities, Parliamentary Constituency</td>
<td>via the UKDS (SA)</td>
</tr>
<tr>
<td></td>
<td>Great Britain</td>
<td>3 to 9</td>
<td>• Counties&lt;br&gt;• Based on digitised 1981 boundary files</td>
<td>via the UKDS (SL)</td>
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<tr>
<td></td>
<td>Great Britain</td>
<td>1971-2011</td>
<td>• Townsend Index of Deprivation&lt;br&gt;• Population, persons per hectare, urban-rural indicator&lt;br&gt;• Townsend Deprivation Score and Quintile:&lt;br&gt;• Unemployed % of economically active&lt;br&gt;• Non-home ownership % households&lt;br&gt;• Non-car ownership % households&lt;br&gt;• Household overcrowding</td>
<td>via the UKDS (SA)</td>
</tr>
</tbody>
</table>
Harmonised data sets (in NCDS and across other British cohorts)
Available via the UKDS (EUL)

<table>
<thead>
<tr>
<th>Domain</th>
<th>NCDS age</th>
<th>Data set / information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-Economic</td>
<td>age 11</td>
<td>• Highest parental social class (RG 1990 version)</td>
</tr>
<tr>
<td></td>
<td>age 41/42</td>
<td>• CM’s social class (RG 1990 version)</td>
</tr>
<tr>
<td>Body Mass Index (BMI)</td>
<td>0,7,11,16,23,33,42,50,7,11,16,23,33,42,50</td>
<td>• Weight</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Height</td>
</tr>
<tr>
<td>Mental health</td>
<td>age 11</td>
<td>• Four domains: emotional, peer problems, behavioural and attention / hyperactivity problems</td>
</tr>
<tr>
<td>Child environment</td>
<td>Various</td>
<td>• Crowding, Sole use of amenities, Housing tenure, Teen mother and/or father</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Child rearing and parenting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Family instability (divorce, separation, moves)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Parental and child health</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Well-being</td>
</tr>
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</table>
NCDS COVID-19 and serology surveys
Available via the UKDS (EUL)

COVID-19 surveys response

<table>
<thead>
<tr>
<th>Wave</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wave 1</td>
<td>5,178</td>
</tr>
<tr>
<td>Wave 2</td>
<td>6,282</td>
</tr>
<tr>
<td>Wave 3</td>
<td>6,809</td>
</tr>
</tbody>
</table>

Serology survey response

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invited</td>
<td>6,939</td>
</tr>
<tr>
<td>Consented</td>
<td>4,156</td>
</tr>
<tr>
<td>Blood sample returned</td>
<td>3,222</td>
</tr>
</tbody>
</table>

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 - 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

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

https://cls.ucl.ac.uk/covid-19-survey/covid-19-antibody-testing/
Mother and Child survey (age 33)
Available via the UKDS (EUL)

- Sample of one in three CM’s families.
- Information was collected directly from 3,438 children of CMs < age 17
- Age-specific questions to mother on child’s:
  - Motor and social development, behaviour, temperament, home environment
- Child:
  - Age-specific (3<17) cognitive assessments
    - 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)
Twins Survey 2008 (also conducted in BCS70)
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

Genetic data

- 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.
Genetic data

- 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

https://research.ncl.ac.uk/d2k/ourresearch/58forwards/introductionto1958birthcohort
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. Brief methodology description (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)

‘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

- **Case-wise deletion** 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

---

Social class of mother’s husband at birth

Percentage in professional social class

- Complete at birth (N = 16,458)
- Exclude dead/emigrants (N = 13,880)
- Respondents age 55 (N = 8284)
- MI age 55 (N = 13,880)
Resources and data access
The 1958 National Child Development Study (NCDS) is following the lives of an initial 17,413 people born in England, Scotland and Wales in a single week of 1958. It started in 1958 at birth, as the Perinatal Mortality Survey.
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 [https://cls.ucl.ac.uk/publications-and-resources/](https://cls.ucl.ac.uk/publications-and-resources/)
SEARCH Closer Discovery (discovery.closer.ac.uk/)
Data freely available to researchers, government analysts and third sector workers: https://ukdataservice.ac.uk/
Available Resources: UK Data Service

National Child Development Study: Age 55, Sweep 9, 2013

Documentation

<table>
<thead>
<tr>
<th>Title</th>
<th>File name</th>
<th>Size (MB)</th>
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<td>CLS Confidentiality and Security Review</td>
<td>rcs confidentiality and data security review.pdf</td>
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<td>UK Data Archive Data Dictionary</td>
<td>ncds 2013 child chief ukda data dictionary.pdf</td>
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<td>UK Data Archive Data Dictionary</td>
<td>ncds 2013 derived ukda data dictionary.pdf</td>
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<td>UK Data Archive Data Dictionary</td>
<td>ncds 2013 employment ukda data dictionary.pdf</td>
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<td>ncds 2013 marriage ukda data dictionary.pdf</td>
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<td>NCDS 2013 User Guide</td>
<td>ncds 2013 follow up guide to the datasets.pdf</td>
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<td>UK Data Archive Data Dictionary</td>
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National Child Development Study Response and Outcomes Dataset, 1958-2013

Documentation

<table>
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<tr>
<th>Title</th>
<th>File name</th>
<th>Size (MB)</th>
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<td>A Guide to Longitudinal Linkage of NCDS Data</td>
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<td>User Guide to NCDS Response and Deaths Dataset</td>
<td>user guide to ncds response and deaths datasets.protect.pdf</td>
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National Child Development Study

Access data

GN 33004
National Child Development Study, 1958 - Survey and Biomeasures Data

GN 33395
National Child Development Study, 1958 - Linked Administrative Data

GN 33497
National Child Development Study, 1958 - Linked Geographical Data

GN 33521
National Child Development Study and 1970 British Cohort Study (BCS70): Combined Studies

GN 33559
COVID-19 Survey in Five National Longitudinal Cohort Studies

GN 33562
National Child Development Study, 1958 - Sub-studies

Click on a series name or an arrow to see the datasets.
### National Child Development Study

#### Access data

<table>
<thead>
<tr>
<th>SN</th>
<th>Study description</th>
<th>Explore online</th>
<th>Select</th>
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<td>National Child Development Study: Age 33, Sweep 5, 1991</td>
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</tr>
</tbody>
</table>

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

*Some interviews carried out via video link
## Employment and income
- Occupation
- Income
- Partner’s employment and income
- Impact of COVID-19
- Benefits
- Pensions
- Savings and Debts
- Intergenerational 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
  - Accommodation
  - 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!