Millennium Cohort Study (MCS)
Webinar
25th November 2014

Centre for Longitudinal Studies
Institute of Education
University of London

www.ioe.ac.uk
Outline

1. Overview of MCS and what's new at MCS
   Emla Fitzsimons, Principal Investigator

2. MCS Data, Sample Design and Attrition
   Tarek Mostafa, Research Officer, CLS, Institute of Education

3. Accessing the Millennium Cohort Study from the UK Data Service
   Beate Lichtwardt, Senior Training and Support Officer, UK Data Service
Overview of MCS
and
What’s new in MCS5

Emla Fitzsimons
UK Millennium Cohort Study (MCS)

Birth cohort study of nearly 19,000 children born in 400 areas of the UK

Highly multidisciplinary survey, designed to capture the influence of early family context on child development and outcomes throughout childhood, into adolescence and through adulthood
British Birth Cohort Studies

• Previous UK/GB National Studies (all still ongoing!):
  1946: MRC National Survey of Health & Development
  1958: National Child Development Study (NCDS)
  1970: 1970 British Birth Cohort Study

• MCS: the first national birth cohort study for 30 years

• 1958, 1970 & MCS based at Centre for Longitudinal Studies, London

• New birth cohort – Life Study starting in 2014
Coverage of MCS

Covers whole of UK

Oversamples for Wales, Scotland and Northern Ireland, areas with high child poverty and, in England, areas with higher ethnic minority populations

Major data resource - data publicly available to researchers, policy makers
In England and Wales born between 01/09/2000 and 31/08/2001

In Scotland and Northern Ireland born between 24/11/2000 and 10/1/2002

Sample of children drawn from child benefit records held by Dept of Work and Pensions
Core Funding:
Economic and Social Research Council (ESRC)

Main Co-Funding:
Govt departments – Dept of Health; Dept for Education; Dept of Work and Pensions; Welsh Government; Scottish Government; NI Executive; Home Office; Ministry of Justice; Dept for Transport
MCS Surveys

Surveys timed to take place at key developmental, social and educational stages

- 9 months: 2001/02
- Age 3: 2003/04
- Age 5: 2006
- Age 7: 2008
- Age 11: 2012 (final year of primary school)
- Age 14: 2015
- Age 17: 2018

...Plan to follow through life
## MCS Response: Families

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>Number of Sampled Wards</th>
<th>MCS1 Achieved Sample</th>
<th>MCS2 Achieved Sample (Total)</th>
<th>MCS3 Achieved Sample (Total)</th>
<th>MCS4 Achieved Sample (Total)</th>
<th>MCS5 Achieved Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGLAND</td>
<td>200</td>
<td>11532</td>
<td>10050</td>
<td>9717</td>
<td>8839</td>
<td>8618</td>
</tr>
<tr>
<td>WALES</td>
<td>73</td>
<td>2761</td>
<td>2261</td>
<td>2181</td>
<td>2018</td>
<td>1881</td>
</tr>
<tr>
<td>SCOTLAND</td>
<td>62</td>
<td>2336</td>
<td>1814</td>
<td>1814</td>
<td>1628</td>
<td>1480</td>
</tr>
<tr>
<td>N IRELAND</td>
<td>62</td>
<td>1923</td>
<td>1465</td>
<td>1534</td>
<td>1372</td>
<td>1308</td>
</tr>
<tr>
<td>TOTAL UK</td>
<td>398</td>
<td>18552</td>
<td>15590</td>
<td>15246</td>
<td>13857</td>
<td>13287</td>
</tr>
</tbody>
</table>
Survey structure at a glance

- **MCS 1**: 2001/2, 9 months
  - Mother
  - Father
  - Child
  - Older Siblings
  - Birth records: 18,552

- **MCS 2**: 2003/4, AGE 3
  - Mother
  - Father
  - Child
  - Medical records: 15,590

- **MCS 3**: 2005/6, AGE 5
  - Mother
  - Father
  - Child
  - Medical records: 15,246

- **MCS 4**: 2008/9, AGE 7
  - Mother
  - Father
  - Child
  - Education records: 13,857

- **MCS 5**: 2012/13, AGE 11
  - Mother
  - Father
  - Child
  - Teachers
  - Economic records: 13,287

Records from:
- Each survey includes medical and education records.
- Economic records are also collected from MCS 5.

Every survey year also includes data on older siblings, teachers, and economic records.
# Content of MCS Parent Interviews

<table>
<thead>
<tr>
<th>Category</th>
<th>Response Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household questionnaire</td>
<td>(Either Parent)</td>
</tr>
<tr>
<td>Family Context</td>
<td>(Main)</td>
</tr>
<tr>
<td>Early Education, schooling &amp; childcare</td>
<td>(Main)</td>
</tr>
<tr>
<td>Child &amp; Family Activities &amp; child behaviour</td>
<td>(Main)</td>
</tr>
<tr>
<td>Parenting Activities</td>
<td>(Main &amp; Partner)</td>
</tr>
<tr>
<td>Child Health</td>
<td>(Main)</td>
</tr>
<tr>
<td>Parent’s Health</td>
<td>(Main &amp; Partner)</td>
</tr>
<tr>
<td>Employment, Education and Income</td>
<td>(Main &amp; Partner)</td>
</tr>
<tr>
<td>Housing &amp; Local Area</td>
<td>(Main)</td>
</tr>
<tr>
<td>Social and Community Context</td>
<td>(Main &amp; Partner)</td>
</tr>
<tr>
<td>Self-completion</td>
<td>(Main &amp; Partner)</td>
</tr>
</tbody>
</table>
Data collected directly from cohort member
Overview of data collected directly from cohort members

1. Cognitive assessments since age 3
2. Physical measurements since age 3
3. Self-completion questionnaires since age 7
Overview of data collected directly from cohort members

1. Cognitive assessments since age 3
## Child cognitive assessments

<table>
<thead>
<tr>
<th>Age 3</th>
<th>Age 5</th>
<th>Age 7</th>
<th>Age 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAS Naming Vocabulary</td>
<td>The story of Sally &amp; Ann</td>
<td>The story of Sally &amp; Ann</td>
<td>BAS Verbal Similarities</td>
</tr>
<tr>
<td>Bracken School Readiness Assessment:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colours</td>
<td>BAS Naming vocabulary</td>
<td>Word Reading</td>
<td>CANTAB Spatial Working Memory</td>
</tr>
<tr>
<td>Letters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sizes</td>
<td>BAS Picture Similarities</td>
<td>Progress in Maths</td>
<td>CANTAB Cambridge Gambling Task</td>
</tr>
<tr>
<td>Comparisons</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BAS Pattern Construction</td>
<td>BAS Pattern Construction</td>
<td></td>
</tr>
</tbody>
</table>
Age 11 Cognitive Assessments

- BAS Verbal Similarities
- 2 Cambridge Cognition Assessments:
  - Memory task (Spatial Working Memory task)
  - Decision-making task (Cambridge Gambling task)
BAS Verbal Similarities

INT NO=6670  POINT=1 (No info found)

q21i

INTERVIEWER, SAY: BOOK, TELEPHONE, NEWSPAPER
INTERVIEWER, SAY ONE OF THE THREE FOLLOWING STATEMENTS:
What are all these things?
How do these things go together?
How are these things alike?

CORRECT RESPONSES
Communication
Information
Media
Things that:
Tell you what's happening
Tell you something
You learn through

RESPONSES REQUIRING PROBING
Have words/numbers
Contain news
Use at home

INCORRECT RESPONSES
Companies
Entertainment
Have to do with:
Reading/talking
/telephones
Everyday objects
Things you look at

Correct response
Response requiring probing
Incorrect response/No response/Don't know/Refused

HELP MENU

Terminate assessment
Memory Task
Decision Making Task
Overview of data collected directly from cohort members

1. Cognitive assessments since age 3

2. Physical measurements since age 3
Child physical measurements (& samples)

<table>
<thead>
<tr>
<th>Age 3</th>
<th>Age 5</th>
<th>Age 7</th>
<th>Age 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>Height</td>
<td>Height</td>
<td>Height</td>
</tr>
<tr>
<td>Weight</td>
<td>Weight</td>
<td>Weight</td>
<td>Weight</td>
</tr>
<tr>
<td>Oral fluid sample</td>
<td>Waist circumference</td>
<td>Waist circumference</td>
<td>Body fat</td>
</tr>
<tr>
<td><img src="image.png" alt="Image" /></td>
<td>Body fat</td>
<td>Activity monitor</td>
<td>Shed milk teeth</td>
</tr>
</tbody>
</table>
Overview of data collected directly from cohort members

1. Cognitive assessments since age 3
2. Physical measurements since age 3
3. Self-completion questionnaires since age 7
Age 11 survey: child self-completion

28 page paper self-completion, covering:

• Family & Friends
• School
• Things done outside school
• The area they live in
• Things they may have done – anti social behaviour
• Things they may have tried – incl. alcohol & smoking
• How they feel
• Growing up
Age 11 child self-completion

**About what you do**

1. **How often do you listen to or play music, not at school?**
   - **Tick one box only**
   - Most days
   - At least once a week
   - At least once a month
   - Less often than once a month
   - Never

2. **How often do you draw, paint or make things, not at school?**
   - **Tick one box only**
   - Most days
   - At least once a week
   - At least once a month
   - Less often than once a month
   - Never

3. **How often do you play sports or active games inside or outside, not at school?**
   - **Tick one box only**
   - Most days
   - At least once a week
   - At least once a month
   - Less often than once a month
   - Never
Permission sought from parents & child to contact child’s class teacher; consent rates close to 95%

Postal self-completion questionnaire, covering:

- Study child’s abilities
- Study child’s behaviour
- Study child profile
- Study child’s parents
- Class groupings
- Study child’s teacher
- Study child’s class
- Move to secondary school
At age 11 MCS formalised the consent process for children for first time:

- Parents' asked for written consent to approach child to give *their own permission* to take part in all child elements

- Verbal consent from cohort child for:
  - cognitive assessments
  - physical measurements
  - self-completion questionnaire
  - to approach class teacher for teacher survey
Other Data in MCS
MCS survey data can be enriched by administrative data: consents for linkage to admin data asked at various sweeps

- Linked **maternity and birth records** data

- **Hospital records** (cohort members, parents, siblings) – Welsh data nearly ready for deposit; application in process covering other 3 countries of UK; covers parents and siblings also

- **Education records** – National Pupil Database, Key Stage 1 (England and Wales); further education linkages in process

- Consent gained for linkage to **parental economic records** (DWP and HMRC)
Sub-studies of MCS cohort

- Postal survey to health visitors working in areas covered by MCS, to gather information on health and social care services available to MCS families (n=302)

- Postal survey on 230 mothers of cohort members who had been conceived as a result of assisted fertility treatment

- Specialist pre-school teachers visited nurseries, playgroups and pre-schools of sample of 300 cohort members during summer of 2005 to collect information on type/quality of childcare
Further Reading

Connelly and Platt (2014) “Cohort Profile: UK Millennium Cohort Study (MCS)”, International Journal of Epidemiology

CLS Website
http://www.cls.ioe.ac.uk/page.aspx?&sitesectionid=851&sitesectiontitle=Welcome+to+the+Millennium+Cohort+Study