

# 1970 British Cohort Study

## User Guide to the Response and Deaths Datasets

Joe Heywood, Jon Johnson, Matt Brown

User guide to the data (First Edition)

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Centre for Longitudinal Studies  
Institute of Education, University of London  
20 Bedford Way  
London WC1H 0AL  
[www.cls.ioe.ac.uk](http://www.cls.ioe.ac.uk)  
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Please contact the Centre for Longitudinal Studies.  
tel: +44 (0)20 7612 6875  
email: [clsfeedback@ioe.ac.uk](mailto:clsfeedback@ioe.ac.uk)

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## Introduction

This document accompanies the deposit of the 1970 British Cohort Study Response and Deaths dataset at the UK Data Service in July 2015. The new deposit replaces the previous response dataset and combines it with data on known deaths among members of the British Cohort Study birth cohort from 1970 to 2015.

The 1970 British Cohort Study (BCS70) is an ongoing, multi-disciplinary longitudinal study. It began, as the British Births Survey, when data were collected over babies born in Great Britain (England, Scotland and Wales) in one week in April 1970. To date, there have been 8 follow-ups of the entire cohort which have sought to monitor their development in key domains – health, education, social and economic.

The follow-ups were undertaken when the cohort members were aged 5, 10, 16, 26, 30, 34, 38 and 42 years and, for the first three of these, the birth cohort was also augmented by including in the target sample immigrants born in the relevant week and identified from school registers during tracing. Sub-studies have also been carried out at age 22 months, 42 months and 21 years. Over the years, information has been gathered from a number of sources (e.g. parents, schools, doctors, medical records, cohort members) and in a variety of ways (e.g. interview, self-completion, assessments, medical records). In addition, details of public examination entry and performance were obtained from schools prior to the 26 year follow-up.

## Response

In this section we describe the ‘cross-sectional’ and ‘longitudinal’ response rates achieved at each follow-up. This builds on the work originally done by Plewis et al<sup>1</sup> which described response up to 2004 and subsequently Atherton et al<sup>2</sup> which described response up to 2008. The response dataset has now been updated with data from the most recent survey – BCS9 (2012). In addition, the response categories have been simplified from previous releases. Additional information on country of birth, ethnicity and twin status and sex has also been provided.

The birth sample includes approximately 98% of all notified births in Great Britain (England, Wales and Scotland) during the week of April 1970. At BCS2 (1975), BCS3 (1980) and BCS4 (1986) immigrants to Great Britain who were born in the relevant week were identified from

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<sup>1</sup> PLEWIS, I, CALDERWOOD, L, HAWKES, D AND NATHAN, G (2004) [Changes in the NCDS and BCS70 populations and samples over time](#). CLS Technical Report. London: CLS, Institute of Education

<sup>2</sup> ATHERTON, K., FULLER, E., SHEPHERD, P., STRACHAN, D. P. and POWER, C. (2008) Loss and representativeness in a biomedical survey at age 45 years: 1958 British birth cohort. [Journal of Epidemiology and Community Health](#), 62(3), 216-223

school registers and added to the sample<sup>3</sup>. Additional children born in Great Britain not previously contacted for the study during the week in question were also added.

Table 1 shows the number of productive interviews achieved in each follow-up from all cases whether born in Great Britain or otherwise. Where productive interviews were not achieved the reason for this is also shown. The category “not issued” has a different context prior to BCS4 and from BCS5 onwards. In the first three sweeps “not issued” are those cohort members who joined the study after the birth data collection either because there were immigrants or were missed during the initial data collection in 1970. From BCS5 onwards the ‘not issued’ category is comprised of those who chose to permanently withdraw from the study and those for who had been untraced for a lengthy period.

Table 2 shows the number of cohort members resident in Great Britain by country of birth. This allows us to calculate in *Table 3*, the cross-sectional and longitudinal samples and consequent response rates. Appendix A show a more detailed breakdown of response by country of birth and residence.

1. The cross-sectional sample is defined as *“all those born during the defined week in April 1970, and living in Great Britain (including the Isle of Man and Channel Islands) at the time of the data collection”*.
2. The cross-sectional achieved sample is *“all those members of the cross-sectional sample who participate in a particular sweep.*
3. The longitudinal sample is defined as *“all those born in Great Britain during the defined week in April 1970, and living in Great Britain (including the Isle of Man and Channel Islands) at the time of the data collection”*.
4. The longitudinal achieved sample is *“all those members of the longitudinal sample who participate in a particular sweep.*

At the most recent sweep both the cross-sectional and longitudinal response rates were 74%. Diagram 1 shows the achieved sample over the 9 sweeps. The percentage of the cross-sectional and longitudinal samples is the same in each sweep. The response rate was handicapped in 1986 by a teachers’ strike and by the use of a postal survey with limited resources in 1996.

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<sup>3</sup> FERRI, E (1993) *Life at 33: The Fifth Follow-up of the National Child Development Study*. London: National Children’s Bureau, City University, Economic and Social Research Council

Table 1: Survey Response

	<b>BCS1</b>	<b>BCS2</b>	<b>BCS3</b>	<b>BCS4</b>	<b>BCS5</b>	<b>BCS6</b>	<b>BCS7</b>	<b>BCS8</b>	<b>BCS9</b>
	<b>Birth</b>	<b>5</b>	<b>10</b>	<b>16</b>	<b>26</b>	<b>30</b>	<b>34</b>	<b>38</b>	<b>42</b>
	1970	1975	1980	1986	1996	2000	2004	2008	2012
<b>Productive</b>	17195	13135	14869	11615	9002	11261	9665	8874	9839
<b>Refusal</b>	0	0	0	0	66	1080	1003	710	1863
<b>Non-contact</b>	0	0	0	5802	4164	2680	2002	1926	1212
<b>Other unproductive</b>	17	3273	2351	21	46	457	229	197	338
<b>Ineligible</b>	0	0	0	0	0	15	1	4	0
<b>Not Issued</b>	1431	1659	827	595	4598	2132	4479	5582	3981
<b>Not Issued - Emigrant</b>	0	0	0	0	34	235	432	456	433
<b>Dead</b>	0	576	596	610	733	783	832	894	977
<b>Total</b>	<b>18643</b>	<b>18643</b>	<b>18643</b>	<b>18643</b>	<b>18643</b>	<b>18643</b>	<b>18643</b>	<b>18643</b>	<b>18643</b>

Table 1a: Survey Response (%)

	<b>BCS1</b>	<b>BCS2</b>	<b>BCS3</b>	<b>BCS4</b>	<b>BCS5</b>	<b>BCS6</b>	<b>BCS7</b>	<b>BCS8</b>	<b>BCS9</b>
	<b>Birth</b>	<b>5</b>	<b>10</b>	<b>16</b>	<b>26</b>	<b>30</b>	<b>34</b>	<b>38</b>	<b>42</b>
	1970	1975	1980	1986	1996	2000	2004	2008	2012
<b>Productive</b>	92%	70%	80%	62%	48%	60%	52%	48%	53%
<b>Refusal</b>	0%	0%	0%	0%	0%	6%	5%	4%	10%
<b>Non-contact</b>	0%	0%	0%	31%	22%	14%	11%	10%	7%
<b>Other unproductive</b>	0%	18%	13%	0%	0%	2%	1%	1%	2%
<b>Ineligible</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Not Issued</b>	8%	9%	4%	3%	25%	11%	24%	30%	21%
<b>Not Issued - Emigrant</b>	0%	0%	0%	0%	0%	1%	2%	2%	2%
<b>Dead</b>	0%	3%	3%	3%	4%	4%	4%	5%	5%

Table 2: Residence/Country of birth at each follow-up

	<b>BCS1</b>	<b>BCS2</b>	<b>BCS3</b>	<b>BCS4</b>	<b>BCS5</b>	<b>BCS6</b>	<b>BCS7</b>	<b>BCS8</b>	<b>BCS9</b>
<b>Birth</b>	<b>5</b>	<b>10</b>	<b>16</b>	<b>26</b>	<b>30</b>	<b>34</b>	<b>38</b>	<b>42</b>	
	1970	1975	1980	1986	1996	2000	2004	2008	2012
<b>Resident in Great Britain</b>	<b>17212</b>	<b>16404</b>	<b>17214</b>	<b>17431</b>	<b>13277</b>	<b>15491</b>	<b>12900</b>	<b>11710</b>	<b>13249</b>
- born in Great Britain	16584	16325	16823	16983	12964	15099	12604	11461	12951
- born outside of Great Britain	628	79	391	448	313	392	296	249	298
<b>Not resident in Great Britain</b>	<b>1424</b>	<b>1656</b>	<b>826</b>	<b>595</b>	<b>4626</b>	<b>2362</b>	<b>4904</b>	<b>6032</b>	<b>4410</b>
- born in Great Britain	999	695	177	3	3900	1718	4166	5249	3679
- born outside of Great Britain	425	961	649	592	726	644	738	783	731
<b>Died</b>	<b>0</b>	<b>576</b>	<b>596</b>	<b>610</b>	<b>733</b>	<b>783</b>	<b>832</b>	<b>894</b>	<b>977</b>
<b>Total</b>	<b>18636</b>	<b>18636</b>	<b>18636</b>	<b>18636</b>	<b>18636</b>	<b>18636</b>	<b>18636</b>	<b>18636</b>	<b>18636</b>

Table 3: Target and achieved samples

	<b>BCS1</b>	<b>BCS2</b>	<b>BCS3</b>	<b>BCS4</b>	<b>BCS5</b>	<b>BCS6</b>	<b>BCS7</b>	<b>BCS8</b>	<b>BCS9</b>
<b>Birth</b>	<b>5</b>	<b>10</b>	<b>16</b>	<b>26</b>	<b>30</b>	<b>34</b>	<b>38</b>	<b>42</b>	
	1970	1975	1980	1986	1996	2000	2004	2008	2012
<b>Cross-sectional target sample*</b>	17212	16404	17214	17431	13277	15491	12900	11710	13249
<b>Cross-sectional achieved sample</b>	17195	13131	14869	11615	9002	11261	9665	8874	9836
<b>Cross-sectional achieved sample (%)</b>	100%	80%	86%	67%	68%	73%	75%	76%	74%
<b>Longitudinal target sample**</b>	16584	16325	16823	16983	12964	15099	12604	11461	12951
<b>Longitudinal achieved sample</b>	16567	13052	14500	11305	8799	11018	9458	8686	9626
<b>Longitudinal achieved sample (%)</b>	100%	80%	86%	67%	68%	73%	75%	76%	74%

\*All those known to be alive and resident in Great Britain at the time of the data collection

\*\* All those known to be alive, resident and born in Great Britain at the time of the data collection

Diagram 1: Achieved samples

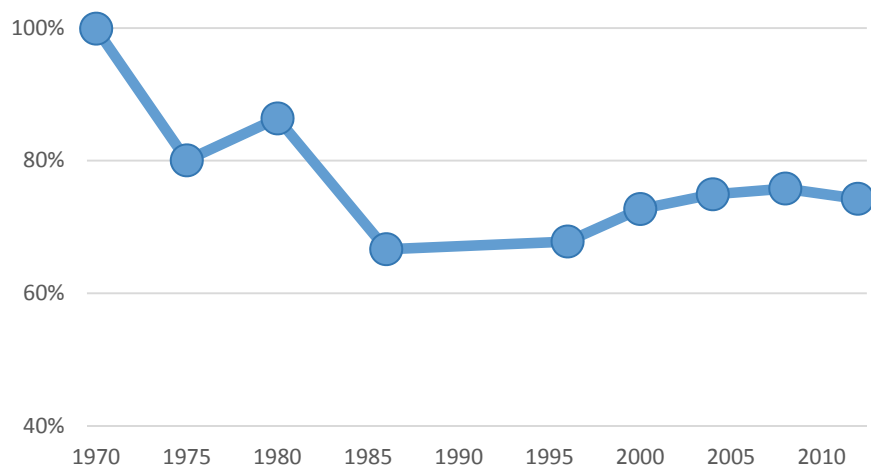


Table 4 show the number of sweeps completed by cohort members. 56% have participated in 6 or more sweeps of data collection.

Table 4: Completed sweeps

Completed sweeps	Number of cohort members	Percentage	Cumulative percentage
9	3488	19%	19%
8	2961	16%	35%
7	2291	12%	47%
6	1729	9%	56%
5	1688	9%	65%
4	1808	10%	75%
3	1366	7%	82%
2	884	5%	87%
1	2428	13%	100%
Total	18643		

## Deaths

Information on deaths has been taken from the records maintained by the organisations responsible for the study over the life time of the study - the National Birthday Trust Fund, the National Children's Bureau (NCB), the Social Statistics Research Unit (SSRU) and the Centre for Longitudinal Studies (CLS). The information has been gleaned from a variety of sources, including death certificates and other information from the National Health Service Central Register (NHSCR)<sup>4</sup>, and from relatives and friends during survey activities and cohort

<sup>4</sup> <http://www.ons.gov.uk/about/who-we-are/our-services/medical-research/about-us/national-health-service-central-register--nhscr-/index.html>



maintenance work by telephone, letter and e-mail. It includes all deaths up to 31st December 2014. In only 40 cases are the date of death unknown. By the end of December 8.7% of the cohort were known to have died.

### Sources of deaths data

- *NHSCR Death Certificates*: death certificates supplied to SSRU/CLS by the NHSCR
- *PMS/BCS70 Death Cards*: a card index which recorded deaths among the BCS70 cohort from 1970 until (approximately) 1981.
- *Survey/Cohort Maintenance work*: information deriving from survey activities (e.g. interviewers being told on the doorstep that cohort member has died), or from the BCS70 Address Database, compiled from cohort maintenance work (e.g. response to feedback, phone calls and correspondence between surveys).
- *Stillbirth/Neonatal Death*: these deaths occurred during the period when the BCS70 interviewers were still in close contact with the family, and so verification was immediate.

Diagram 2 provides information on death by sex. This chart shows the expected higher mortality of males, especially after the age of sixteen. Diagram 3 shows the higher mortality on Scotland and Wales, compared to England. In this chart, the “outside of GB” category includes Northern Ireland, which had been part of study in the first sweep.

Diagram 2: Cumulative deaths by sex

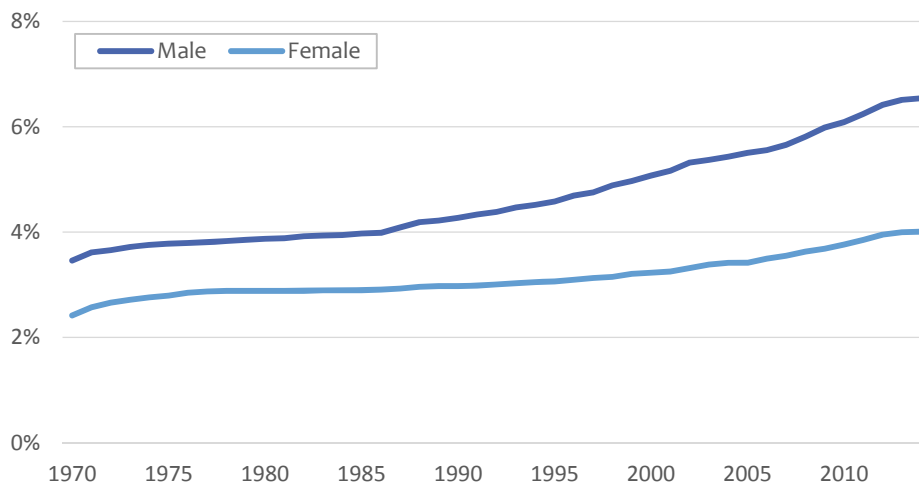
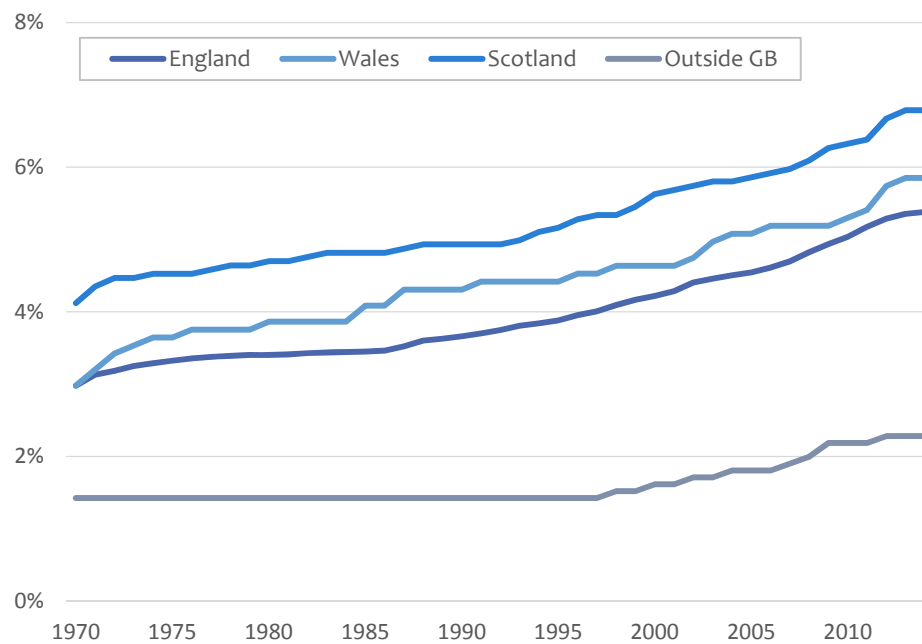


Diagram 3: Cumulative deaths by country of birth



### *The datasets*

The content of the datasets is summarised in Table 4. The datasets have been split into two parts, the deaths information has been put under Special Licence to comply with our Section 251 (<http://www.hra.nhs.uk/about-the-hra/our-committees/section-251/>) approval (CAG 1-03(PR2)/2014) from the Health Research Authority Confidential Advisory Group.

Table 4: Overview of datasets

### End User Licence Dataset

<b>Variable</b>	<b>Description</b>
BCSID	Research Serial Number
SEX	Sex of cohort member
COB	Country of Birth
MULTIPNO	Twin or triplet identity
TWINCODE	Corresponding multiple identifier
OUTCME01	Outcome to BCS1 (1970)
OUTCME02	Outcome to BCS2 (1975)
OUTCME03	Outcome to BCS3 (1980)
OUTCME04	Outcome to BCS4 (1986)
OUTCME05	Outcome to BCS5 (1996)
OUTCME06	Outcome to BCS6 (2000)
OUTCME07	Outcome to BCS7 (2004)
OUTCME08	Outcome to BCS8 (2008)
OUTCME09	Outcome to BCS9 (2012)

### Special Licence Dataset

<b>Variable</b>	<b>Description</b>
BCSID	Research Serial Number
DODMTH	Consolidated month of death
DODYR	Consolidated year of death
DSOURCE	Source of death information

Appendix A: Detailed Response by country of birth and residence

	<b>BCS1</b>		<b>BCS2</b>		<b>BCS3</b>		<b>BCS4</b>		<b>BCS5</b>		<b>BCS6</b>		<b>BCS7</b>		<b>BCS8</b>		<b>BCS9</b>	
	<b>Birth</b>		<b>5</b>		<b>10</b>		<b>16</b>		<b>26</b>		<b>30</b>		<b>34</b>		<b>38</b>		<b>42</b>	
	<b>1970</b>		<b>1975</b>		<b>1980</b>		<b>1986</b>		<b>1996</b>		<b>2000</b>		<b>2004</b>		<b>2008</b>		<b>2012</b>	
	<i>GB</i>	<i>Not GB</i>	<i>GB</i>	<i>Not GB</i>	<i>GB</i>	<i>Not GB</i>	<i>GB</i>	<i>Not GB</i>	<i>GB</i>	<i>Not GB</i>	<i>GB</i>	<i>Not GB</i>	<i>GB</i>	<i>Not GB</i>	<i>GB</i>	<i>Not GB</i>	<i>GB</i>	<i>Not GB</i>
<b>Productive</b>	16567	628	13052	79	14500	369	11305	310	8799	203	11018	243	9458	207	8686	188	9626	210
<b>Refusal</b>	0	0	0	0	0	0	0	0	64	2	1058	22	987	16	694	16	1827	36
<b>Non-contact</b>	0	0	0	0	0	0	5664	138	4057	106	2577	101	1934	68	1886	40	1178	34
<b>Other unproductive</b>	17	0	3273	0	2323	22	14	0	44	2	432	25	224	5	191	5	320	18
<b>Ineligible</b>	0	0	0	0	0	0	0	0	0	0	14	1	1	0	4	0	0	0
<b>Not Issued</b>	999	425	695	961	177	649	3	592	3866	726	1502	625	3761	711	4821	755	3273	704
<b>Not Issued - Emigrant</b>	0	0	0	0	0	0	0	0	34	0	216	19	405	27	428	28	406	27
<b>Dead</b>	0	0	563	13	583	13	597	13	719	14	766	17	813	19	873	21	953	24
<b>Resident</b>	16584	628	16325	79	16823	391	16983	448	12964	313	15099	392	12604	296	11461	249	12951	298
<b>Not resident</b>	999	425	695	961	177	649	3	592	3900	726	1718	644	4166	738	5249	783	3679	731
<b>Dead</b>	0	0	563	13	583	13	597	13	719	14	766	17	813	19	873	21	953	24
<b>Total</b>	17583	1053	17583	1053	17583	1053	17583	1053	17583	1053	17583	1053	17583	1053	17583	1053	17583	1053
<b>Total by data collection</b>	<b>18636</b>		<b>18636</b>		<b>18636</b>		<b>18636</b>		<b>18636</b>		<b>18636</b>		<b>18636</b>		<b>18636</b>		<b>18636</b>	

## *Further information*

Further information on BCS70 is available from the CLS website (<http://www.cls.ioe.ac.uk/bcs>). CLS can also be contacted at the following email address: [clsfeedback@ioe.ac.uk](mailto:clsfeedback@ioe.ac.uk)

## *Comments*

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Centre for Longitudinal Studies  
Institute of Education  
20 Bedford Way  
London WC1H 0AL  
Tel: 020 7612 6860  
Fax: 020 7612 6880  
Email: [clsfeedback@ioe.ac.uk](mailto:clsfeedback@ioe.ac.uk)  
Web: [www.cls.ioe.ac.uk](http://www.cls.ioe.ac.uk)