

Supplementary Material

Supplementary Table 1: Number (%) of 1958 National Child Development Study (NCDS) cohort members with linked Hospital Episode Statistics (HES) data by proportion of waves between 6 and 9 that they lived in England. Waves with missing data on residency are excluded from the proportion calculation^A. Analysis restricted to cohort members providing consent for linkage

	Proportion of waves between 6 and 9 living in England						Total
	1/4	1/3	1/2	2/3	3/4	1	
No linked HES data	13 (52.0)	4 (40.0)	13 (36.1)	3 (27.3)	11 (18.0)	430 (6.7)	474 (7.2)
Linked HES data	12 (48.0)	6 (60.0)	23 (63.9)	8 (72.7)	50 (82.0)	6,020 (93.3)	6,119 (92.8)
Total	25	10	36	11	61	6,450	6,593

^ASo, for example, a proportion of "1/3" means 1 wave living in England, 2 waves not living in England and 1 wave with unknown residency and a proportion of "2/4" means either 2 waves living in England and 2 waves not living in England or 1 wave living in England, 1 wave not living in England and 2 waves with unknown residency.

Supplementary Table 2: Linked Hospital Episode Statistics (HES) Admitted Patient Care (APC) data between date of last interview/2000 and date of wave 8 (age 50) interview against self-reported day patient or in-patient attendance at wave 8 (age 50) in the National Child Development Study (NCDS): males

Linked HES APC data between date of last interview/2000 and date of wave 8 (age 50) interview										
		Individuals with linked APC data			Individuals with at least one linked HES dataset			All linkage consenters		
		No linked HES data	Linked HES data	Total	No linked HES data	Linked HES data	Total	No linked HES data	Linked HES data	Total
Age 50 day patient or in-patient attendance	No	1,189 (78.7)	322 (21.3)	1,511	1,853 (85.2)	322 (14.8)	2,175	2,111 (86.8)	322 (13.2)	2,433
	Yes	143 (18.7)	623 (81.3)	766	192 (23.6)	623 (76.4)	815	214 (25.6)	623 (74.4)	837
	Total	1,332 (58.5)	945 (41.5)	2,277	2,045 (68.4)	945 (31.6)	2,990	2,325 (71.1)	945 (28.9)	3,270

Supplementary Table 3: Linked Hospital Episode Statistics (HES) Admitted Patient Care (APC) data between date of last interview/2000 and date of wave 8 (age 50) interview against self-reported day patient or in-patient attendance at wave 8 (age 50) in the National Child Development Study (NCDS): females

Linked HES APC data between date of last interview/2000 and date of wave 8 (age 50) interview										
		Individuals with linked APC data			Individuals with at least one linked HES dataset			All linkage consenters		
		No linked HES data	Linked HES data	Total	No linked HES data	Linked HES data	Total	No linked HES data	Linked HES data	Total
Age 50 day patient or in-patient attendance	No	1,252 (78.9)	335 (21.1)	1,587	1,762 (84.0)	335 (16.0)	2,097	1,939 (85.3)	335 (14.7)	2,274
	Yes	166 (16.9)	815 (83.1)	981	216 (21.0)	815 (79.0)	1,031	233 (22.2)	815 (77.8)	1,048
	Total	1,418 (55.2)	1,150 (44.8)	2,568	1,978 (63.2)	1,150 (36.8)	3,128	2,172 (65.4)	1,150 (34.6)	3,322

Supplementary Table 4: Linked Hospital Episode Statistics (HES) Admitted Patient Care (APC) data for the 5 years prior to the date of the wave 9 (age 55) interview against self-rated general health at age 55 in the National Child Development Study (NCDS): males

		Linked HES APC data for the 5 years prior to the date of the wave 9 (age 55) interview								
		Individuals with linked APC data			Individuals with at least one linked HES dataset			All linkage consenters		
		No linked HES data	Linked HES data	Total	No linked HES data	Linked HES data	Total	No linked HES data	Linked HES data	Total
Age 55 self-rated general health	Excellent	124 (57.9)	90 (42.1)	214	237 (72.5)	90 (27.5)	327	293 (76.5)	90 (23.5)	383
	Very good	346 (56.1)	271 (43.9)	617	602 (69.0)	271 (31.0)	873	706 (72.3)	271 (27.7)	977
	Good	297 (45.3)	359 (54.7)	656	490 (57.7)	359 (42.3)	849	549 (60.5)	359 (39.5)	908
	Fair	127 (38.7)	201 (61.3)	328	180 (47.2)	201 (52.8)	381	196 (49.4)	201 (50.6)	397
	Poor	32 (23.4)	105 (76.6)	137	44 (29.5)	105 (70.5)	149	47 (30.9)	105 (69.1)	152
	Total	926 (47.4)	1,026 (52.6)	1,952	1,553 (60.2)	1,026 (39.8)	2,579	1,791 (63.6)	1,026 (36.4)	2,817

Supplementary Table 5: Linked Hospital Episode Statistics (HES) Admitted Patient Care (APC) data for the 5 years prior to the date of the wave 9 (age 55) interview against self-rated general health at wave 9 (age 55) in the National Child Development Study (NCDS): females

		Linked HES APC data for the 5 years prior to the date of the wave 9 (age 55) interview								
		Individuals with linked APC data			Individuals with at least one linked HES dataset			All linkage consenters		
		No linked HES data	Linked HES data	Total	No linked HES data	Linked HES data	Total	No linked HES data	Linked HES data	Total
Age 55 self-rated general health	Excellent	158 (60.1)	105 (39.9)	263	245 (70.0)	105 (30.0)	350	273 (72.2)	105 (27.8)	378
	Very good	390 (54.3)	328 (45.7)	718	600 (64.7)	328 (35.3)	928	677 (67.4)	328 (32.6)	1,005
	Good	328 (45.2)	398 (54.8)	726	499 (55.6)	398 (44.4)	897	553 (58.2)	398 (41.8)	951
	Fair	120 (33.3)	240 (66.7)	360	156 (39.4)	240 (60.6)	396	167 (41.0)	240 (59.0)	407
	Poor	36 (20.1)	143 (79.9)	179	40 (21.9)	143 (78.1)	183	43 (23.1)	143 (76.9)	186
	Total	1,032 (46.0)	1,214 (54.0)	2,246	1,540 (55.9)	1,214 (44.1)	2,754	1,713 (58.5)	1,214 (41.5)	2,927



Supplementary Table 6: Linked National Child Development Study (NCDS)-Hospital Episode Statistics (HES) Admitted Patient Care (APC) and population (HES APC) finished admission episode (FAE) data by financial year

Financial year	Linked NCDS-HES data						Population data		
	Age	FAEs	Rate per 1000 ^A (95% CI)	Rate per 1000 ^B (95% CI)	Rate per 1000 ^C (95% CI)	Age group	FAEs	Population	Rate per 1000
1997–1998	39	665	137.2 (126.8, 146.9)	108.7 (100.9, 116.5)	100.9 (93.6, 108.1)	35–39			
1998–1999	40	734	151.5 (140.1, 161.6)	120.0 (111.8, 128.1)	111.3 (103.7, 118.9)	40–44			
1999–2000	41	739	152.5 (141.5, 162.6)	120.8 (112.6, 128.9)	112.1 (104.5, 119.7)	40–44			
2000–2001	42	731	150.8 (139.7, 160.9)	119.5 (111.3, 127.6)	110.9 (103.3, 118.5)	40–44			
2001–2002	43	796	164.3 (153.8, 174.7)	130.1 (121.7, 138.5)	120.7 (112.9, 128.6)	40–44			
2002–2003	44	861	177.7 (165.8, 188.4)	140.7 (132.0, 149.4)	130.6 (122.5, 138.7)	40–44			
2003–2004	45	841	173.5 (162.0, 184.2)	137.4 (128.8, 146.1)	127.6 (119.5, 135.6)	45–49			
2004–2005	46	891	183.9 (172.0, 194.8)	145.6 (136.8, 154.4)	135.1 (126.9, 143.4)	45–49	556,945	3,286,033	169.5
2005–2006	47	952	196.5 (185.0, 207.6)	155.6 (146.5, 164.7)	144.4 (135.9, 152.9)	45–49	598,927	3,371,275	177.7
2006–2007	48	1,130	233.2 (219.7, 245.1)	184.7 (174.9, 194.4)	171.4 (162.3, 180.5)	45–49	630,320	3,467,878	181.8
2007–2008	49	1,025	211.5 (198.8, 223.0)	167.5 (158.2, 176.9)	155.5 (146.7, 164.2)	45–49	669,761	3,558,017	188.2
2008–2009	50	1,321	272.6 (259.3, 285.1)	215.9 (205.6, 226.2)	200.4 (190.7, 210.0)	50–54	728,803	3,173,349	229.7
2009–2010	51	1,282	264.5 (251.9, 277.0)	209.5 (199.3, 219.7)	194.4 (184.9, 204.0)	50–54	759,705	3,242,313	234.3
2010–2011	52	1,320	272.4 (259.1, 284.9)	215.7 (205.4, 226.0)	200.2 (190.6, 209.9)	50–54	797,253	3,326,036	239.7
2011–2012	53	1,463	301.9 (288.2, 314.8)	239.1 (228.4, 249.8)	221.9 (211.9, 231.9)	50–54	818,832	3,422,579	239.2
2012–2013	54	1,582	326.5 (312.0, 339.7)	258.5 (247.6, 269.5)	240.0 (229.6, 250.3)	50–54	845,832	3,523,521	240.1
2013–2014	55	1,736	358.2 (343.4, 371.7)	283.7 (272.4, 295.0)	263.3 (252.7, 273.9)	55–59	910,188	3,114,224	292.3
2014–2015	56	1,900	392.1 (377.3, 405.8)	310.5 (298.9, 322.1)	288.2 (277.3, 299.1)	55–59	962,339	3,186,581	302.0
2015–2016	57	2,002	413.1 (398.1, 427.0)	327.2 (315.4, 338.9)	303.7 (292.6, 314.8)	55–59	1,037,374	3,278,322	316.4

^ARate in individuals with any linked HES APC record ever ($n = 4,846$).

^BRate in individuals with any linked HES record ever ($n = 6,119$).

^CRate in HES linkage consenters ($n = 6,593$).

