Supplement: Data Extraction

This document contains the information extracted from studies included in the systematic review, with an overall summary of the direction of the evidence. Each study was also quality assessed, and information on this can be found in Supplement C2.

Tier 1: Explicit comparisons. This table contains findings from studies which explicitly compared health or associations between health and other variables across cohorts.

Tier 2: Descriptives only. This table contains findings from studies that did not explicitly aim to compare health across studies but provide relevant descriptive statistics.

Tier 1 – Explicit comparisons

Key	Title	Authors	Year	Journal	DOI	Cohorts	Height, weight, BMI	Mental health	Other	Health condition(s)	Ages compared	Outcome measurement	Cohort comparison	Summary of direction
1	Transition milestones and life satisfaction at ages 25/36 among cohorts born in 1970 and 1989/89	Gagne, Sacker, Schoon	2022	Adv Life Course Res	https://doi.org/10.1016/j.alcr.2022.100463	BCS70, Next Steps				Life satisfaction	BCS70 age 26. Next Steps age 25/26.	In both cohorts: "How dissatisfied or satisfied are you with the way your life has turned out so far?" 5-point response scale in NCDS, 11-point in BCS70. Dichotomise scale (0-3, 4/5 in Next Steps; 1-6, 7-11 in BCS70)	Proportion unsatisfied with life. Men: 20.9% in BCS70 vs. 31.5% in Next Steps. Women: 19.8% in BCS70 vs. 25.1% in Next Steps. Differences are statistically significant.	Worse in later cohort
8	Associations between adolescent mental health and health-related behaviours in 2005 and 2015: A population cross-cohort study	Gage, Patalay	2021	J Adolescent Health	https://doi.org/10.1016/j.jadohealth.2021.03.002	ALSPAC, MCS	1	1		Depressive symptoms, body mass index.	ALSPAC age 13-15, MCS age 14.	In both cohorts, depressive symptoms: Short Moods and Feelings Questionnaire (SMFQ) 13 items (reported by the cohort members). Dichotomise using cut-off score of 12 or above. In both cohorts, body mass index using parent-reported height and weight dichotomised using IOTF cut-offs.	Mean depressive symptoms score higher in MCS (5.72 vs. 4.93 - statistically significant). Percentage above cut-off score also higher in MCS (16.4% vs. 9% - statistically significant). Mean BMI also higher in MCS (21.58 vs. 20.32 - statistically significant), as was prevalence of obesity (7.8% vs. 3.8% - statistically significant).	Worse in later cohort
14	Trends in visual health inequalities in childhood through associations of visual function with sex and social position across 3 UK birth cohorts	Bountziouka, Cumberland, Rahi	2017	JAMA Ophthalmology	https://doi.org/10.1001/jamaophthalmol.2017.2812	NSHD, NCDS, BCS70			1	Visual acuity	NSHD age 15, NCDS age 16, BCS70 age 16.	In all cohorts: Standard distance vision test (Snellen charts at distance of 6.1 metres administered as part of medical examination). Classification into groups based on WHO taxonomy of visual impairment (normal, unilateral impairment, socially significant visual impairment, visual impairment, severe visual impairment, blindness)	Proportion visually unimpaired declined from 92% (95% CI 91.4-93.1) in NSHD to 91% (95% CI 90.5-91.6) in NCDS to 90.7% (95% CI 89.9-91.4) in BCS70. Comparing to NSHD as baseline, risk of any visual impairment was 11% higher (95% CI 0.92-1.34) in NCDS and 23% higher (95% CI 1.04-1.45) in BCS70. Risk of socially significant visual impairment was 22% higher (95% CI 0.91-1.65) in NCDS and 21% higher (95% CI 0.99-1.48) in BCS70. Risk of visual impairment, severe visual impairment or blindness was 20% lower (95% CI 0.47-1.36) in NCDS and 64% higher (95% CI 0.99-2.71) in BCS70.	Suggests stable or worse in later cohorts.
15	Psychological distress in midlife: Evidence from the 1958 and 1970 British birth cohorts	Ploubidis, Sullivan, Brown, Goodman	2017	Psychol Med	https://doi.org/10.1017/S0033291716002464	NCDS, BCS70		1		Psychological distress	NCDS age 42, BCS70 age 42.	In both cohorts: 9-Item Malaise Inventory. Both the original scale and a latent variable constructed from response items are used.	Mean malaise score was higher in BCS70 (1.80 vs. 1.23 for men, 2.05 vs. 1.65 for women - differences are statistically significant). Percentage with psychological distress was higher in the BCS70 (16.3% vs. 9.6% for men, 20.2% vs. 16.0% for women - differences are statistically significant). Odds of psychological distress controlling for age were 79% higher in BCS70 compared to NCDS for men, and 30% higher for women (statistically significant).	Worse health in later cohort
17	How has the age-related process of overweight or obesity development changed over time? Co-ordinated analyses of individual participant data from five United Kingdom birth cohorts	Johnson, Li, Kuh, Hardy	2015	PLOS Med	https://doi.org/10.1371/journal.pmed.1001828	NSHD, NCDS, BCS70, ALSPAC, MCS	1			Body mass index, obesity and overweight	Overlapping age trajectories. NSHD age 2 to 64, NCDS age 7 to 50, BCS70 age 10 to 42, ASLPAC age 7 to 18, MCS age 3 to 11.	In all cohorts: Mix of self-reported and observer measured height and weight cleaned following a harmonisation protocol. Body mass index derived from cleaned height and weight. Classified into obesity and overweight using IOTF percentile cut-offs in childhood and BMI cut-offs (18.5, 25, 30 kg/m2) in adulthood.	In childhood, little difference in BMI between NCDS, NSHD and BCS70 - divergences between NCDS and NSHD appear in late 20s, divergences between BCS70 and older cohorts first appear in late adolescence. Clear differences in observed BMI and obesity/overweight prevalence between these cohorts in adulthood. Differences in childhood are observed starting with ALSPAC and MCS. For example, at age 10/11, prevalence of overweight/obesity for females was 10.3%, 10.4%, 10.8%, 23.2% and 29.3% in NSHD, NCDS, BCS70, ALSPAC and MCS respectively (similar pattern for males). Greatest changes across cohorts are at high BMI centiles, while shifts in median BMI are smaller. Age at which 50th centile crosses into overweight/obesity has declined across cohorts (e.g., from 41 to 33 to 30 in males, and from 48 to 44 to 41 in females for NSHD, NCDS and BCS70 respectively).	Worse in later cohorts. Differences in adulthood observed for all cohorts, differences in childhood only observed for post-1970 cohorts.
22	Transitions to adulthood and psychological distress in young adults born 12 years apart: Constraints on and resources for development	Sacker, Cable	2009	Psychol Med	https://doi.org/10.1017/S0033291709006072	NCDS, BCS70		1		Psychological distress, internalising symptoms, externalising symptoms	NCDS age 16 and 33. BCS70 age 16 and 30.	In both cohorts: Self-competed 24-item Malaise Inventory (total score and dichotomised using cut-off score 7+) at age 30/33. Parent-completed Rutter A scale at age 16 (0-16), separated into externalising and internalising (0-18) subscales.	Proportion with psychological distress at 30/33 was 7.26% for NCDS and 12.37% for BCS70. At age 16, only very slight differences in mean scores for internalising and externalising symptoms, driven by increasing scores at the high end of the distribution.	Suggests worse in later cohorts, with cohort differences emerging after adolescence.

27	Child-to-adult boody mass index and height trajectories: A comparison of two British birth cohorts.	Li, Hardy, Kuh, Lo Conte, Power	2008	Am J Epidemiol	https://doi.org/10.1093/aje/kwn227	NSHD, NCDS	1		Body mass index, waist circumference, hip circumference, height, trunk length, leg length	NSHD age 43, NCDS age 44-45	In both cohorts: anthropometric measures collected by study nurses during medical examination following a standard protocol. Height, weight, waist and hip circumference measured directly. Trunk length and leg length derived from sitting height and standing height. Body mass index classified into overweight/obesity using standard IOTF cut-offs.	Similar weight in childhood (age 7/11), but faster weight-gain during adolescence in the NCDS cohort. At 43/44-45 men were on average 7.1 kg and women 4.8 kg heavier in the later cohort. Members of NCDS taller in childhood (+1.3cm for boys and 1.1cm for girls at age 7, +4.2cm and +2.9cm for girls at 15.5). Height gain was faster in the younger cohort during childhood and adolescence, but slower during adulthood suggesting they reached adult height quicker. Increases in adult height were relatively small (+1.4 cm for males, +0.9 cm for females comparing biomedical sweeps) but these were driven by increasing leg length. Divergence in BMI trajectories in adulthood, with bigger increases in mean BMI in the younger cohort. Divergence in mean BMI begins in adulthood. Divergence was only 0.18 kg/m2 at age 23, compared to 1.19 kg/m2 by age 45. For both men and women, gap in obese/overweight was pretty much non-existent around mid-20s, but clearly visible once CM are in their mid-to-late thirties. In midlife, NCDS had higher BMI (26.0 vs. 27.8 for men, 25.4 vs. 27.0 for women), larger waist (92.3 vs. 98.5 for men, 78.4 vs 85.6 for women) and hip (100.7 vs. 105.8 for men, 100.8 vs. 105.3 for women) circumferences, and higher prevalence of obesity (25.1% vs. 10.8% for men, 23.7% vs. 14.8% for women). The proportion of those who were overweight OR obese at 43-45 increased rapidly from 58.7% to 74.8% for men and 42.2% to 56.5% for women)	Suggests worse in later cohorts, with cohort differences emerging during young adulthood. (Weight and height trajectories harder to interpret, as linked to timing of puberty. Adult height and leg length do seem to reflect improvement in nutritional status).
30	Modelling the contribution of changes in family life to time trends in adolescent conduct problems	Collishaw, Goodman, Pickles, Maughan	2007	Soc Sci Med	https://doi.org/10.1016/j.socscimed.2007.06.010	NCDS, BCS70	1		Parent-reported conduct problems	NCDS age 16, BCS70 age 16	In both cohorts: Use parent-completed Rutter A scale. Use 10-point subscale assessing conduct problems (fighting, bullying, stealing, lying, disobedience). Dichotomise using the 90th percentile on the combined distribution across cohorts (score ≥3).	Odds of conduct problems increased by 56% across each successive cohorts (OR 1.56 [95% CI 1.37-1.76], with cohort as exposure, psychological distress as outcome)	Worse in later cohort
33	Time trends in adolescent mental health	Collishaw, Maughan, Goodman, Pickles	2004	J Child Psychol Psychiatr	https://doi.org/10.1111/j.1469-7610.2004.00335.x	NCDS, BCS70	1		Parent-reported conduct problems, hyperactivity problems, emotional problems	NCDS age 16, BCS70 age 16	In both cohorts: Use parent-completed Rutter A scale. Separate by subscale (conduct, emotional, hyperactive). Dichotomise using 90th percentile of combined distribution across cohorts for each subscale.	Conduct problems: 6.8% for NCDS vs. 10.4% for BCS70 (OR 1.58, 95% CI 1.4-1.8). Hyperactivity problems: 8.9% for NCDS vs. 7.1% for BCS70 (OR 0.78, 95% CI 0.8-0.9). Emotional problems: 10.2% for NCDS vs. 10.5% BCS70 (OR 1.03, 95% CI 0.9-1.1). While not one of the British birth cohorts, this study brought in data for a third study B-CAHMS, and calibrated SDQ to Rutter A using a calibration sample of secondary school pupil's parents. Including this cohort (age 16 in 1999), both the prevalence of high conduct problems and high emotional problems increased across cohorts, while no clear trend was seen for hyperactivity problems (decreased between NCDS and BCS70, then increased between BCS70 and B-CAHMS).	Suggests stable or worse in later cohorts (except hyperactivity problems)
35	Age-period-cohort inequalities in psychological distress, 1981-2000	Sacker, Wiggins	2002	Psychol Med	https://doi.org/10.1017/s0033291702006013	NCDS, BCS70	1		Psychological distress	NCDS ages 23 and 33. BCS70 ages 26 and 30.	In both studies: 24-Item Malaise Inventory. Dichotomise the continuous score into a variable indicative of psychological distress (score 7+).	Overall prevalence of psychological distress was higher in BCS70 than in NCDS (10.8% vs. 8.2%). Findings from age-cohort models suggest that the risk of psychological distress is significantly higher in BCS70 compared to NCDS, controlling for age (and social class). At age 33/30, for men, prevalence of PD was 8.4% in BCS70 vs. 4.1% in NCDS; for women, 11.6% in BCS70 vs. 8.6% for women.	Worse in later cohort
38	Investigation into the increase in hay fever and eczema at age 16 observed between the 1958 and 1970 British birth cohorts	Butland, Strachan, Lewis, Bynner, Butler, Britton	1997	BMJ	https://www.jstor.org/stable/25175742	NCDS, BCS70		1	Hay fever or allergic rhinitis, eczematous rashes	NCDS age 16, BCS70 age 16	In both cohorts: Parents asked "Has [the study child] suffered in the past 12 months from hay fever or allergic rhinitis" and "Has [the study child] suffered in the past 12 months from eczematous rashes?" Binary variable (yes/no)	For hay fever and allergic rhinitis: 12.2% in NCDS vs. 23.3% in BCS70 (OR 2.23, 95% CI 2.05-2.43). For eczema: 3.2% in NCDS vs. 6.2% in BCS70 (OR 2.02, 95% CI 1.73-2.36)	Worse in later cohort
40	Study of the aetiology of wheezing illness at age 16 in two national British birth cohorts	Lewis, Butland, Strachan, Bynner, Richards, Butler, Britton	1996	Thorax	https://doi.org/10.1136/thx.51.7.670	NCDS, BCS70		1	Wheezing	NCDS age 16, BCS70 age 16	In NCDS: Parents asked (1) if study child has "ever had an attack of asthma or wheezy bronchitis?", (2) if yes, "when did the most recent attack occur?" In BCS70: Parents asked (1) if study child "has ever had any attacks of wheezing or whistling in the chest", (2) if yes, what these were thought to be due to (asthma, wheezing bronchitis, other), and (3) "when did the most recent attack occur?" These questions were used to derive two binary indicators: ever had asthma/wheezy bronchitis by age 16, and had asthma/wheezy bronchitis in last 12 months at age 16.	Ever had asthma and/or wheezy bronchitis: 3.8% in NCDS vs. 6.5% in BCS70 (PR 1.71, 95% CI 1.52-1.93). Had asthma/wheezy bronchitis in last week: 0.2% in NCDS vs. 0.7% in BCS70 (PR = 3.77, 95% CI 2.28-6.23). Within all other frequency groups except "more than once a month" (i.e., less than once a month, and frequency unknown), prevalence of asthma/wheezy bronchitis also increased significantly.	Worse in later cohort

#	Title	Authors	Year	Journal	Link	Cohorts			Outcome	Ages	Measurement	Findings	Conclusion
42	Evidence for increasing prevalence of diabetes in childhood	Stewart-Brown, Haslum, Butler	1983	BMJ	https://doi.org/10.1136/bmj.286.6381.1855	NSHD, NCDS		1	Diabetes	NSHD age 11. NCDS age 11. BCS70 age 10.	In both NSHD and NCDS: Diabetes recorded as part of the medical examination at age 11 (which leverages both medical exam and medical records) and any additional information up to age 11. In BCS70, same procedure but up to age 10.	Prevalence of diabetes at age 11 was 0.6/1000 in NCDS and 0.1/1000 in NSHD. Prevalence at age 10 was 1.3/1000 in BCS70. However, 95% confidence intervals overlap. However, number of cases is extremely low (1 in NSHD, 10 in NCDS, and 18 in BCS70) and substantial variation in prevalence could be expected by chance.	No clear evidence for change across cohorts.
52	Cross-cohort change in parent-reported emotional problem trajectories across childhood and adolescence in the UK	Armitage, Kwong, Tseliou, Sellers, Blakey, Anthony, Rice, Thapar, Collishaw	2023	Lancet Psychiatry	https://doi.org/10.1016/S2215-0366(23)00175-X	ALSPAC, MCS		1	Emotional problems	Overlapping age trajectories. ALSPAC ages 4, 7, 8, 11, 13 and 17. MCS ages 3, 7, 11, 14 and 17.	In both cohorts: Parent-completed Strengths and Difficulties Questionnaire (SDQ). Use the emotional subscale (SDQ-E) only.	Based on modelled age-trajectories. At age 5, SDQ-E scores were lower in ALSPAC (1.50 vs. 1.34, difference -0.16, p < 0.001) - however, this only appeared to be the case for males, whereas females showed no difference in earlier childhood. Differences in emotional problem scores, with MCS scoring persistently higher, became apparent from age 8/9 onwards. Differences grew across adolescence. For instance, average SDQ-E score in MCS at age 8 was 1.61 vs. 1.57 in ALSPAC (difference 0.04, p = 0.11), at age 11 it was 1.87 vs. 1.50 in ALSPAC (difference 0.37, p < 0.001), at age 14 it was 1.98 vs. 1.42 (difference 0.56, p < 0.001), at age 17 it was 2.05 vs. 1.51 (difference 0.55, p < 0.001)	Worse in later cohort
55	Socioeconomic and sex inequalities in parent-reported adolescent mental ill-health: time trends in four British birth cohorts	McElroy, Tibber, Fearon, Patalay, Ploubidis	2023	J Child Psychol Psychiatr	https://doi.org/10.1111/jcpp.13730	NCDS, BCS70, ALSPAC, MCS		1	Parent-reported emotional problems, conduct problems	NCDS age 16, BCS70 age 16, ALSPAC age 15, MCS age 16-17 (sensitivity analysis at 14-15)	Derive harmonised latent scores for emotional and behavioural problems based on conceptually similar items in parent-reported Rutter A scale (NCDS and BCS70) and parent-reported SDQ (ALSPAC and MCS). Harmonised items capture three emotional problems (low mood, worry, fear) and behavioural problems (physical aggression, disobedience, irritability, lying).	For emotional problems: latent score in MCS far higher than for other cohorts, for both boys and girls. No significant between NCDS and BCS70. ALSPAC had a lower mean latent score than BCS70 for males only (no difference for females). For behavioural problems: Pattern is less clear. Higher latent scores for BCS70 compared to NCDS for both boys and girls, lower than NCDS for boys and girls in ALSPAC, and for girls (but not boys) in MCS.	Worse health in later cohort for emotional problems (pattern less clear for behavioural/conduct problems).
56	Long-term psychological distress trajectories and the COVID-19 pandemic in three British birth cohorts: A multi-cohort study	Moreno-Agostino, Fisher, Goodman, Hatch, Morgan, Richards, Das-Munshi, Ploubidis	2023	PLOS Med	https://doi.org/10.1371/journal.pmed.1004145	NSHD, NCDS, BCS70		1	Psychological distress	Overlapping age trajectories. NSHD ages 36 to 75, NCDS ages 23 to 63, BCS70 ages 26 to 51	In NCDS and BCS70: 9-Item Malaise Inventory. In NSHD, different questionnaire by sweep (PSE, PSF, GHQ-28, GHQ-12). Create a harmonised continuous factor score anchored off a common questionnaire administered to cohort members in all three sweeps during COVID data collection sweeps (PHD-2 and GAD-2). Also produce symptom scores, and binary indictors of psychological distress using clinically relevant cut-off scores (as a sensitivity analysis).	Modelled age-trajectories (Figure 3). At overlapping ages, mean distress level (based on continuous factor score) is consistently higher in BCS70 than NCDS (NSHD). Differentiation between NSHD and NCDS at overlapping ages is less evident. However, shape of age-trajectories is similar across cohorts, peaking in midlife.	Worse health in later cohort (starting with BCS70 in adulthood - no clear NSHD/NCDS difference).
57	Changes in the adult consequences of adolescent mental ill-health: Findings from the 1958 and 1970 British birth cohorts	Thompson, Richards, Ploubidis, Fonagy, Patalay	2021	Psychol Med	https://doi.org/10.1017/S0033291721002506	NCDS, BCS70	1	1	Internalising symptoms, externalising symptoms, psychological distress, life satisfaction, self-rated health	NCDS ages 16 and 42, BCS70 ages 16 and 42	In both cohorts: Parent-reported Rutter A scale to measure adolescent mental health (create latent scores for internalising and externalising symptoms and general psychopathology), and 9-Item Malaise Inventory to measure adult mental health (cut-off score ≥4 for psychological distress). Self-rated health asked using same question but different response scale (4-point Likert in NCDS, 5-point Likert in BCS70). Linear stretch applied to self-rated health scores. Life satisfaction measured using same question and same response scale (0-10).	For adolescent mental health: Scores for BCS70 are generally significantly higher than for NCDS, with especially consistent evidence for internalising symptoms. Results for externalising symptoms varied more according to modelling strategy. In 2-factor models, splitting total score into externalising and internalising symptoms, mean scores are higher for both in BCS70. But in bi-factor models, where a general psychopathology component is separated out, we see (1) increasing general psychopathology score across cohorts, (2) increasing internalising score NET of general psychopathology, and (3) decreasing externalising score NET of general psychopathology. There is some debate over which model is best. Adult mental health: Score for BCS70 was significantly higher, and prevalence of psychological distress was also significantly higher in BCS70 (16.7% vs. 11.9%). Differences in self-rated health and life satisfaction (NCDS 7.25 [95% CI 7.22-7.29], BCS70 7.31 [95% CI 7.27-7.34]) were not significant.	Suggests in later cohort for emotional problems in adolescence and for psychological distress in adulthood (less clear for externalising symptoms, depends more on the approach)). Self-rated health and life satisfaction scores similar across cohorts.
63	How is the distribution of psychological distress changing over time? Who is driving these changes? Analysis of the 1958 and 1970 British birth cohorts	Gondek, Lacey, Blanchflower, Patalay	2021	Soc Psychiatry Psychiatric Epidemiol	https://doi.org/10.1007/s00127-021-02206-6	NCDS, BCS70		1	Psychological distress	NCDS ages 23, 33, 42 and 50. BCS70 ages 26, 34, 42 and 46-48.	In both cohorts: 9-Item Malaise Inventory. Use full continuous score, and group into categories based on score (0, 1-3, ≥4).	Levels of psychological distress in BCS70 higher than in NCDS across the lifecourse (mean score difference across all ages 0.69 [95% CI 0.64-0.73]) . This is driven by increases across cohorts in both moderate and high-level symptoms. Distribution of scores is more skewed towards high scores in BCS70. Proportion of people experiencing no symptoms declined across cohorts, stable proportion experiencing 1 symptom, increasing proportion experiencing 2+ symptoms. For instance, at 33/34, 34.2% of BCS70 experienced no symptoms vs. 54% of NCDS, and 42.3% of BCS70 experienced 2+ symptoms compared to 24.7% in NCDS. Prevalence of all symptoms was higher in BCS70, especially worry, fatigue, upset/irritability, and low mood. Estimated psychological distress score was higher in BCS70 across the entire lifecourse (from early 20s to late 40s).	Worse in later cohort

#	Title	Authors	Year	Journal	DOI	Cohorts			Outcome	Sample	Methods	Results	Conclusion
66	Changes in the body mass index and blood pressure association across time: Evidence from multiple cross-sectional and cohort studies	Bann, Scholes, Hardy, O'Neill	2021	Prev Med	https://doi.org/10.1016/j.ypmed.2021.106825	NSHD, NCDS, BCS70	1	1	Body mass index, blood pressure (systolic blood pressure as primary outcome, diastolic blood pressure as secondary outcome).	NSHD age 43, NCDS age 44-45, BCS70 age 46-48	In all cohorts: Body mass index from measured height and weight. Blood pressure collected using standard measurement protocol (Omron 705CP in NCDS, HEM-97 in BCS70, Hawksley random zero sphygmomanometer in NSHD, harmonised to automatic blood pressure cuffs using equations from calibration studies). Add 10 mmHg to systolic and 5 mmHg to diastolic if taking blood pressure-lowering medication.	Systolic BP unadjusted for meds 125.9 (15.5), 126.4 (17), 124.1 (15.5). Diastolic BP unadjusted for meds 81.6 (10.4), 78.8 (11.1), 77.1 (11.2). Hypertension (BP ≥140/90 or on meds): 23.8%, 28.4% and 24.1%. The proportion of cohort members on BP lowering drugs increased from 3.8% to 6.1% to 7.5%. Adjusting for medication in continuous readings yielded a similar finding to unadjusted continuous measures. Fairly little change in BP over cohorts. For BMI, mean BMI increased across cohorts: 25.6 (4.2), 27.4 (4.9) and 28.4 (5.5). Percentage obese also increased: 12.6%, 44.7%, 46.9%. In cohorts, clear increase in BMI, but no real change in measured blood pressure. Distributions of BMI became more right skewed.	Worse in later cohort for body mass index, no clear trend in blood pressure across cohorts.
68	Changes over time in latent patterns of childhood-to-adulthood BMI development in Great Britain: Evidence from three cohorts born in 1946, 1958, and 1970	Norris, Hamer, Hardy, Ong, Ploubidis, Viner, Johnson	2021	BMC Med	https://doi.org/10.1186/s12916-021-01969-8	NSHD, NCDS, BCS70	1		Body mass index	Overlapping trajectories between ages 10/11 and 42/43 (NSHD at ages 11, 15, 23, 26, 36, 43; NCDS at ages 11, 16, 23, 33, 42; BCS70 at ages 10, 16, 26, 34 and 42).	In both cohorts: Use body mass index derived from a mix of measured and self-reported height and weight between ages 10/11 and 42/43. The exposure is latent classes of BMI trajectories. "Lowest" (which does not deviate from the normal range in any sweep), "middle" (start in normal age-range and stay in normal age-range, but always at a weight above the "lowest" group for women, or tips into the overweight group for men), "increasing" (where CM starts off in the normal range but increases into overweight category), and "highest" (begins overweight and increases into obesity)	In all cohorts and for both sexes, most are assigned to the "lowest" group for body mass index, but the proportion declined across cohorts. For instance, 63.5%, 59.7% and 51.4% of males, and 53%, 48.7% and 43.7% of females. The next most common category was "increasing", and this became more common in the younger cohorts: from 17.5% to 17.2% to 26.7% for males, and from 25.3%, 26.2% and 32.7% for females. This was followed by "middle" trajectory, for males 15.8%, 17.4% ad 15%, and for females 15.1%, 16.2% and 12.8%. Finally, percentage of those on "highest" trajectory increased over time, from 3.2% to 5.7% to 7% for males, and 6.6%, 8.9% to 10.8% for females. Odds ratios suggest that the biggest change across cohorts is observed for "highest" trajectory (with differences for both NCDS and BCS70 relative to NSHD), and "increasing" but differences were significant for BCS70 only. Only in BCS70 that the increase in "increasing" trajectories is seen, suggesting that mean increases in BMI are not just the consequence of increases in BMI for those at the upper end of the distribution, but point to a change in the process of body mass accumulation.	Worse in later cohort for body mass index, no clear trend in blood pressure across cohorts.
71	Socioeconomic inequalities in blood pressure: Co-ordinated analysis of 147,775 participants from repeated birth cohort and cross-sectional datasets, 1989 to 2016	Bann, Fluharty, Hardy, Scholes	2020	BMC Med	https://doi.org/10.1186/s12916-020-01800-w	NSHD, NCDS, BCS70		1	Blood pressure	NSHD age 43, NCDS age 44-45, BCS70 age 46-48	In all cohorts: Blood pressure collected using standard measurement protocol (Omron 705CP in NCDS, HEM-97 in BCS70, Hawksley random zero sphygmomanometer in NSHD, harmonised to automatic blood pressure cuffs using equations from calibration studies). Use second blood pressure reading (or first if second is missing). Add 10 mmHg to systolic and 5 mmHg to diastolic if taking blood pressure-lowering medication.	Systolic BP unadjusted for meds 125.8 (15.5), 126.4 (17), 124.1 (15.5). Diastolic BP unadjusted for meds 81.6 (10.4), 78.8 (11.1), 77.1 (11.2). Hypertension (BP ≥140/90 or on meds): 23.8%, 28.4% and 24.4%. The proportion of cohort members on BP lowering drugs increased from 3.8% to 6.1% to 8.1%. Fairly little change in BP over cohorts.	Stable across cohorts (note that the blood pressure results are an exact duplicate of the paper above)
72	Differences in the relationship of weight to height, and thus the meaning of BMI, according to age, sex, and birth year cohort	Johnson, Norris, Bann, Cameron, Wells, Cole, Hardy	2020	Ann Hum Biol	https://doi.org/10.1080/03014460.2020.1737731	NSHD, NCDS, BCS70, MCS	1		Body mass index	Overlapping age trajectories. NSHD age 11 to 60-64. NCDS age 11 to 50. BCS70 age 10 to 42. MCS age 11 to 14.	In both cohorts: Mix of self-reported and observer measured height and weight from which body mass index is derived.	At age 10/11, BMI was 17.3 in NSHD and NCDS in males, 16.7 in BCS70, and 19.1 in MCS. At age 42/43, mean BMI in males was 25.7, 26.4 and 27.5 kg/m2 in NSHD, NCDS and BCS70 respectively. For females, at age 10/11, mean BMI in the three cohorts was 17.5, 17.6 and 17 and 19.4 for NSHD, NCDS, BCS70 and MCS respectively. At age 42/43, these values were 25.2, 25.3 and 26.2. A similar pattern was observed for mean BMI by age, sex, and cohort. Standard deviations also followed a similar trend, being similar across the three oldest cohorts but higher in MCS at age 10/11. At ages 42/43 standard deviations increased for across cohorts, reflecting greater increases in BMI at the higher end of the distribution.	Worse in later cohorts. Differences in adulthood observed for all cohorts. Differences in childhood only observed for post-1970 cohorts.
73	Socioeconomic inequalities in childhood-to-adulthood BMI tracking in three British birth cohorts	Norris, Bann, Hardy, Johnson	2020	Int J Obesity	https://doi.org/10.1038/s41366-019-0387-z	NSHD, NCDS, BCS70	1		Body mass index	NSHD ages 11 and 43. NCDS ages 11 and 42. BCS70 ages 10 and 42.	In both cohorts: Mix of self-reported and observer measured height and weight cleaned following a harmonisation protocol. Body mass index derived from cleaned height and weight. Classified into thinness, normal, overweight and obesity using IOTF cut-offs.	Median BMI was similar across NSHD, NCDS and BCS70 in childhood (median BMI 17, 17, 16.5, respectively). In adulthood, clear differences emerged between cohorts (median BMI 24.8, 25.2, 26). Obesity prevalence was similar at age 10/11 (approximately 1% obese, approximately 8-9% overweight or obese in all three cohorts). Obesity prevalence at age 42/43 was more differentiated: 12.4%, 16%, 21.2%, respectively.	Worse in later cohorts, with differences emerging during adulthood/late adolescence.

#	Title	Authors	Year	Journal	Link	Cohorts			Outcome	Ages	Measurement	Results	Conclusion
76	Changes in millennial adolescent mental health and health-related behaviours over 10 years: A population cohort comparison study	Patalay, Gage	2019	Int J Epidemiol	https://doi.org/10.1093/ije/dyz006	ALSPAC, MCS	1		Depressive symptoms, parent-rated difficulties, self-harm	ALSPAC age 14, MCS age 14	In both cohorts: Short Moods and Feelings Questionnaire (SMFQ) 13 items (cohort member-reported) to capture depressive symptoms. Use total score and dichotomise using cut-off score of 12 or above. In both cohorts: Self-report of self-harm (ever hurt self in any way/wanted to kill self). Parent-reported difficulties using SDQ (total continuous score, dichotomised, and subscales).	Compared to ALSPAC, MCS cohort members significantly more likely to have high depressive symptoms, to have a history of self-harm, and to score high on the parent-reported SDQ across all dimensions (emotional, conduct, hyperactivity, and peer problems).	Worse in later cohort
79	Cross-cohort change in adolescent outcomes for children with mental health problems	Sellers, Warne, Pickles, Maughan, Thapar, Collishaw	2019	J Child Psychol Psychiatr	https://doi.org/10.1111/jcpp.13029	NCDS, ALSPAC, MCS	1		Parent-reported adolescent mental health	NCDS age 7, ALSPAC age 7, MCS age 7	In ALSPAC and MCS: Parent-completed SDQ (cut-off score ≥17 across full score). In NCDS: Calibration of parent-completed Rutter A scale to SDQ using an external calibration sample (impute SDQ items based on observed Rutter A items and known correlation based on calibration sample).	No clear trend in prevalence of mental health problems (see Figure 1). Comparing the two cohorts with the earlier cohort showed no differences in rates of problems for boys [NCDS vs. ALSPAC: 9.6% vs. 7.0%, OR = 0.72 (95% CI 0.46, 1.13), p = .146; NCDS vs. MCS: 9.6% vs. 9.7%, OR = 1.01 (0.84, 1.23), p = .876]. Estimated rates were lower in the later cohorts for girls [NCDS vs. ALSPAC: 8.4% vs. 5.4%; OR = 0.63 (0.43, 0.92), p = .019; NCDS vs. MCS: 8.4% vs. 5.5%; OR = 0.78 (0.65, 0.94), p = .009]. When comparing the two more recent cohorts, for boys, there was a significant difference between ALSPAC and MCS (ALSPAC 7.0%, MCS 9.7%, OR = 1.43 (1.19, 1.71), p < .001). For girls, there was no significant difference in the proportion scoring in the abnormal range [ALSPAC 5.4%, MCS 5.5%, OR = 0.97 (0.68, 1.06), p = .158].	No clear trend across cohorts.
82	Socioeconomic inequalities in child and adolescent body mass index, weight and height from 1953 to 2015: An analysis of four longitudinal, observational, British birth cohort studies	Bann, Johnson, Li, Kuh, Hardy	2018	Lancet Public Health	https://doi.org/10.1016/S2468-2667(18)30045-8	NSHD, NCDS, BCS70, MCS	1		Body mass index, height	NSHD age 7, 11 and 15. NCDS age 7, 11 and 16. BCS70 age 10, and 16. MCS age 7, 11 and 14.	In both cohorts: Body mass index derived from height and weight. Derive age-centred BMI at 7, 11, and 15 using cohort-specific linear regression models.	In measures centred at age 7, mean BMI in NSHD, NCDS and MCS was 15.8, 15.7 and 16.4 respectively. At age 11 (with the addition of BCS70), means were 17.4, 17.3, 17.4 and 18.2. At age 15, mean BMI was 20.4, 20.2, 20.2 and 21.7. Mean height, at age 7, was 119.4, 120.6 and 122.4 cm in NSHD, NCDS and MCS. At age 11, mean height was 141, 142.3, 142.2 and 145.7 cm respectively. At age 15, mean height was 162.2, 161.7, 161.4 and 168.9. Mean and median weight, height and BMI were all higher in the youngest cohort. Differences between the three oldest cohorts are not yet readily apparent by age 16.	Worse in later cohort, with differentiation between cohorts in childhood/adolescents apparent from MCS.
83	Infant weight gain and adolescent body mass index: Comparison across two British cohorts born in 1946 and 2001	Johnson, Bann, Hardy	2017	Arch Dis Child	https://doi.org/10.1136/archdischild-2017-314079	NSHD, MCS	1		Body mass index	NSHD ages 11 and 15, MCS ages 11 and 14.	In both cohorts: Body mass index from measured height and weight used both as continuous and classified into thinness, normal, overweight and obesity categories using IOTF cut-offs.	Median adolescent BMI increased from 16.91 (15.79-18.39) to 18.38 (16.61-20.99) at age 11 (p < 0.001). The percentage overweight at age 11 increased from 7.5% to 20.3%, and obesity from 1.3% to 6%. At age 14/15, median BMI increased from 19.67 (18.26-21.47) to 20.48 (18.63-23.31) (p <0.001) and the proportion overweight went from 9.1% to 18.7% and the proportion obese from 1.2 to 6.7% (p < 0.001)	Worse in later cohort
86	Life-course body mass index trajectories and blood pressure in midlife in two British birth cohorts: Stronger associations in the later born generation	Li, Hardy, Kuh, Power	2015	Int J Epidemiol	https://doi.org/10.1093/ije/dyv106	NSHD, NCDS	1	1	Body mass index, blood pressure, waist circumference	Overlapping age trajectories for BMI: NSHD age 7 to 50, NCDS age 7 to 44-45. Blood pressure comparisons: NSHD age 43, NCDS age 44-45.	In both cohorts: Body mass index derived from height and weight at various ages. Blood pressure measured by nurses following standard protocol with similar methods (Omron 705CP in NCDS, Hawksley random zero sphygmomanometer in NSHD, harmonised to automatic blood pressure cuffs using equations from calibration studies - Average of first two readings). Apply a +10 mmHg correction to diastolic and systolic BP for those taking antihypertensive medication.	At age 42/43, 3.4% of NSHD cohort members taking medication for BP compared to 4.6% in NCDS. Divergence of BMI trajectories which begins in early adulthood for NSHD and NCDS (clearly apparent by mid-30s). Adult SBP decreased by on average 2.8 mmHg (1.9-3.7) for women, but no difference was observed for males. Mean DBP decreased by 3.3 (2.7, 3.9) in males, and 3.2 (2.6-3.8) in females. Slope of increase in BMI in early adulthood was significantly steeper in the younger cohort. Mean waist circumference 93.2 (92.7-93.7) in NSHD, 98.4 (98.1-98.7) in NCDS for males, and 79.7 (79.2-80.3) in NSHD and 85.5 (85.1-85.9) in NCDS for females.	Worse in later cohort for adult body mass index and waist circumference, but improvement for blood pressure.
89	Cerebral palsy in two national cohort studies	Emond, Golding, Peckham	1989	Arch Dis Child	https://doi.org/10.1136/adc.64.6.848	NCDS, BCS70		1	Cerebral palsy	NCDS ages 0 and 11, BCS70 ages 0 and 10.	Lack of clarity about how CP was assessed in both cohorts. Not acquired CP (from insult after neonatal period). Likely that process involved using information at ages 7 /11 and 5/10 in the two cohorts, and then if there was a suspicion of CP, hospital records, clinical notes, and midwives' questionnaires requested to ascertain recorded CP during neonatal period. Also, CP as cause of death on mortality record.	Prevalence at birth was 2.4 per 1000 in NCDS and 2.5 per 1000 in BCS70 (so it remained stable across cohorts). Prevalence by age 10/11 was 1.9 per 1000 in NCDS, and 2.6 per 1000 in BCS70.	Stable prevalence at birth, but increasing prevalence in later cohorts driven by improved survival.

#	Title	Authors	Year	Journal	Link	Cohorts			Outcome	Ages/Measures	Description	Findings	Conclusion
94	Psychological distress across adulthood: Equating scales in three British birth cohorts	Jongsma, Moulton, Ploubidis, Gilbert, Richards, Patalay	2023	Clin Psychol Sci	https://doi.org/10.1177/21677026221095856	NSHD, NCDS, BCS70	1		Psychological distress	Produce calibrated measures at the following ages. NSHD ages 36, 43, 54, 63, 69. NCDS ages 23, 33, 42, 50. BCS70 ages 26, 30, 34, 42, 46	Collected data on all mental health measures available in at least one of the three cohorts (GHQ-12, GHQ-28, Malaise-9, PSE, PSF) and administered these tests to a calibration sample of 5000 people. Index measures were GHQ-12 and Malaise-9. Malaise Inventory is available at overlapping ages in 1958 and 1970 cohort, but GHQ-12 only available at different ages (age 42 in 1958c, age 30 in 1970c). Then used a variety of approaches to produce calibrated measures: multiple imputation, equipercentile-linking + multiple imputation, and calibrated cut-off + multiple imputation. Reported measures are calibrated against GHQ-12 and Malaise Inventory.	Note that in Table 1, original GHQ-12 measure is reported for 1970c and 1958c. These are indicated as being measured at age 33 in 1958c, and age 30 in 1970c. This appears to be a typo, as GHQ-12 is available only at age 42 in the 1958c (as correctly stated in the Supplementary Material). Using most calibration approaches, the 1970c had higher prevalence of psychological distress compared to the 1058c at most ages. However, no clear conclusions could be drawn when the 1946c was also included - when this was the case results appeared much more sensitive to the calibration approach used. All three cohorts exhibited an inverse-U age-trajectory of mental health across the lifecourse.	Worse in 1970c compared to 1958c, but no clear conclusions on cohort trends could be drawn when 1946c was also included.
95	Psychological distress from early adulthood to early old age: Evidence from the 1946, 1958 and 1970 British birth cohorts	Gondek, Bann, Patalay, Goodman, McElroy, Richards, Ploubidis	2020	Psychol Med	https://doi.org/10.1017/S003329172000327X	NSHD, NCDS, BCS70	1		Psychological distress	Overlapping age trajectories. NSHD age 36 to 69, NCDS age 23 to 50, BCS70 age 26 to 42	For NCDS and BCS70: 9-Item Malaise Inventory (cut-off score ≥4). For NSHD, apply questionnaire specific cut-offs to identify caseness (PSE ≥ 5, PSF ≥ 23, GHQ-12 ≥ 5). In addition, produce a content-harmonised score using 4 items available across all three cohorts at all ages.	BCS70 had worse mental health than NCDS and NSHD at overlapping ages. No difference between NSHD and NCDS. Age-trajectories appeared similar across cohorts, with psychological distress being highest in midlife. Trajectories using continuous score and the binary outcome were very similar. Women had higher levels of psychological distress than men in all cohorts. Based on the harmonised 4-item indicator: symptoms increased more rapidly between early 30s and early 40s in the two later cohorts than in NSHD (b = 0.51 for NCDS and b = 0.48 for BCS70).	Worse in later cohort, starting with BCS70 (no clear difference between NSHD and NCDS).
100	Trends and socioeconomic disparities in preadolescent's health in the UK: Evidence from two birth cohorts born 32 years apart.	Shackleton, Hale, Viner	2015	J Epidemiol Community Health	https://doi.org/10.1136/jech-2015-205603	BCS70, MCS	1	1	Limiting longstanding illness, wearing glasses, hearing problems, height-for-age, weight-for-age. overweight/obesity hay fever, asthma, eczema.	BCS70 age 10. MCS age 11.	In MCS, parents asked if (1) child has any longstanding illness, then (2) if these limit the child's ability to carry out day-to-day activities (a lot, a little, not at all). In BCS70 , parents are asked whether child has any physical or mental disability or handicap interfering with normal everyday life or that could be a problem at school (yes slight disability, yes severe, no). In MCS, parents asked if child ever had eyesight problem, and if so whether they have had any treatment (glasses are an option). In BCS70, parents asked directly if child wears glasses. In MCS, parents asked if child has any problem with hearing or their ears, and whether they still have this problem. In BCS70, parents asked if child has always had good hearing in both ears, and then if their hearing is normal now. Weight and height were measured in both cohorts, and classified into underweight, normal weight, an overweight (including obesity) using IOTF criteria. Height-for-age in Z-scores based on age and sex using 1990 British growth charts. In MCS, parents were asked if child had ever had hay fever, and if they had ever had eczema. To assess asthma, MCS parents asked if child has had wheezing or whistling in the chest in the last 12 months, and separately if they have ever had asthma. In BCS70, hay fever, eczema and asthma were reported by the medical examiner based on parental interview responses, medical records, and medical examination (yes in past 12 months, yes previous to past 12 months, yes timing unknown, never).	Limiting longstanding illness: Stable across cohorts. Wearing glasses: Moderate increases in prevalence across cohorts. Hearing problems: Small decrease in prevalence across cohorts. Overweight/obesity: Large increase in prevalence across cohorts (also a very small, nonsignificant decline in prevalence of underweight, and an increase in proportion showing signs of puberty at age 10/11). Ever hay fever: Large increase across cohorts. Ever asthma: Large increase across cohorts. Ever eczema: Large increase across cohorts. Height-for-age and weight-for-age: Large increases across cohorts (note that this is accompanied by a large increase in the proportion of children showing signs of puberty at age 10/11).	Mostly stable or worse in later cohort. Height-for-age increased, but so did early onset puberty. Hearing problems declined in prevalence.
101	Preconception health in adolescence and across adulthood across generations in the UK: Findings from three British birth cohort studies	Righton, Flynn, Alwan and Schoenaker	2024	PLOS One	https://doi.org/10.1371/journal.pone.0299061	BCS70, Next Steps, MCS	1	1	Overweight, obesity, diabetes mellitus, history of cancer (men only)	BCS70 age 16 and 26. Next Steps age 25/26, MCS age 17.	In BCS70, asked at age 26 of have had cancer since age 16, and whether currently had diabetes mellitus (in the last 12 months). In Next Steps, it was unclear what question was used to derive the cancer/diabetes variables age 25. It is possible that this came from back-coded responses to a general question on longstanding illness. Overweight and obesity derived from BMI, applying standard IOTF cut-offs (underweight, normal weight, overweight, obese).	Significant changes in distribution of BMI categories between BCS70 and MCS at age 16/17, with large increases in obesity and overweight for both men and women (p<0.001) and declines in prevalence of underweight (p<0.001). For men, lifetime prevalence of cancer at age 25/26 remained <1% across BCS70 and Next Steps, as did the prevalence of diabetes mellitus for both women and men. However, the impact of chance on this result could not be ruled out - case numbers were very small, and the difference was not statistically tested.	Worse in later cohort for body mass index, no differences across cohorts for cancer in men, or for diabetes mellitus, though the impact of chance on the findings cannot be ruled out.

#	Title	Authors	Year	Source	Link	Cohorts			Outcome	Ages	Measures	Results	Summary
102	Self-rated health over the life course: Evidence from the 1958 and 1970 British birth cohorts	Ploubidis, Pongiglione	2019	Springer Pathways to Health	https://doi.org/10.1007/978-94-024-1707-4_4	NCDS, BCS70		1	Self-rated general health	Overlapping age trajectories. NCDS age 23 to 46. BCS70 age 26 to 42.	Same question on general health has been asked repeatedly in both cohorts ("How is your health generally?"). However, there is some variation on the response scale (1-4 or 1-5) depending on age and cohort. Rather than create a binary exposure (fair-poor, good-excellent), use linear stretch and compare the mean scores across cohorts.	Mean self-rated health is similar for men and women up to age 34 in BCS70, after which mean SRH worsens at a higher rate than in NCDS. For instance, at age 33/34, mean scores in NCDS and BCS70 for men were 1.71 (1.69-1.73) vs. 1.85 (1.82-1.88), and for women 1.83 (1.80-1.85) vs. 1.93 (1.91-1.95). This difference was not statistically significant. In comparison, at age 42, men scored 2.10 (2.07-2.13) and 2.42 (2.39-2.45), and women scored 2.13 (2.10-2.15) and 2.38 (2.64-2.71). This difference was statistically significant (b = 0.324 for men and b = 0.118 for women). Also report more variation in the intercept for younger cohorts.	Worse in later cohort from mid-thirties onwards. Before then, no significant difference across cohorts.
103	Chapter 8: Health	Wadsworth, Butterworth, Montgomery, Ehlin, Bartley	2003	Changing Britain, Changing Lives	ISBN 0 95473 650 6	NSHD, NCDS, BCS70	1	1	Childhood height and body mass index, adult height and body mass index, asthma, back pain, diabetes, high blood pressure, cancer, limiting illness	NSHD ages 11, 15, 36 and 43. NCDS ages 11, 33 and 42. BCS70 ages 10, 30. Any comparisons at age 42/43 are between NCDS and NSHD only.	Many outcomes are compared. Information on the measures used in limited in the book chapter, so this information comes from looking back at the original questionnaires. Height and weight in childhood were measured in the three cohorts. Adult BMI and height were self-reported. In NCDS and BCS70, questions on specific diagnoses are asking about EVER having had or been told had the condition at age 30/33. In NSHD, questions asked about whether they had conditions all or most of the time, except for cancer, which asked about EVER having cancer. In NCDS at age 42, another direct ever question was asked, while in NSHD those who had reported "yes" to an ever question were not asked again. In BCS70, questions at age 42 are asked about "since the last interview". For back pain and asthma, differences in questions were especially significant. In NSHD asked if have sciatica, lumbago or recurring backache, and asthma, most or all of the time. In NCDS, whether they ever had back pain (lasting more than one day and not associated with periods/pregnancy/flu). Question on asthma in NCDS is routed through a more general question on ever wheezing. In BCS70, whether ever had or told they had persistent lumbago or sciatica, and whether ever had asthma. Question on longstanding illness and if this limits activities in any way compared to people own age is the same in NCDS and BCS70.	Comparing mean height in NSHD and NCDS at age 7 (119 cm vs 122 cm for girls, 120 vs. 123 cm for boys). Adolescent obesity (15/16) increased slightly but only from BCS70 onwards (for girls, 1.6%, 1.3% and 2.1%; for boys 0.3%, 0.9%, 1.6%). Mean adult height (36/42/30) increased slightly across cohort (175 cm in men and 162 cm for women in 1946, 177 for men and 163 for women in 1958, and 179 and 164 for women in 1970). The distribution of height changed across cohorts - on average people were taller in NCDS and BCS70, but the standard deviation increased with more people of shorter stature than NSHD - possibly linked to changing survival. At age 36/33/30, prevalence of overweight was similar/higher in the later cohorts, despite later cohorts being measured at earlier ages. Comparisons of self-reported chronic morbidity in adulthood very considerably in quality. Prevalence of asthma appeared to increase for men (ages 36/33/30: 3%, 6%, 13%; age 42 6%, 10%) and women (ages 36/33/30: 3%, 10%, 14%, age 42, 6%, 12%). There was no clear trend for bronchitis in men (ages 36/33/30: 7%, 9%, 6%; age 42: 19%, 8%) or women (age 36/33/30: 6%, 13%, 8%; age 42: 22%, 13%). Trends for back pain were very challenging to interpret due to changing question formats (as seen with spikes in reporting in 1958 cohort at age 36/33/30 for men (17%, 50%, 13%) and women (6%, 44%, 16%) - in comparison at age 42, see the opposite trend between NSHD and NCDS, for men (32%, 22%) and women (34%, 23%). Some suggestion that diabetes prevalence increased for men (ages 36/33/30: 0.6%, 0.7%, 0.9%; age 42: 1%, 2%) and women (ages 36/33/30: 0.4%, 0.6%, 1%, age 42: 1%, 2%). Prevalence of self-reported high blood pressure appeared to increase slightly between 1946c and 1958c, then stabilise in men (ages 36/33/30: 3%, 5%, 5%; age 42: 9%, 11%). For women, seemed to increase across cohorts in young adulthood (ages 36/33/30: 5%, 6%, 10%) and was similar in comparisons in early midline (age 42: 13%, 12%). Very low numbers of cancer cases make comparisons of prevalence challenging. Prevalence appeared to remain stable across 1858c and 1970c in men (age 33/30: 0.6%, 0.7%, age 42: 1%, 1%) and in women (age 33/30: 3%, 2%; age 42: 3%, 4%). Comparisons of limiting illness were only possible between 1958c and 1970c at age 33/30, and prevalence seemed to increase slightly for both men (6%, 8%) and women (6%, 10%). However, confidence intervals are not provided, so challenging to understand whether these differences could be affected by small numbers (particularly for NSHD). Also report differences in adult mental health, but the questionnaires are different and attempts to make these more comparable were limited, so results are not reported here.	Adult height and childhood height in childhood appeared to increase across cohorts. Slight increase in obesity during adolescence but only for 1970c onwards. Increase in adult BMI across all three cohorts. Trends in chronic disease are complex to interpret given changing nature of questions and lack of 95% CIs. Fairly consistent evidence for increasing asthma and diabetes prevalence (but low numbers), and for limiting illness across 1958c and 1970c. No clear trend for bronchitis or back pain. Cancer prevalence remains relatively stable but low numbers. High BP either stable or increasing, but a trend is not clear.

104	We are living longer, but not healthier: Evidence from the British birth cohorts and the Uppsala Birth Cohort Multigenerational Study	Gondek	2021	UCL Doctoral Thesis	Link	NCDS, BCS70	1	1	1	Multimorbidity, obesity, hypertension, diabetes, self-reported migraines/headaches, self-reported asthma/bronchitis, self-reported convulsions/seizures, self-reported cancer, psychological distress	NCDS age 44-45. BCS70 age 46-48.	High HbA1c ≥ 6.5% (+1% absolute terms correction added for those on medication). Hypertension (≥140/90 mmHg, with a correction of +10 mmHg if taking antihypertensive medication). Obesity based on measured height and weight at the biomedical sweeps, cleaned using standardised protocol, and obesity based on standard IOTF cut-offs (BMI ≥ 30 kg/m2). Psychological distress identified using 9-Item Malaise Inventory in both cohorts (cut-off score ≥ 4). Self-reported lifetime prevalence of migraine/headaches, asthma/bronchitis, convulsions/epileptic seizures/fits, cancer (any type). In NCDS, questions about lifetime prevalence were asked directly at age 42. In BCS, since questions were asked about having the condition since the last interview, lifetime prevalence measures are derived using reports at age 30, 34, 48 and 42. Definition of multimorbidity also included problematic drinking (based on CAGE questionnaire cut-offs) but definition used was ≥2 conditions which one must be physical (i.e., psychological distress and problematic drinking did not qualify as multimorbidity under this definition).	High HbA1c: 3.1% in NCDS vs. 5.9% in BCS70 (RR = 1.91, 1.62-2.26). The proportion of cohort members with high (measured) HbA1c was higher in the later cohort (2.5% in NCDS vs. 3.5% in BCS70), as was the proportion taking medication for diabetes (1.9% in NCDS vs. 2.5% in BCS70). Hypertension: 17.2% in NCDS vs. 16% in BCS70 (RR = 0.93, 0.86-1.01). The prevalence of individuals with high blood pressure (measured) was lower in the later cohort (12.8% in BCS70 vs. 9.7% in BCS70), but the prevalence of taking antihypertensive medication was higher in the later cohort (6.1% in NCDS vs. 8.1% in BCS70). Obesity: 24.7% in NCDS vs. 29.1% in BCS70 (RR 1.18, 1.12-1.24). Psychological distress: 12.5% in NCDS vs. 17% in BCS70 (RR = 1.36, 1.26-1.47). Self-reported asthma/bronchitis: 18.4% in NCDS vs. 21.6% in BCS70 (RR = 1.23, 1.15-1.31). Self-reported migraine: 20.5% in NCDS, 26.8% in BCS70 (RR = 1.31, 1.23-1.39). Self-reported fits/convulsions: 2.5% in NCDS, 3.3% in BCS70 (RR = 1.35, 1.11-1.63). Self-reported cancer: 2.8% in NCDS vs. 2.8% in BCS70 (RR = 1.00, 0.92-1.23). Multimorbidity: 17.8% in NCDS vs. 24.3% in BCS70 (RR = 1.36, 1.28-1.45).	Worse in later cohort (except for cancer and high blood pressure which were similar across cohorts)
105	Secular changes in mid-adulthood body mass index, waist circumference and low HDL cholesterol between 1990, 2003 and 2018 in Great Britain	Johnson, Norris, Hamer	2021	Eur J Clin Nutr	https://doi.org/10.1038/s41430-020-00758-5	NSHD, NCDS, BCS70	1		1	Body mass index, obesity, waist circumference, HDL cholesterol (NCDS and BCS70 only)	NSHD age 43, NCDS age 44-45, BCS70 age 46-48.	In all cohorts: Height, weight (to calculate BMI), waist circumference, hip circumference and blood samples collected by nurses following standard protocols with similar methods. In NCDS and BCS70, non-fasting venous blood samples for HDLc measurements (Olympus AU640 for NCDS and Roche Cobas c702 for BCS70). Categorise using cut-offs. IOTF cut-offs for obesity and overweight, central adiposity (waist circumference >102 cm for males or >88 cm for females), low HDLC (HDLc < 1.03 mmol/L for males or <1.29 mmol/L for females or taking lipid regulating medication).	Prevalence of overweight remained relatively stable (45%, 50%, 45% for men, and 27%, 33% and 32% for women), but percent obese increases substantially (11%, 25%, 34% for men, 14%, 24% and 33% for women). Median waist circumference increased (91.1, 87.3, 99.2 for men, 75.8, 83.4, 88.0 for women), and the percent who were centrally obese also increased markedly (15%, 32% 40% for men, 16%, 37%, 50% for women). Comparing only 1958 and 1970 cohort, percent with low HDLc increased (11%, 23% for men, 13%, 19% for women). Changes in centiles of BMI and waist circumference suggest that upward shifts are greatest in the highest centiles.	Worse in later cohort (for HDLc can only look at NCDS vs BCS70)

Tier 2 – Descriptives only

Key	Title	Authors	Year	Journal	DOI	Cohorts compared	Height, weight, BMI	Mental health	Other	Health condition(s)	Ages compared	Outcome measurement	Cohort comparison	Summary of direction
9	Intergenerational social mobility predicts midlife well-being: Prospective evidence from two large Birth cohorts	Bridger, Daly	2020	Soc Sci Med	https://doi.org/10.1016/j.socscimed.2020.113217	NCDS, BCS70			1	Life satisfaction	NCDS age 42. BCS70 age 42.	In both cohorts: "How dissatisfied or satisfied are you with the way your life has turned out so far?" Same response scale (0-10).	Mean life satisfaction was 7.36 (SD = 2.00) in BCS70 and 7.28 (SD = 1.92) in NCDS.	No evidence for difference across cohorts
11	Does cognitive ability buffer the link between childhood disadvantage and adult health?	Bridger, Daly	2017	Health Psychol	https://doi.org/10.1037/hea0000538	NCDS, BCS70			1	Psychological distress	NCDS age 23, 33, and 42. BCS70 ages 26, 30, 34 and 42.	In both cohorts: 9-Item Malaise Inventory. Use the total score.	Mean PD was 1.25 (1.53), 0.99 (1.54), and 1.50 (1.78) in NCDS at ages 23, 33, and 42. Mean PD was 1.76 (1.76), 1.54 (1.74), 1.66 (1.89) and 1.86 (1.98) at ages 26, 30, 34 and 42 in BCS70.	Worse in later cohort
24	Effect of breastfeeding and sociodemographic factors on visual outcome in childhood and adolescence	Rudnicka, Owen, Richards, Wadsworth, Strachan	2008	Am J Clin Nutr	https://aicn.nutrition.org/article/S0002-9165(23)23635-7/fulltext	NSHD, NCDS, BCS70			1	Myopia	NSHD ages 11 and 15, NCDS ages 11 and 16, BCS70 ages 10 and 16	In all cohorts: Unaided distance vision (i.e. no optical correction) assessed during medical examinations using conventional Snellen charts and testing each eye separately. Unaided near vision assessed using Sheridan and Gardiner reduced Snellen near acuity cards at 25 cm. Apply cut-off of 6/12 or worse in the better eye.	Prevalence of myopia at 10/11: 6%, 6.5% and 4.4% in NSHD, NCDS and BCS70 respectively. At age 15/16, 9.4%, 10% and 11.4% respectively.	Stable across cohorts? No clear trend in childhood, and only a small increase in adolescence.
26	Childhood deprivation, health and development: Associations with adult health in the 1958 and 1970 British prospective birth cohort studies	Mensah, Hobcraft	2007	J Epidemiol Community Health	https://doi.org/10.1136/jech.2007.065706	NCDS, BCS70		1	1	Self-rated health, psychological distress, limiting longstanding illness, longstanding illness	NCDS age 33, BCS70 age 30	In both cohorts: Self-rated health assessed using same question and same response scale (0-4). Dichotomise into excellent/good versus fair/poor. Psychological distress assessed using 24-item Malaise Inventory (dichotomised using cut-off score 7+). In NCDS and BCS70 cohort members are asked whether they have any longstanding illness, and whether this limits day-to-day activities (same question).	Prevalence of fair/poor health was 13.2% and 15.4% for men in NCDS and BCS70 respectively; and 14% and 14.6% for women. Prevalence of psychological distress based on Rutter score cut-offs was 6.9% and 14.2% for men in NCDS and BCS70 respectively; and 12.3% vs. 19.9% for women. Prevalence of longstanding illness was 17.2% vs. 23.2% for men (of which 6.3% vs. 7.6% was limiting); 14% vs. 23.2% for women (of which 6.1% vs. 9.7% limits daily activities).	Suggests worse in later cohort (though no large differences for self-rated health).
31	Do adolescent leisure-time physical activities foster health and well-being in adulthood? Evidence from two British birth cohorts	Sacker, Cable	2005	Eur J Public Health	https://doi.org/10.1093/eurpub/cki189	NCDS, BCS70		1	1	Self-rated health, psychological distress	NCDS age 33. BCS70 age 30.	In both cohorts: Self-rated health assessed using same question and same response scale (0-4). Dichotomise into excellent/good versus fair/poor. Psychological distress assessed using 24-item Malaise Inventory (cut-off score 7+).	For men, the prevalence of poor self-rated health is 13.37% for NCDS and 15.70% for BCS70. For women, the prevalence of poor self-rated health is 14.27% for NCDS and 14.85% for BCS70. For men, the prevalence of psychological distress is 5.25% for NCDS and 10.95% for BCS70. For women, the prevalence of psychological distress is 9.45% for NCDS and 14.86% for BCS70	Suggests worse in later cohort (no significant difference for self-rated health).
48	Socioeconomic inequalities in co-morbidity of overweight, obesity, and mental ill-health from adolescence to mid-adulthood in two national birth cohort studies	Khanolkar, Patalay	2021	Lancet Regional Health Europe	https://doi.org/10.1016/j.lanepe.2021.100106	NCDS, BCS70	1	1		Body mass index, obesity, overweight, internalising symptoms in childhood and adolescence, psychological distress in adulthood	NCDS at ages 11, 16, 23, 33 and 42. BCS70 at ages 10, 16, 26, 34 and 42.	In both cohorts: Body mass index from height and weight, classified into obesity/overweight using standard IOTF cut-offs (25 and 30 kg/m2). Parent-reported Rutter A scale at age 10/11 and 16 (continuous score and cut-off using 85 percentile of the distribution (≥5 at age 10/11, ≥4 at age 16) and 9-Item Malaise Inventory in adulthood (continuous score and cut-off for psychological distress).	From age 16 onwards, BCS70 has higher mean BMI and higher proportions of participants being overweight compared to NCDS (e.g., 19% vs. 33% at age 23 and 54% vs. 61% at age 42 being overweight respectively). Across adulthood, prevalence of psychological distress in adulthood was higher in BCS70 (e.g., 8.8 vs 14.6% at age 23 and 12.2 vs. 18% at age 42). In childhood and adolescence, differences in mental health were less consistent (23.4% vs. 15.4% experiencing distress at age 10/11 in NCDS and BCS70 respectively, and 16.7% vs.20% experiencing distress at age 16 respectively).	Worse in later cohort for body mass index and psychological distress from adolescence onwards. More uncertainty in childhood/adolescence.
50	Early life cumulative exposure to excess bodyweight and midlife cognitive function: longitudinal analysis of three British birth cohorts.	Chiesa, Norris, Garfield, Richards & Hughes	2024	Lancet Healthy Logev	https://doi.org/10.1016/S2666-7568(24)00005-9	NSHD, NCDS, BCS70	1			Body mass index	Overlapping age trajectories. NSHD ages 11 to 53. NCDS ages 11 to 50. BCS70 ages 10 to 46-48.	In all cohorts: Body mass index from height and weight (mixture of self-reports and observer measured in all three cohorts). Used as continuous.	Earlier onset and more severe exposure to excess bodyweight across early life, most notably for BCS70 relative to the older cohorts. Throughout the lifecourse (age 10/16/23/33/42/50), mean BMI in NSHD is 17, 19.7, 22, 23.8, 24.8, 26.7; mean BMI in NCDS is 16.9, 20.2, 22.1, 24.3, 25.2, 26.7; mean BMI in BCS70 is 16.5, 20.7, 23, 25, 25.9, 27.8.	Worse in later cohort, starting with 1970 cohort from adolescence.

#	Title	Authors	Year	Journal	Link	Cohorts			Outcome	Ages	Measurement	Results	Assessment
54	Health and voting over the course of adulthood: Evidence from two British birth cohorts	Gagne, Schoon, Sacker	2020	SSM Popul Health	https://doi.org/10.1016/j.ssmph.2019.100531	NCDS, BCS70		1	Self-rated health, limiting longstanding illness	NCDS at ages 33 and 42. BCS70 at 30, 34 and 42.	In both cohorts: Self-rated health measured using same question but different response scales (0-4 in NCDS, 0-5 in BCS70). Except at ages 30/33 when scale is the same. Dichtomised into excellent/good and fair/poor categories. In both cohorts: At age 42, asked about whether have longstanding illness and whether limits daily activity compared to people their own age (up to 4 conditions reported in NCDS, up to 10 conditions reported in BCS70). In BCS70: At age 34, asked directly if health limits activities compared to people their own age, then if affects day-to-day activities. But note that at age 30, question is identical to NCDS. In NCDS: At age 33, same format as at age 42.	For self-rated health: Prevalence of poor/very poor health at age 33/34 was 1.8% for NCDS and 6.3% for BCS70 (this was an outlier for BC70, but even at age 30, prevalence was 2.2%). At age 42, for poor/very poor SRH we get 3.5% for NCDS and 4.6% for BCS70. For limiting longstanding illness: Prevalence at age 33/34 was 6.2% for NCDS and 7.3% for BCS70 (8.8% at age 30 in NCDS70). At age 42, prevalence was 13.3% for NCDS and 16.5% for BCS70.	Worse in later cohort
74	Duration of obesity exposure between ages 10 and 40 and its relationship with cardiometabolic outcomes. A cohort study.	Norris, Cole, Bann, Hamer, Hardy, Li, Ong, Ploubidis, Viner, Johnson	2020	PLOS Med	https://doi.org/10.1371/journal.pmed.1003387	NSHD, NCDS, BCS70	1	1	Obesity (all cohorts), blood pressure, HbA1c (glycated haemoglobin), HDL cholesterol (NCDS and BCS70 only)	Overlapping age trajectories for BMI: NSHD ages 11 to 43. NCDS ages 11 to 42. BCS70 ages 10 to 42. Biomarker comparisons: NCDS age 44-45, BCS70 age 46-48.	In all cohorts: Body mass index from height and weight (mixture of self-reports and observer measured in all three cohorts). Blood pressure measured using standard protocol but different cuffs (automated Omron cuffs for BCS70 and NCDS, hand-held sphygmomanometer for NSHD - measures converted using calibration equations). Correction of +10 mmHg systolic and +5 mmHg diastolic made if taking medication. Hypertension cut-off 140/90 mmHg. In BCS70 and NCDS: non-fasting venous blood samples from which HbA1c and HDLc measured. Correction of +1% (absolute) DCCT for HbA1c if taking medication for diabetes. HbA1c cut-off of 6.5% DCCT. Correction of +5% HDLc if taking lipid regulating medication. Low HDLc <1.03 mmol/L for men and HDLc < 1.29 mmol/L for women.	Comparing BCS70 and NCDS: Higher prevalence of obesity at age 42 (33% vs. 24.4%). Similar systolic and diastolic blood pressure accounting for medication (mean readings within 2 mmHg of one another - lower in BCS70). Prevalence of hypertension accounting for medication higher in BCS70 (23.9% vs 27.8%). Prevalence of low HDLc higher in BCS70 (20.1% vs 22.8%). Prevalence of high HbA1c higher slightly in BCS70 (16.5% vs. 15%). Including NSHD: Percentage ever obese increased strongly across cohorts from 6.6% to 11.1% to 19.7%. Median (IQR) age at first onset of obesity declined from 33.4 (27.6-37) to 31.5 (25.4-36.1) to 30.2 (25.2-34.1). Median (IQR) total duration of obesity increased from 6.2 (2.7-11.8) to 8.3 (3.9-14.4) to 9.7 (5.9-14.7).	Worse in later cohorts (except hypertension across NCDS and BCS70)
77	Clinical onset of atopic eczema: Results from 2 nationally representative British birth cohorts followed through midlife	Abuabara, Ye, McCulloch, Sullivan, Margolis, Strachan, Paternoster, Yew, Williams, Langan	2019	J Allergy Clin Immunol	https://doi.org/10.1016/j.jaci.2019.05.040	NCDS, BCS70		1	Atopic eczema	Overlapping age trajectories. NCDS age 0 to 50. BCS70 age 0 to 42.	In both cohorts: Create a harmonised ever eczema variable using all parent and self-reported information on eczema in both cohorts up to age 50 in NCDS and up to age 42 in BCS70. Identify child-onset eczema as those with an ever report by age 10/11.	Atopic eczema was more common in the 1970 cohort. Cumulative lifetime prevalence was 28% by age 42, compared to 18% by age 50 in NCDS. Cumulative lifetime prevalence higher in BCS at every age. At overlapping ages, point prevalence of eczema always slightly higher in BCS70, confidence intervals do not overlap.	Worse in later cohort
84	Sex discordance in asthma and wheeze prevalence in two longitudinal cohorts	Arathimos, Granell, Henderson, Relton, Tilling	2017	PLOS One	https://doi.org/10.1371/journal.pone.0176293	ALSPAC, MCS		1	Asthma and wheeze	Overlapping age trajectories. ALSPAC age 0 to 18. MCS age 9 months to 10.	In ALSPAC: Parents asked "Has your child had wheezing or whistling on the chest in the past 12 months?" and "Has your child had asthma in the last 12 months?". In MCS: Information on asthma collected using the ISAAC questionnaire which includes questions on both asthma and wheeze symptoms and is clinically validated. Parents asked if child has ever wheezed, then if wheezed in last 12 months. Comparisons based on asthma/wheeze in last 12 months only, since ALSPAC lacks a question on lifetime prevalence.	Prevalence of wheeze in last 12 months. Prevalence was 19.4% and 15.7% for boys and girls at age 3.5 in ALSPAC, 21.3% and 16.3% for girls and boys at age 4.8 (drops to 17.3% and 13.5% at ages 5.8), 15% and 11.8% at age 6.8 (drops to 12.6% and 8.8% at age 7.6), and approximately14.8% and 9.7% for girls and boys at age 10.7. In comparison, prevalence of wheeze in the last 12 months in MCS was 22.3% and 17.7% for girls and boys at age 3.1, 18.8% and 14.4% at age 5.2, 14.4% and 10% at age 7.2, and 14% and 10% at age 10.7.	Inconclusive - Results appear to suggest stability across these cohorts but interpreting these findings is complex because point prevalence of asthma/wheeze appears to change rapidly over age. At perfectly overlapping ages (10.7 years), prevalence is almost identical. No statistical tests to compare prevalence adjusting for age, despite age overlap.
91	Intelligence in childhood and risk of psychological distress in adulthood: The 1958 National Child Development Survey and the 1970 British Cohort Study	Gale, Hatch, Batty, Dreary	2009	Intelligence	https://doi.org/10.1016/j.intell.2008.09.002	NCDS, BCS70		1	Psychological distress	NCDS age 33, BCS70 age 30	In both cohorts: 24-item Malaise Inventory, dichotomised using cut-off score of 7+.	Overall prevalence of psychological distress in NCDS at age 33 was 8.1% vs. 15.9% in BCS70 at age 30. Higher prevalence observed for both men and women.	Worse in later cohort
97	Life course neighbourhood deprivation effects on body mass index: Quantifying the importance of selective migration	Murray, Nicholas, Norman, Jivraj	2021	Int J Environ Res Public Health	https://doi.org/10.3390/ijerph18168339	NCDS, BCS70	1		Body mass index	NCDS ages 16, 23, 33, and 42. BCS70 ages 16, 26, 34 and 42.	In both cohorts: Use harmonised body mass index derived from cleaned height and weight (self-reported or observer measured).	Mean (SD) BMI by age in NCDS and BCS70. At age 16, 20.6 (3.68) vs. 21.1 (4.51). At age 33/34: 25.1 (5.99) vs. 26 (6.69). At age 42, 26.1 (7.08) vs. 27 (7.51)	Worse in later cohort

| 99 | Becoming adults in Britain: Lifestyles and wellbeing in times of social change | Schoon, Chen, Kneale, Jager | 2012 | Longitudinal Lifecourse Studies | https://doi.org/10.14301/llcs.v3i2.181 | NCDS, BCS70 | 1 | 1 | Psychological distress, life satisfaction | NCDS age 33, BCS70 age 30 | In both cohorts: 24-item Malaise Inventory score. Life satisfaction measured using same question in both cohorts and same response scale (0-10). | Overall, mean life satisfaction score (SD) out of 10 was 7.49 (1.66) out of 10 for NCDS at age 33, and 7.29 (1.85) at age 30 for BCS70. Mean Malaise score was 1.20 (2.87) at age 33 for NCDS, and 3.49 (3.44) at age 30 for BCS70. | Worse in later cohorts for mental health, no clear difference for life satisfaction. |