UK Biobank

Repeat Assessment:
Participant Characteristics of responders vs. non-responders

Version 2.0

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http://www.ukbiobank.ac.uk/

Contents

New version

Version 2.0 of this resource includes updated links to the various data fields.

Introduction

A repeat assessment of 20,000 participants was carried out between August 2012 and June 2013 at the UK Biobank Co-ordinating Centre, Stockport, UK.

Participants who lived within an approximately 30m radius of the assessment centre were invited via email to attend and undergo a repeat assessment of all the baseline measures. This included information on their health and lifestyle, hearing and cognitive function, which was collected through a touchscreen questionnaire and a brief verbal interview. A range of physical measurements were also performed, which included: blood pressure; arterial stiffness; eye measures (visual acuity, refractometry, intraocular pressure, optical coherence tomography); body composition measures (including impedance); hand-grip strength; ultrasound bone densitometry; spirometry; and an exercise/fitness test with ECG. Samples of blood, urine and saliva were also collected.

The aim of this report is to compare the characteristics recorded at the baseline visit of participants who attended the repeat assessment visit with those who were invited but did not re-attend.

Summary of key findings of characteristics for re-attendees

Characteristics which did not differ across participants who were invited to attend the repeat assessment (whether they re-attended, declined the appointment or did not respond) include; gender, ethnic background, alcohol drinker status, and self-reporting of cancer and diabetes status at baseline.

- **Advanced Age**

  Participants who attended the repeat assessment visit were more likely to be among the oldest participants recruited (28% of repeat assessment attendees were aged 60 to <65 at the baseline visit compared to 28% of participants who declined, cancelled or did not turn up to their appointment, and 22% of participants who did not respond to the invitation).

7.7% of repeat assessment attendees were aged 40 to <45 at the baseline visit compared to 7.6% of participants who declined, cancelled or did not turn up to their appointment, and 12.6% of participants who did not respond to the invitation.

- **Lower BMI**

  Participants who attended the repeat assessment visit were more likely to have a lower BMI at the baseline visit compared with those who did not attend (38% of attendees had a BMI <25 kg/m^2 compared with 33% of participants who declined, cancelled or did not turn up to their appointment, and 29% of participants who did not respond to the invitation).

  20% of participants who re-attended had BMI ≥30 kg/m^2 compared to 24% of participants who declined, cancelled or did not turn up to their appointment, and 27% of participants who did not respond to the invitation.

- **Less long-standing illness, disability or infirmity**

  68% of participants who re-attended reported no long-standing illness, disability or infirmity compared to 64% of participants who declined, cancelled or did not turn up to their appointment, and 64% of participants who did not respond to the invitation.

- **Excellent overall health rating**

  20% of participants who re-attended rated their health as 'excellent' compared to 16% of participants who declined, cancelled or did not turn up to their appointment, and 15% of participants who did not respond to the invitation.

- **Higher education**

  72% of participants who re-attended were educated to degree/NVQ/HNC or other professional qualification level compared to 55% of participants who declined, cancelled or did not turn up to their appointment, and 60% of participants who did not respond to the invitation.

- **Less socio-economically deprived (Townsend score)**

  62% of participants who re-attended were among the least socio-economically deprived (Townsend score <-2), compared to 56% of participants who declined, cancelled or did not turn up to their appointment, and 54% of participants who did not respond to the invitation.

Conversely, 10% of participants who re-attended were among the most deprived (Townsend score >2), compared to 13% of participants who declined, cancelled or did not turn up to their appointment, and 15% of participants who did not respond to the invitation.

- **Distance to repeat assessment centre**

  Participants who re-attended lived, on average, closer to the UK Biobank Co-ordinating Centre (28% of participants who lived within 10 miles of the assessment centre re-attended compared to 11% of participants who declined, cancelled or did not turn up to their appointment, and 16% of participants who did not respond to the invitation).

  22% of participants who lived over 30 miles from the assessment centre re-attended compared to 35% of participants who declined, cancelled or did not turn up to their appointment, and 34% of participants who did not respond to the invitation.

- **Never Smokers**

  59% of participants who re-attended were never smokers at recruitment, compared to 54% of participants who declined, cancelled or did not turn up to their appointment, and 53% of participants who did not respond to the invitation.

  Conversely, 6.3% of participants who re-attended were current smokers at baseline, compared to 9.1% of participants who declined, cancelled or did not turn up to their appointment, and 11% of participants who did not respond to the invitation.

Participant characteristics

A total of **103,514 participants** were invited to take part in the first UK Biobank repeat assessment (August 2012 – June 2013).

Age at recruitment (at the baseline visit)

- UK Biobank data-field 21003

	Attended n, %	Declined, cancelled, no show n, %	No response n, %	Total n, %
<45 years	1,557 7.7	1,802 7.6	7,515 12.6	10,874 10.5
45 to <50 years	2,176 10.7	2,532 10.7	9,377 15.8	14,085 13.6
50 to <55 years	2,970 14.6	3,170 13.4	10,011 16.8	16,151 15.6
55 to <60 years	4,539 22.3	4,418 18.7	10,496 17.6	19,453 18.8
60 to <65 years	5,731 28.2	6,603 27.9	12,936 21.7	25,270 24.4
65+ years	3,372 16.6	5,125 21.7	9,184 15.4	17,681 17.1
Total	**20,345**	**23,650**	**59,519**	**103,514**

Sex

- UK Biobank data-field 31

	Attended n, %	Declined, cancelled, no show n, %	No response n, %	Total n, %
Female	10,405 51.1	13,921 58.9	30,341 51.0	54,667 52.8
Male	9,940 48.9	9,729 41.1	29,178 49.0	48,847 47.2
Total	**20,345**	**23,650**	**59,519**	**103,514**

Ethnic background

- UK Biobank data-field 21000

	Attended n, %	Declined, cancelled, no show n, %	No response n, %	Total n, %
White	19,852 97.6	23,085 97.6	56,698 95.3	99,635 96.3
Other	443 2.2	491 2.1	2,585 4.3	3,519 3.4
Don't know	2 0.01	6 0.03	14 0.02	22 0.02
Prefer not to answer	44 0.2	46 0.2	168 0.3	258 0.3
Missing	4 0.02	22 0.09	54 0.09	80 0.08
Total	**20,345**	**23,650**	**59,519**	**103,514**

Body Mass Index (BMI)

- UK Biobank data-field 21001

	Attended n, %	Declined, cancelled, no show n, %	No response n, %	Total n, %
<25	7,629 37.5	7,862 33.2	17,198 28.9	32,689 31.6
25 to 30	8,590 42.2	10,007 42.3	26,090 43.8	44,687 43.2
30+	4,080 20.1	5,669 24.0	15,883 26.7	25,632 24.8
Missing	46 0.2	112 0.5	348 0.6	506 0.5
Total	**20,345**	**23,650**	**59,519**	**103,514**

Qualifications

- UK Biobank data-field 6138

	Attended n, %	Declined, cancelled, no show n, %	No response n, %	Total n, %
Degree/NVQ, HDN, HNC/Other prof.	14,748 72.5	13,068 55.3	35,642 59.9	63,458 61.3
A-level or equiv.	1,060 5.2	1,218 5.2	2,977 5.0	5,255 5.1
GCSE/CSE or equiv.	2,648 13.0	4,500 19.0	10,632 17.9	17,780 17.2
None of the above	1,800 8.9	4,615 19.5	9,638 16.2	16,053 15.5
Prefer not to answer	85 0.4	228 1.0	581 1.0	894 0.9
Missing	4 0.02	21 0.09	49 0.08	74 0.07
Total	**20,345**	**23,650**	**59,519**	**103,514**

Townsend deprivation index

- UK Biobank data-field 22189

	Attended n, %	Declined, cancelled, no show n, %	No response n, %	Total n, %
Least deprived <-2	12,544	13,433	32,257	58,234
	61.7	56.8	54.2	56.3
-2 to 2	5,707	7,218	18,110	31,035
	28.1	30.5	30.4	30.0
Most deprived 2+	2,083	2,977	9,084	14,144
	10.2	12.6	15.3	13.7
Missing	11	22	68	101
	0.05	0.09	0.1	0.1
Total	20,345	23,650	59,519	103,514

Home area population density - urban or rural

- UK Biobank data-field 20118

	Attended n, %	Declined, cancelled, no show n, %	No response n, %	Total n, %
Urban	17,418	21,030	52,944	91,392
	85.6	88.9	89.0	88.3
Rural	2,778	2,492	6,056	11,326
	13.7	10.5	10.2	10.9
Missing	149	128	519	796
	0.7	0.5	0.9	0.8
Total	20,345	23,650	59,519	103,514

Distance from home residence (at recruitment*) to repeat assessment centre

* A small number of participants would have changed address in the time between recruitment and the repeat assessment.

- Based on UK Biobank data-fields 20074 and 20075

	Attended n, %	Declined, cancelled, no show n, %	No response n, %	Total n, %
<10 miles	5,670	2,675	9,533	17,878
	27.9	11.3	16.0	17.3
10 to <20 miles	5,180	5,208	11,177	21,565
	25.5	22.0	18.8	20.8
20 to <30 miles	4,938	7,309	17,929	30,176
	24.3	30.9	30.1	29.2
30+ miles	4,411	8,332	20,372	33,115
	21.7	35.2	34.2	32.0
Missing	146	126	508	780
	0.7	0.5	0.9	0.8
Total	**20,345**	**23,650**	**59,519**	**103,514**

Smoking status

- UK Biobank data-field 20116

	Attended n, %	Declined, cancelled, no show n, %	No response n, %	Total n, %
Never	11,971 58.8	12,876 54.4	31,612 53.1	56,459 54.5
Previous	7,042 34.6	8,520 36.0	20,868 35.1	36,430 35.2
Current	1,283 6.3	2,153 9.1	6,786 11.4	10,222 9.9
Prefer not to answer	45 0.2	86 0.4	206 0.4	337 0.3
Missing	4 0.02	15 0.06	47 0.08	66 0.06
Total	**20,345**	**23,650**	**59,519**	**103,514**

Alcohol drinker status

- UK Biobank data-field 20117

	Attended n, %	Declined, cancelled, no show n, %	No response n, %	Total n, %
Never	617 3.0	813 3.4	2,280 3.8	3,710 3.6
Previous	521 2.6	788 3.3	1,964 3.3	3,273 3.2
Current	19,197 94.4	22,017 93.1	55,171 92.7	96,385 93.1
Prefer not to answer	6 0.0	17 0.1	56 0.1	79 0.1
Missing	4 0.0	15 0.1	48 0.1	67 0.1
Total	**20,345**	**23,650**	**59,519**	**103,514**

Cancer diagnosed by doctor

- UK Biobank data-field 2453

	Attended n, %	Declined, cancelled, no show n, %	No response n, %	Total n, %
No	18,903	21,690	55,129	95,722
	92.9	91.7	92.6	92.5
Yes	1,384	1,884	4,135	7,403
	6.8	8.0	7.0	7.2
Do not know	47	48	173	268
	0.2	0.2	0.3	0.3
Prefer not to answer	7	5	25	37
	0.03	0.02	0.04	0.04
Missing	4	23	57	84
	0.02	0.1	0.1	0.08
Total	**20,345**	**23,650**	**59,519**	**103,514**

Diabetes diagnosed by a doctor

- UK Biobank data-field 2443

	Attended n, %	Declined, cancelled, no show n, %	No response n, %	Total n, %
No	19,491	22,396	56,145	98,032
	95.8	94.7	94.3	94.7
Yes	826	1,185	3,149	5,160
	4.1	5.0	5.3	5.0
Do not know	22	42	150	214
	0.1	0.2	0.3	0.2
Prefer not to answer	2	4	18	24
	0.01	0.02	0.03	0.02
Missing	4	23	57	84
	0.02	0.1	0.1	0.08
Total	**20,345**	**23,650**	**59,519**	**103,514**

Long-standing illness, disability or infirmity

- UK Biobank data-field [2188](#)

	Attended n, %	Declined, cancelled, no show n, %	No response n, %	Total n, %
No	13,873 68.2	15,229 64.4	38,632 64.9	67,734 65.4
Yes	6,085 29.9	7,831 33.1	19,326 32.5	33,242 32.1
Do not know	370 1.8	525 2.2	1,412 2.4	2,307 2.2
Prefer not to answer	13 0.06	42 0.2	94 0.2	149 0.1
Missing	4 0.02	23 0.1	55 0.09	82 0.08
Total	**20,345**	**23,650**	**59,519**	**103,514**

Overall health rating

- UK Biobank data-field 2178

	Attended n, %	Declined, cancelled, no show n, %	No response n, %	Total n, %
Excellent	4,239	3,698	8,611	16,548
	20.8	15.6	14.5	16.0
Good	12,267	13,986	34,456	60,709
	60.3	59.1	57.9	58.7
Fair	3,266	4,849	13,122	21,237
	16.1	20.5	22.1	20.5
Poor	523	1,004	2,997	4,524
	2.6	4.3	5.0	4.4
Do not know	42	84	255	381
	0.2	0.4	0.4	0.4
Prefer not to answer	4	6	23	33
	0.02	0.03	0.04	0.03
Missing	4	23	55	82
	0.02	0.1	0.09	0.08
Total	**20,345**	**23,650**	**59,519**	**103,514**

Episode(s) in hospital

- UK Biobank data-field 41083

	Attended n, %	Declined, cancelled, no show n, %	No response n, %	Total n, %
Yes	11,113	13,623	34,620	59,356
	54.6	57.6	58.2	57.3
No	9,232	10,027	24,899	44,158
	45.4	42.4	41.8	42.7
Total	**20,345**	**23,650**	**59,519**	**103,514**