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## BACKGROUND

- A single self-reported health rating is simple, easy to administer, and may offer insights into the subjective perceptions of one's overall health status.
- Poor self-rated health has been associated with greater mortality,<sup>1</sup> but this association has not yet been explored in a large UK-based cohort and the predictors of self-rated health are unclear.

## AIMS

- To determine if self-rated health is associated with mortality.
- To explore sociodemographic and health-related predictors of poor self-rated health.

## METHODS

### UK Biobank:

- Volunteer-based observational study of > 500 000 adults aged 40-69 living in the United Kingdom (5.5% response rate).
- Between 2006-2010, participants attended 22 assessments centres, where they completed a standardized questionnaire and clinical assessment pertaining to sociodemographic, lifestyle, and health- and medical- related factors.

#### Self-rated health

- Collected via standardized touch-screen questionnaire.
- N = 496 588 participants of UK Biobank included.
- Question:** In general, how would you rate your overall health?
- Answers:** (1) "Excellent", (2) "Good", (3) "Fair", (4) "Poor", (5) "Do not know", (6) "Prefer not to answer".

#### All-cause mortality

- Assessed within 5-years from baseline through linkage with national death registries.
- Association with self-rated health assessed using Cox proportional hazards regression, adjusted for covariates.

#### Predictors of self-rated health

- Identified using data collected at the baseline assessment (e.g., questionnaire, clinical measures, blood biomarkers).
- Associations with self-rated health assessed using multinomial regression.

## RESULTS

Table 1. Baseline demographics by self-rated health status.

Characteristic	Excellent (n = 81 515)	Good (n = 287 492)	Fair (n = 104 798)	Poor (n = 22 683)	SMD
Age, years	55.8 (8.1)	56.6 (8.1)	56.7 (8.1)	56.3 (7.8)	.06
Sex, female	46 160 (56.6)	160 778 (55.9)	52 655 (50.2)	10 724 (47.3)	.11
Ethnicity					.15
White	78 511 (97)	2729 11 (95)	96 579 (93)	20 407 (91)	
South Asian	817 (1.0)	4739 (1.7)	3113 (3.0)	975 (4.3)	
Black	840 (1.0)	4108 (1.4)	2344 (2.2)	571 (2.5)	
Mixed or other	1129 (1.4)	4815 (1.7)	2355 (2.3)	593 (2.6)	
Deprivation score	-1.8 (2.8)	-1.5 (2.9)	-0.7 (3.3)	0.5 (3.6)	.40
Body mass index, kg/m <sup>2</sup>	25.5 (3.6)	27.1 (4.4)	29.2 (5.4)	30.6 (6.8)	.57
Depression	3944 (4.8)	22 783 (7.9)	14 480 (13.8)	5585 (24.7)	.33
Diabetes	923 (1.1)	11060 (3.8)	11751 (11.2)	4642 (20.5)	.39
Hypertension	29 867 (36.7)	129 113 (44.9)	54 147 (51.7)	12 143 (53.7)	.29
Physical activity					.49
Low	8056 (11.5)	39 284 (16.9)	20 693 (26.0)	7475 (45.3)	
Medium	25 814 (36.7)	97 874 (42.1)	33 356 (41.9)	5637 (34.1)	
High	36 447 (51.8)	95 507 (41.0)	25 605 (32.1)	3396 (20.6)	

Continuous data presented as mean (standard deviation), categorical data presented as n (%).

Abbreviations: SMD, standardized mean difference.

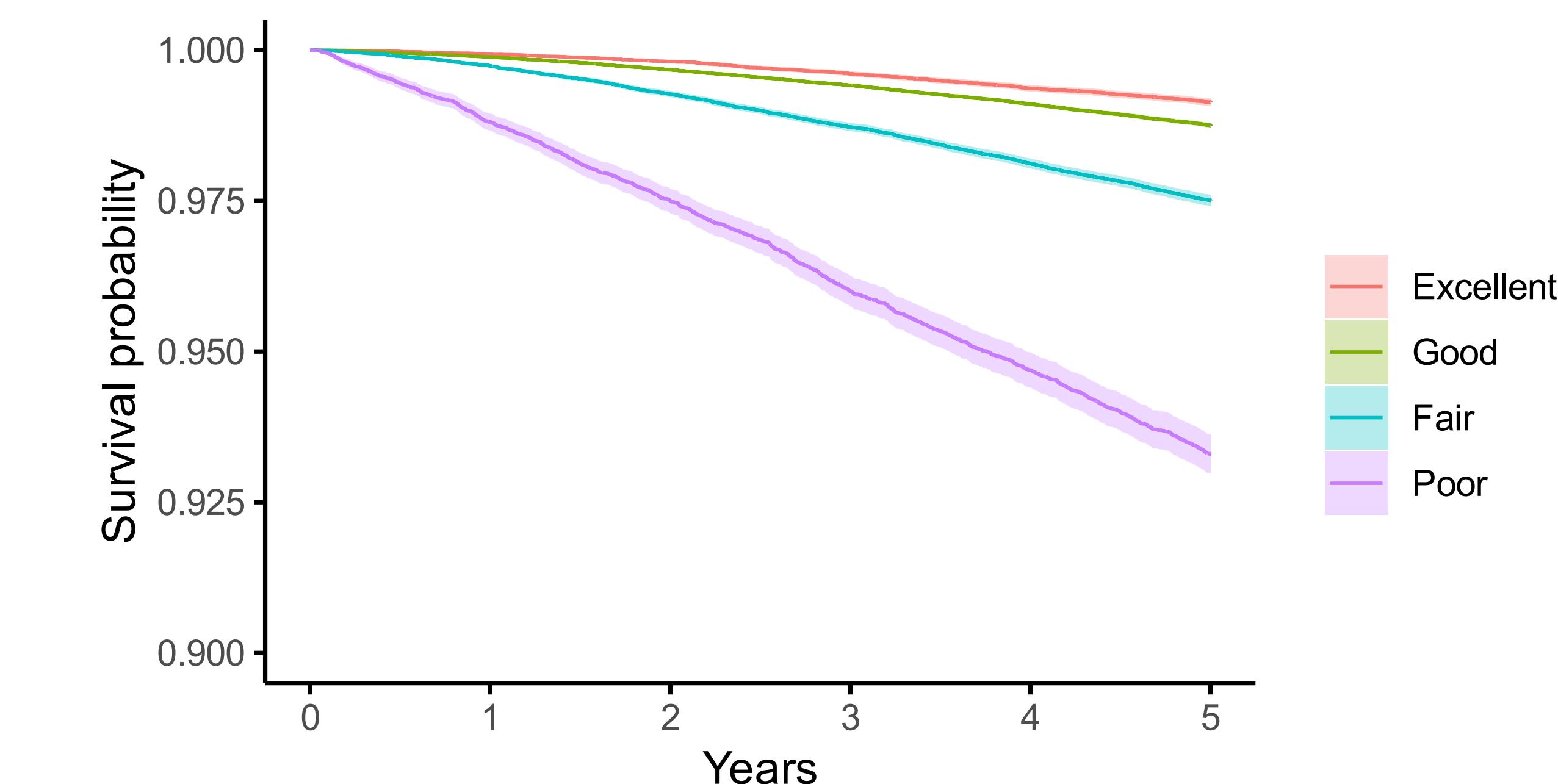


Figure 1. Kaplan-Meier survival curve for all-cause mortality by self-rated health status.

Table 2. Adjusted and unadjusted hazard ratios (HRs) for risk of 5-year all-cause mortality by self-rated health status.

Health status	Unadjusted HR	Adjusted HR
Excellent	Ref.	Ref.
Good	1.45 [1.13, 1.58]	1.32 [1.21, 1.44]
Fair	2.92 [2.69, 3.17]	2.40 [2.18, 2.64]
Poor	8.04 [7.35, 8.79]	6.25 [5.61, 6.97]

Adjusted for age, sex, deprivation score, ethnicity, body mass index, diabetes, hypertension, depression, and physical activity.

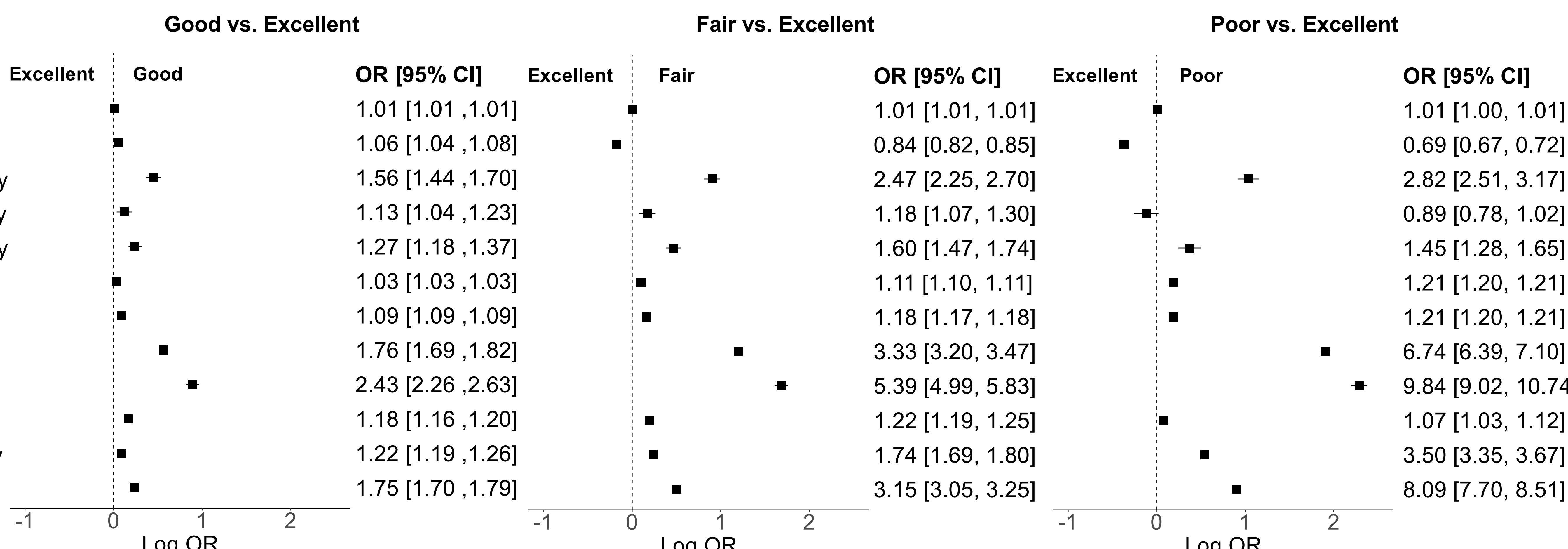


Figure 2. Forest plots showing odds ratios (ORs) for predictors of self-rated health.

## CONCLUSIONS

- Poorer self-rated health was associated with 5-year all-cause mortality, supporting the value of this simple single-question measure in clinical and observational research.
- Several sociodemographic and health factors predicted poorer self-rated health, highlighting the need to target public health strategies towards people at-risk, particularly ethnic minorities and those with mood and/or cardiometabolic conditions.

## REFERENCES

- DeSalvo KB. et al. *J Gen Intern Med* 21, 267–275 (2006). doi:10.1111/j.1525-1497.2005.00291.x

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