

Nottingham City NHS Health Check Equity Audit

Alex Hawley *Public Health Registrar*, John Wilcox *Insight Specialist, Public Health*



Nottingham
City Council

What is the problem?

Nottingham has a higher than average mortality rate from CVD, but has a lower than average uptake of health checks. Efforts to increase uptake locally should reduce this health inequality, but might not address such inequalities locally, or might even make them worse.

Methodology

Data were extracted from the GP practice health check monitoring data held by 'The Computer Room' (TCR Nottingham Ltd.) on 23rd June 2015. Records were linked via the LSOA of the patient to the ONS' Indices of multiple deprivation data.

The records included in the extract were for all patients who were or had been eligible for a health check within the last five years (89636 records).

Analysis of the data consisted of calculation of odds ratios for odds of being invited and for odds of receiving a health check with associated p-values, and logistic regression analysis for invites and assessments to produce odds ratios for each ethnic group adjusted for other factors.

Results

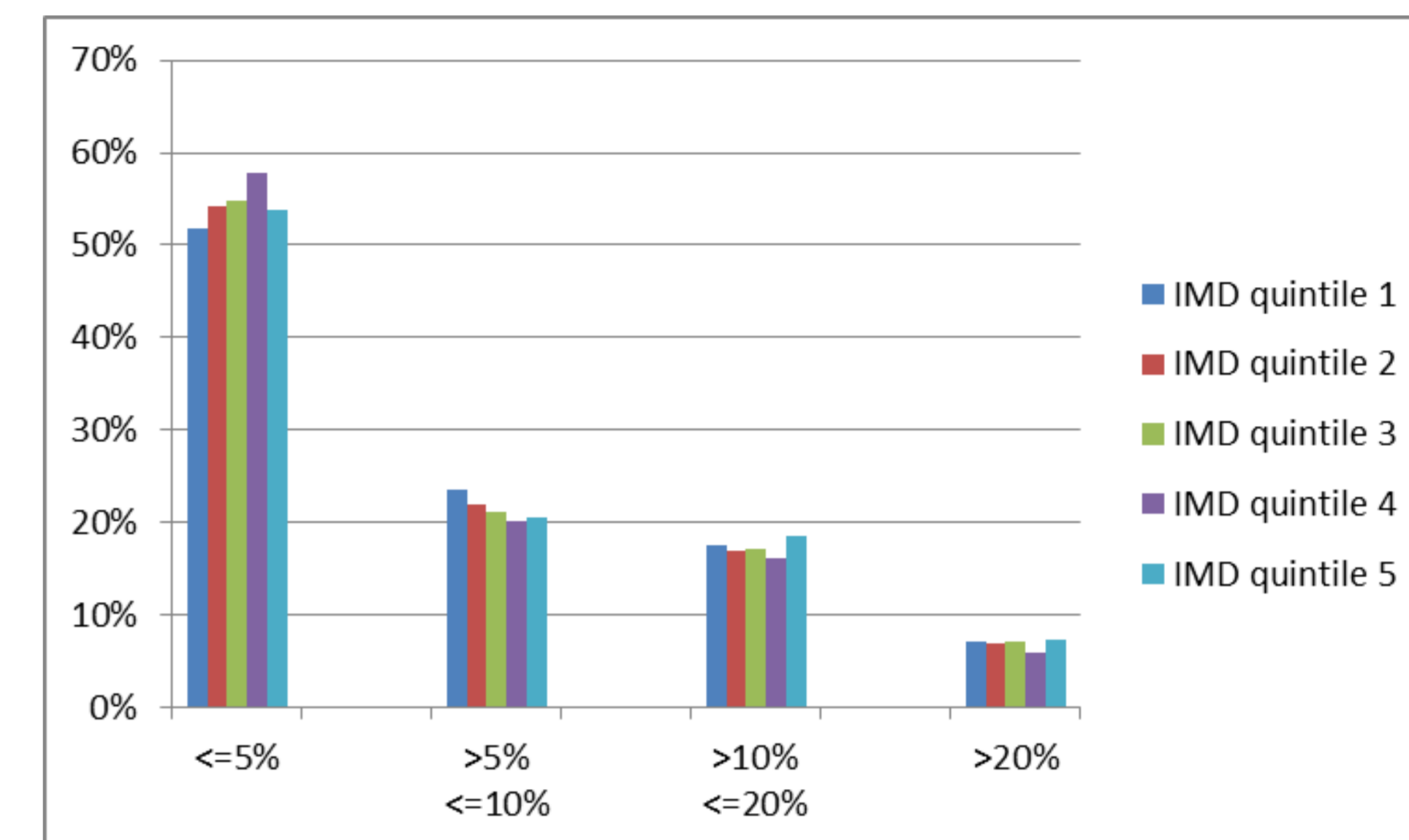
Men were 13% more likely to be invited for a health check than women, broadly reflecting the CVD risk profile of men compared to women. However, men were 10% less likely to take up a health check.

Smokers were also more likely to be invited (by 8%), but far less likely to be assessed.

There was some evidence of invitations being preferentially issued to less deprived patients, and a substantially increased likelihood of uptake from the least deprived quintile.

There was evidence that non-White British were both less likely to be invited and to receive a health check.

Ethnicity	Invited		Assessed	
	Odds Ratio	p-value	Odds Ratio	p-value
White Irish	0.79	0.014	0.71	0.000
Any Other White	0.61	0.000	0.50	0.000
Mixed White/Black Caribbean	1.17	0.041	1.56	0.000
Mixed White/Black African	0.89	0.333	1.37	0.014
Mixed White/Asian	0.99	0.949	1.23	0.207
Any Other Mixed	0.77	0.017	0.85	0.176
Indian	1.14	0.013	1.19	0.001
Pakistani	0.59	0.000	0.62	0.000
Bangladeshi	0.98	0.922	1.02	0.922
Any Other Asian	0.72	0.000	0.83	0.010
Caribbean	1.24	0.000	1.65	0.000
African	0.94	0.163	1.06	0.252
Any Other Black	0.85	0.033	0.96	0.647
Chinese	0.81	0.020	0.95	0.562
Any Other Ethnicity	1.12	0.003	1.13	0.002
not known	0.42	0.000	0.10	0.000
All odds ratios adjusted for smoker, sex, age, calculated risk and IMD quintile				



The distribution of calculated risk is similar across IMD quintiles. Despite this, invitations are overrepresented amongst less deprived patients, and uptake is greater amongst the least deprived. Despite the use of risk stratification, there is evidence of socio-economic bias in invitations, and a greater propensity for those in the more affluent areas to respond.

Conclusion

A risk stratified approach is operating in Nottingham, and resulting in higher uptake by higher risk residents. Nevertheless, inequity is apparent in service use by smokers and men – and for socioeconomic and ethnicity characteristics. Some is explained by uptake resistance, but there may also be a perverse incentive to invite those who may be more likely to attend.