

Socio-economic position and the use of preventive health care in older British women: a cross-sectional study using data from the British Women's Heart and Health Study cohort

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Background. Socio-economic inequalities in health may be due to differential uptake of preventive and therapeutic medical services.

Objectives. To examine socio-economic position and self-reported use of six preventive services in a cohort of older British women.

Methods. Women randomly selected from general practice age/sex registers in 23 towns were examined from 1998 to 2001. Of all, 3652 women aged 62–83 years completed a questionnaire in 2003 assessing preventive service use.

Results. Women from manual social classes were less likely to have recent flu vaccinations [odds ratio (OR) 0.85, 95% confidence interval (CI) 0.74, 0.98] and dental (OR 0.42, 95% CI 0.36, 0.49), eye (OR 0.77, 95% CI 0.67, 0.88) or chiropody examinations (OR 0.88, 95% CI 0.77, 1.01). Manual social class was not related to having recent blood pressure or cholesterol checks.

Conclusions. Among older British women, preventive services for cardiovascular disease are not socially patterned. However, those from lower socio-economic groups are less likely to have recent flu vaccinations and dental, eye and chiropody examinations.

Keywords. Preventive health services, socio-economic position, women.

Introduction

The association between socio-economic position (SEP) and health outcomes has been well documented and interventions to reduce these inequalities (by improving the health of the less affluent groups) are important to UK health policy.^{1,2} Socio-economic inequalities in health may be due to differential uptake of preventive and therapeutic medical services; the so-called 'inverse care law'.³ We examined the relationship between SEP and use of six preventive services in a cohort of British women aged 62–83 years.

Methods

The British Women's Heart and Health Study⁴ includes 4286 women, aged 60–79 years (60% of those

invited), randomly selected from age/sex registers in general practices in 23 British towns who returned a baseline questionnaire between 1999 and 2001. This cohort has a social class distribution comparable to the 1991 and 2001 census.⁵ The questionnaire elicited the longest held occupation of the woman and her husband. These were classified according to the UK Registrar General's Classification [six categories; I (professional) through V (unskilled manual), with the middle category split into skilled non-manual (III nm) and skilled manual (III m)] and head of household social class was defined on the basis of whether the woman or her spouse's occupational social class was the higher. Cardiovascular disease (CVD) and diabetes at baseline were defined as those with either self-report of a doctor diagnosis or medical record evidence of the condition.

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A follow-up questionnaire was sent in 2003 to 4108 surviving women, now aged 62–83 years, and 3677 (90%) responded. Participants were asked if they had ever had the following: a blood pressure (BP) check, blood cholesterol check, flu vaccination, dental examination, eye examination or foot care from a chiropodist/podiatrist and the year of the most recent check for each. We defined a recent check as anyone reporting a visit in either 2002 or 2003, those who reported a check but gave no date were coded as not having had a recent check.

We used multiple logistic regression to assess the effect of social class on preventive service use, with adjustment for potential confounding factors. In the main analysis social class was examined as a dichotomy (manual versus non-manual). In additional analyses the use of preventive services across all six social class categories was assessed. In all analysis robust standard errors were used, allowing for potential non-

independence between women from the same town, to calculate confidence intervals (CIs) and *P*-values.

Results

Of the 3677 women who completed the follow-up questionnaire, 3652 (99.3%) gave responses to the questions on preventive health behaviours. Women from manual compared to non-manual social classes were less likely to have had a recent flu vaccination, dental examination, eye examination or chiropody examination (Table 1). Manual social class was not related to having a recent BP or cholesterol check. These associations remained after adjustment for potential confounding factors. When associations were examined across all categories of occupational social class, they were broadly consistent with the findings where social class was dichotomized into manual

TABLE 1 ORs of preventive health behaviour in women (*n* = 3652) aged 62–83 years by social class (manual versus non-manual)

		Ever had				Recent test—had in last 21 months				
		<i>n</i>	% ever had	OR ^a (95% CI)	<i>P</i>	% had recent	OR ^a (95% CI)	<i>P</i>	Adjusted OR ^b (95% CI)	<i>P</i>
BP check	Non-manual	1626	97.54	1		72.63	1		1	
	Manual	1972	96.50	0.70 (0.47, 1.03)	0.07	70.79	0.91 (0.79, 1.06)	0.2	0.87 (0.72, 1.04)	0.1
Blood cholesterol check	Non-manual	1497	65.53	1		38.41	1		1	
	Manual	1740	66.03	1.02 (0.88, 1.18)	0.8	39.14	1.03 (0.89, 1.19)	0.7	0.96 (0.84, 1.11)	0.2
Flu vaccination	Non-manual	1593	79.91	1		68.17	1		1	
	Manual	1909	80.51	1.03 (0.88, 1.23)	0.7	64.48	0.85 (0.74, 0.98)	0.02	0.85 (0.75, 0.97)	0.02
Dental examination	Non-manual	1567	89.60	1		73.52	1		1	
	Manual	1755	76.70	0.38 (0.31, 0.46)	<0.001	53.96	0.42 (0.36, 0.49)	<0.001	0.44 (0.39, 0.50)	<0.001
Eye examination	Non-manual	1623	97.29	1		64.08	1		1	
	Manual	1936	95.04	0.53 (0.37, 0.77)	0.001	57.80	0.77 (0.67, 0.88)	<0.001	0.79 (0.70, 0.88)	<0.001
Foot care from a chiropodist/podiatrist	Non-manual	1582	53.03	1		40.27	1		1	
	Manual	1849	50.35	0.90 (0.79, 1.03)	0.1	37.32	0.88 (0.77, 1.01)	0.08	0.79 (0.72, 0.88)	<0.001

^aAge adjusted.

^bAdjusted for age (a continuous variable), smoking (never, past and current), physical activity (<2, 2–3 and >3 hours per week of vigorous/moderate activity), locomotor disability (a binary variable^b) and present health (poor, fair, good and very good)—with categorical variables analysed using dummy variables.

TABLE 2 Adjusted associations of social class (across all six categories) with recent preventive health behaviours

Social class	Adjusted ^a OR (95% CI) for recent preventive behaviours					
	BP	Blood cholesterol	Flu vaccination	Dental examination	Eye examination	Foot care
I	1	1	1	1	1	1
II	0.90 (0.66, 1.23)	1.02 (0.77, 1.37)	1.08 (0.80, 1.44)	0.80 (0.57, 1.12)	0.75 (0.56, 1.00)	0.99 (0.75, 1.32)
III-non-manual	0.79 (0.58, 1.09)	1.07 (0.79, 1.45)	0.94 (0.70, 1.28)	0.52 (0.37, 0.73)	0.66 (0.49, 0.89)	0.96 (0.71, 1.29)
III-manual	0.83 (0.61, 1.13)	1.06 (0.79, 1.41)	0.96 (0.72, 1.29)	0.33 (0.24, 0.46)	0.62 (0.46, 0.82)	0.78 (0.59, 1.04)
IV	0.79 (0.56, 1.10)	0.94 (0.68, 1.29)	0.76 (0.55, 1.04)	0.30 (0.21, 0.42)	0.59 (0.43, 0.83)	0.79 (0.57, 1.13)
V	0.82 (0.56, 1.19)	1.00 (0.70, 1.41)	0.87 (0.48, 1.47)	0.33 (0.23, 0.48)	0.59 (0.42, 0.83)	0.80 (0.57, 1.81)
<i>P</i> -trend across categories	0.07	0.30	0.04	<0.001	<0.001	0.08

^aAdjusted for age, smoking, physical activity, locomotor disability and self-reported health.

versus non-manual social classes (Table 2). Notably, there were strong linear associations across all social class categories for decreasing odds of recent dental and eye examinations with poorer social class. When these associations were re-examined, only in those aged 65 years and older (the age group at which GP payments are increased and flu vaccinations are recommended) they were essentially unaltered.

Of the 3652 women included in the analysis, 565 had a diagnosis of CVD at baseline, and of these, 463 (82.1%) had a recent BP check and 321 (56.8%) a cholesterol check. In this subgroup, the age-adjusted odds ratio (OR) of manual versus non-manual social class was 0.92 (95% CI 0.60, 1.42) for BP check and 0.92 (95% CI 0.65, 1.30) for blood cholesterol check; these findings were essentially unchanged with full adjustment.

Among the 170 women with diabetes at baseline, 146 (85.9%) reported a BP check, 118 (69.0%) a cholesterol check, 133 (78.2%) a flu vaccination, 134 (78.4%) an eye examination and 109 (64.9%) a chiropody examination recently. There were no associations of social class with BP, cholesterol or chiropody examination in this group (point estimates of ORs being 0.98–1.01). There appeared to be a reduced odds of eye examination among diabetic women from manual social classes, 0.81 (95% CI 0.38, 1.75), and by contrast increased odds of having a flu vaccination, 1.32 (95% CI 0.62, 2.81).

Discussion

Older women from manual social classes were less likely to have had a recent flu vaccination or to have recently received preventive services provided by agencies outside general practice (dental, eye and chiropody examinations), but social class was not associated with recent BP or cholesterol checks. Among women with diabetes, those from manual social classes appeared to be more likely to receive flu vaccinations, but this association was imprecise.

To our knowledge no previous study has examined the association of SEP with a range of preventive services supplied both in primary care and by other providers in the same study population. Findings for eye examinations similar to ours have been reported for British women and men aged 65 years and older,⁷ and for preventive dental care in different age groups.^{8–10} The lack of socio-economic differentials in CVD-preventive services are consistent with findings from younger populations¹¹ and may reflect that CVD prevention in all adults has been the National Health Service policy for some decades.

We used self-report of uptake of prevention services. While BP and cholesterol assessment and flu vaccination would be recorded in medical records, it would be difficult to ascertain the uptake of other

preventive services that we were interested in through any available record system. Our results would be subject to recall bias if error in self-reports differed by socio-economic group; it seems unlikely that this bias exists for some preventive services (e.g. dental services where we found an effect) but not others (e.g. cholesterol tests with no effect). Our study is in women only and less than 1% of the cohort is from minority ethnic groups.

Information on the availability and cost of preventive services is confusing and inconsistent¹² and this may contribute to the socio-economic differentials. Policies regarding entitlement to free services vary by geographical location (e.g. dental services are free to over 60s in Wales but only free to those receiving benefits in England) and over time (the groups entitled to free flu vaccination changed in 2000 and eye examinations in 1999). For eye examinations and flu vaccinations, the provision of free or incentivized services does not eliminate differential uptake, and while cost may not be the primary factor determining uptake, it may explain some of the inequalities that we found in use of dental and foot examinations.

There is no evidence to suggest that those from lower socio-economic groups require less preventive care. On the contrary, the greater risk of CVD, diabetes and of dental problems in those from lower socio-economic groups would indicate a need for greater preventive care. Thus, our results highlight the need to promote all preventive services to those from lower socio-economic groups.

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Conflicts of interest: None.

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