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Cross sectional study of social variation in use of an out of hours patient transport service

Catherine A O'Donnell, Alex McConnachie, Katrina Moffat, Neil Drummond, Philip Wilson, Sue Ross

Department of General Practice, University of Glasgow, Woodside Health Centre, Glasgow G20 7LR
Catherine A O'Donnell, *lecturer*
Alex McConnachie, *statistician*
Katrina Moffat, *clinical research fellow*
Philip Wilson, *senior clinical research fellow*
Sue Ross, *lecturer*
Public Health Research Unit, University of Glasgow, Glasgow G12 8RZ
Neil Drummond, *senior research fellow*
Correspondence to: Dr C O'Donnell, Department of General Practice, University of Glasgow, Glasgow G12 0RR
kate.odonnell@udcf.gla.ac.uk

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Out of hours primary care has undergone radical reorganisation in recent years, with increasing numbers of general practitioner cooperatives operating from primary care emergency centres.[1] A major issue continues to be equity of access, particularly in areas of socioeconomic deprivation where demand is high but access to transport is poor.[2 3] In Glasgow, 52% of the population reside in areas of deprivation (Carstairs and Morris deprivation categories 6 or 7).[4]

The Glasgow Emergency Medical Service was established in February 1996: it covers around 950 000 patients and 95% of the city's 219 general practices, and operates from six centres across the city. The service offers free transport for patients between their homes and the centres.

Subjects, methods, and results

We collected data on all patient contacts with the emergency service over one week in October 1996 (n = 3193). The socioeconomic category of the patients was derived from their postcode sector of residence (depcats 1 and 2, affluent; 3-5, intermediate; 6 and 7, deprived).[4] Time of first contact with the service was categorised as evening until midnight, night, and weekend daytime. To standardise the distribution of contacts over time, we calculated rates of contact per million person hours then analysed these by Poisson regression. We analysed service response by logistic regression. Independent variables for both models were age, socioeconomic category, and time of first contact.

Sociodemographic data were available for 2882 contacts (90.3%), giving a crude contact rate of 28.1 per million person hours (equivalent to 157.8 contacts per 1000 patients per annum). We found an interaction between socioeconomic category and age group ($P = 0.002$), with 60% higher contact rates for children and adults from deprived areas (aged < 5: affluent, 79.4 per million person hours; deprived, 130.9; schoolchildren: affluent, 19.4; deprived, 31.3; adults: affluent, 15.1; deprived, 24.1). In elderly people the contact rate was 38% higher for the affluent group (affluent, 51.7; deprived, 37.5).

Of the 3193 contacts, 1713 (53.7%) attended centres, 726 (22.7%) received home visits, 449 (14.1%) were given telephone advice, 63 (2.0%) were sent an ambulance, and 144 (4.5%) did not attend as arranged (unknown for 98 (3.1%)). Socioeconomic category influenced the probability of receiving a home visit ($P = 0.037$), with adults and elderly people in deprived areas more likely to receive one. Socioeconomic category did not affect the likelihood of receiving telephone advice ($P = 0.42$) or attending a centre ($P = 0.29$) (table).

Full data were available for 1607 (93.8%) patients attending centres, of whom 304 (18.9%) used the patient transport service. Patients from deprived areas were four times more likely to use patient transport (affluent, 6.3%; deprived, 25.2%: $P < 0.0001$): this trend was most apparent at night, when there was a sevenfold difference between affluent (6.3%) and deprived areas (44.6%: $P < 0.0001$).

Response for different age groups by patient socioeconomic category (full data available for 2641/3193 (82.7%) contacts). Values are percentages (numbers) of patients

	Patients aged <5 years (n=620)			Patients aged 5-14 years (n=312)			Patients aged 15-74 years (n=1465)			Patients aged ≥75 years (n=244)		
Socioeconomic category	Home visit	Centre attendance	Telephone advice	Home visit	Centre attendance	Telephone advice	Home visit	Centre attendance	Telephone advice	Home visit	Centre attendance	Telephone advice
Affluent	0	79.2 (57)	20.8 (15)	7.9 (3)	73.7 (28)	18.4 (7)	23.7 (46)	59.3 (115)	17.0 (33)	75.9 (44)	8.6 (5)	15.5 (9)
No of patients in category		72			38			194			58	
Intermediate	3.7 (7)	81.8 (153)	14.4 (27)	3.4 (3)	83.1 (74)	13.5 (12)	26.2 (101)	59.2 (228)	14.6 (56)	80.3 (61)	9.2 (7)	10.5 (8)
No of patients in category		187			89			385			76	
Deprived	3.9 (14)	80.9 (292)	15.2 (55)	4.3 (8)	78.9 (146)	16.8 (31)	29.0 (257)	56.3 (499)	14.7 (130)	88.2 (97)	2.7 (3)	9.1 (10)
No of patients in category		361			185			886			110	

Comments

Socioeconomic category influenced the use of the Glasgow Emergency Medical Service, with increased contact rates by children and adults from deprived areas. For elderly people, the highest contact rate was among the most affluent. While the effect of affluence on raising expectations and service use has been reported, this association has not previously been linked to age.[5]

After contacting the emergency service, adults and elderly people from deprived areas were most likely to receive a home visit. The reasons for this are unclear and require further investigation. The lack of association between socioeconomic category and centre visit rates may be attributable to the provision of patient transport for anyone asked to attend a centre: those from deprived areas were far more likely to use the service. The cost of this service for 1998-9 will be around £240 000, yet may still be cheaper than taxi fares or home visits. While this requires economic evaluation, the evidence suggests that a free and accessible patient transport service may contribute to equity of access to out of hours primary care across the socioeconomic spectrum.

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Trend analysis of socioeconomic differentials in deaths from injury in childhood in Scotland, 1981-95

Anita Morrison, David H Stone, Adam Redpath, Harry Campbell, John Norrie

Paediatric Epidemiology and Community Health (PEACH) Unit, Department of Child Health, University of Glasgow, Glasgow G3 8SJ
Anita Morrison, *research officer*
David H Stone, *director*

Information and Statistics Division, Scottish Health Service, Trinity Park House, Edinburgh EH5 3SQ
Adam Redpath, *principal statistician*

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Injuries are a leading cause of death and disability among children in the United Kingdom, costing an estimated £200 million annually in direct costs to the NHS.[1] Recent research from England and Wales suggests that death rates from injury and poisoning have fallen in both sexes and all social classes.[2] The decline in those of lower social class has been much smaller, however, resulting in widening socioeconomic differentials in mortality from injury. To determine whether this phenomenon has also occurred in Scotland we examined time trends in mortality from injury in Scottish children for 1981-95.

Subjects, methods, and results

National data on external cause of death (injury and poisoning; E800-999 of the ninth edition of the International Classification of Diseases) for children aged 0-14 years were obtained from the registrar general for Scotland for the period 1981-95. Socioeconomic status was measured with Carstairs' deprivation index on the basis of characteristics of Scottish postcode sectors.[3] This involves a continuous scale of 1-7, where 1 is most affluent and 7 is most deprived. The per cent reduction in fatalities from 1981 to 1995 was estimated with Poisson regression models for deprivation categories 1-2, 3-5, and 6-7 and for all deprivation categories combined. In all models a log linear time trend was found to be adequate. Confidence intervals were adjusted for overdispersion.[4] A further Poisson regression model compared the least and most deprived groups.

In 1981-95, 1728 Scottish children (65% boys) aged 0-14 years died as a result of an injury or poisoning. Overall, there was a decline of 58% (95% confidence interval 45% to 68%) from 1981 to 1995 with observed death rates per 100 000 averaging 13.2 for 1981-93 compared with an average of 7.4 from 1993-5. The proportion of deaths due to injury decreased only slightly, from 14% of deaths in children in 1981-3 to 12% in 1993-5.

Throughout the study period children residing in areas of relatively greater deprivation (6-7) experienced higher mortality from injury than children living in more affluent areas (1-2 and 3-5) (figure). Similar proportional decreases were observed in all deprivation categories over the study period. Between 1981 and 1995 mortality from injury decreased by 60% for categories 1-2 and 3-5 (27% to 78% and 47% to 70%, respectively) and by 53% (27% to 70%) for categories 6-7. The observed average mortality per 100 000 for 1981-3 compared with 1993-5 was 9.9 versus 5.6, 13.3 versus 7.0, and 17.0 versus 10.7 for categories 1-2, 3-5, and 6-7, respectively. The risk ratio between the most and least deprived groups was 2.29 (1.82 to 2.88).