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Measuring outcomes: one month survival after acute myocardial infarction in Scotland

SIR,—We recently reported a cohort study describing 30 day survival after acute myocardial infarction in 40 371 hospital admissions in Scotland during 1988-1991.¹ This used the Scottish Record Linkage System, a national database linking inpatient data to death certificate information for the population of 5.1 million. We have now replicated this study by analysing an updated dataset of the 38 655 patients admitted during 1991 to 1994. Thirty day survival after admission for acute myocardial infarction increased from 77.5% in 1988-91 to 78.9% in 1991-94. When 15 919 acute myocardial infarction deaths in the commu-

nity were included, overall survival increased from 53.2% to 55.9%.

A logistic regression analysis examined available prognostic factors such as age, sex, prior and comorbidity, and deprivation.¹ The odds of dying within 30 days remained remarkably consistent over both periods (table).

Deprivation had a modest effect on mortality, as reported elsewhere.² Mortality was estimated at 13% higher in females ($P < 0.0001$), even after adjusting for age, prior and comorbidity, and deprivation. This accords with a recent North Glasgow MONICA (Monitoring Trends and Determinants in Cardiovascular Disease) study where females had significantly higher mortality after admission.³ This scale of effect is also consistent with other studies, particularly larger ones which have adjusted for age, severity, and other factors.^{1,4}

One month survival after acute myocardial infarction could potentially be a useful means of measuring outcome of hospital care. Important geographical differences in survival persist and could reflect variations

in infarct severity, referral, admission, diagnosis, definition, and coding that merit further research.

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Logistic regression analysis: odds of dying within 30 days of admission for acute myocardial infarction (AMI)

Coding	Oct 88-Sept 91	Oct 91-Sept 94	
	Odds ratio	Odds ratio	95% Confidence interval
Age:			
Under 55	1.00	1.00	
55-64	2.27	2.39	2.08 to 2.75
65-74	4.41	4.85	4.26 to 5.53
75-84	8.19	8.78	7.69 to 10.01
85 plus	11.99	13.89	12.00 to 16.09
Prior and co-morbidity:			
No other condition	1.00	1.00	
Previous AMI	1.74	1.64	1.47 to 1.84
Other CHD	2.03	2.06	1.89 to 2.25
Other heart disease	1.83	1.79	1.65 to 1.95
Other circulatory disease	1.53	1.59	1.43 to 1.76
Respiratory disease	1.65	1.55	1.35 to 1.77
Neoplasm	1.60	1.52	1.30 to 1.79
Diabetes	1.49	1.21	0.98 to 1.50
Any other disease	1.24	1.25	1.14 to 1.37
Sex:			
Male	1.00	1.00	
Female	1.07	1.13	1.07 to 1.19
Deprivation:			
Least deprived	1.00	1.00	
	1.07	1.15	1.06 to 1.26
	1.05	1.14	1.05 to 1.24
	1.10	1.12	1.03 to 1.22
Most deprived	1.06	1.12	1.03 to 1.22

Odds ratios are adjusted for the remainder of the potential confounders given above.

Logistic regression was performed on 38 482 AMI hospital admissions. CHD, coronary heart disease.

NOTICES

The **Second European Forum on Quality Improvement in Health Care** will be held on 24-26 April 1997 in Paris. The forum will consist of one day teaching courses, invited presentations, posters and presentations selected from submissions and a scientific session.

For more information contact: BMA, Conference Unit, PO Box 295, London, WC1H 9TE (tel: +44 (0) 171 383 6478; fax: +44 (0) 171 383 6869).

A conference (CME approved) on **Clinical Cardiology** will take place on Tuesday 18 March 1997 at the Royal College of Physicians, 11 St Andrews Place, Regent's Park, London NW1. For further information please contact Conference Office, Royal College of Physicians (tel: 0171 935 1174; fax: 0171 487 5218).