In any mass preventive effort only a small minority can hope to benefit from a particular measure; but the rest, in large numbers, are exposed to many hazards. In the recent trial of clofibrate in primary prevention the benefits from a reduced incidence of myocardial infarction were outweighed by a quite unforeseen excess of deaths from other causes in subjects receiving clofibrate. For any mass preventive measure it is essential to have a reasonable assurance that the risk of adverse effects is extremely small, and this practically rules out mass medication. The main hope rests with mass behavioural change.

PREVALENCE AND IMPORTANCE IN THE ROYAL NAVY

SURG CDR A M HAZELL, MB, MRCP, RN

Between 1860-64 there were 189 deaths from heart disease amongst Naval personnel, whereas, between 1970-74 there were only 57, 50 of these being from ischaemic heart disease.

Ischaemic heart disease accounts for approximately 0.25 per cent of all hospital admissions in the Royal Navy (RN), but the length of inpatient stay for these patients is twice the average. The number of cases is roughly twice that of other types of heart disease, but only half that of hypertension.

Ratings are affected approximately three times more commonly than officers when the figures are standardized for age, and they have about the same death rate as an equivalent civilian population. Officers have only 41 per cent of the death rate of ratings and civilians.

Ischaemic heart disease accounts for approximately 0.25 per cent of morbidity, 1 per cent of invalidings and 10 per cent of deaths in the Royal Navy. However, its importance is considered to be disproportionately great.

The incidence rises with age and affects the more senior and highly trained personnel who are often in the terminal stages of their service career. Few are able to resume completely normal service duties, and their future outside the Royal Navy is unknown.

PREVALENCE AND IMPORTANCE IN THE ARMY

LT COL P J BLACKBURN, MA, MB, MFCM, RAMC

In 1977 in England as a whole ischaemic heart disease (IHD) caused some 145,000 deaths accounting for 27 per cent of all deaths. This percentage has not changed since 1968, and it is relevant to question how this modern epidemic affects the Army, which attempts to select the most healthy for its recruits and thereafter expects a high standard of physical fitness from its members. An earlier investigation had suggested that male Army officers had a better than expected mortality from IHD during a ten year period ending in 1971, by comparison with male mortality in England and Wales. For this reason it was decided to compare observed and expected male mortality rates for the Army as a whole over a five year period, and the findings are shown in Table I.

Table 1
Ischaemic Heart Disease
Mortality — observed and expected

	Age Groups									Total
	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	20-59	
ALL BRITISH ARMY MALES										
Observed Mortality Rates per 1000 per annum, England and Wales 1974-1976	0.007	0.022	0.101	0.324	0.910	1.82	3.653	5.698		
Army Population (thousands) as at 31 December 1974	44.7	36.0	19.7	15.1	7.2	3.8	1.8	0.2		
Expected Deaths per annum	0.3	0.8	2.0	4.9	6.6	6.9	6.7	1.2	29.4	
Actual Deaths, annual average 1973-1977	0.8	2.0	5.2	7.6	5.0	5.0	4.2	1.0	30.8	
ARMY OFFICERS										
Strength (thousands) as at 31 December 1974	1.8	2.6	2.3	2.7	3.0	2.7	1.5	0.2		
Expected Deaths per annum	0.01	0.1	0.2	0.9	2.8	5.0	5.4	0.9	15.2	
Actual Deaths, annual average 1973-1977	0	0	0	0.4	1.2	2.8	3.8	1.0	9.2	
ARMY SERVICEMEN										
Strength (thousands) as at 31 December 1974	42.9	33.3	17.5	12.5	4.2	1.1	0.3	0.04		
Expected Deaths per annum	0.3	0.7	1.8	4.0	3.8	2.0	1.2	0.2	14.1	
Actual Deaths, annual average 1973-1977	0.8	2.0	5.2	7.2	3.8	2.2	0.4	0	21.6	

The average number of deaths recorded per year (30.8) do not differ much from those expected (29.4), but they do occur at a younger age, in the 20-24, 25-29, and especially in the 30-34 and 35-39 age groups. This excess in the younger age groups is balanced by the lower rates in the older age groups.

A comparison between officers and servicemen demonstrates striking differences (Table I): for officers nowhere in the age groups do actual deaths exceed expected deaths. The younger age groups are almost immune up to age 39. The average expected deaths per annum are 15.2, whereas actual deaths per annum are 9.2. Therefore overall only 60.5 per cent of expected deaths occur over this five year period. For the servicemen, however, at the foot of Table I, there is a striking and substantial excess of deaths in the younger age groups up to age 39. Thereafter the observed rate equals the expected rate for the age group 40-44, and over 50 the actual deaths decline.

Expected deaths per annum are 14.1, and actual 21.6. This gives an excess of 153 per cent, a very large overall excess mortality.

Some questions inevitably arise:

a. How accurate is the diagnosis? — all deaths were coded 410 to 414 in the International Classification of Disease: more than half were confirmed by post mortem and in the remainder clinical diagnosis was thought to be accurate.

b. Is the Army, or rather are soldiers, in general less healthy (measured by mortality) than the population at large? No; when accidental deaths and deaths from IHD are excluded officers experience only 37 per cent and soldiers 59 per cent of the expected mortality for England and Wales.

Conclusion

These findings raise more questions than they answer. Factors requiring further investigation in the comparison between soldiers and officers are: marital status; family history of IHD; social class of parents; place of birth; (it is known that certain areas of the United Kingdom have higher death rates from IHD; some 46.9 per cent of the population in the recruiting age group live in these areas, whereas 55.2 per cent of Army recruits come from them. This may well have some effect on the soldier death rate); smoking habits (the soldier smokes significantly more than his civilian counterpart); and diet (the soldier's diet tends to be high in saturated fats and in refined sugar, not to mention chips with everything).

CORONARY ATHEROSCLEROSIS IN AIRCREW

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The literature on coronary atherosclerosis (CAD) in aircrew is reviewed with particular reference to Stevens's¹ and Mason's² findings in United Kingdom aircrew. A total of 249 coronary arteries were obtained from British males killed in 172 aircraft accidents between 1968 through to the end of 1977. In addition 111 coronary arteries were examined as controls, obtained from British