What should we tell people?

T. W. MEADE

'Doctor's orders' are increasingly a thing of the past. People are better informed now than they used to be and expect to take a much more active part in decisions affecting their health. To do this they need advice — which they may, however, find very confusing.

A good example of this confusion is the question of whether it is possible to prevent ischaemic heart (coronary) disease (IHD) and if so, how. Few would deny the importance of the question. But after almost a quarter of a century of debate the man in the street can be forgiven for being quite unclear about the answer. He is the victim of unresolved controversies between the experts, and of the way the lay media often present these controversies.

Infectious diseases have one necessary cause — the organism concerned. By avoiding infection with the organism through environmental measures or by effective immunisation, the individual avoids the disease. The conditions with which we are mainly concerned nowadays, however, mostly have several causes only some of which are known. These diseases can and do occur in people free of the known or suspected causes — for example, a thin, non-smoking man with a low blood cholesterol level may still develop IHD even though his chances of doing so are less than his fat, smoking counterpart with a high cholesterol level. It is consequently difficult to be very dogmatic about what measures should be recommended.

Figure 7.1 shows the individual links in the chain of events thought by many to be responsible for IHD. There are several inter-regional comparisons which strongly suggest that high dietary fat intake leads to high blood cholesterol levels (e.g. Keys, 1980). These findings, though, are based on comparisons between groups of men in countries or areas with contrasting IHD incidence rates. It is not generally appreciated that within groups with a high incidence of IHD, there is little or no correlation between the dietary fat intake and blood cholesterol.
levels of the individuals concerned (Morris et al., 1963). There may be explanations for this finding which do not preclude the dietary fat hypothesis for IHD, but the lack of positive evidence has to be acknowledged. It is also the case that with one possible and rather marginal exception (Morris et al., 1977) no prospective study has shown a relationship in individuals between habitual dietary fat intake and the risk of IHD. Again, there may be technical explanations but the fact remains that this rather crucial association has not been established. Attempts to prevent IHD by restricting the intake of certain fats have been suggestive of a beneficial effect (see Joint Working Party, 1976) but are by no means conclusive. There is little doubt that where IHD is endemic, individuals with high blood cholesterol levels are at increased risk of IHD (e.g. Gordon and Kannel, 1972). But that does not mean either that all those with high cholesterol levels will succumb or that those with low levels will be immune. In summary, there probably is a causal association between dietary fat and IHD, but it may not be as strong as is often suggested.

Discussions in professional and lay media often (and rightly) emphasise the cumulative effects of several adverse risk factors. What these discussions usually fail to make clear, however, is that only a small proportion of middle-aged men have high blood pressures and high blood cholesterol levels and smoke cigarettes and are overweight, etc. (Epstein, 1969). Most of the total incidence of IHD occurs in those with only mildly or moderately raised levels of one or two risk factors. Preventive efforts directed towards the large number of men at only slightly increased risk consequently involve a good deal of apparently wasted effort. Whyte (1975) considered the possible implications of lowering blood cholesterol levels (by dietary and other means) from 310 mg/100 ml in 100 men aged 35 who are non-smokers with normal blood pressures and normal electrocardiograms. Of these men, six may avoid IHD in the next 20 years as a result of the cholesterol-lowering regime, assuming total adherence by all 100 men (an unlikely event). But eight will develop IHD in spite of complying with the regime. And the other 86 will remain free of IHD whether or not they comply. In other words, a large number of people will be put to unnecessary trouble for the benefit of a few who will avoid the disease, and some will develop the disease in spite of everything. It is true that the six cases avoided are nearly half the total of 14 new cases but it is clear that the precision of the whole undertaking...