Correspondence

Ethical dilemmas in public health

SIR
Public health officials, like physicians, should observe wherever possible the Hippocratic maxim – 'Do no harm'. Because most public health measures are preventive, they would appear less likely to harm than the physician's diagnostic and curative interventions. But the history of three twentieth-century, public-health campaigns shows that preventive measures are not without their adverse effects.

1. Sanitation: Rapid strides in the provision of modern water and sanitation services to the American public during the first half of this century occasioned a marked decline in typhoid, cholera, hookworm and other water-borne and excreta-related diseases. But during this same period the incidence of clinical poliomyelitis increased, reaching epidemic proportions during the 1950s prior to the advent of a safe and effective vaccine. Epidemiologists now attribute the epidemic of the 1950s to the improved sanitary conditions enjoyed by the American population (1).

Poliomyelitis is spread by the faecal-water-oral route. In earlier times it was contracted very early in life when it rarely has serious paralytic complications. Improved sanitation and cleanliness postponed the age at which children were first exposed to the virus. Since paralysis is much more frequent when school-age children or adults contract the infection, the disease became more common even as the infection was becoming less common.

2. Rubella vaccination: Rubella vaccination has not eradicated the disease. Instead it has raised the average age at which the disease it acquired. Rubella vaccine is an unusual immunisation in that it is prescribed not for the benefit of the recipient (rubella being a very mild illness in children and adults) but to protect the fetuses borne by the recipient population. The serious congenital rubella syndrome occurs in the offspring of women who acquire the infection in the first trimester of pregnancy. Knox has shown how some vaccination programmes may actually increase the incidence of congenital rubella syndrome by raising the age at which females contract rubella (2).

3. Malaria control: Until recently most malarialogists have believed that malaria control efforts even when successful or temporary (as in pilot projects) have bestowed an unqualified benefit of increased health upon those who live in endemic malaria regions. The costs of malaria control were believed to entail only the money, labour and material expended. Such perceptions, however, have been too optimistic because they neglected to consider the effect that malaria control would have on the acquired immunity of adults living in endemic regions.

In endemic regions adults suffer far less morbidity and mortality from malaria than children owing to the effect of immunity acquired over a lifetime of exposure to the parasite. It has been well established that this acquired immunity can only be maintained by repeated antigenic stimulation provided by the biting parasite-inoculating Anopheles mosquito vector. Temporary malaria control in endemic regions diminishes transmission and consequently acquired immunity. This would not be a problem if malaria control could be continued forever, but the experience of the last 30 years has demonstrated all too clearly that control programmes are likely to fail from time to time for political, economic, technical or biological reasons. When malaria transmission resumes the formerly immune adults may now be subject to malaria disease as well as infection. Empirical data from the Garki Project (3) and the theoretical models of Aron and May (4) support this jaundiced assessment of temporary malaria control in endemic regions: ie that it constitutes the deprivation of acquired immunity without consent.

Medical ethics as a discipline has concentrated on the ethical dilemmas of the physician-patient relationship. The ethical dilemmas faced by public health officials, while less apparent, may be more important insofar as the potential for public good or harm is far greater. The ethical dimensions of the preceding examples could bear serious investigation by medical ethicists.

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References


Physicians’ strikes – second thoughts

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What brings me to comment this time is not the unquestionable importance of the issue of doctors' strikes but rather the uneasy feeling I have that a tremendous gap separates the ideas expressed last year as well as presently