

In this month's *Bulletin*

Teenage victims of homicide

Homicide accounts for nearly a third of deaths in young Brazilians between 15 and 19 years of age and is the leading cause of death in this age group. And the problem is escalating: between 1977 and 1994 the nationwide death rate due to homicide rose by 160%. Several predisposing factors have been postulated, among them use of narcotics, alcohol and tobacco, having an unmarried mother, exposure to violence on television, high-risk sexual behaviour, dropping out of school, and membership in a youth gang. In an attempt to identify risk factors that might be amenable to preventive action, Falbo et al. (pp. 2–7) conducted a case-control study in Recife, one of Brazil's most violent cities. With a teenage homicide rate of 324 per 100 000 males — about 30% higher than that of Afro-American males in New York City — it may even be one of the most violent cities in the world. The study compared data on a range of personal and social variables in 255 homicide victims under 20 years of age with the same variables in 255 age- and sex-matched living neighbours of the victims. Data were obtained by questionnaire and personal interview. Of the victims, 95% were male and 97% had died of shot wounds, mostly to the head. The typical teenager at greatest risk of dying by homicide, the Recife study showed, has a police record and uses narcotic drugs. Teenagers who had completed their higher education, who had had a religious upbringing and whose father lived at home were at lowest risk. Social workers take note, the authors urge. They add that possession of firearms must also be a significant risk factor but was not picked up by the study because of gross underreporting by victims' families fearful of legal repercussions.

The merits of fixed-dose combination therapy for tuberculosis

Multidrug therapy is the mainstay of the treatment of tuberculosis. Attacking the causative organism, *Mycobacterium tuberculosis*, with a battery of two to four drugs given under supervision, especially in the initial intensive stage of treatment, is now universally recognized as the only way of halting the spread of mycobacterial resistance to drugs. One problem, however, is that patients have to take 9 to 16 tablets a day, depending on body weight, for at least two months, followed by 3 to 9 tablets for the

next 4 to 6 months. Many of them fail to stay the course, thereby favouring the development — and consequent spread — of mutant drug-resistant mycobacteria. A solution proposed in the early 1990s by WHO and the International Union Against Tuberculosis and Lung Disease was to replace the individual tablets of the different drugs with a single tablet combining two, three or four drugs in a fixed-dose formulation. This solution would reduce the daily number of tablets to as few as three or four for the whole course of treatment. Not all TB programmes, however, have made the switch to the fixed-dose formulations, which has prompted Blomberg et al. (pp. 61–68) to enumerate their advantages over the traditional multiple tablet schedule. These advantages have been documented in countries that have made the switch. They include a substantial increase in patient compliance with the duration of the full treatment regimen. A further advantage is a significant reduction in the availability and indiscriminate, inappropriate or erratic use of single antituberculosis drugs acquired through unofficial, often black-market, sources. What is more, one traditional drawback of the fixed-dose approach — its higher cost — has recently disappeared: with increasing use of the combination tablets, prices have fallen to as low as, and in some cases even lower than, the multitablet regimens. The only remaining drawback is the need for careful manufacturing of the combination to ensure its high quality. All in all, the fixed-dose solution to tuberculosis treatment is, in the authors' view, likely to be applied to the drug treatment of other infectious diseases, such as malaria and HIV/AIDS.

Mother doesn't always know best

In Africa, 10% of deaths in children under 5 are due to malaria. Most of these deaths occur within 48 hours of the onset of the hallmark symptom, fever. For this reason, WHO recommends that all children with fever be given antimalarial drugs at home. This recommendation is particularly pertinent in rural areas, where ready access to health services is often lacking. The critical element in this strategy is how accurately and promptly mothers can diagnose fever and possible malaria in their children in such areas. To find out, Diallo et al. (pp. 28–32) conducted a study in a rural area of Guinea. The study involved 784 children under 5 who were all visited in their homes by the research

team and submitted to physical examination and smear testing for malaria. The findings of the study were far from reassuring. The mothers participating in the study correctly identified malaria in, and gave proper antimalarial drugs to, only about a third of the children diagnosed by the team as having true malaria. The fact that more than half of the children with true fever also had a positive blood smear for malaria parasites confirms the validity of the WHO recommendation for prompt presumptive antimalarial treatment of all febrile children. Improving home detection and care of malaria should, the authors conclude, be a priority of antimalaria programmes.

Hospital nurses for outbreak alert

An efficient system for early warning and containment of infectious disease outbreaks is clearly a must for any country wishing to protect its population and fulfil its role in combating the increasingly global spread of bugs that know no frontiers. Some countries, beset by more pressing problems, have been laggard in this regard. South Africa, for example, acknowledges the shortcomings of its own system — underreporting, over-complexity of the notification process and a generally sluggish responsiveness. The problem is particularly acute in poorer parts of the country. Durrheim et al. (pp. 22–27) describe how the problem was tackled in rural Mpumalanga Province of South Africa, where the low yield of surveillance for acute flaccid paralysis — used as a measure of how well surveillance for poliomyelitis is working — and tardy responses to typhoid fever and meningitis outbreaks in 1996 and 1997 alerted health authorities to the need for remedial action. The result was a new notification system, of which the cornerstone was the use of hospital nurses as "sentinel surveillance agents". The 32 nurses employed in the province's 32 hospitals were trained to provide weekly reports — even "zero reports" — to the province's surveillance officer of nine clinical syndromes with the potential to explode into full-scale outbreaks. Regular seminars involving all partners in the system and a user-friendly outbreak manual provided its logistic underpinning. In the past two years the new system proved its mettle in the timely handling of occurrences of cholera and meningococcal disease. Surveillance of acute flaccid paralysis also improved and by December 1999 had attained its target level of efficiency. ■