

promiscuous use of antibiotics can rapidly lead to emergence of drug resistant bacteria, particularly of enteric organisms. Plasmid mediated antibiotic resistance is, moreover, frequently not just against the antibiotic administered, but against multiple antibiotics. In addition, perhaps more compelling reasons to avoid massive use of anti-infective drugs are the constraints of logistical and human resources, as already discussed in connection with mass immunization after disaster.

The prophylactic administration of antibiotics or sulfonamides to prevent diarrhea and the routine treatment of uncomplicated upper respiratory complaints with antibiotics should be discouraged for these reasons. It is sometimes advocated to administer anthelmintics, on the premise that children in the tropics are malnourished and have multiple intestinal parasites. Unfortunately, the cheapest anthelmintic drugs, such as piperazine, are of limited spectrum against *Ascaris lumbricoides* (round worm). Broader spectrum anthelmintics such as thiabendazole and mebendazole, cause toxic reactions unacceptably high for general use in asymptomatic patients, and they are too expensive for many relief efforts.

Providing chemosuppressive drugs against malaria to populations affected by disaster requires a more complex decision dependent upon local conditions and circumstances. Usually, the key factor is whether or not an affected population has moved from an area free of malaria to one with high levels. The presence of chloroquine resistant strains of malaria is also a factor to consider. In an organized or well educated community, it is feasible that local leaders or heads of families administer chloroquine once a week. The regimens which prevent chloroquine resistant falciparum malaria are either more complicated, such as weekly administration of chloroquine-primaquine and daily administration of dapson, or consist of drugs which may not be readily available, Fansidar/pyrimethamine-sulfadoxine combination tablets. It is thus fortunate that stages II and III of chloroquine resistance are not the severe problem in the Americas that they are in southeast Asia.

Malaria chemosuppression is not usually practiced in areas where levels of malaria are high. This is because most members of the population have considerable immunity, which would be reduced by drug administration, and because community-wide chemosuppression cannot be maintained after the departure of relief agencies. Mass curative therapy is also discouraged among populations from holoendemic areas who have been displaced. It is argued that eliminating subclinical

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infection reduces acquired immunity and makes patients more susceptible to disease upon returning to their homes.

The mass administration of single parenteral doses of penicillin in communities where yaws (*Treponema pertenue*) is found needs brief mention. This may be the only universally accepted indication for community-wide anti-infective chemotherapy (57). Logistical constraints, demands for health services, and limited numbers of disease control personnel, however, create difficulties in undertaking even this response to yaws during an emergency.

### **Quarantine and Isolation**

In the *Handbook on Control of Communicable Diseases in Man* (2) there is a summary of currently recommended quarantine and isolation procedures for use with patients and their contacts. The Centers for Disease Control's guide, *Isolation Techniques for Use in Hospitals* (58), is directed toward limiting the spread of disease in acute care facilities. Unfortunately, the infection control programs which can, under normal circumstances, approach the standards in this guide are few in Latin America and the Caribbean. After disaster, conditions in the established hospital often include the lack of water and electricity essential for handwashing, disinfection and microbiological identification.

Infection rates in teaching hospitals in Latin America and the Caribbean approach fifty percent under normal circumstances. In studies of pediatric wards, prevalence of gastroenteritis has exceeded one hundred percent. Thus, if a child entered without diarrhea, he had it at least once before he was discharged. The nonexistence of effective and appropriate hospital infection control programs in developing countries must be taken into account by relief authorities charged with caring for casualties of disaster in existing institutions. A regional program is currently being developed at the Pan American Health Organization (59).

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