

Problems due to flooding persist in Mozambique and Madagascar

International aid agencies are steeling themselves to cope with outbreaks of malaria and cholera in Mozambique, as the country struggles to deal with the impact of the floods which occurred in February and March. The World Health Organization (WHO) has warned that the threat of a malaria epidemic will remain high until the beginning of May, as the floodwaters subside, rains stop and warm temperatures return, providing ideal breeding conditions for mosquitos. Madagascar is also suffering under the strain of flood damage where the government and the World Food Programme are appealing for more helicopters and aircraft to allow the distribution of food and supplies to those isolated by floods. Aid agencies in Madagascar are also intensifying their efforts to halt the spread of cholera.

Dr Carlos Tiny, WHO Representative for Mozambique, said: “[Malaria and cholera] are preventable. We are doing all we can to slow the spread of disease but there are areas where people still do not have access to clean water or shelter and so they are obviously more at risk.” Several special treatment centres for cholera have been opened. In a recent small survey, 14 out of 100 people with diarrhoea were diagnosed as having cholera.

United Nations agencies launched a revised appeal for funds from international donors in Maputo late last month to help Mozambique deal with the emergency. By mid-March, according to the Save the Children Fund, international donors had already pledged more than US\$ 100 million. UNICEF, the United Nations Children’s Fund, says it needs US\$ 11.7 million from this appeal to continue its work in securing health and nutrition, education, water and sanitation and child protection in Mozambique. UNICEF’s projects include providing medicines and basic equipment for 50 health posts and health centres which have been destroyed by the floods, preventing and treating malnutrition among children and pregnant or lactating women, and supplying insecticide-treated mosquito nets. On water and sanitation, the agency is working on restoring damaged water and sanitation facilities in 29 towns and rural settlements, chlorinating water supplies, and continuing to supply emergency water supplies in camps and cities. The Save the Children Fund has called for an immediate

halt to Mozambique’s debt service payments in the wake of the flood emergency.

The floods began in early February in Mozambique when 455 mm of rain fell in three days, almost as much as normally falls during the entire rainy season. By 1 March, Carol Bellamy, Executive Director of UNICEF, was calling for the international community to step up its relief effort to avert a “massive humanitarian disaster”. At the end of March, an estimated 300 000 to 400 000 people had been displaced by the floods, with an estimated 1 million in need of aid. ■

Sharon Kingman, *London*

Largest-ever study shows reduction in cardiovascular mortality

Improvements in coronary care appear to have had a greater impact on reducing deaths from heart disease than changes in classic risk factors, according to the largest ever epidemiological study into the subject. The WHO–MONICA project collected data from over 100 000 individuals, from 38 populations in 21 countries, mostly in Europe. The first results from the study, released in May 1999, showed that deaths from cardiovascular disease had fallen by more than 20% in men and women between the mid-1980s and the mid-1990s.

Two new reports relate these findings to changes that occurred during that time — firstly in coronary risk factors, and secondly in new treatments for coronary heart disease. Somewhat surprisingly, the effect of reducing risk factors on deaths from heart disease was smaller than expected and the effect of improvements in coronary care was much larger than expected.

The first paper (*Lancet*, 2000, **355**: 675–687), an analysis of changes in risk factors, found that smoking rates decreased in most male populations but trends were mixed in women. Mean blood pressures and mean total cholesterol concentrations decreased over the ten year study period but the mean body mass increased.

Kari Kuulasmaa from the National Public Health Institute in Helsinki, Finland and colleagues found that the change in the risk factors studied was associated only weakly with the observed change in coronary event rates between populations. “Estimates are low, with perhaps 15% in women and 40% in men of the variability of trends

in coronary event rates being “explained” by trends in the major risk factors,” they conclude. They say that there may be other important risk factors contributing to heart disease in the community, and further research is needed to identify them.

The second paper studied the effects of new treatments for coronary heart disease on cardiovascular morbidity and mortality (*Lancet*, 2000, **355**: 688–700). The treatments studied were aspirin, beta-blockers, angiotensin-converting enzyme (ACE) inhibitors, coronary artery reperfusion and the use of thrombolytic agents.

Professor Hugh Tunstall-Pedoe, from the University of Dundee, and colleagues conclude that the decline in heart disease deaths was strongly associated with the use of evidence-based coronary care. Those populations that introduced proven evidence-based treatments quickly had the greatest improvements in heart disease rates, whereas those that failed to do so experienced deterioration. Overall 72% of the decrease in mortality from coronary heart disease in men and 56% in women could be explained by the use of modern, evidence-based treatment.

“The effects of treatment were so strong that they seemed almost too good to be true,” said Professor Tunstall-Pedoe. “The results have upset some people in public health medicine who believed that medical intervention was ineffective in chronic disease and that the only important message was to stop smoking and reduce your other risk factors. But basically an apple a day is not an alternative to seeing a doctor, you need both.”

Professor Tunstall-Pedoe said that one explanation is that during the period of the WHO–MONICA project only small changes in risk factors were observed whereas there was a revolution in coronary care and evidence-based medicine. Professor Tunstall-Pedoe acknowledges that as the study was not a randomised controlled trial but an ecological analysis across whole non-randomised populations other factors may have contributed to the observed reduction in heart disease. Limitations in the studies are apparent. For example Professor Kuulasmaa’s paper did not include risk factors such as alcohol consumption, high density lipoprotein cholesterol levels and diet.

The WHO–MONICA project has now been disbanded but some centres are continuing to analyse the results and to carry out further data collection. ■

Jacqui Wise, *London*

Spread of hepatitis C linked to unsafe injection practices in Egypt

A new study published in *The Lancet* has highlighted the role of parenteral antischistosomal therapy in the spread of hepatitis C virus (HCV) in Egypt (*Lancet*, 2000, **355**: 887–891). Egypt has an unusually high prevalence of hepatitis C resulting in high morbidity and mortality from liver disease. Approximately 20% of blood donors have been shown to be seropositive for antibodies to HCV in Egypt. This ecological study published in *The Lancet* claims that unsafe injection practices used in a mass campaign to eradicate schistosomiasis played a major role in spreading hepatitis C throughout Egypt.

Although oral therapeutic agents have been available since the 1980s, earlier treatments for schistosomiasis in Egypt involved repeated injections of potassium antimony tartrate. The recommended treatment was 12–16 intravenous injections and sterilisation procedures for reusable injection equipment were often insufficient or commonly omitted due to equipment and time constraints. The study suggests that these practices led to an outbreak of HCV infection, high prevalence among exposed cohorts, and the current high rates of HCV transmission. The authors go as far as to say that Egypt's mass campaigns to eliminate schistosomiasis may represent the world's largest iatrogenic transmission of bloodborne pathogens to date.

Dr Yvan Hutin of the World Health Organization and Safe Injection Global Network told the *Bulletin* "This study provides a timely illustration of the potential serious effects of unsafe injections". What the study fails to explain, however, is why HCV prevalence among children and adolescents in Egypt is high. Hutin remarks: "HCV is inefficiently transmitted through perinatal or intrafamilial exposure. The high prevalence of HCV infection observed among unexposed, younger cohorts cannot be explained on the sole basis of a large reservoir of infection in older groups. Ongoing transmission among children and adolescents in Egypt suggests that unsafe percutaneous or permucosal procedures have persisted in recent years." To ensure safe and appropriate use of injections, strategies must be developed to change behaviour among patients and healthcare workers to reduce injection overuse and achieve safe injection practices. Sterile syringes and needles should be made sufficiently available and adequately disposed of after use to prevent similar situations arising in the future. ■

Barry Whyte, *Bulletin*

More journals commit to National Institutes of Health publishing database

The US National Institutes of Health (NIH) launched its electronic publishing site for research papers in mid-February (see <http://pubmedcentral.nih.gov/>). The repository aims to include papers covering all the life sciences and initial material offered includes papers from *Molecular Biology of the Cell* and the *Proceedings of the National Academy of Sciences*.

Harold Varmus, President and Chief Executive Officer of the Sloan-Kettering Cancer Center, is on the PubMed Central Advisory Committee which met for the first time on 27 March in Washington. Varmus told the *Bulletin*: "There were more problems than expected in getting [PubMed Central] started, but much more material should be up in the near future". Once the production process is optimized, this material should include papers from *Arthritis Research*, *Breast Cancer Research*, the *British Medical Journal*, the *Canadian Medical Association Journal*, *Nucleic Acids Research*, *The Plant Cell*, *Plant Physiology* and others. David Lipman, Director of the National Center for Biotechnology Information, commented: "The initial deadlines were not realistic — we had to surmount technical problems in several areas. We had hoped we could provide a fairly general format with only small stylistic differences between journals. However, the initial participants want their content formatted in their own unique ways. It took us some time to get on top of this. Given the complexity of both the [data] input and output, the systems that we are putting together had to be more complex than initially thought. Now that the underlying system is pretty much in place, we can begin to move the content online more efficiently."

At present, PubMed Central is housing only peer-reviewed material supplied by journals. Decisions about the inclusion of preprints and screened material that has not been peer reviewed have been deferred until a later date once there is more experience with the system. Technical problems aside, one of the major challenges is convincing commercial publishers to make their material available through the central repository. Varmus comments: "I think it will require some fundamental changes before this happens, and those changes will be driven by authors who want to provide their work to everyone without access barriers, not by commercial publishers whose aim is to make money from publishing science". He adds: "I hope more scientific societies will begin to use PubMed Central as a service to their members, once

it is established that the fiscal integrity of these groups will not be placed in peril". ■

Barry Whyte, *Bulletin*

The Jordan Report 2000: progress in vaccine development

The Jordan Report was first published in 1981. In the words of Dr Carole Heilman, currently director of the Division of Microbiology and Infectious Diseases (DMID), it was intended to be a yearly update on the progress of vaccine development through the eyes of the staff of the National Institute of Allergy and Infectious Diseases (NIAID), and was originally submitted each year to Dr William Jordan, former director of DMID.

Prepared by 24 scientists from NIAID, with additional contributions from outside researchers, the Jordan Report 2000^a offers a comprehensive overview of vaccine development against nearly 60 diseases caused by bacteria, viruses, fungi, and parasites. It lists target agents from *Ancylostoma duodenale* to *Yersinia pestis*, emphasizing progress in vaccines against major killers like malaria, acquired immunodeficiency syndrome (AIDS) and tuberculosis.

In her preface, Dr Heilman reviews how new tissue-culturing techniques ushered in modern vaccines in the 1950s, and recombinant DNA technology allowed researchers to engineer vaccines in the 1990s. Now, gene sequencing is expected to result in a new generation of tailor-made vaccines in the next decade. "There is no more important goal of medical research than to prevent diseases from occurring in the first place," says Dr Anthony Fauci, director of NIAID. "Our commitment to developing new and better vaccines to prevent the world's most serious infectious diseases has never been stronger, and the Jordan Report is a valuable resource for bringing scientists and policy-makers up-to-date on this important endeavor."

The final extramural article "Global Alliance for Vaccines and Immunization — A Millennial Challenge" by Dr Gus Nossal, salutes the key role of the World Health Organization in the global eradication of smallpox and the Expanded Programme on Immunization (EPI). ■

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^a *The Jordan Report 2000: Accelerated Development of Vaccines*. Washington, DC, Division of Microbiology and Infectious Diseases, National Institutes of Health, 2000.