favouritism. And the definition of what constitutes evidence—death and measures of disability, for instance—has until recently largely excluded important behavioural determinants of disease. Does WHO need an inhouse cluster devoted to evidence generation? Or is this work best obtained from different sources outside WHO?

- *Africa* The African continent is in collapse like no other region of the world. How WHO proposes to deal with HIV/AIDS, humanitarian disasters, the adverse effects of corrupt governments on their people's health, the effects of war and violence, and the chronic erosion of human capital are questions that as yet have no answer. Africa must be *the* priority for WHO's next Director-General.
- *Public health* During the past 4 years, the advantage that WHO has had as a public-health agency has been blunted. In almost all areas, political considerations and priorities have trumped public health. This position needs to be reversed. Public health—including the notion of coordinating actors across many sectors to improve population health and social justice—needs to be strengthened throughout WHO. This means clearly articulating how WHO can contribute to alleviating the basic (eg, poverty), underlying (eg, food), and immediate (eg, disease) determinants of ill-health, and having global and country strategies for each.

Internally, three challenges face WHO. These include:

- *Administration and governance* The creation of two cabinets, one of regional directors and one of executive directors, has created unnecessary tension. Regional governance has been neglected, even ignored. The regional structure of WHO cannot be erased. It must be worked with. A new Director-General should have demanding expectations of his or her regional directors. Their work should be publicly accountable and results-driven. At present, the regional offices are marginal to the core programme of WHO. WHO will not easily survive another term of regional neglect. A way must be found to balance the day-to-day needs of programme governance at headquarters with the sometimes difficult regional structure. Many multinational corporations solved similar governance problems years ago; it can be done.
- *The regular budget* WHO's regular budget has been chronically underfunded. For 2002–03, WHO's total budget is US$2223 million, of which only US$843 million comes from regular country contributions. Almost two-thirds of WHO's funding is thus extrabudgetary, contingent on donor goodwill and national interest. There are two ways of viewing this difficulty. First, as a challenge to a new Director-General to campaign for proper funding. And second, as an opportunity for a new incumbent to radically rethink what WHO's role should be in the future given its limited resources. Perhaps WHO needs to substantially reduce its commitments, be more selective in what it chooses to do, and cede ground to newer agencies that are better placed to discharge these functions.
- *WHO's culture* The Director-General, or a clearly assigned deputy, must be a visible presence within the organisation, listening to as well as leading staff opinion. The cabinet structure and Brundtland's management style have made her a remote figure in Geneva. Her successor needs to revitalise the commitment of WHO's greatest asset—its staff.

For WHO in 2003, the right leader will be someone who is prepared to lead the global health community on behalf, first and foremost, of the world's poorest people; a person with strong public-health instincts, a demonstrable commitment to advocating global health-equity, evidence of transparent and democratic management, and a history of inclusive decision-making, especially concerning civil society; a leader, in other words, with the courage to redistribute WHO's budget to countries, to give staff greater autonomy, and to be prepared to upset and irritate enough governments to ensure that the new Director-General may serve only one term.

*Richard Horton, Ariel Pablos-Mendez

**The Lancet*, London NW1 7BY, UK; and The Rockefeller Foundation, New York, NY, USA
(e-mail: richard.horton@lancet.com)

Join *The Lancet*'s debate

The Lancet is hosting an unofficial forum to debate issues surrounding the election for the next Director-General of WHO. We have so far received and published vision statements from Dr Pascoal Mocumbi and Dr Peter Piot. Letters of support for Dr Ismail Sallam have also been posted. The debate has drawn responses from Canada, Denmark, Egypt, France, Germany, India, Italy, South Africa, Switzerland, UK, USA, and Vietnam. Please visit this free site at www.thelancet.com, and send your comments to whodg@lancet.com

Outpatient care for severely malnourished children

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During the emergency phase of a complex emergency, defined by a crude mortality rate of 1 or more deaths per 10 000 persons a day,[1,2] infectious diseases such as diarrhoea, measles, acute respiratory tract infections, malaria, and malnutrition account for most of the excess deaths.[1,3] There are severe consequences for poor countries with inadequate resources and those lacking contingency plans—high morbidity and mortality and associated repercussions on their socioeconomic development.[4] Protein-energy malnutrition is one of the main causes of morbidity and mortality during complex emergencies, particularly in children under 5,[5,6] due to individual and societal vulnerabilities and administrative failures.

A shift in the management of malnutrition based on the concept of nutrition rehabilitation centres occurred in the mid-1950s. Since then day-care and residential nutritional rehabilitation centres have been established in several developing countries in Africa, Asia, and Latin America as a cheaper and more effective alternative to hospitals.[7–9] Several studies have reported effectiveness for various approaches to the management of malnutrition. A study in Indonesia by Husaini et al[10] reported on what was termed an unconventional method of treating children with severe malnutrition as outpatients, which led to a reduction in the case-fatality rate to 16·6%, significantly lower than the case-fatality rate of 50% reported for hospital-based care. Studies of home-based nutritional rehabilitation in Peru by Fernandez-Concha et al[11] showed a low case-fatality rate of about 2%. A controlled trial of home-based management, day care, and inpatient management of severe malnutrition in Bangladesh by Khanum et al[8] showed home-based care to be the most cost-effective approach for the management of severe malnutrition, being five times cheaper than inpatient care.

There are thus five different levels at which malnutrition is presently being managed; in hospitals, in nutrition rehabilitation units, in health centres, in the community,

and at home with a follow-up scheme. In today's *Lancet*, Steve Collins and Kate Sadler show effectiveness and a strikingly low case-fatality rate of 4% associated with outpatient management of severe malnutrition in emergency settings, consistent with the study of Husaini et al of outpatient rehabilitation of severe malnutrition in Indonesia.[10] The findings of both these studies contrast sharply with analyses indicating high case-fatality rates of between 32%[12] and peaks of 50–60%[13] reported for hospitalised severely malnourished children in non-emergency settings.

The primary aims of the management of malnutrition are to correct nutritional deficiencies, treat concurrent diseases, and avoid relapse. The initial intensive phase of care for severe malnutrition (ie, kwashiorkor, marasmic kwashiorkor, and marasmus) requires institution of appropriate investigative, therapeutic, and nutritional interventions to address common life-threatening complications, such as septicaemia, hypoglycaemia, dehydration, hypothermia, and electrolyte imbalances.[9,14] However, during recuperation when appetite has been regained and infection is controlled, high-energy feeds with reasonable amounts of protein can be given without risk; thus rehabilitation can be continued within the patient's family.[7,8]

The question is how can effective, efficient, and sustainable care be organised for the malnourished in emergency and non-emergency settings? Increasingly, health services in emergency and non-emergency situations are being integrated.[15] Moreover health-care delivery is hierachical or tiered as first-line and referral services.[16] Common practice today involves management of malnutrition in specialised nutritional rehabilitation centres[8,17] or referral-level facilities.[12] However, nutritional rehabilitation takes a long time and emergency situations, although acute in onset, are usually protracted. Therefore the continued existence of nutrition rehabilitation centres is questionable and a more comprehensive approach is needed.[18] As Van Damme et al[19] point out, in crisis situations establishment of therapeutic centres is expensive and their operations are labour-intensive.

For effective and sustainable care for malnutrition in both emergency and non-emergency settings, it is important to use existing first-line health services which are geographically, temporally, and financially more accessible. They provide a vital interface with communities to deliver comprehensive and integrated care.[20] However, for first-line health facilities to function effectively in non-emergency settings, investment to strengthen their capacities and to improve delivery of effective intra-institutional and community-oriented care is required.

Another important consideration is that management of malnutrition should be based on WHO guidelines for the management of severe malnutrition to ensure the provision of quality care guided by a standardised protocol. The challenge is to ensure that the guidelines are widely distributed and used in decentralised first-line health facilities in poor countries,[14] especially in non-emergency settings. Equally important is the question of the sustainability of management of severe malnutrition based on imported foodstuffs in low-income countries. Unlike emergency relief programmes, which are well funded, district and local health services are under-financed. What is required is to develop feeds based on locally available foodstuffs, with the same characteristics as those proposed in the WHO manual.

Christopher Garimoi Orach, Patrick Kolsteren

Makerere University, Institute of Public Health, Kampala, Uganda
(e-mail: cgorach@hotmail.com)

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Unravelling the mysteries of influenza

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Influenza viruses have been described as a riddle wrapped in a mystery inside an enigma.[1] The sequence of the influenza virus genome has been available for close to 30 years and yet the molecular basis of pathogenicity in human beings is still not understood. There is more to virulence than simply viral nucleic acid.

The outcome of any viral infection depends on the balance between viral replication and host immune response. It is generally assumed that mortality and morbidity associated with influenza are increased at the extremes of life, and that a vigorous and robust immune system, as usually exists in healthy adults, is good enough protection against influenza. The naivety of this view is challenged by the outcome of the 1918 Spanish influenza pandemic, which claimed more than 20 million deaths worldwide, with disproportionately high mortality among young adults. Premonitions of a similar possible global catastrophe were hinted at during the 1997 chicken-influenza outbreak in Hong Kong when six of 18 people with H5N1 influenza died, five of nine infected adults dying compared with one of nine children under 12.[2]