1 Hotez PJ, Fenwick A. Schistosomiasis in Africa: an emerging tragedy in our new global health decade. *PLoS Negl Trop Dis* 2009; **3:** 485.

2 King CH, Dangerfield-Cha M. The unacknowledged impact of chronic schistosomiasis. *Chronic Illn* 2008; **4:** 65–79.

3 Anon. History of praziquantel. 2006. http://www.stanford.edu/group/parasites/ParaSites2006/Praziquantel/history.html (accessed Feb 27, 2010).

4 Hotez PJ. Mass drug administration and the integrated control of the world's high prevalence neglected tropical diseases. *Clin Pharmacol Ther* 2009; **85:** 659–64.

5 Koukounari A, Gabrielli AF, Toure S, et al. *Schistosoma haematobium* infection and morbidity before and after large-scale administration of praziquantel in Burkina Faso. *J Infect Dis* 2007; **196:** 659–69.

6 Koukounari A, Fenwick A, Whawell S, et al. Morbidity indicators of *Schistosoma mansoni*: relationship between infection and anaemia in Ugandan schoolchildren before and after praziquantel and albendazole chemotherapy. *Am J Trop Med Hyg* 2006; **75:** 278–86.

7 Steinmann P, Keiser J, Bos R, Tanner M, Utzinger J. Schistosomiasis and water resources development: systematic review, meta-analysis, and estimates of people at risk. *Lancet Infect Dis* 2006; **6:** 411–25.

8 Kjetland EF, Ndhlovu PD, Gomo E, et al. Association between genital schistosomiasis and HIV in rural Zimbabwean women. *AIDS* 2006; **20:** 593–600.

9 Chen MG. Use of praziquantel for clinical treatment and morbidity control of schistosomiasis japonica in China: a review of 30 years' experience. *Acta Trop* 2005; **96:** 168–76.

10 Fenwick A, Rollinson D, Southgate V. Implementation of human schistosomiasis control: challenges and prospects. *Adv Parasitol* 2006; **61:** 567–622.

11 Zhang Y, Koukounari A, Kabatereine N, et al. Parasitological impact of 2-year preventive chemotherapy on schistosomiasis and soil-transmitted helminthiasis in Uganda. *BMC Med* 2007; **5:** 27.

12 Van der Werf MJ, de Vlas S, Brooker S, et al. Quantification of clinical morbidity associated with schistosome infection in sub-Saharan Africa. *Acta Trop* 2003; **86:** 125–39.

Health workers lost to international bodies in poor countries

Guidelines to help keep health workers in remote and rural areas, especially in poor countries, have just been issued by WHO.[1] Other relevant issues relating to human resources in situations of poverty have been previously highlighted.[2] Re-distribution of staff from the public (national) health service (NHS) to other countries, to the private sector (accessible by only a few patients), and away from remote or rural areas are additive and affect people who are the poorest the most.[3]

We draw attention to a further drain on the meagre numbers of doctors and nurses in most disadvantaged countries. Some international organisations, research institutions, and non-governmental organisations (NGOs) engaged in aiming to promote health and relieve suffering might, in one aspect of their approach, be having the opposite effect. We refer to their employment of locally trained health workers (often the most able) in countries where there is a shortage of NHS staff, the only source of health provision for poor people there. By offering better salaries and working conditions, such international organisations prevent government-trained doctors and nurses from contributing to their NHS. In an under-staffed NHS, this situation not only deprives patients but also demoralises the remaining staff as they carry an increased and often dangerous workload.

We can illustrate this for The Gambia where, in partnership with the Ministry of Health, we have been trying to improve the emergency health-care system.[4] The UK's Medical Research Council (MRC) has been working in The Gambia for over 60 years, during which time substantial numbers of Gambian-trained health workers have gone from the NHS to the MRC. In a letter on Dec 1, 2008, the MRC informed the Ministry of Health and Social Welfare (MC and OS) that 28 of the 96 nurses and midwives in the poorest Upper River Region (serving a population of over 250 000) and trained by the government were working for the MRC (Corrah T, Unit Director and Chairman, MRC [UK], Banjul, The Gambia; personal communication). He also informed us on Jan 25, 2010, that 27 of these 28 MRC nurses worked in government facilities alongside government staff providing health care to research and non-research patients alike.

The Director of the Regional Health Team in the Upper River Region and the Officer in Charge of Basse Major Health Centre, the main hospital in that region, confirmed those numbers. Of the 28, three nurses are on the children's ward helping with MRC study participants and offering about half the nursing care for NHS patients. Six nurses assist in paediatric and adult outpatients where they recruit patients for studies. There is a research nurse assisting in outpatients in minor health centres. Nine of these 28 nurses are qualified midwives but none support maternity services; they are all involved with patients under study (Sangria S, Badje B, Reproductive and Child Health Department, Basse, The Gambia; personal communication).

The MRC also said they make every effort not to recruit nursing staff who are working in government facilities or have been so employed during the previous 6 months, pointing out that most of their recent recruits have come

from pharmacies. They also employ auxiliary nurses and fieldworkers to meet their need for nurses. However, our discussions with Gambian-trained staff tell us that MRC posts are so advantageous that, to be eligible, they will circumvent these rules by temporarily working outside the NHS.

In 2002, the Nuffield Council on Bioethics published a report entitled *The ethics of healthcare related research in developing countries: a follow-up paper*.[5,6] Our concern is not specifically referred to but the following quotation is relevant: "sponsors of research should require that the development of local expertise in healthcare is an integral component of research proposals". We asked the Nuffield Council to offer guidance on local recruitment. We were informed on Sept 23, 2009, that "the Council's advisory group on future work...will consider the topic at a future meeting" (Joynson C, Nuffield Council on Bioethics, London, UK; personal communication).

We have illustrated our concerns with a single example, but the problem is not limited to research organisations. NGOs, UN organisations, and faith-based hospitals are also acting in this way.

Let us take a theoretical example. An international organisation treats a specific health problem that is affecting patients in a poor country. It advertises and readily employs a surgeon, nurses, and midwives, all trained locally. Patients with the specific health problem are successfully treated and excellent research with international applicability is published—but there is now no emergency surgery in the local NHS hospital. The labour ward and an antenatal ward full of critically ill patients with complications of pregnancy are served by only one trained midwife per shift.

How can international organisations work to strengthen and sustain instead of depleting the NHS in a country where there are limited numbers of locally trained health workers? We have six recommendations. First, build into each programme a provision for replacing the NHS staff the project needs or import staff from well-resourced countries to do the work. Second, in partnership with government, attempt sustainably to strengthen the NHS. Third, contribute to training in-country staff and to the strengthening of staff morale. Fourth, support a recently established code of practice on health-system strengthening.[7] Fifth, include this issue in the Global Health Workforce Alliance's second global forum on Human Resources for Health in Thailand, 2011.[8] Finally, for remote and rural areas, advocate for the recommendations in the recent WHO report described above.[1]

David Southall/MCAI

*David Southall, Mamady Cham, Omar Sey
Maternal and Childhealth Advocacy International (MCAI), Nottingham NG1 5BB, UK (DS); and Ministry of Health and Social Welfare, Banjul, The Gambia (MC, OS)
davids@doctors.org.uk

DS has received travel and accommodation expenses from MCAI for visits to The Gambia as part of humanitarian aid work. MC and OS declare that they have no conflicts of interest.

1 WHO. Increasing access to health workers in remote and rural areas through improved retention: global policy recommendations. 2010. http://whqlibdoc.who.int/publications/2010/9789241564014_eng.pdf (accessed July 15, 2010).
2 The Lancet. Finding solutions to the human resources for health crisis. *Lancet* 2008; **371:** 623.
3 WHO, Global Health Workforce Alliance. Kampala declaration and agenda for global action. 2008. http://www.who.int/workforcealliance/Kampala%20Declaration%20and%20Agenda%20web%20file.%20FINAL.pdf (accessed March 2, 2010).
4 MCAI (ESS-EMCH) Essential surgical skills—emergency maternal and child healthcare programme. http://www.mcai.org.uk/whatwedo/projects/sec_thegambia.aspx (accessed July 15, 2010).
5 Nuffield Council on Bioethics. The ethics of research related to healthcare in developing countries. April, 2002. http://www.nuffieldbioethics.org/fileLibrary/pdf/clinicaldiscuss1.pdf (accessed March 2, 2010).
6 Nuffield Council on Bioethics. The ethics of healthcare related research in developing countries: a follow-up discussion paper. March, 2005. http://www.nuffieldbioethics.org/fileLibrary/pdf/HRRDC_Follow-up_Discussion_Paper001.pdf (accessed March 2, 2010).
7 Health Alliance International. The NGO code of conduct for health systems strengthening. http://ngocodeofconduct.org (accessed March 2, 2010).
8 Global Health Workforce Alliance. http://www.who.int/workforcealliance/forum/2011/en/index.html (accessed April 12, 2010).