saving of one hour and three units of blood could perhaps cover the cost of warming 50 patients.

Perioperative warming can be cost effective and reduce a patient's discomfort by cutting the incidence of wound infections, length of stay in hospital, and shivering. It may also reduce the rate of allogenic blood transfusions and its associated risks. Given these end points it should now be possible to set up a randomised controlled trial to encompass all the possible benefits of maintaining perioperative normothermia.

Christopher Mark Harper *research fellow*

Centre for Anaesthesia, Middlesex Hospital, London W1T 3AA (drmarkharper@hotmail.com)

Thomas McNicholas *consultant urologist*

(mcnic@globalnet.com)

S Gowrie-Mohan *consultant anaesthetist*

Lister Hospital, Stevenage, Hertfordshire SG1 4AB

Competing interests: None declared.

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Setting global health research priorities

Burden of disease and inherently global health issues should both be considered

When the G8 countries met in Canada in 2002 the topics of security, health, and Africa figured prominently. The three issues are related. Africa's human health is reeling from HIV/AIDS and other infectious diseases, posing national and regional security risks. The continent's economic health is stagnant or eroding, the result of structural adjustment programmes,[1] domestic conflicts, corruption, and deteriorating human health. Recognising the complexities of these entwined relations, the G8 Africa action plan included a commitment to support health research on diseases prevalent in Africa. How well G8 member nations—Canada, the United States, England, France, Germany, Italy, Japan, and Russia—abide by this commitment is a matter of time and lobbying efforts. But what form should this new health research investment take? Should it emphasise specific diseases affecting poor people most, as favoured by the Commission on Macroeconomics and Health of the World Health Organization?[2] Should it heed the call of biotechnology researchers, who have tabled their list of "top 10" research investments for global health, which range from better diagnostic devices and recombinant vaccines against HIV/AIDS to simpler vaccine devices replacing needle injections?[3]

Both lists are consistent with the "burden of disease" approach to research priorities. This approach has become an important vehicle for exposing the imbalance between research investment and disease burden, the "10/90 gap"—less than 10% of worldwide health research is devoted to diseases that account for 90% of the global burden of disease.[4] The burden of disease approach has helped efforts to create and finance new programmes for treatment and prevention of disease (for example, the Global Fund to Fight Aids, Tuberculosis and Malaria) or for vaccine research (for example, the Global Alliance for Vaccines and Immunisation), however inadequate these commitments are at present. But is the burden of disease approach sufficient to sustain improvements in human health? We think not and propose its integration with a different conceptualisation of global health that emphasises the social, environmental, and economic contexts in which health, disease, and healthcare interventions are embedded.

The social and environmental contexts that determine disease are no longer simply domestic but increasingly global. The box lists what we consider the main inherently global health issues, a term describing health determining phenomena that transcend national borders and political jurisdictions. Considerable research exists on each of these issues, although not always with health as a principal outcome. Greater attention in research is required to the linkages between these issues and to their economic and political drivers that are, like the issues, increasingly global in scope. Such drivers include macroeconomic policies associated with international finance institutions, liberalisation of trade and investment, global trade agreements, and technological innovations, all of which are creating greater interdependence between people and places.[5] Assessing how these inherently global health issues affect health is a complex task. Recent work on locating these inherently global health issues in comprehensive health frameworks,[5 6] however, will prove useful in identifying specific research questions that are useful to policy makers and civil society.

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Inherently global health issues

Environmental global degradation
Greenhouse gas emissions (climate change)
Biodiversity loss
Water shortage
Decline in fisheries
Deforestation

Socioeconomic issues
Increasing poverty
Financial instability (capital markets)
Digital divide
Taxation (tax havens, transfer pricing)

Cross cutting issues
Food (in)security
Trade in health damaging products (tobacco, arms, toxic waste)
Governance
War and conflict

Research into these inherently global health issues does not exclude a burden of disease emphasis on vulnerable groups and specific diseases. At issue is the extent to which research about the burden of health should be required to include analysis of inherently global health issues. For example, the HIV/AIDS pandemic, particularly in Africa, affects several vulnerable groups, particularly women. Poverty, war and conflict, and ecological degradation are all important co-factors. Liberalisation, structural adjustment programmes, and the aid policies of wealthy nations, which constrain taxation revenue and equitable access to health services, are also determinants. Trade agreements underpinning the HIV/AIDS pandemic relate to intellectual property rights (patents) and accessibility of drugs, as well as the decline in "special and differential" exemptions that poorer countries can invoke to protect their still developing domestic economies to ensure greater growth and fairer distribution of its benefits. No single research project on HIV/AIDS should be expected to incorporate all of these elements. A singular focus on HIV/AIDS, however, obscures the important role of these and other co-factors of inherently global health issues.

Global health research outside a context in which policy makers, civil society, and the media are engaged risks generating more knowledge but little action. To minimise this, we suggest several principles by which global health research might be prioritised:

- Research on inherently global health issues that reduce the burden of disease, and vice versa
- Research that represents concerns or questions defined by developing countries
- Research that increases equity in health outcomes between groups within nations
- Research that solidly engages civil society, and
- Research that increases equity in knowledge capacities between developed and developing countries.

These principles guide the development of our own global health research projects, with support from several of the Canadian Institutes of Health Research (the national health research granting body). We invite other health researchers and funders to consider doing likewise.

Ronald Labonte *director*

Saskatchewan Population Health and Evaluation Research Unit, University of Saskatchewan, Saskatoon, Canada S7N 5E5

Jerry Spiegel *assistant professor*

Liu Institute for Global Issues, University of British Columbia, Vancouver, Canada V6T 1Z2

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Treatment of raised intraocular pressure and prevention of glaucoma

Evidence at last that treatment works

Two important randomised controlled trials—one from the United States, the other from Sweden—were published last year in the *Archives of Ophthalmology*, and their findings were a cause for celebration for ophthalmologists and subspecialists in glaucoma.[1 2] Intraocular pressure has traditionally been lowered pharmacologically or surgically in an attempt to prevent the disease destroying sight long before randomised controlled trials were conceived. The rationale was based on indirect evidence. However persuasive this might have been, it did not protect against lingering doubts caused by observing patients progress relentlessly towards blindness despite apparently successful control of intraocular pressure or the fact that a substantial proportion of people with glaucoma have pressure that is always within the normal range. Some even proposed that raised pressure was effect not cause—a failure of autoregulation because of interruption of biofeedback.

These doubts hindered advocates of population screening because evidence of effectiveness of treatment, a fundamental requirement, was not there. Eddy, in examining the economics of population screening in the United States, was one of the first to draw our

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