misinterpretation during MRI.[8] Radiologists with a background in fetal MRI or antenatal ultrasound might be the best placed to develop post-mortem MRI in the fetus, or a perinatal pathologist with a detailed understanding of development and pathological changes.

A new specialty in radiology seems to be emerging.[9] In the future, specialists might work in a multidisciplinary team with pathologists to undertake the complete minimally invasive autopsy. Although a multidisciplinary team is expensive, it is probably necessary to reduce error and maintain skills in both specialties.

Whatever our personal thoughts are, minimally invasive autopsy is here to stay. The public have been made aware of the procedure through the media and television dramas, and therefore a relative requesting an MRI as an alternative is not unusual, especially when there are religious reasons for objection to an autopsy. Indeed, if the Coroners and Justice Bill completes its parliamentary passage, alternative options to the autopsy should be made available throughout the UK.[10]

Crucial to the future of the minimally invasive autopsy is the progress of the techniques and the development of specialist centres, allowing trained personnel to correctly use post-mortem imaging to ensure that the full diagnostic information is obtained. The specialist centres will involve bereavement counsellors, coroners, and forensic medicine experts working alongside radiologists and pathologists. Until we have established how to select cases in which imaging can be part of a minimally invasive autopsy, the traditional autopsy with imaging as an adjunct should be encouraged.

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Call for global health-systems impact assessments

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Despite unprecedented increases in global health funding in recent years, major challenges remain for reduction of global health disparities. Methods that anticipate the effect of targeted global health initiatives on health systems are needed and will improve health worldwide. Such methods—or health-systems impact assessments (HSIAs)—should be developed and used before global health initiatives are implemented (panel).[1,2]

A growing body of evidence shows that although targeted global health initiatives have led to scaling up of some key health interventions, notably treatment of AIDS, they might also affect health systems—sometimes negatively.[3–12] At times, the capacity of people and institutions has been sacrificed for quick results. Some researchers and practitioners have recognised the need for HSIAs.[5,8–14] Indeed, WHO's Maximizing Synergies Collaborative Group recently published an article in *The Lancet* that highlighted the effects of global health initiatives on existing health systems, and called for "rigorous methods by which to assess" such interactions.[12] We agree with that need, and echo the call of Ronald Waldman that "A health systems 'impact statement' should be de rigueur for all disease-specific global initiatives and for local ones as well".[13]

WHO has identified six health-systems building blocks: service delivery; health workforces; health-information systems; medical products, vaccines, and technologies; health financing; and leadership and governance.[15] Global health initiatives can affect all dimensions of these health systems—in positive and negative ways. For example, the health workforce is negatively affected when donors need external contractors instead of using local workforces, or when disease-specific programmes divert health workers from other comprehensive health responsibilities.

***Panel:* Health-systems impact assessments (HSIAs)—call for action**

Sign onto the call[1] at: http://ghsia.wordpress.com/sign-onto-the-call-for-ghsias

Those engaged in global health should hold governments and other affiliated organisations accountable for the effect of global health activities on existing health systems

WHO should:

- take the lead in development and dissemination of HSIAs that can be used by all groups associated with global health
- include prominent section for development and dissemination of HSIAs on their website

All donors, led by major donors such as the Bill & Melinda Gates Foundation, the US President's Emergency Plan for AIDS Relief, the Global Fund to Fight AIDS, Tuberculosis and Malaria, and the World Bank should:

- require that all global health initiatives and programmes that they fund take into account the effect on the existing health systems
- fund activities to develop and implement effective evidence-based HSIAs

Government leaders and ministry of health personnel, particularly in developing countries, should assess and document effect of global health initiatives and programmes on their existing health system, irrespective of who funds the programme

Academic institutions and researchers should prioritise research for development of HSIAs that are evidence-based and take into account local realities

Non-governmental organisations and staff who participate in humanitarian work should:

- participate in development of and sign onto codes of conduct, such as the NGO Code of Conduct[2]
- take into account effect of their programmes on existing health system
- work with academic and other institutions to develop HSIAs that are appropriate to their specific situation

The Alliance for Health Policy and Systems Research, the Health Systems Action Network, the Countdown Working Group on Health Policy and Health Systems, the International Health Impact Assessment Consortium, the Institute for Health Metrics and Evaluation, and others involved in health systems advocacy and research should:

- support development of HSIAs and indicators that are evidence-based, easy to use, and appropriate to the implementing organisation's capacity and situation
- collaborate to establish a website where methods and expertise in the conduct of HSIAs are displayed

The methodological challenges that face those who attempt to predict the effect of programmes on health systems are complex. Noteworthy contributions have been made in recent years that will assist in development of an evidence-based approach. Some impact assessments already exist across social sectors—most notably environmental impact assessments. Health-impact assessments anticipate the health effects of proposals from sectors outside health,[16] whereas health-system assessments review the various components of health systems. The health-system-assessment community has developed an approach that might be useful for development of indicators and methods for HSIAs, and WHO recently introduced the draft version of a toolkit to assist in monitoring health-systems strengthening.[17,18]

We are aware of two published frameworks that anticipate the outcome of health programmes on health systems. In 2003, Bennett and co-workers[19] predicted the possible effects of the Global Fund to Fight AIDS, Tuberculosis and Malaria on the broader health system. According to recent reports,[3,10–12] many of their predictions were correct. Atun and co-workers' toolkit[14] to analyse the wider health-system context in disease-specific programmes has been used in various settings. These HSIA frameworks include or suggest indicators such as the diversion of health workers, strengthening of laboratory capacity, and financing arrangements. These and other indicators will need to be validated and updated as we learn more about the ways in which global health initiatives affect health systems.

This call brings with it the risk of too much analysis. Different degrees of depth and rigour in HSIAs are needed, depending on the project. Local participation should be solicited to ensure that assessments are relevant and effective. Indeed, the development of HSIAs should strengthen local health systems. Although HSIAs have not yet been developed rigorously as a widely accepted evidence-based method, global health organisations should not wait for their development before thinking about the effect of their activity on future health systems. Development and use of HSIAs should take place in tandem.

Use of HSIAs will often need a change in philosophy and approach. Every organisation that is planning a health intervention in a developing country will need to give thought to the long-term implications of its actions. Activities should be viewed in the context of improvement of health rather than being focused on short-term indicators or a few specific diseases. HSIAs should be used by all who participate in global health, including volunteers with small non-governmental organisations, researchers, and large donors.

Without HSIAs, initiatives targeted at specific diseases will probably, at best, continue to duplicate efforts within health systems and divert personnel and resources; or, at worst, erode long-term capacity. Although initiatives often focus on and publicise short-term goals, these interim markers should not obscure long-term objectives. The aim of WHO, ministries of health, clinicians, public health promoters, and others who are connected with global health is, simply, better health. The long-term improvements in health that we seek will be reached only

through the combined use of effective technologies and interventions (including addressing social determinants), with improved individual and institutional capacity. The time has come for the use of HSIAs, an idea that will lead to worldwide sustainable improvements in health.

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Health and development financing in Africa

Improving performance and further advancing the G8's accountability in global health was part of the working-group themes for health experts at the 2009 G8 Summit.[1] As an example, what do we learn from the European Court of Auditors' (ECA) Special Report, entitled European Commission development assistance to health services in sub Saharan Africa?[2]

The ECA warns that in general there is no clear correlation between the health situation of a country and the amount of health assistance received; in Mali and Ethiopia, AIDS receives greater attention regardless of whether the overall health situation is as bad or even worse than the HIV/AIDS situation. The same is also true in several sub-Saharan countries with low HIV prevalence and high maternal mortality. The independent evaluation of the World Bank's support for health, nutrition, and population states that excessive earmarking of foreign aid for communicable diseases can reduce capacity in health systems.[3]

The 5-year evaluation of the Global Fund to Fight AIDS, Tuberculosis and Malaria says that "some countries received considerably more HIV per capita funding than others with similar epidemic and regional profiles".[4] Tuberculosis and malaria funding, per person at risk, varies across countries.[4] Are the most in need (ie, the most exposed) benefiting the most from external funding? Are poor people benefiting as they should according to the policies of development agencies? It seems not.[2–4] Will the financial crisis encourage the donor community to ensure resource allocation (a public health evidence-based approach), help countries meet all health Millennium Development Goals, address chronic diseases, and be more equitable towards African populations in regions with different needs?