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Behind the data

Research supports UN millennium development goals

SARAH HUGGETT

In September 2000, the United Nations (UN) gathered at the Millennium Summit in New York to discuss their role at the beginning of the 21st century (1). The meeting culminated in the adoption of the UN Millennium Declaration by the present heads of state (2). The Millennium Development Goals (MDGs) were derived from this declaration, and include targets that were adopted in 2001 by 192 UN member states and at least 23 international organizations (3).

Targeting the biggest killers
The eight MDGs represent a global commitment to improve the most basic indicators of standard of living for all (see box).
Goal 6 is to combat HIV/AIDS, as well as other diseases, such as malaria and tuberculosis, and is divided into three main targets:

1. Target 6.A: Have halted by 2015 and begun to reverse the spread of HIV/AIDS
3. Target 6.C: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases (including tuberculosis)

Nearly a decade on, progress has been made, but will the 2015 targets be reached? According to a recent UN report, “most countries are struggling to meet the Goal 6 targets of achieving universal access to treatment for HIV/AIDS by 2010 and of halting and reversing the spread of HIV/AIDS by 2015. [...] Large increases in funding and attention to malaria have accelerated malaria-control activities in many countries. [...] The incidence of TB is expected to be halted and begin to decline before the target date of 2015.” [4]

A little help goes a long way

By highlighting inequalities between countries, the UN Millennium Declaration also stands as a moral imperative for wealthier countries to assist in relieving the burden of disease in the most-afflicted countries. An analysis of research output in HIV, malaria and tuberculosis reveals the commitment of developed nations to help, even though these diseases are less prevalent in their populations.

The maps [see Figures 1, 2 and 3] show estimated 2004 death rates per 100,000 for HIV/AIDS, malaria and tuberculosis in each country [5], as well as the 10 most prolific countries in terms of research articles published between 2004 and 2008 on these diseases.

The burden of HIV/AIDS is heaviest in sub-Saharan Africa. Although research on HIV is concentrated in the Western world (North America, Europe and Australia), it is interesting to note that China and South Africa are exceptions to this generalization, ranking respectively second and fifth in terms of article output on the subject.

The world’s highest reported death rates due to malaria are in Sub-Saharan Africa. The bulk of recent research on the disease comes from the USA, Europe and Australia, where disease burden is low; however, Thailand, Kenya and India do suffer significant malaria death rates and are also some of the most productive countries in terms of research on malaria.

Population-adjusted deaths from tuberculosis are greatest in Sub-Saharan Africa and Eurasia. The USA and Europe publish a large proportion of the research on tuberculosis but other
countries such as Brazil, China, South Africa, Japan and India (with significant death rates due to the disease) also make it into the top-10 most-prolific countries.

"India’s focus on tuberculosis research right now is phenomenal – and this is matched by the volume of publication emerging from the country,“ observes Dr Brian D. Robertson, Deputy Director of the Centre for Integrative Systems Biology at Imperial College London.

Alan D. Lopez, University of Queensland, Australia, adds: “it is no surprise that most articles come from the countries shown, and in particular the USA. However, the five-fold variation in HIV/AIDS papers compared with malaria and tuberculosis from the USA is interesting, given that there is at most a two-fold variation in death rates.”

This analysis shows that as far as HIV, malaria and tuberculosis are concerned, countries do seem to be pulling together, regardless of their respective burden of disease, in an effort to meet the MDGs. However, as highlighted in the recent UN report, there is still much to be done, and only time will tell if current efforts are sufficient to reach the 2015 targets.