INT J TUBERC LUNG DIS 14(10):1215–1221
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2010
THE YEAR OF THE LUNG
Series editor: John F. Murray

UNRESOLVED ISSUES

In this month's 2010: Year of the Lung series, readers are privileged to have the views of two groups of experts from different parts of the world who agree that extreme poverty and all its accompaniments—malnutrition, overcrowding or homelessness, addiction, and lack of access to health care—is the major driving force underlying the presence and spread of tuberculosis, including the current increases in tuberculosis caused by multiple drug-resistant and extensively drug-resistant strains. Doctors Benatar and Upshur reach this conclusion by taking an historical route from the distant past to the present and suggest 'a new mind set' for the future. By contrast, Doctors Keshavjee and Farmer review the more recent treatment strategies that have worked and those that have failed, and propose ways to 'put boots on the ground' to finally control this eminently treatable scourge. Tuberculosis will continue to flourish as long as the poverty that fosters it remains uncontrolled. Moreover, experience has taught us how to mobilize resources in ways that have proved effective in controlling drug-resistant strains in previous high-burden, low-income regions. The time has come to apply these lessons.

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Tuberculosis and poverty: what could (and should) be done?

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HISTORICAL BACKGROUND

Four eras can be identified within the history and trajectory of tuberculosis (TB) in the world. In each of these eras, different sets of circumstances have contributed to the amelioration or aggravation of the burden of this disease (Table 1).[1]

We are now at a crucial and determining point in our global experience with tuberculosis, and we may well ask what the fifth era will hold for humanity. We face the spectre of either having to deal with more drug resistance or collectively making a concerted effort to face, realistically, the global challenges posed by tuberculosis. The persistence of poverty will ensure ongoing complexity in providing effective treatment. As severe poverty is the result of a global political economy deliberately structured by humans, we have the potential to control the scourge of tuberculosis.

WHAT IS POVERTY?

Poverty means being deprived materially, socially and emotionally. It includes lack of economic resources, lack of education, lack of access to basic life resources such as food, water and sanitation, and lack of control over one's life and reproductive partners. Absolute

Previous articles in this series, Int J Tuberc Lung Dis 2010 Editorials: Murray J F. 2010: The Year of the Lung. 14(1): 1–4; Castro K G, Bell B P, Schuchat A. Preventing complications from 2009 influenza A (H1N1) in persons with underlying lung diseases: a formidable challenge for 2010 Year of the Lung. 14(2): 127–129; Barker K. Canadian First Nations experience with H1N1: new lessons or perennial issues? 14(2): 130; Annesi-Maesano I. Why hasn't human genetics told us more about asthma? 14(5): 521–523; Billo N E. Good news: asthma medicines for all. 14(5): 524; Goodman P C. Computed tomography scanning for lung cancer screening: an update. 14(7): 789–791; Price K A, Jett J R. Advances in treatment for non-small cell lung cancer. 14(7): 792–794; Kumaresan J, Enarson D A. Inequities in lung health: challenges and solutions. 14(8): 931–934. **Unresolved issues:** Lalloo, U G. Drug-resistant tuberculosis: reality and potential threat. 14(3): 255–258. **Review articles:** Murray J F. The structure and function of the lung. 14(4): 391–396; Daley C L, Griffith D E. Pulmonary non-tuberculous mycobacterial infections. 14(6): 665–671. Perez-Padilla R, Schilmann A, Riojas-Rodriguez H. Respiratory health effects of indoor air pollution. 14(9): 1079–1086.

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Table 1 Four eras of tuberculosis

First era: eighteenth century Europe
- Tuberculosis accounted for 20% of all deaths, and killed about 500 people per 100 000 population every year in the United Kingdom. The cause of the disease was unknown then and there was no specific treatment.
- With improved living conditions associated with the industrial revolution, the annual death rate in the United Kingdom fell progressively to 200/100 000 by 1882 (the year in which Koch discovered the tubercle bacillus), and further to 50/100 000 by the time the first anti-tuberculosis drugs were introduced in the 1940s.
- These trends made clear the social underpinnings of the disease—an insight that needs to be more consciously appreciated and acted upon today.

* *Second era*: mid 1900s
- Development of effective treatment regimens.
- Sophisticated medical skills allowed development of drugs and the clinical trials required to show the effectiveness of short-course chemotherapy.
- Medical, managerial and political skills facilitated widespread application of such regimens in the United Kingdom and other countries, leading to a further fall in mortality to about 5/100 000 in wealthy nations.

* *Third era*: late 1900s and early 2000s
- Recrudescence of tuberculosis and the rise of multi- and extensively drug-resistant strains. This is the saddest era and the beginning of a reversion to the inability to treat the disease effectively.
- The possibility of drug resistance was recognised immediately upon the discovery of effective tuberculosis chemotherapy, yet warnings for great vigilance and care with regard to resistance went largely unheeded (World Health Organization 2010 report[1]).
- The emergence of drug resistance is also an indictment of political and global health institutions that have shamefully neglected to make the resources available to implement curative regimens worldwide.
- So, since the 1960s and 1970s, when it was potentially possible to eliminate tuberculosis globally, the global economy has fostered widening disparities in wealth and in health globally, and in the process ignored the global challenge of tuberculosis.

Current era
- Beginning in the 1980s, the HIV pandemic has resulted in the life-time incidence of active tuberculosis, rising from 5% in those who had been infected but remained HIV-negative, to over 50% in those who are HIV-positive.
- As a result the global annual load of new cases of tuberculosis increased from 6.6 million in 1990 to 9.3 million in 2007. As long as HIV continues to spread, so will HIV-related tuberculosis.
- The added complication of MDR- and XDR-TB (up to 100 times as costly to treat per patient, with much longer and more toxic regimens) is now making tuberculosis potentially untreatable in poor countries where the incidence and prevalence are highest.

HIV = human immunodeficiency virus; MDR = multidrug-resistant; XDR = extensively drug-resistant; TB = tuberculosis.

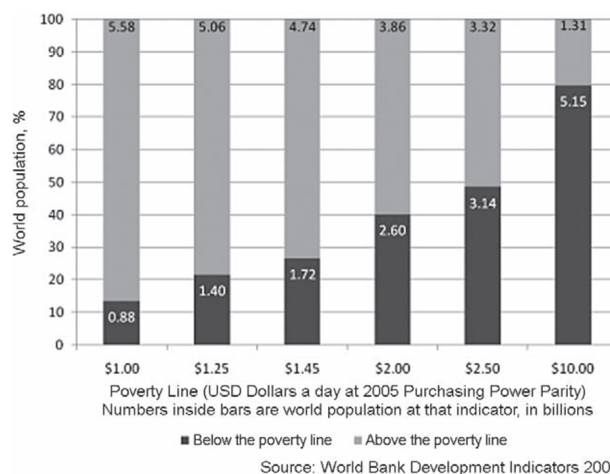

Figure 1 Percentage of people in the world at different levels of poverty. From Shah.[3] © Copyright 1998–2009, under a Creative Commons License.

poverty is defined as a condition of life severely limited by malnutrition, illiteracy, disease, squalid surroundings, high infant mortality and low life expectancy. Poverty brings not only material disadvantage but also social exclusion, which in turn is associated with discrimination across a wide range of social activities that adversely affect health and wellbeing.

Relative and absolute poverty have been constant characteristics of the human condition. With rapid increases in the wealth of the elite over the past 50 years, relative poverty has become more pronounced. At the beginning of the twentieth century the wealthiest 20 per cent of the world's population were nine times richer than the poorest 20 per cent. This ratio has grown progressively—to 30 times by 1960, 60 times by 1990 and to 140 times by 2009.[2]

Absolute poverty remains a problem, and its extent has increased. The number of extremely poor people in the world more than doubled between 1975 and 1995. Over half of the world's population live on less than $900 a year, and more than a quarter of the world's population live (on less than $1 a day) under conditions of absolute poverty (Figure 1).[3] Of the 4.4 billion people in developing countries, over half lack access to sanitation, over 30 per cent lack access to clean water and essential drugs, and almost a quarter are inadequately nourished. Five per cent of the world's population (who live in the United States) account for 50% of annual global health expenditure. Annual per capita expenditure on health care ranges from over $6500 in the United States (17% gross domestic product [GDP]) down to less than $15 in the poorest countries in Africa (<3% GDP). While notions of poverty that go beyond economic considerations have been suggested, these will not be further discussed here.[4]

POVERTY AND HEALTH

Absolute wealth and relative wealth both affect health. Among industrialised countries it is not the richest that have the best health but those with the smallest income differentials between rich and poor.[5] Despite the non-linearity of the relationship between wealth and health above annual per capita gross national products (GNPs) of $5000, the existence of this relationship and the effect of wide income differentials underscore the need to see health and disease as intimately linked to social and economic conditions.

Poverty directly accounts for almost one third of the global burden of disease. Poverty leads to poor health, which in turn aggravates poverty and reduces

* **Revised in online publication, November 2010.**

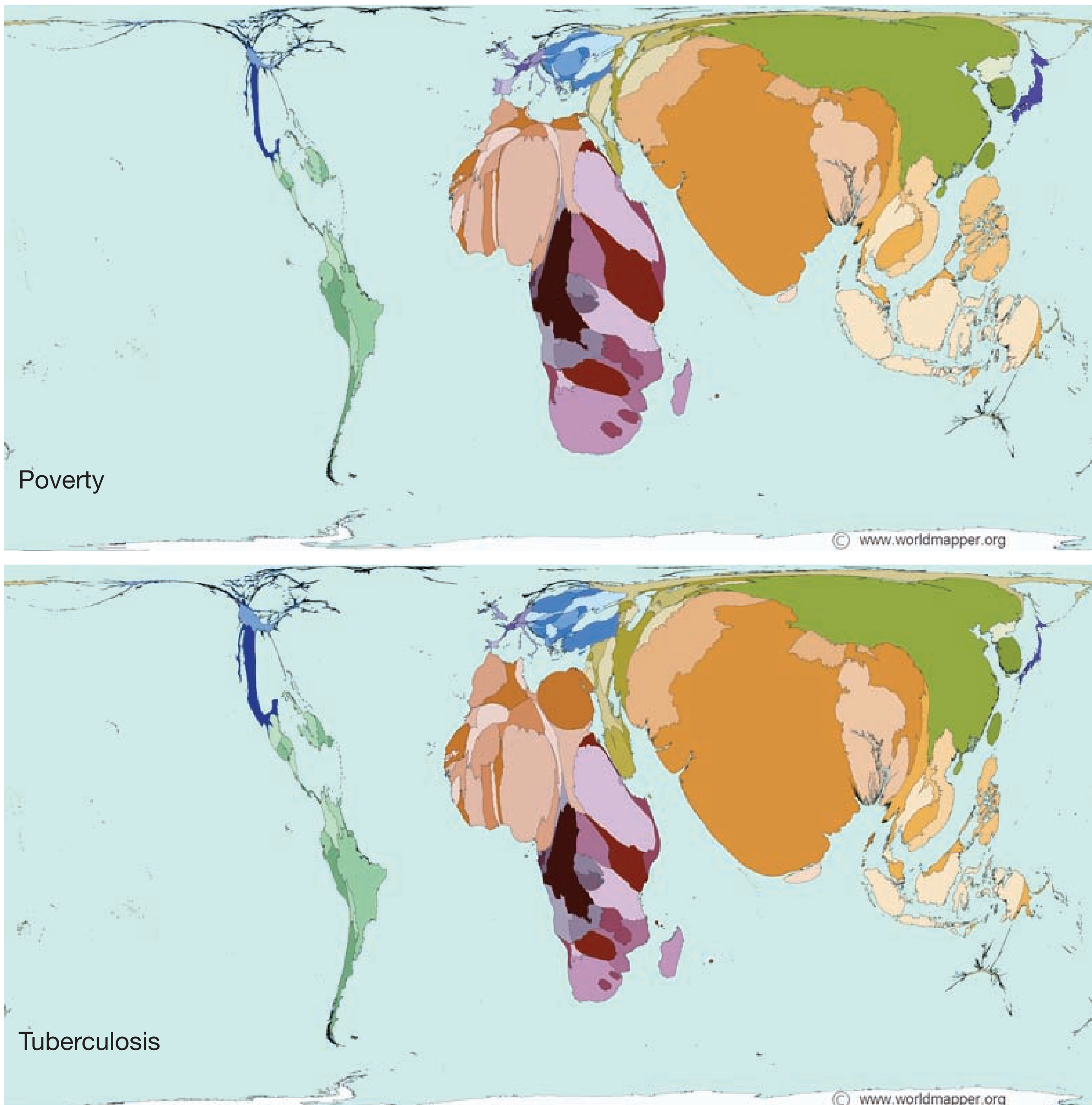

Figure 2 Top: World map of poverty with size of areas in proportion to degree of poverty. Bottom: World map of tuberculosis with size of areas in proportion to extent of tuberculosis. From WorldMapper, maps 228 and 174.[6] © Copyright SASI Group (University of Sheffield) and Mark Newman (University of Michigan). This image can be viewed online in colour at http://www.ingentaconnect.com/content/iuatld/ijtld/2010/00000014/00000010/art00001

human productivity. Ninety-five per cent of TB cases and 98% of TB deaths are in developing countries (Figure 2).[6] TB has a direct bearing on the economies of poor countries, as 17% of those who die from this disease are in the economically productive age group of 15–49 years. Poor adherence to treatment is a major problem.

Some of the reasons for poor adherence and loss to follow-up involve the competing priorities faced by poor populations: the need to earn money on a daily basis, duties towards family members, and substance misuse as a coping strategy for impoverishment. Overcoming these problems requires a level of social support that is rarely available in overburdened and understaffed health systems.[7]

Diagnosis: social, not medical failure

We can argue from the above that the correct answer to why the burden of morbidity and mortality from tuberculosis is increasing in many poor countries, and why multidrug-resistant TB emerged, lies more in the failure of how human society is structured and functions than from failures of medical practice.[4,5,8] When living conditions for millions of people remain at the

level of pre-industrial revolution England/Europe and health care services are so inadequate that easily affordable treatment cannot be provided for all who need it in good time and for the full duration required, we should not be surprised that the burden of suffering from tuberculosis can only get worse.[9]

How is poverty conceptualised in current policies responding to tuberculosis?

It is instructive to examine how poverty is understood and discussed in current documents from major global policy actors. Are interventions to remedy poverty viewed as important in their own right as a means to control tuberculosis? Is poverty alleviation seen as an adjunct to new biomedical interventions? If poverty is a causal determinant of tuberculosis, then it should be considered as an important focus for intervention studies.

While current policy documents tend to acknowledge poverty as a core determinant of health, recent policy documents have not explicitly stated that alleviation of poverty should be part of the response to control tuberculosis.

For example, in the World Health Organization (WHO) 6-step approach to addressing poverty in national tuberculosis programmes (see Table 2),[10] poverty is seen as a barrier to successful implementation of tuberculosis programmes, rather than a cause of tuberculosis amenable to direct influence. The Stop TB action plan (see Table 3) mentions mobilisation of resources, but does not explicitly address the issue of poverty.[11]

Table 2 Addressing poverty in TB control: options for national TB control programmes[8]

Step	Action
Step 1	Identify the poor and vulnerable groups in the country/region served by the national TB programme.
Step 2	Determine which barriers prevent access of the vulnerable groups to services that provide TB diagnosis and treatment.
Step 3	Assess potential actions to overcome the barriers to access.
Step 4	Review the situations and population groups requiring special consideration.
Step 5	Explore possibilities for harnessing additional resources.
Step 6	Evaluate the impact of pro-poor measures.

TB = tuberculosis.

Table 3 Stop TB action plan[9]

1 Strengthen quality of basic TB and HIV/AIDS control
2 Scale up programmatic management of MDR-TB and XDR-TB
3 Strengthen laboratory services
4 Expand MDR-TB and XDR-TB surveillance
5 Develop and implement infection control measures
6 Strengthen advocacy, communication and social mobilisation
7 Pursue resource mobilisation at all levels
8 Promote research and development of new tools

TB = tuberculosis; HIV = human immunodeficiency virus; AIDS = acquired immune-deficiency syndrome; MDR = multidrug-resistant; XDR = extensively drug-resistant.

The Beijing call to action against multidrug-resistant and extensively drug-resistant tuberculosis recognises poverty as a cause, yet omits any mention or discussion of interventions designed to alleviate poverty as a means of controlling tuberculosis.[12] The May 2009 World Health Assembly resolution on the prevention and control of drug-resistant tuberculosis also neglects any mention of poverty.[13] So, current major policy documents lack a systematic and explicit focus on poverty in relation to the control of tuberculosis, thus implicitly relegating it to secondary status.

WHAT COULD BE DONE?

Global poverty fuels TB. To create communities that work towards health for all and therefore contribute to humans flourishing in the long run, the causes of poverty and the social determinants of health must be addressed on an equal footing with medical approaches. The onus is on the global community to change perceptions and create conditions where, through solidarity, a united approach can be developed to alleviate a grave threat to human health. This will require addressing the root causes of poverty, which are so intimately linked to the social determinants of health, as an explicit goal of TB control strategies.

A new mind-set about ourselves and how we live

Efforts to address many pressing global problems, such as tuberculosis, are dominated by a development agenda that we know has been failing for many decades.[14,15] It is not surprising that the new poverty agenda that surfaced in the 1990s, and was embodied in the Millennium Development Goals (MDGs) 20 years later, 'stresses the importance of market-led growth itself as the most important method to address poverty'.[16] While global institutional efforts have been stepped up in support of the international development targets,[17] current global economic trends are sustaining privilege, poverty and abuse of our environment, while fostering inequality, intensifying starvation and promoting violence. Such global trends are devastatingly unsustainable and threatening to global health.[4,8,9]

The state of global health calls for new ways of thinking and acting. Among many shifts in metaphors that could encourage such progress is a shift from the idea of sustainable development to developing sustainability.[14] Like many others, we share the view that the dominant development paradigm (based on individual rights—mainly civil and political—and the acquisition/consumption of increased quantities of goods and services) does not itself create a harmonious world community, nor does it develop sustainability. In its place, a new paradigm of development has been proposed to facilitate progress towards the goals of sustainability through promotion and respect of rights, and by protecting basic needs.[14,18,19]

As we have argued elsewhere, an expanded discourse on ethics and human rights, more broadly conceived, could act as a wedge to new ways of thinking about ourselves and how improved health and security could be achieved for a greater proportion of the world's people.[20]

Endeavours to bring bioethics and human rights activities closer together in the quest for better global health provides an opportunity to reflect both on the content of the Universal Declaration of Human Rights (UDHR)—and of subsequent supportive covenants and declarations— and on the extent to which these aspirations have not yet been met.[21] Pessimism and optimism have been expressed regarding the fulfilment of these declarations to date, and what may be achieved in the future. The despair of some at the extent of the continuing and even escalating human rights abuses and violations throughout the world—even in highly privileged societies—is countered by the hope of others that with the development of international law and other human rights instruments, coupled with intensified educational efforts, the impact of the UDHR will spread more widely.[21] The General Comment on the Right to Health by the United Nations Committee on Economic, Social and Cultural Rights is viewed as a significant milestone.[22]

MAKING PROGRESS

In seeking to pursue an ambitious agenda for improving global health there are two main questions to be asked and answered. First, what resources are required in the short term to achieve immediate beneficial effects? Second, how can the global political economy be changed to result in longer term and more enduring amelioration of poverty?

What resources are required in the short term and are these available?

The poorest 1 billion people in the world live on less than $1 dollar per day and have health care packages in the region of $15 per year. It has been calculated that a tax of 1 cent on every $10 earned by the wealthiest 1 billion in the world could provide the additional $35 billion required per year to give the poorest 1 billion people a $50 annual per capita health care package.*

If $35 billion per year sounds a lot, we should recall that annual global military spending was $780 billion in the late 1990s, and that the annual cost of providing basic education for all in the world at that time was estimated at $6 billion, while that of providing access to reproductive health services for all women in the developing countries was about $12 billion. It is of somewhat morbid interest that industrialised countries spend on average 5.3% of GNP on the military (global military expenditure in 2007 amounted to US$1.339 trillion), but only about 0.3% on economic aid to developing countries.[23] Between 1998 and 2007, world military expenditure increased by 45%.[24] Most recently, up to $17 *trillion* has been raised worldwide to rescue financial institutions from their fraudulent activities that led to the currently evolving global financial disaster. This is 22 times more than the $750 *billion* required over 5 years to achieve the MDGs,[25] and it has not yet been possible to raise this amount!

Two more statistics are revealing of potential resources. First, in 2007, about $100 billion was provided to developing countries in the form of Official Development Assistance, of which much is used to pay donor country staff who assist in delivering aid. In the same year, developing countries paid $590 billion in debt repayment—mostly interest on debt.[26] (In addition to this there is extraction of mineral and other wealth, as well as active recruitment of trained professionals). Second, annual farming subsidies of about US$350 billion in industrialised countries and trade protectionism cost developing countries about US$100 billion annually in lost export earnings.[27] Allowing farmers in developing countries to sell their products at a fair price and not in competition with massive subsidies could largely eliminate the need for 'development' aid. Recent acknowledgment that the efforts of the Canadian International Development Agency (CIDA) have been less successful than desired and that the agenda should be liberated and reinvented provides welcome recognition of the limitations of so-called development aid:[28]

> The Canadian International Development Agency (CIDA) has failed to make a foreign aid difference in Africa. Since its inception in 1968, CIDA has spent $12.4 billion in bilateral assistance to sub-Saharan Africa, with little in the way of demonstrable results. CIDA is ineffective, costly and overly bureaucratic. Approximately 81% of CIDA's 1500 employees are based in headquarters in Ottawa. Field staff has little authority to design and implement projects or to allocate funds. This top-heavy system has perpetuated a situation where our development assistance is slow, inflexible, and unresponsive to conditions on the ground. (Segal H, Stollery P. Overcoming 40 years of failure: a new road map for sub-Saharan Africa. 2007. Quoted in reference 25.)

These facts and interpretations are not intended to imply that the wealthy, productive and fortunate in the world bear the total burden of blame for the economic activities that polarise the world. Failure of development is the result of complex interactions, many of which are not discussed widely.[29] Political realities within developing countries, including corruption, ruthless dictatorships, ostentatious expenditure

* Jeffrey Sachs during a video conference presentation at the Canadian Conference on International Health, Ottawa, October 2009.

by elites and under-investment in education and health, have contributed greatly to the suffering of billions.[30]

However, it is vital for privileged people to be cognisant of the extent to which these deficiencies in many developing countries have been facilitated by the policies of wealthy nations in pursuit of their own interests (characterised by ongoing, often fraudulent, extraction of natural and human resources). Insight into how favoured lives are sustained by overt and covert exploitation of unseen others could allow those of us who live comfortable lives anywhere in the world to appreciate that we do not have a monopoly of entitlement to the benefits of progress.[31,32] We should be capable of understanding that there is no real shortage of resources to improve the lives and health of the poorest in our world.

Changing the global political economy

While the concept of poverty can be broadened beyond a narrow definition of income to include other dimensions of human development,[4] both the issues and the strategies of current anti-poverty programmes are rooted in market-oriented policies—reflecting and reinforcing the dominant neo-liberal discourse.[8] Thus the first issue to be acknowledged is that alleviating poverty is not about charity or so-called official development assistance, but rather about fostering independence. Whether or not current policies can be changed, and how this may be done to make the world a better place, is now a topic being addressed by many.[33–36] The proposal for a 'Social Offsets' fund to supplement the biomedical approach to neglected tropical diseases is an example of a practical first step towards promoting new ways of alleviating poverty.[37]

Recent research in development economics has emphasised the importance of randomised interventions to build an evidence base for effective responses to poverty.[38] On this view, poverty is a condition that can be approached via the rigorous application of scientific method in the same way the modern evidence base has been built for medications.[39] Medications are typically evaluated in randomised controlled trials. Where are the controls in randomised poverty interventions? This means that poverty is not a background condition over which little influence can be exerted, but a condition that interventions can directly address. It is time to put interventions dedicated to alleviating poverty on an equal footing with interventions to evaluate new medications. The direct effect of poverty reduction interventions on rates of tuberculosis, then, should be seen as a major research priority.

CONCLUSIONS

In the absence of measures that could begin to reduce poverty, improve living conditions and enable the poorest in our society to achieve their potential as productive working citizens, the problems of tuberculosis, HIV/AIDS and other infectious diseases will surely get steadily worse in many countries. As these diseases know no boundaries and as they have profoundly adverse social and economic effects, we shall all pay the price—and a heavy one it will be for both individuals and society.

We can either begin to gear ourselves now towards the mind-set required to face the challenge of alleviating poverty and improving health, and in the process achieve meaningful social progress beyond only political emancipation and enrichment of privileged elites, or we can 'continue with business as usual' and pay the price later—losing much that has been gained and forgoing future gains. We are free to choose, and we shall be condemned to live with our choices. Whether or not we can avoid the errors made 40 years ago will mark the extent of our resolve as a species to eradicate tuberculosis as a disease that is potentially totally under human control.

References

1 World Health Organization. World Health Report 2010. Geneva, Switzerland: WHO, 2010.
2 DeGraw D. The economic elite vs. the people of the United States of America. Amped status report Part I. New York, NY, USA: Amped Status, 2010. http://ampedstatus.com/the-economic-elite-vs-the-people-of-the-united-states-of-america-part-i Accessed June 2010.
3 Shah A. Poverty around the world. http://www.globalissues.org/article/4/poverty-around-the-world Accessed July 2010.
4 Benatar S R. Global poverty and tuberculosis: implications for ethics and human rights. In: Gandy M, Zumla A A, eds. The return of the white plague: global poverty and the 'new' tuberculosis. London, UK, and New York, NY, USA: Verso Press, 2003: pp 222–236.
5 Wilkinson R. Unhealthy societies: afflictions of inequality. London, UK: Routledge, 1996.
6 WorldMapper. A to Z index of maps. http://www.worldmapper.org/atozindex.html Accessed June 2010.
7 Upshur R, Singh J, Ford N. Apocalypse or redemption? Responding to extensively drug-resistant tuberculosis. Bull World Health Organ 2009; 87: 481–483.
8 Rowden R. The dangerous ideas of neoliberalism. London, UK: Zed Books, 2009.
9 Benatar S R. Prospects for global health: lessons from tuberculosis. Thorax 1995; 50: 489–491.
10 World Health Organization. Addressing poverty in TB control. Options for National TB Control Programmes. WHO/HTM/TB/2005.352. Geneva, Switzerland: WHO, 2005. http://www.who.int/tb/challenges/poverty/en/index.htm Accessed June 2010.
11 World Health Organization. Stop TB Strategy: vision, goal, objectives and targets. Geneva, Switzerland: WHO, 2010. http://www.who.int/tb/strategy/stop_tb_strategy/en/index.html Accessed June 2010.
12 World Health Organization. The Beijing 'call for action' on tuberculosis control and patient care: together addressing the global M/XDR-TB epidemic. Geneva, Switzerland: WHO, 2009. http://www.who.int/tb_beijingmeeting/media/en_call_for_action.pdf Accessed June 2010.
13 World Health Organization. Prevention and control of multidrug-resistant tuberculosis and extensively drug-resistant tuberculosis. Geneva, Switzerland: WHO, 2009. http://apps.

who.int/gb/ebwha/pdf_files/A62/A62_R15-en.pdf Accessed June 2010.
14 Bensimon C A, Benatar S R. Developing sustainability: a new metaphor for progress. Theor Med Bioeth 2006; 27: 59–79.
15 Birdsall N. Seven deadly sins: reflections on donor failings. In: Easterly W, ed. Reinventing foreign aid. Cambridge, MA, USA: MIT Press, 2007: pp 515–551.
16 United Nations. 2005 World Summit outcome. Resolution adopted by the General Assembly. A/RES/60/1. New York, NY, USA: UN, 2005. http://unpan1.un.org/intradoc/groups/public/documents/un/unpan021752.pdf Accessed June 2010.
17 Fidler D. After the revolution: global health politics in a time of economic crisis and threatening future trends. Global Health Governance 2009; II (2): 1–21. http://www.ghgj.org/fidler2.2afterrevoluton.htm Accessed June 2010.
18 Doyal L, Gough I. A theory of human need. London, UK: MacMillan, 1991.
19 Benatar S R. Global health: where to now? Global Health Governance 2009; II (2): 1–11. http://www.ghgj.org/benatar2.2wherenow.htm Accessed June 2010.
20 Benatar S R, Daar A, Singer P A. Global health ethics: the rationale for mutual caring. International Affairs 2003; 79: 107–138.
21 Nixon S, Forman L. Exploring synergies between human rights and public health ethics: a whole greater than the sum of its parts. BMC International Health and Human Rights 2008; 8: 2. http://www.biomedcentral.com/1472-698X/8/2 Accessed June 2010.
22 United Nations. The right to the highest attainable standard of health. General Comment 14. E/C.12/2000/4. New York, NY, USA: UN, 2000. http://www.unhchr.ch/tbs/doc.nsf/(symbol)/E.C.12.2000.4.En?OpenDocument Accessed June 2010.
23 Sivard R L. World military and social expenditures. 16th ed. Washington DC, USA: World Priorities Press, 1996.
24 Shah A. World military expenditure. Global issues. http://www.globalissues.org/article/75/world-military-spending Accessed June 2010.
25 World Bank. The economic crisis and the millennium development goals. Washington DC, USA: World Bank, 2010. http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/0,,contentMDK:22154703~pagePK:64165401~piPK:64165026~theSitePK:469372,00.html Accessed June 2010.
26 Rudin J, Sanders D. Debt, structural adjustment and health. In: Benatar S R, Brock G, eds. Global health and global health ethics. Cambridge, UK: Cambridge University Press, 2011. [In press]
27 Garrido M. The free trade charade. Asia Times, 11 June 2003. http://www.atimes.com/atimes/Global_Economy/EF11Dj01.html Accessed June 2010.
28 Carin B, Smith G. Reinventing CIDA. Calgary, AB, Canada: Canadian Defence & Foreign Affairs Institute, 2010. http://www.cdfai.org/PDF/Reinventing%20CIDA.pdf Accessed June 2010.
29 Benatar S R. Why development aid hasn't eased poverty. Cape Times, 29 April 2009. http://www.bodhi.net.au/pdfs/devaid&poverty.pdf Accessed July 2010.
30 Mbeki M. Architects of poverty. London, UK: Pan McMillan, 2009.
31 Benatar S R. Moral imagination: the missing component in global health. PLoS Med 2005; 2: e400. http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.0020400 Accessed June 2010.
32 Davies P D Q. The changing face of tuberculosis: a new challenge to the developing world. Chest Medicine On Line. http://priory.com/cmol/tbanga.htm Accessed June 2010.
33 Royal Danish Ministry of Foreign Affairs. Building a world community: globalization and the common good. Copenhagen, Denmark: Ministry of Foreign Affairs, 2000.
34 Held D. Global covenant: the social democratic alternative to the Washington Consensus. Cambridge, UK: Polity Press, 2004.
35 Gill S. Power and resistance in the new world order. 2nd ed. New York, NY, USA: Palgrave McMillan, 2008.
36 Benatar S R, Gill S, Bakker I C. Making progress in global health: the need for new paradigms. International Affairs 2009; 85: 347–371.
37 Spiegel J, Dharamasi S, Wasan K M, et al. Which new approaches to tackling neglected tropical diseases show promise? PLoS Med 2010; 7: e1000255.
38 Banerjee A V, Duflo E. The experimental approach to development economics. Ann Rev Econ 2009; 1: 151–178.
39 Banerjee A V, Duflo E. The economic lives of the poor. J Econ Perspect 2007; 21: 141–167.