



Global Health and the Future of Academic Medicine

Professor Stephen Leeder

Professor of Public Health and Community Medicine, University of Sydney

15 September 2004 Menzies Oration on Higher Education

Graduation and commencement – and the state of the planet

Everyone present congratulates those who graduated from the University of Melbourne this evening. In America, your university would call this evening your commencement ceremony, marking the beginning of a new part of your career.

It is a splendid moment to be graduating – and commencing. You will be pursuing your careers in an age in which you will have in your power the capacity to abolish global poverty that at present imprisons for life and death one billion people.

I commend that goal to you as one large enough to engage your abilities and your energy in whatever disciplines you graduated this evening.

The Menzies Foundation turns 25

This year the Menzies Foundation is celebrating, also! It has completed 25 years of distinguished service. During those years the Foundation has supported the career development of dozens of young research workers in law and in health.

It has respected and honoured Sir Robert's practical recognition of the value of research and his support for advanced education and access to universities in Australia –for Australians through Commonwealth scholarships and for our neighbours through the Colombo Plan.

In the 1970s, the Menzies Foundation supported research projects that included research in physical fitness. Dr Eric Wigglesworth and Ms Sandra Mackenzie, two stalwarts of the Foundation, undertook the complex and demanding task of sifting and assessing hundreds of research applications each year. Dr Wigglesworth may recall one enterprising applicant who sought support to conduct a field trial of a ski binding that he had perfected. He proposed to conduct this trial, serving as his own guinea pig, on the slopes at Mt. Hotham. His request included 10 days' chalet accommodation for his young female assistant and himself.

During those 25 years, the Menzies Foundation also established two schools of health research, first in Darwin under the leadership of Professor John Mathews and now Professor Kerin O'Dea, and then in Hobart, 15 years ago, under Professor Terry Dwyer's direction.

These two schools have achieved research results that enjoy national and international recognition. Both schools have strong relations with their host universities, communities and government. Among many achievements, Terry Dwyer's group in Hobart has shown how to prevent the unexpected sudden death of a well baby – by sleeping the baby on the back instead of the stomach. The Hobart school has responded brilliantly to the

opportunities provided by the Tasmanian community for studying the interplay of genetic and environmental influences in health and diseases. It has also established links with the World Health Organisation in cardiovascular disease.

Likewise, the Darwin school has carried out research into many tropical illnesses, including best treatment for malaria, and other diseases common among Indigenous people in the Northern Territory. Forty or more percent of Indigenous children need special education because they are deaf. In Darwin, John Mathews has helped to establish a Collaborative Research Centre in Aboriginal Health in which Indigenous people set the research agenda and work with government and private industry. The Centre recently negotiated a further seven years of Commonwealth funding.

The support of the Menzies Foundation for development in the law has also been strong, as it has been for Australian studies in London.

So this evening we acknowledge both the achievements of our graduates and of the Menzies Foundation over the past 25 years. We also salute the contributions of hundreds of people, many of whom have served in an honorary capacity, who stand in relation to the Menzies Foundation in much the way that parents and friends do for our graduates.

The Menzies Oration, by precedent, allows the orator to offer personal views on tertiary education in Australia, recognizing Sir Robert's interest and investment in Australian universities, including his years as Chancellor of this University. I want to speak about the importance of the global health agenda when we set the future directions for academic medicine in Australia.

The challenge created by abject poverty

For the past 18 months, after six years as dean of the Faculty of Medicine in Sydney, and a decade as a Fellow of the University of Sydney Senate, I have lived with my wife Kathy and son James in New York City.

I went to New York to work with Professor Jeffrey Sachs, an economist with a passionate interest in global issues, especially those associated with severe poverty. He directs Columbia University's Earth Institute. The Earth Institute brings together talent from throughout the university to address complex issues facing the planet and its inhabitants, with particular focus on sustainable development and the needs of the world's poor.

Let me clarify how the world's population of six billion divides according to wealth. About one billion are like us – affluent. Another billion are abjectly poor and live on less than a dollar a day. These people live in the least developed nations, often ravaged by HIV, malaria, tuberculosis and political chaos. Four billion people live in countries including India and China that are in between. These developing countries contain a minority of very wealthy people and a minority of very poor people.

The belief that science and technological tools to alleviate poverty already exist, and could be expanded, motivates the Earth Institute to improve conditions for the world's poor while preserving the natural systems that support life on Earth. The Earth Institute brings its strengths – from climate prediction to integrated water management, biodiversity conservation to public health, geophysics to hazards reduction – to the challenges of environmental decision-making, international development programs, and science policy.¹

¹ <http://www.earthinstitute.columbia.edu/>

The Earth Institute is an institute without walls. Instead, it is an association of over 400 academics in diverse disciplines united by their commitment to apply science, research and established knowledge to the benefit of the developing world. In all it does, the Earth Institute remains mindful of the staggering disparities between rich and poor individuals and nations. It also notes the tremendous impact that global-scale problems, from the AIDS pandemic to climate change, will have on all nations.

The macroeconomic significance of disease in developing economies

In 2000, Gro Harlem Brundtland, the director-general of the World Health Organisation, established the Commission on Macroeconomics and Health, and appointed Jeffrey Sachs as chair. Its report was published in 2002.² It called for a multibillion-dollar investment in the health of the least developed nations within which the poorest billion of the earth's current six billion eke out their existence. The report concentrated on those diseases associated with extreme poverty for which evidence was available that the cost of investment in treatment and prevention would be less than the economic benefits. HIV, tuberculosis and malaria were clear starters in sub-Saharan Africa where the world's worst poverty prevails. The Report called for a massive scaling up of health services in these settings to achieve the disease control goals.

I went to New York to work with Sachs but not on diseases such as HIV/AIDS. Instead, my interest is in the impact of serious and continuing illnesses, especially heart disease and stroke, on the four billion people who live in less developed countries. Heart disease and stroke are not top of the agenda of countries locked in extreme poverty that were the object of the Macroeconomic Commission's report. They are at the top or near the top for the vast majority of developing nations including India and China. Outlining the social and economic effects of cardiovascular disease in these countries is what my colleagues Henry Greenberg, Susan Raymond, Sarah Liu and Kathy Esson, and I did for 18 months in New York.

On April 26, 2004, the Center for Global Health and Economic Development of Columbia University published our report, *A Race Against Time: The Challenge of Cardiovascular Disease in Developing Economies*.³ In that report we documented the prospect for a significant rise in CVD deaths in developing economies over the next 30 years. This rise will be worse unless developing countries pursue energetically prevention and treatment of expressed CVD and antecedent risks such as obesity, high blood pressure and smoking. We based this claim on studies in five countries – India, China, South Africa, Brazil, and Russia, with special reference to Tatarstan. It attracted extensive global media interest. Three thousand copies disappeared in three weeks!

As a world, we are coming to accept the multi-billion dollar investments, which Sachs and colleagues foreshadowed as necessary to bring HIV, TB and malaria under control in the world's least developed nations. The *Millennium Declaration*, with its eight goals for the relief of extreme poverty by 2015 and the Global Fund for AIDS, TB and malaria, have come into being as a result. The commitment of President George W Bush of 10 billion new dollars to the relief of HIV in Africa and the Caribbean in his 2003 State of the Union address and his visit to Africa in July 2003 to see the suffering first hand are further examples of the U.S. taking these diseases seriously.

² Report of the Commission on Macroeconomics and Health, World Health Organisation, Geneva, Switzerland 2002 <http://www.cid.harvard.edu/cidcmh/CMHReport.pdf>

³ *A Race Against Time: the Consequences of Cardiovascular Disease in Developing Economies*. Center for Global Health and Economic Development, Columbia University, New York, 2004 http://www.earth.columbia.edu/news/2004/images/raceagainstime_FINAL_051104.pdf (This document contains references for many of the figures quoted in this paper.)

Now the new Director-General of WHO, Dr Jong-Wook Lee, has committed that organisation to having three million people with HIV receive antiretroviral therapy by 2005.

Serious and continuing illnesses not due to infections also matter

When we think about global health and illness, it is natural to focus on those conditions that have the most spectacular epidemic impact, the diseases that strike in childhood and early adulthood. Yet non-communicable diseases also matter. While we know these diseases well in affluent societies such as ours, we do not commonly grasp their impact in low-and middle-income countries. They are no longer diseases of the affluent minority, but diseases of the less affluent global majority. Australian academic medicine knows a huge amount about these conditions.

What is missing at present is a strategy for these diseases comparable to that for HIV, malaria and tuberculosis, a strategy that reaches out to the four billion people living in the less-developed nations and offers them hope of relief from heart disease and stroke.

Relating the global challenge to academic medicine

Given my career in academic medicine and my current interest in global health, it is natural, then, that I have given serious thought while in New York to the ways in which the academic health sciences, especially medicine, can relate to the challenges of global health in future. I want to explore that relationship this evening. I wish to emphasise how academic medicine might fill the gap in relation to the serious and continuing illnesses including heart disease and stroke.

The nature of academic medicine

By academic medicine, I mean the research, education and service including clinical care that members of university faculties of medicine perform. Academic medicine stands beside academic nursing, physiotherapy, pharmacy and other health professions within contemporary universities.

Academic medicine extends well beyond the university campus into hospitals, clinics, doctors' rooms and patients' homes. Academia has felt the pressure on publicly funded hospitals. The expectation of clinical service from academics has increased, and teaching time has been compressed in Australia, America, Britain and many other countries. Patients with severe illnesses spend little time in big hospitals. This has meant that clinical teaching has had to move to smaller district hospitals to provide students with contact with patients who have common illnesses and who stay long enough for students to meet them.

Recognition of the need for rural education of future doctors has spread faculties of medicine even more widely, making it tough to maintain educational standards and requiring the replication of infrastructure, including information technology and library services. Along the same lines, several new medical schools are to open soon in Australia, some in institutions that will need rapidly and expensively to expand their science and clinical capacity. They will need considerable financial help to meet these challenges.

The addition of the post-genome sciences such as bioinformatics to medical research, with their heavy dependence on commercial finance, has been immensely exciting but

has also led to changes of practice in research in academic medicine, and the ethical pathways have not always been easy to discern. Witness the debate about the use of foetal stem cells and privacy of genetic information. Universities, especially their medical schools, live with the tension of equity in education and competition in research. They must provide education, which at its best caters for students equitably and according to need, while simultaneously fostering research, which is the competitive generation and application of new knowledge. Research is an enterprise in which agencies do not fund the weak and faint-hearted.

The *British Medical Journal* (BMJ) canvassed the future of academic medicine recently.⁴ The concerns that have surfaced include lack of support for research that translates insights from the laboratory and applies them rapidly in the clinical care of patients. Young medical academics regard the workloads they bear as they strive for excellence in teaching, clinical practice and research as crippling and destructive of balance and quality life. How can one possibly be excellent in three fields?

The BMJ has committed £50,000 to a campaign to revitalize academic medicine and has taken a global view. In the group that gathered in London on June 14-16 this year to discuss what to do, were young academic medicine practitioners from China, India, Bangladesh, Thailand, and several other developing countries as well as from Australia, Canada, the U.K., Europe and the U.S. Part of the rethinking of academic medicine includes a reconsideration of its role in countries where resources are limited and the traditions of well-funded research and well-educated applicants to medical school are not established.

With so many vectors tugging at academic medicine, it would be a brave person who could confidently predict its future direction and velocity. However, whatever problems we face in Australia are common to much of the affluent world. We do well to keep our eyes wide open to successful responses that others have mounted, and to seek distinctive and constructive ways of handling them ourselves. My summary judgement, though, is that academic medicine is in fair to good form in Australia. I do not fear for its future. I can see the challenges but I don't melt at their sight. I believe we have sufficient strength in academic medicine to participate actively in setting policies for improved global health.

Nor, when I look at the state of the world's health, does my optimism diminish.

By now, you will be wondering whether I found a new drug in New York, perhaps distilled from the jellybeans that kept the late President Ronald Reagan jolly in the face of deficits and disasters! However, much remains to be done. Let me identify, right now, two things that academic medicine can do to contribute to global health.

First, it could point to the evidence about global health and emphasise the range of diseases that we should address, independently of what is fashionable. While acknowledging the need to assist with those diseases that dominate the least developed nations, academic medicine should be prepared to take account of the rising tide of non-communicable disease in the less developed world.

Second, academic medicine could analyse current global health policies and practices in developing countries critically, identifying blind spots and making a strong case to development assistance agencies for a change in tactics.

⁴ <http://bmj.bmjournals.com/academicmedicine/>

Progress in global health

First, I want to address the less obvious facts in global health. Progress made in global health in recent decades has been spectacular. Notwithstanding the problems we face with HIV, malaria and tuberculosis, the health conditions in all but the poorest developing nations have improved markedly over the last four decades. During the 1990s alone, infant mortality fell by a third in countries as diverse as Jordan, Indonesia and Nicaragua. Contrary to predictions of Malthusian doom, everywhere birth rates are falling. Indeed, they are falling more rapidly than had been expected, leading the U.N. in March 2002 to lower its global population projection for the end of the century by a billion people.

Once countries correct the appalling rates of infant mortality, citizens cease having as many children. To be sure, 48 developing countries remain in the U.N.'s least developed column and will not reach U.N. demographic and basic health goals by 2050. Of these, 33 are in Africa and represent 65 per cent of least developed populations: the problem of development lag is deeply geographically concentrated. But in general, things have improved spectacularly.

Life expectancy in the developing world is converging with Western levels and the world average is currently about 65 years. Only 4 per cent of the world's population lives in countries with life expectancy of less than 50, compared to 60 per cent in 1960. Moreover, women are seeing life expectancy increases that are larger than those enjoyed by men. Caloric intake has risen from 65 per cent of that of industrialized countries in 1960 to 83 per cent by 2000.

Global development has been improving, too

Simultaneously, the past decades have seen development gains in all but the very poorest nations, most of which are in Africa. When developing nations received their independence in the 1950s and 1960s, only 35 per cent of their populations were literate. Now, nearly three quarters are literate. A billion children are now enrolled in schools in developing nations. In 1970, only one woman in three was literate in more than a third of developing nations. UNESCO predicts that by next year, only four nations – all in Africa – will have such low female literacy.

Economic gains are also significant. In 1960 40 per cent of the world's people lived on less than a dollar a day. By 2000, that portion had been cut in half. Poverty remains, as I have acknowledged, and there has been unequal distribution of the benefits, but the engine of growth is running in most developing nations. And freedom also made gains. Between 1973 and 2003,

The tide of heart disease and stroke is rising in developing countries

So, for much of the developing world, health today is no longer what it was even in 1980.

Patterns of death have also changed. In 2000, there were about 56 million deaths worldwide. Non-communicable disease (NCD) now accounts for 60 per cent of all deaths. Seven million were cancer deaths. There are now five million deaths per annum from tobacco, many of them cancer deaths, and estimates suggest that these are due to rise to about eight million a year by 2020, the majority in the developing world, as the tobacco industry moves in on less affluent nations.

Sixteen million deaths in 2000 were due to cardiovascular diseases (CVD) – heart attack and stroke. Of these 16 million deaths, nearly three million occurred in China and three million in India. In China NCDs accounted for 83 per cent of deaths in 2000, compared with 46 per cent in 1954. So the scene is changing dramatically.

Contrary to popular belief, CVD is not primarily concentrated in high-income countries. Nearly 80 per cent of CVD deaths, and about 85 per cent of the CVD burden of disease, is borne by low and middle-income countries. It does not take long for CVD, once it surfaces in a country, to settle most heavily on those who are poor. Facts refute the prejudicial opinion that 'CVD is the person's fault for eating too much, smoking and not getting enough exercise.' This may be true for CVD sufferers in the affluent upper classes who have discretion over how they use time and plenty of money. It does not apply to the majority of people.

Also contrary to popular belief, much can be done to ameliorate CVD. Intervention at virtually any point of CVD's trajectory can reduce risk including the prevention of premature death. This opens up a wide array of options.

These include dietary advice, public policy to discourage tobacco smoking, and removal of subsidies for dairy and meat fat industries (as occurred with great health benefit in Poland, the former Czechoslovakia and several other Eastern Bloc countries).⁵ Sympathetic town planning that incorporates generous space and structural arrangements to encourage walking and using stairs and education of all levels of society about the value of pro-heart health behaviour are both important.

Heart disease and stroke affect the young

CVD in developing economies is not a disease only of old age. It is critically important to realise that CVD in developing countries is like it was in Australia in the 1950s and 1960s before effective therapy was available and before risk factor modification occurred through lifestyle and social change. At that time one-third or more of CVD deaths were occurring among people aged 40, 50 and 60. Now, we have pushed the disease into old age and the vast majority of Australian deaths from CVD are among people aged over 70 years.

This is not so in the developing world. There it is a serious cause of death and disability in the working-age population. The total number of CVD deaths in these ages will increase by 100 per cent to 250 per cent in the next three decades. In the U.S., only 12 per cent of CVD death occurs in the working ages; in Portugal, the country with the lowest CVD mortality in Europe, the portion is 9 per cent. In South Africa now, in contrast, it is 41 per cent, in India, 35 per cent, and in Brazil 28 per cent.

Furthermore, where data were available to us from which to calculate them, CVD morbidity (illness other than death) rates are four to five times greater than death rates and again these manifest heavily among people of working-age.

Heart disease and stroke are massive problems among women in developing countries

Although men often have higher CVD death rates than women, women paradoxically experience worse CVD health and socioeconomic outcomes as a result of it in several ways.

⁵ Hungary/Poland: one nation suffers while another grows healthier. Kitty McKinsey Radio Free Europe 052097 <http://www.rferl.org/nca/features/1997/F.RU.97052090937.html>

First, in some countries (notably Brazil), female CVD morbidity and mortality rates at some working ages are actually higher than those for males.

Second, women in the five countries we studied are much worse off relative to their industrialised sisters than are men. In fact, developing nation female CVD death rates are uniformly higher than those for industrial nation women.

Third, high male death rates during workforce years produce widows. The fastest path to poverty in nearly all societies – rich and poor – is widowhood. The earlier the age at which a woman becomes widowed, the steeper the slide into poverty.

Fourth, CVD usually causes disability before it causes death. Disability data are difficult to obtain, but primary source data we obtained for A Race Against Time indicate that CVD may account for between 25 per cent and 40 per cent of all disease disability in working ages in the five countries that we studied.

In developing countries, the completely disabled adult remains at home and income falls, and a family member stays at home to care for him or her. That person is often the youngest girl in the family. The most important lever on family health is women's literacy. But if girls are taken out of school to care for disabled parents and relatives, those gains are in jeopardy. And with them comes jeopardy for all manner of health progress, including child survival.

Time – and heart disease and stroke

Unfortunately, time is not on the side of developing nations in confronting the CVD threat to their economies.

On the one hand, population structure is changing in ways that confer immediate economic benefit. In many middle-income countries, over the next two decades, the number of children under the age of five will decline steadily while the numbers of adults over 65 will not rise markedly. In these two decades, countries have a one-time-only economic opportunity.

Dependency ratios – the numbers of children and older people relative to the number of adults in working ages – will decline. This will open a window of opportunity whereby a developing country can invest its economic growth to build and strengthen economic capacity for the future. During these next 20 years, fewer resources will be needed to support dependants. That window of opportunity will begin to close in 2020 when elder dependency starts to rise.⁶

Yet, it is precisely in these 20 years that the CVD threat to the labour force will grow. And it is the labour force that will be critical to capitalising on the productivity and investment opportunities of the next two decades. If that asset is compromised and economic gains are not made, the rising costs of an aging population may undo much of what development finance has accomplished to date.

⁶ Raymond SU. *Foreign assistance in an aging world*. *Foreign Affairs* 2003;82(2);9195.
<http://www.foreignaffairs.org/20030301faessay10341/susanraymond/foreign-assistance-in-an-aging-world.html>

The problem of rigid foreign assistance policies

Virtually no foreign aid agencies are currently providing aid to developing countries in relation to this impending economic and health care tsunami. Why not? If the data are so clear, why is attention lacking?

Again, academic medicine can help analyse the problem and propose solutions. Since the mid-1970s, most development assistance organisations (whether bilateral, multilateral, or philanthropic) have included health initiatives in their portfolios albeit with a narrow focus. The focus of these efforts has been three-fold: first, children under five years of age; second, women of childbearing age, and third; infectious diseases.

Children under five have been a legitimate focus due to high levels of child mortality. Women of childbearing age were a priority largely because of their reproductive function. From the early 1970s, concern over population growth gave reproduction pride of place in the global health agenda. Fertility control programs were deeply embedded in health initiatives.

The third focus of policy was infectious disease control. Infectious diseases represented the most important causes of early death throughout the developing world of the 1960s and 1970s. They were also diseases whose control strategies were amenable to foreign assistance funding. They required drugs, vaccines, chemicals for vector control, machinery for clean water systems, training programs, and outside experts.

Participant nations could fund all of these inputs to disease control with the hard currency procured from the companies, universities and private contractors of the funding nation.

All three foci shared an additional advantage. They were visible. Infectious disease epidemics and the suffering of women and children could be presented pictorially with heartrending impact and easily gain the sympathy of the Western public. This visibility permitted progress to be made, and this would have been an unmitigated success story if the demography and health problems of the developing world had remained as they were in the 1960s and '70s. With the exception of HIV/AIDS, this stability did not occur: populations have changed and disease profiles have changed, too, as I have indicated.

Yet, despite the changes in demography, health status, economic condition, and public-private relationships, much of global health assistance remains locked into these three policy areas. The calamitous advent of HIV/AIDS has demanded urgent and massive attention, and those seeking to aid developing nations can justly claim to have been so occupied with it that they have had no time or energy for thinking about anything else.

But other things have been occurring in global health and they, too, are important. However hard it is to think beyond the immediate, we must do so, or surrender our claim to knowing what is really happening in global health. I believe this is a responsibility of academic medicine – to develop and disseminate an accurate understanding of the current health problems facing the world.

Since policy drives money and money drives attention (in a circular rather than a linear manner), the lack of a broad understanding of global health has meant that there has been no global health investment in tracking, understanding, or changing the direction of the rising tide of chronic disease in developing nations.

Foreign assistance, based on static global health policy derived from demographic and disease profiles 40 years out of date, has had a second effect. It has influenced profoundly the health sector spending within developing nations themselves. They have nominated certain conditions as priorities in health because money is available from aid

agencies for them. Global priorities that come with money attached will trump any unfunded local priority list, however soundly conceived and based on local evidence the latter may be.

Finally, the nexus between the purposes for which money is available and development policy extends to health research. My colleague Susan Raymond has found that in the *American Journal of Public Health* in the last 30 years, for no country has there been more than one article on CVD. There have been 152 papers on China, but none of these was on CVD.

The research story for 'women's health' is even more striking. Susan Raymond found that in the archives of the *British Medical Journal* from 1998 to June 2004, under the category 'women's health,' there were 369 articles on pregnancy, 155 on family planning, 196 on reproductive medicine, three on CVD, two on diabetes, and 13 on cancer. Indeed, incontinence in women had five times the number of articles than CVD. One might conclude that women in the developing world had been immune to CVD between 1998 and 2004.

What are we doing?

There have always been medical academics who have taken a great interest in health beyond our shores, some heroically and diligently so, many of them located in Melbourne at its universities and research institutes. But recently the global HIV epidemic, and refreshed awareness of the risks of easy transport of natural infections, such as SARS and influenza, together with the threat of instruments of bioterrorism, has stirred interest in many others as well.

Academic medicine is in an excellent position, with its skills in collecting evidence and analysing that evidence, to assist in developing global health policy that is well attuned to all the problems facing the world today. In my presentation, I have used CVD as an example of a neglected problem where academic medicine could provide epidemiological evidence to raise its profile.

Academic medicine can also identify the best way to combat problems such as CVD. There are three approaches to the prevention and treatment of CVD that countries could apply simultaneously with different emphasis depending upon local need and capability, many spreading widely beyond the conventional reach of health departments.

Interventions such as tobacco taxation that occur at a macroeconomic level and have to do with the improvement of national revenues and the enhancement of productivity. They include agricultural subsidy policies and city planning both of which may have profound effects on CVD susceptibility.

Health-promotion, including the reduction of barriers to prohealth choices, health education and advertising of pro-health behaviour. Often we have invested homeopathically in this enterprise, expecting it to deal thousand dollar blows to multimillion dollar contra-health advertising and lobbying budgets.

Clinically-based, primary care intervention that seeks out those at high risk of CVD and reduces their risk through medical treatment for people who have elevated risk and are free of expressed disease and in those who have expressed disease. In both groups smoking cessation will confer immense benefit, halving risks of CVD endpoints by 50 per cent in two years. Other cheap therapy can be applied (e.g., anti-hypertensive medications) to prevent stroke or heart attack.

This more nuanced application of the concept of prevention, which accepts lifestyle and social change and medical care as complementary preventive interventions, does not sit comfortably on the shoulders of global health traditions. Indeed, only recently has global health recognised the interplay of therapy and prevention in AIDS, coming slowly to accept it as a chronic disease and the place of long-term antiretroviral therapy.

Foreign development assistance (private or public) has little experience supporting chronic disease programs in developing countries. However, nations such as the United States and Australia can point to considerable success in using public health, disease management and other measures to reduce risk factors, monitor, and manage the medical consequences of cardiovascular disease.

All health decisions and systems must be consonant with a nation's capacity and culture. Nevertheless, we can do much to support the application and adaptation of what we know to the problems of developing countries.

I consider that Australian academic medicine cannot excuse itself from concern for global health. Valid concepts of equity do not stop at our shoreline. Notions of national sovereignty based on white-knuckled exclusivity will not heal the world, will not alleviate extreme poverty or prevent future epidemics in the developing world, such as CVD, and will not promote peace. We must engage, not hide; we must include, not exclude.

Academic medicine can contribute to the reformation of global health policy and to the relief of the coming high tide of chronic diseases in the developing world. Academic medicine cannot make this contribution at zero cost, and it will influence the way we define academic medicine for the future, its research, its education enterprise and its clinical care. Alongside the challenges academic medicine faces in response to thrusting scientific advance, biotechnology, private-public partnerships, political fad and fashion and new ethical horizons, we must add responsiveness to the evolving agenda for global health and contribution to accurate global health policy. Meeting that challenge is not for academic medicine alone. It is one that seeks the commitment of everyone present this evening. I commend it to you as a major challenge of the age and one worthy of your talent and energy.

Acknowledgements

Many of the ideas and analyses used in this oration come from discussion and writing in the MacroCVD Research Group, the Center for Global Health and Economic Development, Columbia University and are shared intellectual property.

The MacroCVD Group includes Susan Raymond, PhD, Henry Greenberg, MD and Kathy Esson, PhD. I am also grateful to Kathy Esson for editorial comments on this oration.

About Stephen Leeder

Professor Stephen Leeder is Professor of Public Health and Community Medicine at the University of Sydney. He graduated with honours in medical science from that university in 1962, in medicine in 1966, and as a Doctor of Philosophy in 1974. He is a Fellow of the Royal Australasian College of Physicians and of its Faculty of Public Health Medicine. He was dean of the medical faculty at the University of Sydney between 1996 and 2002.

Professor Leeder spent the past 18 months with his wife and youngest son in New York City, working at Columbia University.

His colleagues (including his wife, Dr Kathy Esson, Dr Henry Greenberg MD and Dr Susan Raymond), set out to assess the impending effects of diseases such as cancer, mental illness, heart disease and stroke on developing economies. The Center for Global Health and Economic Development at Columbia published their report in April this year. It aroused great international interest. His address this evening is based on that report.

Professor Leeder is currently establishing a group in Sydney that will focus on assisting in the development of health policy, especially in Australia and those nations around Australia that wish to improve development policies in health.