

MACROECONOMICS, BENEVOLENCE AND HEALTH PROFESSIONAL
EDUCATION

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In this paper I wish to explore an important new policy document entitled *Macroeconomics and Health: Investing in Health for Economic Development*¹, (<http://www3.who.int/whosis/menu.cfm?path=whosis>) prepared by a Commission chaired by Professor J S Sachs (Director of Center for International Development at Harvard University). The Report was received on 22 December 2001 by Gro Harlem Brundtland, Director-General of the WHO. As part of that exploration I will emphasize the critical role that benevolence can play in international health gain. I will also comment on health professional education – something to which many of us have a career commitment - where I will argue that we need to exercise special judgement if we are to make a contribution to world health.

Macroeconomics is that form of economics that concerns itself with the composite created by economics of smaller units. There is no entry for it in the Shorter Oxford Dictionary. The Shorter Oxford Dictionary draws attention to the use of the prefix “macro” as meaning “larger” or a “collection of smaller units”, as when a macrocyst

contains multiple daughter cysts. The Macquarie Dictionary defines macroeconomics as “the study of the economics of the whole”. In the context of this paper it is helpful to see macroeconomics as the study of the economies of the nations of the world. Adam Smith, author of *The Wealth of Nations*, studied the factors that made for differences in the economic prosperity of nations at the time of Cook’s landing at Botany Bay. Many of the factors that he identified – climate, ready access to water for transport of major items of trade – persist. Our understanding of the macroeconomic determinants is now more sophisticated and key among these determinants, as the Report on *Macroeconomics and Health* suggests, is health.

Benevolence is a word that comes to us from Old French. Chaucer used it. It carries the freight of kindness, generosity, shared benefit and an interest in the welfare of others. It lies at the heart of genuine acts of charity, but implies more mutuality and shared sustenance than do sharper terms such as self-sacrifice. I do not wish to defile the meaning of benevolence, but many acts of charity come from people whose own welfare will not be seriously diminished by their gift. It is important when considering global health to assay the applicability of this moral attribute, which, if widely applied, might blaze the path to a more sustainable future.

In my presentation I want first to provide you with an overview of what the Report on Macroeconomics and Health says, and the global context, especially the health of nations, in which it says it. In so doing I hope to show where benevolence fits. I will then turn to the matter of health professional education.

The *Report on Macroeconomics and Health* (RMH) commences with these words:

The world community has within its power the capacity to save the lives of millions of people every year and to bolster economic development in the world’s poorest countries. The Report describes a strategy for achieving those goals by expanding investments in the health of the world’s poor. Our conclusions are substantiated by extensive research and

consultations undertaken during the past two years, especially by the work of six Working Groups, which in total produced 87 background studies and six synthesis documents to be published by the WHO.

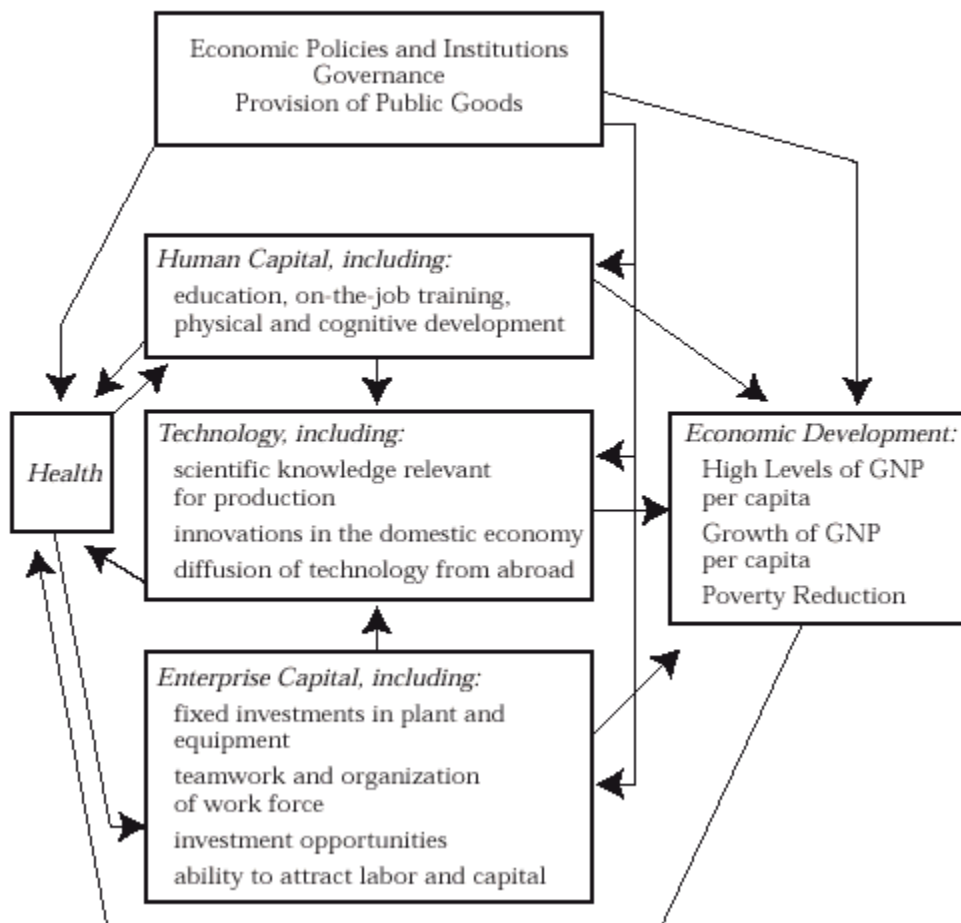
The evidence linking health and national development is then reviewed. The importance of health in its own right cannot be overstressed, it says. Good health consistently ranks as number one desire of men and women around the world. ‘The anguish of disease and premature death makes disease control a central preoccupation of all societies, and motivates the inclusion of health among the basic human rights enshrined in international law. The wisdom of every culture also teaches that “health is wealth” in a more instrumental sense. But in addition, for individuals and families, health brings the capacity for personal development and economic security in the future. In economic terms, health and education are the two cornerstones of human capital, which Nobel Laureates Theodore Schultz and Gary Becker have demonstrated to be the basis of an individual’s economic productivity. As with the economic well-being of individual households, good population health is a critical input into poverty reduction, economic growth and long-term economic development at the scale of whole societies.’

While those of us working in public health have often argued that, until poverty is reduced, we cannot expect significant health gains to occur, the RMH explores this association from the other end. What is needed to reduce poverty? One interpretation of the progress made by many of the now affluent nations is that their economic growth followed improvements in health. “The cost of avoidable disease is huge, translating into dozens of percent of GNP of the poorest countries each year, or billions of dollars. An episode of illness may reduce an already poor family to penury.”

Lest anyone imagine that what is being proposed is an oversimplified, unidimensional attack on global illness, by means undefined, the RMH makes the point early on that ‘investments in health work best as part of a sound overall development strategy. Economic growth requires not only health but also education, and other complementary investments, an appropriate division of labor between public and private sectors, well-

functioning markets, good governance and institutional arrangements that foster technological advance.’ Health as an input into economic development is exemplified in a figure from the RMH (Figure 1).

Figure 1. HEALTH AS AN INPUT INTO ECONOMIC DEVELOPMENT



Three principal paths by which disease impedes economic well-being are identified. The first and most direct is that avoidable disease reduces the number of years of healthy life expectancy. The economic losses to society of truncated lives, says the RMH, due to early deaths and disability, run to billions of dollars a year and represent a significant percentage of the national incomes of low-income countries. ‘As a result of the AIDS pandemic alone, aggregate economic growth will slow several percentage points per year

in Africa, if individuals in the prime of their working lives are struck down.’ The second is the effect of disease on parental investment in children. Societies with high rates of infant mortality (deaths under 1 year of age) and child mortality (deaths under 5 years of age) have higher rates of fertility, in part to compensate for the frequent deaths of children. Large numbers of children, in turn, reduce the ability of poor families to invest heavily in the health and education of each child. The third is the depressing effects of disease on the returns to business and infrastructure investment, beyond the effects on individual productivity. Whole industries, in agriculture, mining, manufacturing, and tourism, as well as important infrastructure projects, are undermined by a high prevalence of disease.

An anxiety that some may have at this stage is that health is being relegated in this policy model to a position subordinate to economic development. The latter may be thought to be a problem in its own right. Indeed, unfettered economic growth is a major contributor to the ecological crisis that we face, a story told in rich and compelling detail by the septuagenarian Harvard biologist EO Wilson in his latest book, *The Future of Life*². Our exploitative approach to the biosphere is summarized neatly in the motto on the back of aerosol packs of toilet perfume-deodorants that reads, ‘Created by Nature: Captured by Glade’.

Some argue that in view of the fact that to lift the entire world’s population to current levels of western affluence we would need the combined resources of four planet Earths, it might be better to leave the impoverished sectors of the world to their implosive fate. If health gain is a prelude to economic progress, perhaps we should leave malaria, TB and HIV to do their work. This attitude – selfish, pessimistic, cynical and passive – is also self-defeating for like the governor-general in the Gilbert and Sullivan production of the comic operetta *Whitlam*, nothing will save humanity, and indeed the entire mantle of the biosphere, if western consumer behaviour is not rationalized within this century. Learning how to do this with an eye on the rest of the world would be a good prelude to doing it in our own country. It is unfettered greed, not economic development *per se*, that is the problem.

Exactly how essential investment in health is for a sustainable future can be gleaned from the two regression plots that follow. These illustrate first the relationship between infant mortality and total fertility (Figure 3) and then, second, the relation between infant mortality and population growth (Figure 4).

Figure 3. RELATIONSHIP OF INFANT MORTALITY RATE (X-AXIS) AND TOTAL FERTILITY RATE (Y-AXIS), 148 COUNTRIES, 1995 (partial-regression plot)

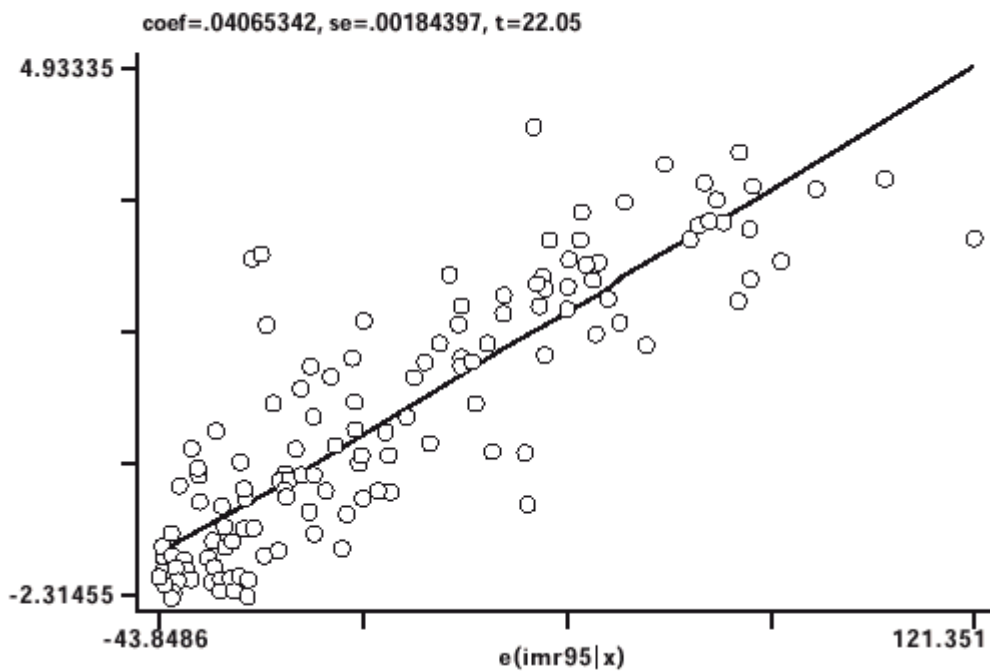
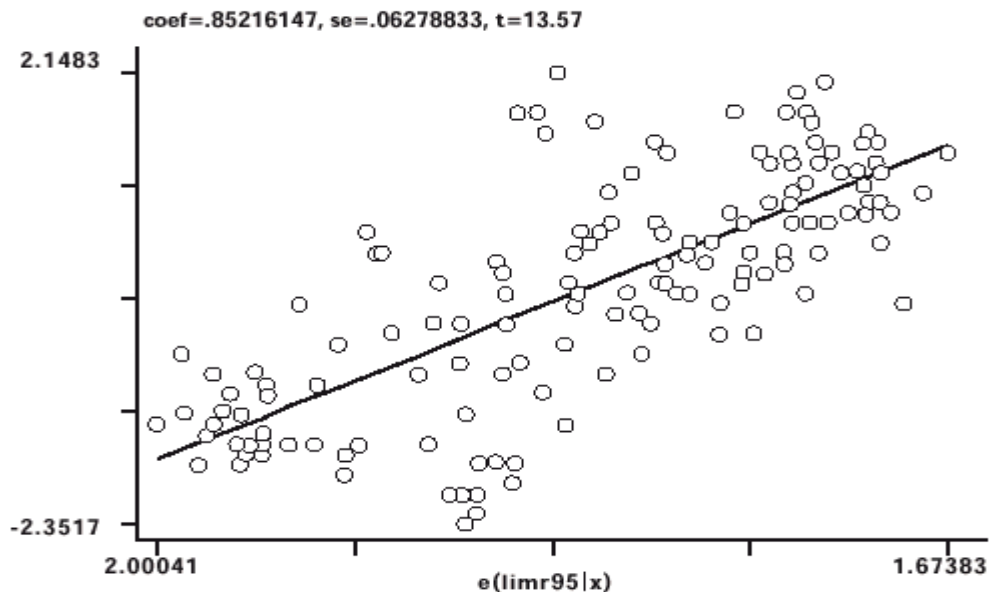


Figure 4. RELATIONSHIP OF LOG (INFANT MORTALITY RATE) AND POPULATION GROWTH RATE, 148 COUNTRIES, 1995 (partial-regression plot)



One may have a portfolio of conflicted views about globalization as a commercial phenomenon, but the globalization of illness is a further argument that demonstrates the futility of wealthy isolationism. It is true that the major impact of HIV has been in non-western nations, as can be seen from the accompanying table (6). This virus alone has led to devastation of economies, especially in sub-Saharan Africa.

Table 6. AIDS EPIDEMIC, SELECTED REGIONS, END-1999 (000s)

Region	People living with HIV/AIDS, end-1999	AIDS Deaths, 1999	AIDS Orphans, 1999	Adult Prevalence (%), end-1999
Global	34,300	2,800	13,200	1.07
Sub-Saharan Africa	24,500	2,200	12,100	8.57
East Asia and Pacific	530	18	5	0.06
South and Southeast Asia	5,600	460	850	0.54
Eastern Europe and Central Asia	420	8	15	0.21
North Africa and Middle East	220	13	15	0.12
Western Europe	520	7	9	0.23
North America	900	20	70	0.58
Caribbean	360	30	85	2.11

Source: UNAIDS, Report on the Global HIV/AIDS Epidemic, June 2000.

The Report suggests that the health prospects of the poorest billion could be radically improved by targeting a relatively small set of disease and conditions for which effective interventions exist that can reduce mortality. These conditions include HIV/AIDS, malaria, TB, maternal and perinatal conditions, widespread causes of child mortality including measles, tetanus, ARIs, diarrhoeal diseases, other vaccine preventable diseases and tobacco-related disease. The best path forward, says the Report, is on two tracks. One is by direct investment in the health system – to make it strong enough, and well funded enough, and with the right priorities to deliver a relatively small number of essential interventions. The other is by complementary steps in education and in broader institutional advances, such as community involvement, so that the poor can effectively get access to and are motivated to seek out these essential interventions.

The Report then goes into the complex task of costing the various interventions that prevailing diseases in the impoverished one billion require. An idea of what is involved is conveyed in Table 7 from the RMH. To reach the increased coverage rates by 2007, the Report says, would require the expenditure of an additional US\$14 per person in the low-income countries and US\$22 per year in the least-developed countries. This is a high level compared with present outlays. Estimates from David Evans and his colleagues at WHO Geneva suggest that effective health services can be provided for about \$80 a year in purchasing-power-parity adjusted dollars.

Table 7. COVERAGE GOALS FOR MAJOR SCALE UP (AND ESTIMATED CURRENT 2002 COVERAGE)

	2002	2007	2015
TB	44%	60%	70%
Malaria			
Treatment	31%	60%	70%
Prevention	2%	50%	70%
HIV			
Prevention (outside health sector)	10–20%	70%	80%
Prevention (within health sector)	< 1% – 10%	40%	70%
Care of OI	6%–10%	40%	70%
HAART	< 1%	45%	65%
Immunization*			
BCG/DPT/OPV	75%	90%	90%
HepB/HIB**			
Measles	68%	80%	80%
IMCI			
ARI	59%	70%	80%
Diarrhea	52%	70%	80%
Maternal			
ANC	65%	80%	90%
Skilled birth attendance	45%	80%	90%
Smoking control policies (tax greater than 80%, ad and promotion bans, consumer information)	20%	80%	80%

** includes provision of Vitamin A; ** HepB/HIB are not included in 2002 coverage.*

It is here that benevolence cuts in. Without assistance from donor countries, this will not work. While some scaling up of local investment in health is needed, outside support is essential. The relative contributions are illustrated in table 8.

Table 8. DOMESTIC SPENDING AND DONOR ASSISTANCE ON HEALTH, 1997–1999

	Public Spending on Health (per person, 1997, \$US)	Total Spending on Health (per person, 1997, \$US)	Donor Assistance for Health (per person, average annual 1997–1999)	Donor Assistance for Health, annual average (\$US millions 1997–1999)
Least-Developed Countries	6	11	2.29	1,473
Other Low-Income Countries	13	23	0.94	1,666
Lower-Middle-Income Developing Countries	51	93	0.61	1,300
Upper-Middle-Income Developing Countries	125	241	1.08	610
High-Income Countries	1,356	1,907	0.00	2
All Countries			0.85	5,052

Note: Unweighted averages for countries in respective categories. Includes only countries with population of 500,000 or more in 1997.

The contributions from the wealthy world might be made in two principal ways. First they could be in the form of targeted grants. Second, they could be through debt relief, insofar as the most heavily indebted countries are also the least healthy. Such countries are incapable of accepting the rugged economic prescriptions of the IMF and WB to repair their economies. Probably ten percent of the world's population lives in these 42 countries, meaning that each has a suffering population around the size of Australia's.

When attention is turned to middle-income countries a rather different picture emerges. These countries manifest large internal variations in the distribution of wealth. As Fernando de Soto³ has shown, many of them have huge capital reserves that are immobilized by the lack of a legal system that allows property to be used as a basis for liquefying capital and using it for more productive purposes. Egypt, which is estimated to have an imprisoned capital stock of over \$100 billion, is an example.

These countries, often sustaining a wealthy elite by an impoverished general population, are attractive to some educational institutions whose international outreach is based purely on predatory motives, looking to ways in which the wealth of the elite can be transferred to their coffers through the training of elite sons and daughters in professions that will do nothing for the health of the impoverished majority. There are, for example, pockets of intense poverty in rural China and Brazil. People there generally pay out of pocket for health services. It is countries such as these that do have the capacity to respond to the demands of the WB and IMF that leverage should be used to achieve more equitable distribution of health resources as a loan or grant condition. Targeted loans from the WB to Brazil, China and Thailand for AIDS and TB demonstrates that this approach can work.

An important part of the provision of essential care recommended by the RMH is what it terms CTC or *close-to-client* services. This consists of relatively simple hospitals, health centers and, in some places, smaller health posts. People other than doctors do a great

deal of the work in the CTC system. It is a system remarkably like that provided by Australia in Papua New Guinea post WWII and now essentially disrupted by a concentration on larger hospitals, a medical profession, and new technology. Now infectious disease, overlaid by HIV and the non-communicable disorders, steadily gains momentum.

There is much more in the RMH that I could speak about. It goes on to examine how the health sector can be placed in a broader context of health promotion and the role of health and medical research in effective service provision and prevention. It examines the ratio of new health knowledge obtained from the public and private sectors, and how we might meet the need for commercial involvement balanced against the desire for global access to treatment such as the antiretroviral agents to disrupt mother-to-child transmission of HIV. The RMH calls for an investment of US\$3 billion each year in R&D directed at the health priorities of the world's poor.

Let us turn now to the practicalities of the benevolence we might need to manifest to enable this program of health and economic uplift for the poorer four-fifths of the world. Current patterns of aid are summarized in Table 14. Total bilateral flows amounted to one cent in every dollar of donor GNP. The Gates Foundation contributes nearly \$1 billion per annum, and corporate philanthropy can also help.

Table 14. OFFICIAL DEVELOPMENT ASSISTANCE FOR HEALTH AND POPULATION PROGRAMS, BILATERAL SOURCES, BY AGENCY (US \$ MILLIONS)
(Average 1997–1999)

Country	Health	Population	Total	% of GNP
United States ¹	535.8	385	920.8	0.012
Japan	338.6	21.2	359.9	0.009
United Kingdom ²	267	19.3	286.3	0.023
France	184.4	1.5	185.9	0.013
Germany	118.6	65.7	184.3	0.009
Netherlands	80	21.5	101.4	0.026
Australia	64.8	14.9	79.6	0.021
Sweden	58.7	20.4	79.1	0.035
Spain	72.9	1.9	74.8	0.014
Belgium	58.8	1.7	60.5	0.024
Norway	41.3	15.1	56.4	0.037
Denmark	48.1	0.9	49	0.028
Austria	48.9	0.1	49	0.023
Canada	22.6	6.1	28.7	0.005
Italy	20.6	1	21.6	0.002
Switzerland	17.2	0.7	17.9	0.006
Finland	16	1.2	17.2	0.014
Luxembourg	16.2	0.5	16.7	0.089
Ireland	10.4	—	10.4	0.015
Portugal	8.6	0.1	8.7	0.008
Greece	5.8	—	5.8	0.005
New Zealand	3.1	0.2	3.3	0.006
<i>Total³</i>	<i>1,982.4</i>	<i>577.5</i>	<i>2,559.8</i>	<i>0.011</i>

Notes: (1) Source: USAID database, covers all accounts

(2) Source DFID database

(3) All other bilaterals: from DAC online database

The RMH calls for a US\$27 billion increase in donor aid each year. More than this could not be used at present. The aid would need to be tethered to clear and quantifiable targets for coverage of interventions and for health outcomes, focused on countries willing to assist themselves as far as they can. Transparency would be essential as would program evaluation with cut-off clauses.

So much for the reasoning behind health investment and the likely costs. The RMH also provides estimates of the economic benefits that might be expected from this investment. The level of intervention proposed in the Report would lead to a predicted reduction in deaths by about 8 million per year, due to infectious disease and maternal conditions, by 2015. For those who accept the disability adjusted life year (DALY) as a legitimate

measure, the gain would be of the order of 330 million DALYs. This translates into direct economic savings of between \$200 and \$500 billion a year. This is three times the cost of scaling up health services in the low-income countries (\$66 billion).

If life expectancy were raised by say 20 years in low-income countries, the effect on economic growth would be around 0.5% per annum. This would translate into a 10% increase in per capita income over 20 years. As the GNP of the low-income countries will be around \$1.8 trillion in 2020, the 10% increase translates as \$180 billion per year.

How can all this be made to happen? Low-income and donor countries each have their responsibilities. The recipient countries need to map a path to universal access to basic health care services for all their people. The report recommends that each country form its own macroeconomic commission, jointly auspiced by the health and finance portfolios. Tasks are nominated for these commissions. Donor countries would need to mobilize annual commitments of around 0.1% of GNP, or about \$27 billion by 2007. The WHO and the WB would auspice this scaling up. International agencies such as WHO, the Global Alliance on AIDS and TB and others will need to be involved in proposing and implementing strategies.

The report concludes as follows:

Fighting disease will be the truest test of our common capacity to forge a global community. There is no excuse in today's world for millions of people to suffer and die each year for lack of \$34 per person needed to cover essential health services. A just and far-sighted world will not let this tragedy continue. Leaders will follow their pledges of recent years with actions needed to give dignity, hope, and life itself to the world's poorest and most vulnerable people. We know that this can be accomplished, and we are optimistic that, in the coming years, the world will throw its energies behind this vital and worthy task.

Thus the RMH represents a carefully reasoned policy for co-operation between donor and recipient nations. It depends upon self-help and benevolence as well as the established benefits of medical and public health interventions for its success.

What kind of response can we as health professional educators make to the claims of the RMH? At very least we need a comparable policy that specifies how our national and international training initiatives might be expected to lead to health gain wherever our graduates work. A microeconomic model that situates health professional education in the context of revenue raising for the training nation as its sole goal is at best incomplete.

A recent editorial in the *British Medical Journal* by Tikki Pang⁴ from the WHO in Geneva, Andy Haines from the London School of Hygiene and Mary Ann Lansang, from the International Clinical Epidemiology Network (INLCLLEN) Trust in Manila, specifies some of the challenges that apply globally at present in regard to the health professional workforce. Around 23,000 qualified academic professionals emigrate from Africa each year. From South Africa a third to a half of all medical graduates emigrate to the developed world. More than 150,000 Filipino nurses and 18,000 Zimbabwean nurses work abroad. In the UK 31% of its doctors and 13% of its nurses are born overseas. The reasons for emigration are multiple and complex, rather as are those that determine that doctors in Australia prefer Sydney to Ceduna. In many countries doctors work in the private sector rather than the public. In conversation with a dean from Malaysia last week I was told that half the doctors there serve the needs of one fifth of the population in lucrative private practice, while the other half serve the remaining four fifths through public agencies. These problems cannot be laid entirely at the feet of the education of health professionals, but I believe that some of them can. Pang *et al* call for a series of bilateral agreements between high and low-income nations that reverses the current trend for high-income nations to exploit the flow of health professionals. Programs of managed migration, to which might be added programs of appropriate education, are also proposed.

By careful recruitment of third party agencies, especially large foundations such as Rockefeller, Gates and similar funds, it is possible, as the INCLEN demonstrates, to provide training for health professionals from other countries that can be coherently integrated with a policy that seeks, like the RMH, to achieve efficient and profitable health gain. The coherence of the policy depends on identifying the needs for which the professional will be trained and embarking on a program of institutional uplift in tandem.

As I read in a paper passed to me kindly by Stephanie Short recently, Australia's aid has taken health care more seriously lately and with a more organized style. This is to be welcomed. As training institutions we need to establish a policy framework in which our training of overseas people as health professionals has a worthy strategic purpose.

At home, the implications of the urgent world scene (for such it is when one considers social unrest and the environmental calamities that gather like storm clouds) must be brought home to our students. In Medicine I am repeatedly delighted by the enlightenment our students gain when they visit and work in less-developed nations as part of their elective studies. I am equally delighted by the success of Richard Taylor's Master of International Public Health which is providing students with insights and tools to engage as health professionals in the achievement of some of the goals that resonate with those of the RMH.

We have come, as E O Wilson puts it, to a bottleneck in the course of science. The biosphere is under considerable threat. We can harness science to see us through the bottleneck if we so desire and if our perception of the threat is accurate enough to motivate radical change. We need to stabilize the world's population and this will only occur when the threat of death to infants is removed. We need also to moderate the demands that we as dwellers in the affluent fringe make upon our natural resources. This can occur when we reach out to those who are less fortunate, with a combination of benevolence and good sense, and help them gain health.

E O Wilson concludes his book *The Future of Life* by saying the following:

The central problem of the new century, is how to raise the poor to a decent standard of living worldwide while preserving as much of the rest of life as possible. Both the needy poor and vanishing biological diversity are concentrated in the developing countries. The poor, some 800 million of whom live without sanitation, clean water, and adequate food, have little chance to advance in a devastated environment. Conversely, the natural environments where most biodiversity hangs on cannot survive the press of land-hungry people with nowhere else to go.

The problem can be solved. Adequate resources exist. Those who control them have many reasons to achieve that goal, not least their own security. In the end, however, success or failure will come down to an ethical decision, one on which those now living will be defined and judged for all generations to come. I believe we will choose wisely.

I look forward to discussing these matters in the time remaining to us this evening.

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