Globalization's Challenges to Health Research

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My comments focus on how contemporary globalization is challenging how we consider health research.

I have three simple points to make:

Three points

1. Shifting from international to global health framing
2. Narrative syntheses and reasoned judgement in determining weight of evidence
3. Importance of stories in policy-communication

First, the implications of shifting our understanding from an international to a global health frame.

Second, the important role of narrative syntheses and reasoned judgement in determining the direction in which the weight of evidence falls.

Third, why it is important to use ‘stories’ to communicate global health research findings in policy-relevant ways.

On the first point:

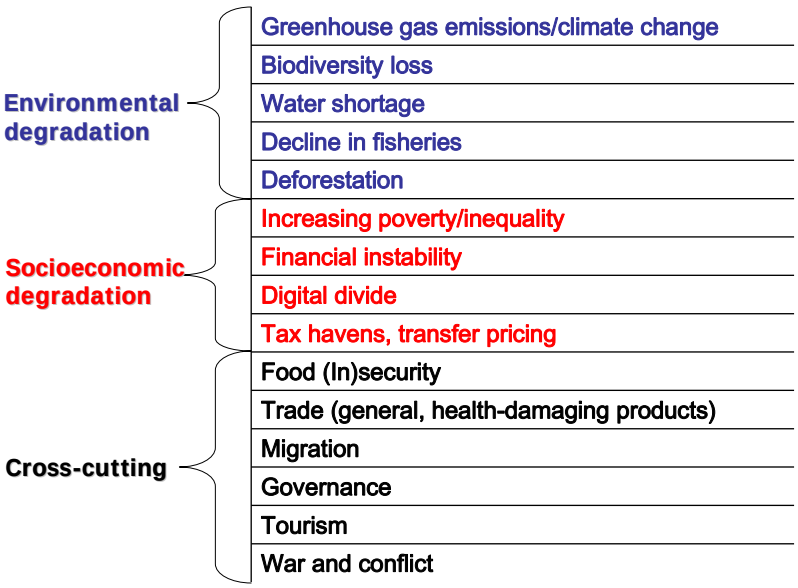
Until recently, researchers, development agencies and NGOs mobilized around ‘international health’ issues: the greater burden of disease faced by poor groups in poor countries. In this way of thinking, health research remains essentially a partnership between wealthier and poorer countries on diseases or health issues within the poorer partners’ borders.

International or Global Health?

- International = concern over health of poor in other countries (burden of disease)
- Global = recognition of *inherently global health issues*, of interdependencies

This is still important and a part of global health research, but insufficient.

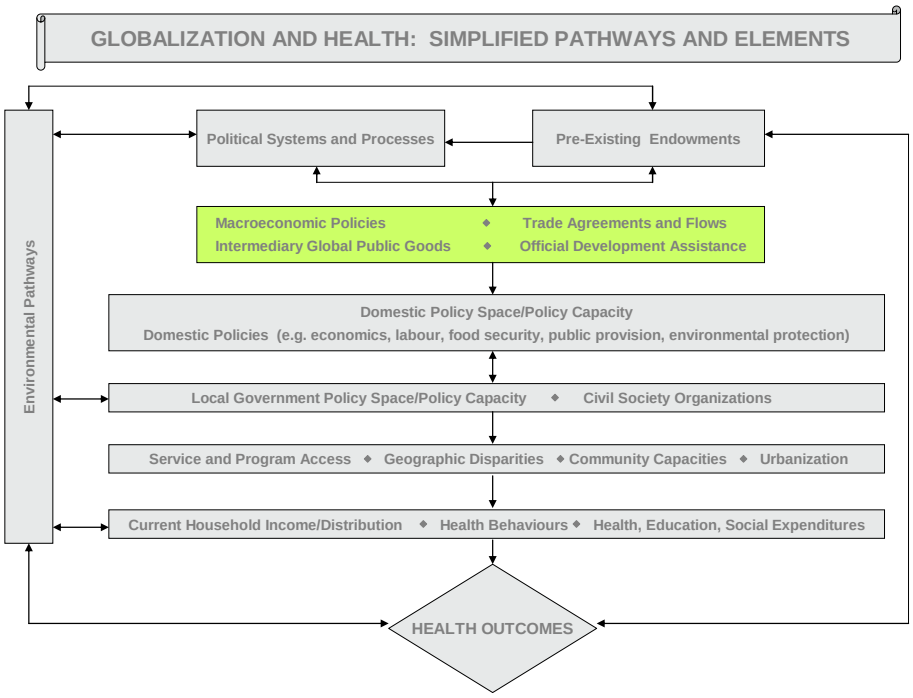
Contemporary globalization has given rise to ‘inherently global health issues’ – health-determining phenomena that transcend national borders and political jurisdictions.



Source: Labonte and Spiegel, *BMJ* 326, 2003; Labonte and Torgerson, *CPH* 2005.

There are many ways of conceptualizing globalization: what our own group's research has focused on is its economic dimensions, defined primarily as increased global market integration driven by neoliberal economic policies and new technologies.

To illustrate what this means for health research, I refer to a simplified and traditionally hierarchical model of globalization and health.



The framework identifies the key 'drivers' of global market integration – macroeconomic policies such as structural adjustment, trade agreements and increased if usually inequitable flows in goods and services; and those multilateral institutions – such as the UN agencies, but also the Global Fund and other Global Public Private Partnerships – that work to provide global public goods, and development assistance as a crude, grossly inadequate and too often self-interested and patronizing system of global taxation and redistribution.

The researchable questions work up and down the framework.

One could start with a typically 'international health' research question: What is the effectiveness of community health workers in improving maternal/child health? And a typically sound approach to answering this question would be a pre-post study using a randomized, quasi-experimental or multiple case-study design where the number or skill-set of community health workers was the independent variable.

But working down the framework from the level of program intervention, one might also ask: How are resources for health controlled within the home? How do household education or income levels interact with community health workers in explaining differences in outcomes?

And working up one might ask: How equitably are community health workers distributed within and between rural and urban areas? Are policies for public provision of services adequate? Are there regional management structures in place to ensure quality and continuity?

But working even further up – to the national and global levels – one would also need to ask: What are the constraints on national government expenditures to ensure an adequate and equitable supply of community health workers? What role do international aid agencies or multilateral institutions play in worsening or lessening these constraints? How does the proliferation of siloed global health programs affect the development of a more integrated and effective public provision system? What role do trade agreements play, particularly in employment conditions or income generation that might affect household resource levels? How does the 'brain drain' affect the supply of community health workers or, more importantly, the supply of nurses or physicians needed as more highly skilled back-ups? How does capital flight or the existence of offshore tax havens constrain expenditures, or promote corruption that, in turn, might ripple down the public and private systems of delivery? And so on.

This brings me to my second point: the importance of assembling a diverse set of evidence in reasoned argument.

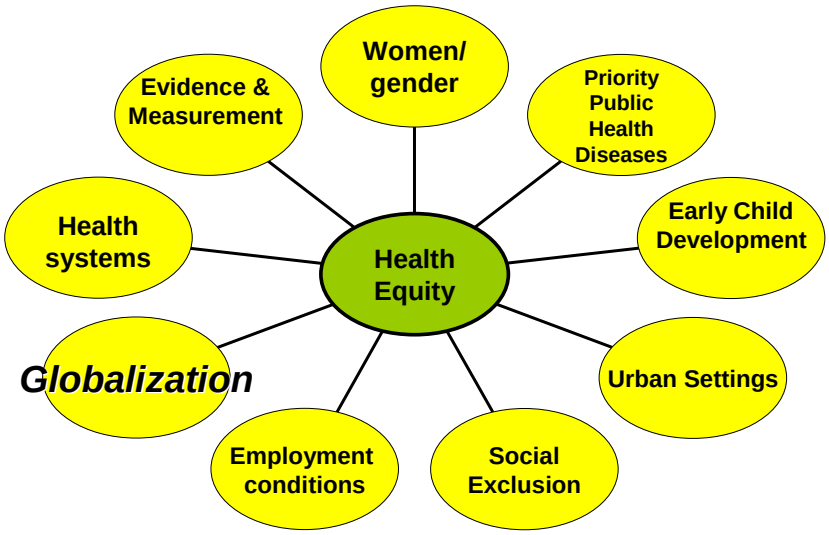
Three points

1. Shifting from international to global health framing
2. **Narrative syntheses and reasoned judgement in determining weight of evidence**
3. Importance of stories in policy-communication

It should be self-evident from the simplified (and I emphasize *simplified*) model of globalization and health that no single study can capture all of the links in the causal chains.

This was the problem we faced when we took on the role of leading the Globalization Knowledge Network for the WHO's Commission on Social Determinants of Health.

Knowledge Network Themes



KN responsibilities

- Synthesize knowledge about how the determinant(s) of their knowledge network affect health outcomes
- Globalization accepted as a ‘determinant of social determinants of health’
- Attend to equity in outcomes (gender, economic, geographic, cultural)
- Use a plurality of sources and forms of evidence
- Identify case examples of programs/policies that enhanced health equity (if such exist)
- Distil the evidence base to key policy recommendations

We first had to:

- assemble a global network of multidisciplinary researchers,
- convene network meetings,
- establish a list of globalization topics based on extant knowledge that needed thorough narrative review, develop research/writing groups,

Analytical and Strategic Review Paper (Ronald Labonte and Ted Schrecker, University of Ottawa) Evidence of globalization links with income, wealth and health (Giovanni Andrea Cornia, University of Florence) Globalization and innovations in global governance for SDH (Kelley Lee, LHSTM) Globalization, labour markets and SDH (Ted Schrecker, University of Ottawa) Trade liberalization (Chantal Blouin, North-South Institute) Aid flows and effectiveness (Sebastian Taylor, University College London) Globalization and policy space (Meri Koivusalo, STAKES & Ted Schrecker, University of Ottawa) Health governance and the IFIs (David Woodward, New Economics Foundation UK)	Global shifts in power relations (Patrick Bond, University of KwaZulu-Natal) Debt and PRSPs (Mike Rowson, University College London) Globalization and health systems change (John Lister, University of Bradford, UK) Globalization and the migration of human resources for health (Ronald Labonte and Corinne Packer, University of Ottawa) Globalization and food/nutrition transitions (Corinna Hawkes, IFPRI) Water and sanitation (Zoe Wilson & Patrick Bond, University of KwaZulu-Natal) Intellectual property rights and health inequities (Carlos Correa, University of Buenos Aires, Argentina) Globalization and SDH in Latin America (Jaime Breilh, Centro de Estudios y Asesoría en Salud, Ecuador)

- share our current 12,000 item reference data base and continue to build it through the work of the research groups, and
- meet with WHO Secretariat staff, Commissioners and civil society representatives to ensure a saturation in global evidence, pertinence to the values-base of the Commission, some integration with the work of the other Knowledge Networks, and message relevance to policy-makers
- all in 16 months!

Much of the early debates in this project surrounded methodology; the conclusions reached for our KN was:

The need for multidisciplinarity:

- Globalization's effects are best described through a narrative synthesis that integrates several kinds of findings
- Description of national and international policy context
- Country- or region-specific case studies, using a variety of methods
- Evidence from clinical or epidemiological studies
- Ethnographic research, field observations and other accounts of experience 'on the ground'
- Based on 'path-dependent' modeling

There is no algorithm for how to combine all of these diverse results into a statistically robust form of proof. Instead, globalization as a 'path-dependent' phenomenon is rife with uncertainties which need explicit recognition, especially when the synthesis of evidence is driven by an explicit values-orientation (in our case global health equity) and a purposive goal (policy implication).

The need for explicit recognition of uncertainty:

- Rarely, if ever, possible to state conclusions with degree of certainty possible in laboratory situations or controlled trials
- "The further upstream we go in our search for causes," and globalization is the quintessential upstream variable, the greater the need to rely on "observational evidence and judgment in formulating policies to reduce inequalities in health" (Marmot, 2000)
- Reasoned argument of weight of evidence rather than reliance on statistical norms of probability
- Inherent values-based of reasoned argument: global health equity as the policy goal

This does not mean that uncertainty is sufficient cause for inaction; rather, the burden of proof shifts from statistical probability to a more legal notion of weight of evidence in a context of reasoned argument.

The robustness of that argument, and the weight of evidence supporting it, is buttressed by the review process. Each of the 'knowledge products' went through:

- Detailed reviews by our central team at the University of Ottawa
- Detailed reviews by other KN members, and debate over a week-long network meeting
- Two blinded external reviews organized by the KN by individuals selected, in part, on the likelihood of their disagreement with the inferences drawn by the research/writing teams, and with the explicit charge to address evidence gaps

- Five blinded external reviews of the final synthesis report managed by the Secretariat, with the same charge to address evidence gaps

The entire process has seen a shift in research discourse from a rhetoric of evidence-based, to one of ethics-based and evidence-informed.

Which brings me to my third and final point:

This point is not unique to global health research, but a few interesting examples underscore the basic truism that all research is essentially a form of story-telling.

I think we are all familiar with the usual humorous rants about the limitations of statistics:

- Statistics are the belief in the ability of people to be profoundly, irrevocably and urgently moved by a $p < .05$
  (*Belial's Glossary of Public Health*)
- Statistics are people with the tears washed off
  (Victor Sidel)
- There are lies, damn lies, and then there are statistics
  (Mark Twain)

I hasten to add that some of my best friends are epidemiologists, and personally I have nothing against numbers.

But what matters in policy and political mobilizations is less the numbers than the stories that are created from them.

Consider this deeply moving equation:

$$\frac{\partial y_{ct}}{\partial X_{ct}} = \frac{\beta_1 \cdot \alpha_2 + \beta_2}{1 - (\rho + \beta_1 \cdot \alpha_2)}$$

And then the ‘story’ it economist researchers translate it into:

The Globalization is Good for Us Story

Liberalization ➔ Increases Growth
Increased Growth ➔ Increases Wealth
Increased Wealth ➔ Decreases Poverty
Decreased Poverty ➔ Increases Health
Increased Health ➔ Increases Growth

Which one gets the attention of want-to-be-believing trade ministers, business page columnists and media elites?

This story, while still dominant, has been challenged empirically in every one of its assertions, with the weight of evidence now tilting in a different direction.

One of the challenges brought to bear was a complex set of regression analyses performed by Giovanni Andrea Cornia and colleagues for the GKN using a newly constructed ‘globalization/health nexus’ data base on variables established as indicators of policy-driven pathways linking globalization to health outcomes.

And so, a different pretty equation based on a different set of assumptions or, in story-book language, a different ‘once upon a time’:

$$y_{it} = \alpha + x_{it} \cdot \beta + u_i + \varepsilon_{it}$$

And also the regression Table it ultimately generated:

Region	OECD	TRANS	USSR	E.Asia	China	LAC	MENA	India	S.Asia	SSA	WORLD
Policy driven LEB changes	0.18	-1.11	-3.26	-0.07	-0.75	-2.98	1.12	-1.03	-1.28	-5.23	-1.23
Log GDP/c		-0.43	-1.91								-0.10
Log GDP/c*Gini income	-0.08			-0.64	8.86	1.76	-0.94	2.88	1.67	0.57	2.65
Gini of income inequality	-0.80	-0.07	-0.12	-0.61	-6.13	-3.03	-2.12	-2.52	-1.33	-0.98	-2.52
Intra-period Δ Gini >4 points	0.00	-0.58	-1.60	-0.09	0.00	-0.03	0.00	0.00	0.00	-0.13	-0.12
GDP/c Volatility	-0.25	-0.72	-0.49	-0.31	-0.69	-0.71	-0.43	-0.59	-0.30	-0.08	-0.47
Log physicians per 1000/Log GDP/c	-0.11	0.02	0.37	1.12	-1.34	0.25	0.74	-0.79	-0.36	-0.49	-0.34
Migrant stock/population	0.09	no data	no data	0.28	0.00	0.01	0.27	0.00	-0.12	0.06	0.05
DPT immunisation coverage	0.13	no data	no data	0.64	-0.41	-0.05	-0.26	-0.21	-0.66	-3.84	-0.49
Female Education	0.24	0.00	-0.16	-0.66	-0.71	-1.32	3.95	0.16	-0.21	-0.33	-0.12
Cigarette smoking/c	0.11	no data	no data	no data	no data	no data	no data	no data	no data	no data	0.02
Alcohol consumption/c	0.84	0.00	0.00	0.19	0.00	0.21	-0.01	0.00	0.00	0.00	0.16
Age dependency ratio	n. a.	0.66	0.66	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	0.05
Shocks driven LEB changes	1.27	-0.31	-0.31	0.95	0.61	2.59	1.09	3.53	3.75	-2.66	1.25
War and humanitarian conflicts											0.00
Disasters	0.00	0.00	0.00	0.00	-0.33	-0.07	-0.07	0.05	0.03	0.01	-0.07
HIV-AIDS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.55	-0.31	-6.71	-0.78
Technical progress in health field	1.27	-0.31	-0.31	0.95	0.95	2.66	1.16	4.04	4.04	4.04	2.10
Total LEB changes	1.45	-1.42	-3.57	0.88	0.20	-0.32	2.29	2.46	2.44	-7.90	0.02

You are all profoundly, irrevocably and urgently moved now, aren't you?

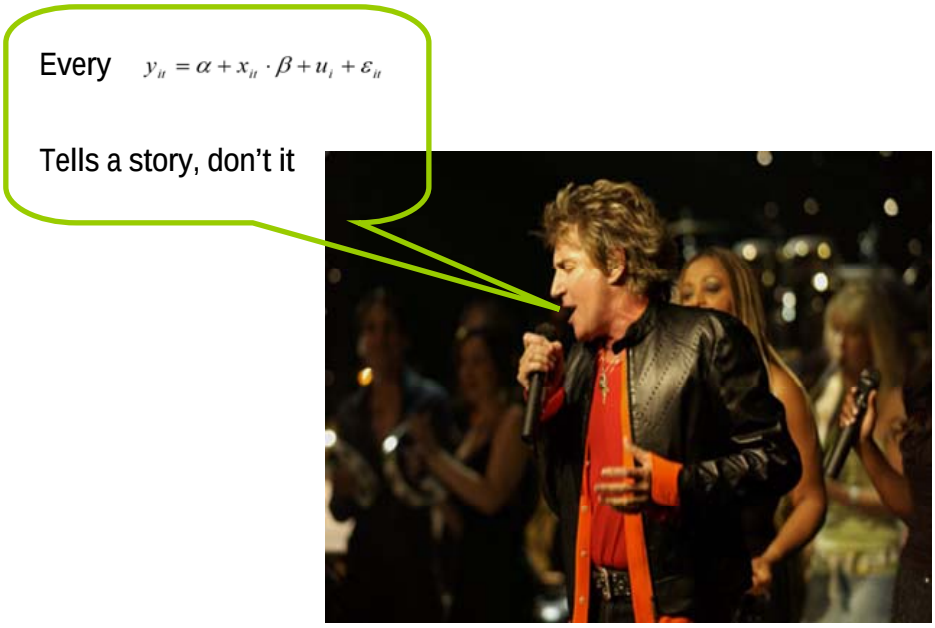
So consider the story this study tells:

The Globalization is Good for *Some* of Us but not for Others Story

- Worldwide life expectancy at birth (LEB) improved by 1.45 years since 1980, due to progress in health technology.
- Compared to a continuation of trends over the 1960 – 1980 period, however, globalization policy-driven changes reduced potential LEB gains by 1.23 years, due primarily to increases in income inequalities.
- Sub-Saharan African (SSA) and Latin American countries, the former USSR and countries in economic transition suffered the greatest LEB losses.

Essentially, globalization policies have slowed the rate of health gains, and removed some that might have been accomplished without them.

More importantly, and in the immortally inspiring words of Rod Stewart:



In sum:

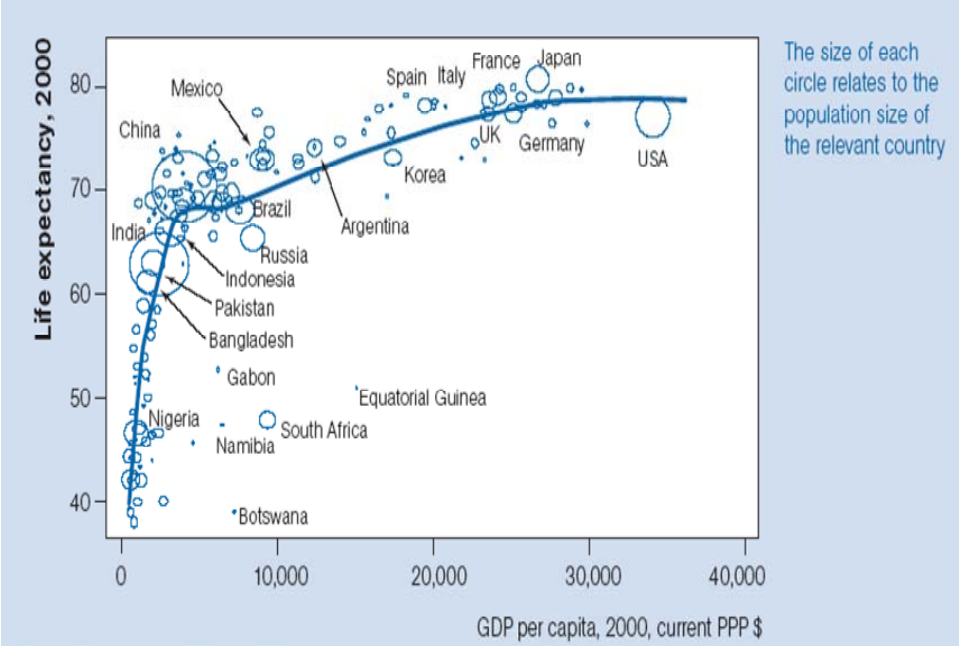
Not only does globalization challenge health researchers in terms of the size of the frame in which they need to question;

And in their approach to assembling and judging evidence;

But in their ability to render evidence into rigorous, reasoned, plausible 'stories' that simplify theoretical and statistical complexity into policy and politically mobilizing narratives.

It is about how we assemble, as much as the quality of what we assemble.

As a parting shot, consider two compelling statistical stories:



Source: Deaton (2003) quoted in Edward (2006)

Note that the main instances of countries which fall well below the trend are all ones suffering the most from the scourge of AIDS.)

First, the Preston Curve, which shows that growth in life expectancy begins to plateau at round $5,000 GDP/capita.

Story: We don't need a great deal of wealth to create a great deal of health.

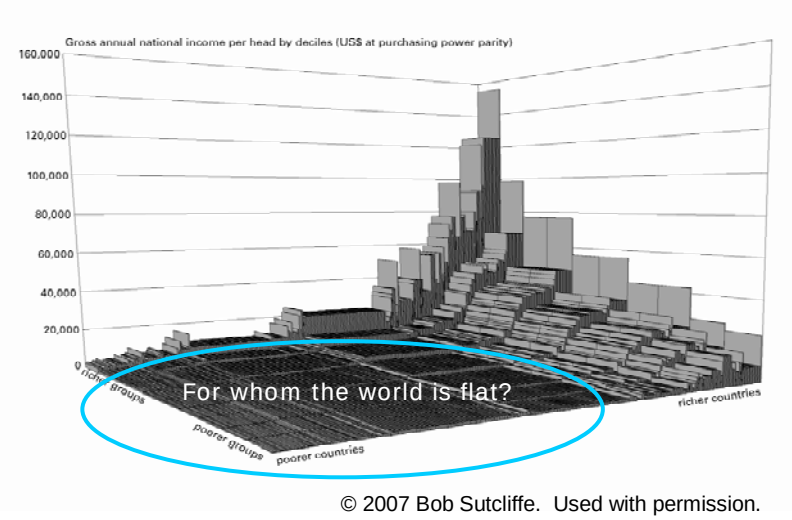
Indeed, using population-weighted averages, more detailed analyses calculated that a life-expectancy at birth of 74 years could be reached at much lower levels of consumption, equal to around $3 - $4 a day.

This 'ethical poverty line,' as it has been called, would triple the current World Bank estimate of poverty from 1 billion to over 3 billion people. It also makes a mockery of the first Millennium

Development Goal to reduce poverty at the $1 day level by half by 2015.

Second, the global income distribution map:

Gross annual national income per head by deciles (US$ at purchasing power parity)



There is a certain ironic homage to Thomas Friedman's cheerleading support of globalization as a process in which the world is becoming flat.

And Bob Sutcliffe admits that an even grosser picture would arise if he used measures that captured the top 1%, but it would so distort the high column in the back that almost everything else would appear flat.

Throw into the mix

- a multitude of studies that find that redistribution is more efficient in reducing poverty than years of high economic growth;
- the implacable reality that high economic growth as presently practiced is environmentally unsustainable and more virulent than HIV, Avian flu, tobacco and any and all other pathogens or toxics combined
- an estimate that we could achieve the ethical poverty line by a 30 percent tax on consumption that exceeded the US median level, which would affect about 6 percent of the world's population, though up to half of those living in rich countries – yes, each of us in this room
- numerous studies that find that we are neither living longer nor happier despite becoming richer and, finally
- the willingness of some countries to consider global forms of taxation

And you have the take home message:

Global health = Share the wealth

Unpopular to some, dismissed as utopian romanticism by others;

But ethics-based, evidence-informed, rigorous and righteous;

And, as a headline message, more powerful than a single regression equation – provided, of course, it is one the editors agree with.

But that is another story.