

# HEALTH ECONOMICS, POLICY and LAW

volume 12 · part 2 · april 2017

**SPECIAL ISSUE: Towards a Global Framework for Health Financing**

**GUEST EDITORS: Trygve Ottersen, David B. Evans, Elias Mossialos and John-Arne Røttingen**

## CONTENTS

### Editorials

- 105 Global health financing towards 2030 and beyond  
*Trygve Ottersen, David B. Evans, Elias Mossialos, John-Arne Røttingen*

- 113 An Indian perspective on the challenges in global health financing  
*K. Sujatha Rao*

- 117 Health financing seen from the global level: beyond the use of gross national income  
*Mark Dybul*

- 121 Global health financing and the need for a data revolution  
*Joseph L. Dieleman, Annie Haakenstad*

### Domestic financing

- 125 What level of domestic government health expenditure should we aspire to for universal health coverage?  
*Di McIntyre, Filip Meheus, John-Arne Røttingen*

- 139 Raising more domestic money for health: prospects for low- and middle-income countries  
*Riku Elovainio, David B. Evans*

- 159 Fiscal space for domestic funding of health and other social services  
*Filip Meheus, Di McIntyre*

- 179 Framing the tax and health nexus: a neglected aspect of public health concern  
*David McCoy, Simukai Chigudu, Taavi Tillmann*

### Global public goods

- 195 Global public goods for health: weaknesses and opportunities in the global health system  
*Suerie Moon, John-Arne Røttingen, Julio Frenk*

### External financing

- 207 Development assistance for health: critiques, proposals and prospects for change  
*Suerie Moon, Oluwatosin Omole*

- 223 Development assistance for health: what criteria do multi- and bilateral funders use?  
*Trygve Ottersen, Aparna Kamath, Suerie Moon, Lene Martinsen, John-Arne Røttingen*

- 245 Distributing development assistance for health: simulating the implications of 11 criteria  
*Trygve Ottersen, Suerie Moon, John-Arne Røttingen*

- 265 The challenge of middle-income countries to development assistance for health: recipients, funders, both or neither?  
*Trygve Ottersen, Suerie Moon, John-Arne Røttingen*

### Summary

- 285 Towards a coherent global framework for health financing: recommendations and recent developments  
*Trygve Ottersen, Riku Elovainio, David B. Evans, David McCoy, Di McIntyre, Filip Meheus, Suerie Moon, Gorik Ooms, John-Arne Røttingen*

volume 12 · part 2 · april 2017

HEALTH ECONOMICS, POLICY AND LAW

CAMBRIDGE

Cambridge Core

For further information about this journal  
please go to the journal website at:  
[Cambridge.org/HEPL](http://Cambridge.org/HEPL)



MIX  
Paper from  
responsible sources  
FSC® C007785

CAMBRIDGE  
UNIVERSITY PRESS

CAMBRIDGE  
UNIVERSITY PRESS

# HEALTH ECONOMICS, POLICY and LAW

## EDITOR-IN-CHIEF

**Adam Oliver**

London School of Economics and Political  
Science, UK  
Email: a.j.oliver@lse.ac.uk

## MANAGING EDITOR

**Ketevan Rtveladze**

Email: hepl@cambridge.org

## STATEMENT OF AIMS

International trends highlight the confluence of economics, politics and legal considerations in the health policy process. *Health Economics, Policy and Law* serves as a forum for scholarship on health and social care policy issues from these perspectives, and is of use to academics, policy makers and practitioners.

*HEPL* is international in scope and publishes both theoretical and applied work. Considerable emphasis is placed on rigorous conceptual development and analysis, and on the presentation of empirical evidence that is relevant to the policy process.

A key output of *HEPL* is original research articles, but the editor also encourages readers to propose topics for editorials, review articles and debate essays.

## ASSOCIATE EDITORS

**Jose-Luis Fernandez**

London School of Economics and  
Political Science, London

**Colleen Flood**

Canadian Institutes of Health Research,  
Canada

**Michael Gusmano**

Rutgers University, USA

**Jan-Kees Helderman**

Radboud University Nijmegen,  
The Netherlands

**Tamara Hervey**

University of Sheffield, UK

**Susannah Mayhew**

London School of Hygiene and Tropical  
Medicine, UK

**Erik Schut**

Erasmus University, The Netherlands

**Mark Stabile**

INSEAD, France

## EDITORIAL BOARD

**Isabelle Durand-Zaleski**

University of Paris XII, France

**Giovanni Fattore**

Bocconi University, Italy

**Scott Greer**

University of Michigan, USA

**Anthony Harris**

Monash University, Australia

**Jeremiah Hurley**

McMaster University, USA

**Brendan Kennelly**

National University of Ireland, Galway,  
Republic of Ireland

**Martin Knapp**

London School of Economics, UK

**Margaret Kruk**

Harvard University, USA

**Miriam Laugesen**

Columbia University, USA

**Jon Magnussen**

Norwegian University of Science and  
Technology, Norway

**Ryozo Matsuda**

Ritsumeikan University, Japan

**Martin McKee**

London School of Hygiene and Tropical  
Medicine, UK

**Elias Mossialos (Chair)**

London School of Economics and Political  
Science, UK

**Sabina Nuti**

Sant'Anna School of Advanced Studies, Italy

**Monica Oliveira**

University of Lisbon, Portugal

**Katharina Paul**

University of Vienna, Austria

**Thomas Rice**

University of California, Los Angeles, USA

**Mary Ruggie**

Harvard University, USA

**Richard Saltman**

Emory University, USA

**Peter Smith**

Imperial College London, UK

**Karsten Vrangbæk**

University of Copenhagen, Denmark

**Albert Weale**

University College London, UK

## Instructions for Contributors

1. All contributions should be submitted online at <http://mc.manuscriptcentral.com/hepl>. Please send all general correspondence to Ketevan Rtveladze, Managing Editor, *Health Economics, Policy and Law*, (Email: [hepl@cambridge.org](mailto:hepl@cambridge.org)).
2. Original research articles should be between 6,000 and 8,000 words, including tables and figures, with an accompanying abstract not exceeding 200 words. Contributors should note the journal's editorial policy, which is stated within the inside front cover.
3. Guest editorials will be invited pieces in which authors will provide a short, analytical commentary on a topical issue. The recommended length for guest editorials is 2,000 words. Some issues of the journal may also contain review articles (5,000 words) and debate essays (3,000 words). Review articles will feature a discussion of two or three books on a related theme while debate articles will assess an area within the scholarly disciplines or policies pertinent to health. For specific comments on the appropriateness of an idea for a review article, debate essay or a research article generally, please contact Adam Oliver at [a.j.oliver@lse.ac.uk](mailto:a.j.oliver@lse.ac.uk)
4. Submission of an article is taken to imply that it has not been previously published and is not being considered for

publication elsewhere. Authors of articles published in the journal assign copyright to Cambridge University Press (with certain rights reserved) and you will receive a copyright assignment form for signature on acceptance of your paper.

5. All articles should be written in English (authors are responsible for any language editing required) and should follow the style sheet which contains detailed information on referencing, footnotes, spelling etc. The full style sheet may be found at: [Cambridge.org/HEPL](http://Cambridge.org/HEPL) or obtained from the Managing Editor ([hepl@cambridge.org](mailto:hepl@cambridge.org)).
6. First proofs may be read and corrected by contributors provided they can return the corrected proofs within two days of receiving them.
7. Health Economics, Policy and Law endorses the International Committee of Medical Journal Editors' Uniform Requirements for Manuscripts Submitted to Biomedical Journals. Authors should familiarise themselves with the Uniform Requirements at [www.ICMJE.org](http://www.ICMJE.org) before submitting their manuscripts.
8. Each contributor will be provided with a copy of the PDF version of their article to create printed offprints.

## Subscriptions

Health Economics, Policy and Law (ISSN 1744-1331) is published four times a year in January, April, July and October. Four parts form a volume.

The 2017 subscription price (excluding VAT) of a volume, which includes print and electronic access, is £280 (US \$436 in USA, Canada and Mexico); £38 (US \$61) for individuals, which includes print only, ordering direct from the publishers and certifying that the journal is for their personal use. The electronic-only price available to institutional subscribers is £233 (US \$365 in USA, Canada and Mexico). Single parts are £81 net (US \$125 in USA, Canada and Mexico) plus postage. EU subscribers (outside the UK) who are not registered for VAT should add VAT at their country's rate. VAT registered members should provide their VAT registration number. Japanese prices for institutions (including ASP delivery) are available from Kinokuniya Company Ltd, P.O. Box 55, Chitose, Tokyo 156, Japan.

Orders, which must be accompanied by payment, may be sent to a bookseller, subscription agent or direct to the publisher: Cambridge University Press, Journals Fulfillment Department, UPH, Shaftesbury Road, Cambridge CB2 8BS, UK; or in the USA, Canada and Mexico: Cambridge University Press, 1 Liberty Plaza, Floor 20, New York, NY 10006, USA. Periodicals postage paid at New York, NY and at additional mailing offices.

## Copying

This journal is registered with the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, USA. Organizations in the USA who are also registered with the C.C.C. may, therefore copy material (beyond the limits permitted by, sections 107 and 108 of U.S. Copyright law) subject to payment to the C.C.C. of the per copy fee of \$9.50. This consent does not extend to multiple copying for promotional or commercial purposes. Code 1744-1331/17. ISI Tear Sheet Service, 3501 Market Street, Philadelphia, PA 19104, USA, is authorized to supply single copies of separate articles for private use only. Organizations authorized by the Copyright Licensing Agency may also copy, material subject to the usual conditions. For all other use, permission should be sought from Cambridge or from the American Branch of Cambridge University Press.

Health Economics, Policy and Law can be accessed at [Cambridge.org/HEPL](http://Cambridge.org/HEPL)

This journal issue has been printed on FSC™-certified paper and cover board. FSC is an independent, nongovernmental, not-for-profit organization established to promote the responsible management of the world's forests. Please see [www.fsc.org](http://www.fsc.org) for information.

© Cambridge University Press 2017

Printed in the United Kingdom at Bell & Bain Ltd, Glasgow.

## Editorial

# Global health financing towards 2030 and beyond

TRYGVE OTTERSEN\*

*Department of International Public Health, Norwegian Institute of Public Health, Oslo, Norway*

*Department of Global Public Health and Primary Care, University of Bergen, Bergen, Norway*

*Oslo Group on Global Health Policy, Department of Community Medicine and Global Health and Centre for Global Health, University of Oslo, Oslo, Norway*

DAVID B. EVANS

*Health Systems Research and Dynamic Modelling Group, Swiss Tropical and Public Health Institute, University of Basel, Basel, Switzerland*

ELIAS MOSSIALOS

*Health Economics, Policy and Law, LSE Health and Social Care, London School of Economics and Political Science, London, UK*

*LSE Health and Social Care, London School of Economics and Political Science, London, UK*

JOHN-ARNE RØTTINGEN

*Department of Health Management and Health Economics, University of Oslo, Oslo, Norway*

*Harvard T.H. Chan School of Public Health, Harvard University, Boston, Massachusetts, USA*

*Infectious Disease Control and Environmental Health, Norwegian Institute of Public Health, Oslo, Norway*

Universal health coverage and healthy lives for all are now widely shared goals and central to the 2030 Agenda for Sustainable Development. Despite significant progress over the last decades, the world is still far from reaching these goals. Billions of people lack basic coverage of health services, live with unnecessary pain and disability, or have their lives cut short by avoidable or treatable conditions (Jamison *et al.*, 2013; Murray *et al.*, 2015; World Health Organization, World Bank, 2015). At the same time, millions are pushed into poverty simply because they need to use health services and must pay for them out-of-pocket. Fundamental to this situation is the way health interventions and the health system are financed. Numerous countries spend less than is required to ensure even the most essential health services, scarce funds are wasted, out-of-pocket payments remain high and disadvantaged groups get the least public resources despite having the greatest needs.

It is clear that today's global and national arrangements for health financing need to change, and this is a multifaceted endeavour. It is about domestic

\*Correspondence to: Trygve Ottersen, Department of International Public Health, Norwegian Institute of Public Health, PO Box 4404, Nydalen, 0403 Oslo, Norway. Email: [trygve.ottersen@fhi.no](mailto:trygve.ottersen@fhi.no)

financing of health systems, joint financing of global public goods and external financing of health systems. It is about resource mobilisation, pooling and effective use. And it is about economics, politics, public health, human rights, law and ethics. To get health financing right, these areas, functions and perspectives must all be integrated and aligned.

### **Chatham House Working Group**

The need for a broad and fresh look at global health financing was the starting premise for the Chatham House Centre on Global Health Security Working Group on Health Financing. The Group was established in 2011, following a conference at the Centre marking the 10th anniversary of the Commission on Macroeconomics and Health (Commission on Macroeconomics and Health, 2001). The mandate was to revisit the central themes addressed by the Commission and develop updated recommendations in light of new knowledge and developments since 2001. The Working Group would also build on the insights of three other landmark reports: the World Development Report 1993 *Investing in Health* (World Bank, 1993), the 2009 final report of the Taskforce on Innovative International Financing for Health Systems (HLTF, 2009), and the 2010 World Health Report *Health Systems Financing: The Path to Universal Coverage* (World Health Organization, 2010).

To facilitate a broad view on health financing, the Working Group brought together members with diverse backgrounds and perspectives from 15 countries. This included policy makers, researchers in multiple fields, representatives of civil society, and representatives of national and international institutions. The group met three times, and multiple working papers were prepared to form the basis for the final report, entitled *Shared Responsibilities for Health: A Coherent Global Framework for Health Financing* (Røttingen *et al.*, 2014), which was launched during the World Health Assembly in 2014.

The report characterises key economic, epidemiological and institutional transitions and describe how these come with both challenges and opportunities for health financing. Against that background, a set of policy responses is offered, encapsulated in 20 recommendations for making progress towards a coherent global framework for health financing. These recommendations pertain to domestic financing of health systems, joint financing of global public goods for health, external financing of health systems and the cross-cutting issues of accountability and agreement on a new framework.

### **This issue**

This special issue addresses all these questions and does so more broadly and more in depth than the Working Group's Report could do. *Health Economics, Policy and Law* serves as an ideal platform for such a wide-ranging health policy issue, where economics, politics and legal considerations need to converge. While most

contributions are in the form of academic articles, the close link to practical policy has been sought maintained throughout. The link between the analyses and policy making is further underscored in two editorials by leading decision makers – one domestic and one global. Sujatha Rao, former Secretary of Health and Family Welfare in India, comments on the past, present and future of health financing in India, including the interactions with external actors. Correspondingly, Mark Dybul, the CEO of the Global Fund to Fight AIDS, Tuberculosis and Malaria, comments on the challenges and opportunities for global health financing as seen from the Fund. Following this, Joe Dieleman and Annie Haakenstad highlight in their editorial a critical issue for all areas of health financing. They argue that a data *revolution* is needed and recommend focussing on data on expenditures across health focus area, type of care, payer and subnational units.

While this issue covers a wide range of the major topics in health financing, some topics are treated in less depth than others. For example, the articles do not go thoroughly into private financing for health, the effectiveness and cost-effectiveness of different targets and forms of spending, priority setting across specific services, or strategies to reduce waste. These too are all important topics for the future of health financing.

## **Domestic financing**

National within-country financing for health in low- and middle-income countries is examined in the first four articles. Domestic sources of financing can be private, which include private insurance and out-of-pocket payments, or public, which include taxes and other mandatory, prepaid, pooled mechanisms organised by the government. In the first article, Diane McIntyre, Filip Meheus and John-Arne Røttingen explore potential targets for government spending on health in the pursuit of universal health coverage. They propose two complementary targets – government health expenditure of >5% of Gross domestic product (GDP) and government health expenditure per capita of >\$86 – offer rationales for these levels, and argue for the usefulness of these targets in policy making.

A large majority of low- and middle-income countries currently fall short of one or both of these targets. In the second article, Riku Elovainio and David Evans examine the potential for raising more domestic money for health in many of these and other countries. They find that economic growth alone will be insufficient to ensure access to even basic health services in most of the countries studied. They lay out a range of complementary options to increase domestic funds for health, but conclude that universal health coverage will not be reached without also increasing external financing in many of the least developed countries.

Diane McIntyre and Filip Meheus look further into government revenue generation in the third article and show that the level of revenue is not predetermined by the country's level of economic development. Instead, it is very much a question of fiscal policy and political choice. They describe

how governments can increase revenue through both tax-related and other strategies, and they offer arguments for choosing the most progressive strategies available.

The complex relationship between tax and health is followed up by David McCoy, Simukai Chigudu and Taavi Tillmann, who see this as a neglected area of concern. In the fourth article, they describe how taxes can help address pressing global health priorities not only through revenue generation, but also through four other ‘Rs’: representation, redistribution, re-pricing and regulation. They argue that the global community, including high-income countries, have a responsibility to help realise this potential by help curbing tax avoidance and evasion and by promoting an enabling environment for taxation more generally.

### **Global public goods**

A conducive environment for domestic resource mobilisation can be seen as a global public good, i.e., a good that is non-excludable (once it is provided, no country can be prevented from enjoying it) and non-rival (one country’s enjoyment of the good cannot impinge on the consumption opportunities of other countries). The provision and financing of such goods is itself a key area of global health financing, as discussed by Suerie Moon, John-Arne Røttingen and Julio Frenk in the fifth article. They consider a broad range of global public goods – including standards and guidelines, research on the causes and treatment of disease, and comparative evidence and analysis – and argue that institutions to provide global public goods for health are in particular short supply. They suggest to strengthen the financing and provision of these goods through better data on today’s financing, through robust processes for prioritising among global public goods and estimating resource needs, and through channelling more funds through institutions fit for purpose. Looking into the future, they suggest that that some development assistance for health (DAH) might need to shift away from financing health programmes in recipient countries towards financing global public goods for health.

### **External financing**

Such a shift does not imply, however, that traditional DAH will become irrelevant in the near future. This kind of financing comprises grants and concessional loans from one country to another. With the new, ambitious Sustainable Development Goals, the need for DAH may increase rather than decrease especially for low-income countries. Whatever the exact funding needs are, it is clear that the landscape for DAH has changed radically over the last two decades. In the sixth article, Suerie Moon and Oluwatosin Omole describe several important transitions and provide, against that background, a systematic overview of problems with the current system for DAH and related proposals for change. Top challenges

pertain to the total level of funds; volatility and uncertainty; additionality; the share of DAH actually reaching recipient countries; priority setting; coordination; accountability; and the rationale for DAH.

The challenge of priority setting is particularly complex and an issue where values and evidence are highly intertwined. In the seventh article, Trygve Ottersen, Aparna Kamath, Suerie Moon, Lene Martinsen and John-Arne Røttingen review and discuss the allocation criteria currently used by 14 major funders of DAH. These criteria guide which countries are eligible for assistance and how much each country will be offered. The authors found that several funders had only limited information about concrete criteria publicly available, that many did not have different criteria for DAH and other forms of development assistance, and that no funder had criteria directly related to inequality. They also found that national income per capita was emphasised by many funders, but that the associated thresholds varied considerably.

These findings suggest that stakeholders should critically examine the allocation criteria they use or otherwise support. In the eighth article, Trygve Ottersen, Suerie Moon and John-Arne Røttingen seek to inform such an inquiry by presenting a simulation of the distributional implications of 11 criteria. Specifically, they examined for each criterion how the current global envelope of DAH would be allocated across countries and country categories, and they found profound variation among the criteria. For example, the group of low-income countries received most DAH from needs-based criteria linked to domestic capacity, while the group of upper-middle-income countries was most favoured by an income-inequality criterion.

This speaks to one of the great challenges to the entire system of DAH: to find the proper role of middle-income countries in this system. In the ninth article, Trygve Ottersen, Suerie Moon and John-Arne Røttingen address this challenge head on. They discuss the trade-off between concerns for a country's capacity to meet domestic needs and the magnitude of unmet health needs in the country. Against this background, they illustrate a capacity-based approach to setting the level of an eligibility threshold and outline options for the future role of MICs.

## **Bringing it all together**

The issues examined in the nine articles are all brought together in the final article. It presents the 20 recommendations offered by the Chatham House Working Group. These recommendations make concrete a vision of shared responsibilities for health financing and link these responsibilities to quantifiable targets. With regard to domestic financing of health systems, the Working Group asserted that every government should meet its primary responsibility for securing the health of its own people, should commit to spend at least 5% of GDP on health and move progressively towards this target, should ensure government health expenditures per capita of at least \$86 whenever possible, and should commit to out-of-pocket

payments representing <20% of total health expenditures. With regard to global public goods, the Working Group asserted that every government should meet its key responsibility for the co-financing of global public goods for health and that the public funding for research and development for new technologies that specifically meet the needs of the poor should be at least doubled compared with the current level. Finally, regarding external financing of health systems, the Working Group asserted that every country with sufficient capacity should contribute with such financing and that high-income countries should commit to a contribution of at least 0.15% of GDP, while most upper-middle-income countries should commit to progress towards the same contribution rate. Together with the recommendations for promoting accountability and agreement, this is offered as the basis for achieving a coherent global framework for health financing.

The final article further discusses the Working Group's recommendations in light of key events over the last two years. The authors conclude that recent events have underscored the Group's recommendations and the need to revise the today's approach to health financing, but that these developments have also come with new opportunities to make real progress.

We hope this issue can help stakeholders exploit these opportunities. We hope the comprehensive assessment of the current state of global health financing provides a useful basis for stakeholders to explore new approaches. We hope that other analysts and researchers will debate and critique the work, and extend the debate through new empirical work and theoretical analyses. We hope the concrete policy recommendations provide direction for anyone who agrees that the *status quo* is not an option. Most importantly, we hope this can help actors converge on a more coherent global framework.

## Acknowledgements

The editors are grateful to the members of the Working Group on Health Financing at Chatham House Centre on Global Health Security for their contributions to the work on which this special issue is based. The editors also thank all the external reviewers, and Joseph Dieleman in particular, for their comments on the articles in this issue.

## References

- Commission on Macroeconomics and Health. (2001), 'Macroeconomics and health: investing in health for economic development', World Health Organization, Geneva.
- Jamison, D. T., L. H. Summers, G. Alleyne, K. J. Arrow, S. Berkley, *et al.* (2013), 'Global health 2035: a world converging within a generation', *Lancet*, **382**: 1898–1955.
- Murray, C. J., R. M. Barber, K. J. Foreman, A. A. Ozgoren, F. Abd-Allah, *et al.* (2015), 'Global, regional, and national disability-adjusted life years (DALYs) for 306 diseases and injuries



- and healthy life expectancy (HALE) for 188 countries, 1990–2013: quantifying the epidemiological transition’, *Lancet*, 386: 2145–2191.
- Røttingen, J. -A., T. Ottersen, A. Ablo, D. Arhin-Tenkorang, C. Benn, *et al.* (2014), *Shared Responsibilities for Health: A Coherent Global Framework for Health Financing*, London: Chatham House.
- Taskforce on Innovative International Financing for Health Systems (2009), ‘More money for health, and more health for the money’, [http://www.internationalhealthpartnership.net/fileadmin/uploads/ihp/Documents/Results\\_\\_\\_Evidence/HAE\\_results\\_\\_\\_lessons/Taskforce\\_report\\_EN.2009.pdf](http://www.internationalhealthpartnership.net/fileadmin/uploads/ihp/Documents/Results___Evidence/HAE_results___lessons/Taskforce_report_EN.2009.pdf) [28 June 2015].
- World Bank (1993), *Investing in Health*, Oxford: Oxford University Press.
- World Health Organization (2010), *Health Systems Financing: The Path to Universal Coverage*, Geneva: World Health Organization.
- World Health Organization, World Bank (2015), *Tracking Universal Health Coverage: First Global Monitoring Report*, Geneva: World Health Organization.



## Editorial

# An Indian perspective on the challenges in global health financing

K. SUJATHA RAO\*

*Former Union Secretary, Ministry of Health & Family Welfare, Government of India, Hyderabad, Telangana State, India*

In 2012, the Chatham House established a Working Group on Health Financing, of which I was a member, to deliberate on a global framework for health financing (Røttingen *et al.*, 2014) (reference to paper by McIntyre *et al.*, 2017). Intensive discussions and exhaustive studies brought out 20 recommendations. Of them three were important points emphasizing the need for countries to (i) ensure a minimum public spending of USD 86 per capita and at least 5% of the country's gross domestic product (GDP) for providing universal access to a package of essential health services; (ii) explore the scope available to mobilize domestic resources through better management; and (iii) shift focus in international cooperation toward health system strengthening that enhances equity. Read together these recommendations call on nation states to shift their attention toward enhancing public welfare by prioritizing health in their development agenda and demonstrating a greater political will to do whatever needs to be done. The articles in this volume provide a detailed exposition of these findings, that if implemented, could lead to a profound reduction in the overall global burden of disease.

It is illustrative to evaluate the applicability of these critical recommendations to a country like India that accounts for almost a fifth of the global disease burden. India ranks among 15 countries in the world where public spending on health is about 1% of the GDP. Such a level of spending has been constant in India over the past seven decades, whether its annual GDP growth rate was less than 3% or over 7%. As per the latest estimates, India spends 4.0% of its GDP on health or USD 54 per capita. Of this, only 1.2% of GDP or USD 16% is public spending, while 2.7% of GDP or USD 37 per capita is out-of-pocket expenditure. Such regressive spending patterns help explain India's inability to contain disease and improve population health. These levels and this pattern of spending also explain why

\*Correspondence to: K. Sujatha Rao, Former Union Secretary, Ministry of Health & Family Welfare, Government of India, Plot 153, Prashasan Nagar, RD 72, Jubilee Hills, Hyderabad-500033, Telangana, India. Email: [ksujatharao@outlook.com](mailto:ksujatharao@outlook.com)

India still has nearly 50 million of its people sinking into poverty due to medical expenditures every year (National Health Systems Resource, 2016).

An issue related to inadequate funding is the spending priorities. Though in money terms international assistance to India has been negligible at about 2% of total health spending, it has profoundly impacted on agenda setting and has been driving the meager investments toward disease control programmes, such as malaria, tuberculosis and HIV/AIDS. Historically, international assistance to India went through two phases. In the initial years of independence from British rule, India depended on bilateral aid to shore up its capacity to cope with the high load of communicable diseases. This resulted in the elimination of small pox, guinea worm and vaccine preventable diseases like polio, and reduced overall morbidity and mortality due to communicable diseases. Thus, e.g., the reduction in incidence of HIV/AIDS by 57% and the increase in the number of HIV patients on ART to over 800,000 during 2000–2012 were largely a result of liberal multilateral funding from the World Bank and the Global Fund to Fight AIDS, tuberculosis and malaria. But even here, India sought to gain ownership. For instance, when I took over as Director General of the National AIDS Control Organization in 2006, international assistance covered almost 98% of the USD 500 million AIDS programme. This fell to 75% during the plan cycle 2007–2012, while the plan scaled up fivefold to USD 2.5 billion. Despite a similar overall level for the plan cycle 2012–2017, international support is currently less than 20%.

The second phase of international funding was in post 1990s, when India availed of big investments from the World Bank for building its health infrastructure at the sub-district levels. This enabled scaling up institutional deliveries and reducing maternal and infant mortality. Yet, in view of inadequate public health spending, large swathes of the country continue to face severe supply side deficiencies. In numerous areas, the needed infrastructure and human resources are absent, and this is particularly the case in regions that together account for 40% of the country's population and 70% of maternal, infant and under-5 mortality. These are regions that have poor fiscal capacity to raise resources, weak governance, poor absorption capacity, high levels of corruption and the largest concentration of the poor in India.

The lesson emerging from the above is that while India found the money for programmes aimed at containing vertically driven communicable diseases in line with international agenda setting, it fell short in building its health system, which would require a far greater commitment of resources. Further, due to lack of clarity in what universal health coverage (UHC) implies, it paradoxically resulted in the further withdrawal of the government from critical investments in prevention and population health, as emphasis was put on providing expensive hospital treatment through insurance with the government paying the premium for the poor. This has contributed to the current distortions, where expensive treatment – including free dialysis – are offered in high-cost corporate hospitals, even as one and half million children under five die of diarrhoea every year.

What emerges from the above is that even in countries where international aid flows may be limited, government policies are influenced by the agenda setting in global fora. Therefore, the redefining of the UHC under the Sustainable Development Goals as implying UHC for essential services is an important step in building benchmarks for ensuring that critical services are the first charge on public finances in both resource constrained environments and donor countries.

Undoubtedly, the language of universalism carries implications for a country like India where intra-country disparities and inequities in access to basic health care services are high. India is a paradox combining a low-, middle-income country status with low-income country indicators, where resources not only need to be scaled up, but also strategically invested and targeted toward marginalized population groups and backward areas. Likewise, international funding too needs to direct its spending to where there is need. Ignoring middle-income countries like India for international aid flows is therefore not an option, though it may raise a moral dilemma. Disqualifying countries like India, China and Nigeria on grounds of fiscal capacity would mean excluding an estimated 56% of under-5 deaths. Thus, assistance to countries that have the fiscal capacity but not the political will needs to be accompanied with conditionalities such as co-sharing costs, targeting the most needy, and linking assistance to outcomes and policies to assure accountability to and sustainability of gains achieved.

Resetting priorities toward UHC for essential services will necessarily imply greater efforts at mobilizing domestic resources as the gap cannot be met solely by depending on international aid. The process for countries like India that may have the financial muscle, will not be easy given the discouraging global investment environment and a steady rise in protectionism, adversely impacting trade flows and the much needed investments for infrastructure and generating jobs. For after all, India's growth in terms of GDP may be impressive, but given its huge population base, the per capita income is still a low of about USD 1500.

In addition to battling with competing priorities, raising public spending on health to 5% of GDP will require India to restructure its macroeconomic environment. Policies aimed at reducing fossil fuel subsidies, tax waivers to the corporate sector (estimated to 6% of GDP), control of tax evasion, and efforts to arrest capital flight (estimated to over 4% of GDP) are all fraught with political challenges for the government. To make tough decisions may also be particularly difficult over the next few years, as the prime minister is seeking to regain majority in the parliament in the 2019 election. However, the government's recent efforts of simplifying, streamlining and improving the tax administration are likely to have a beneficial impact and enable increasing the tax to GDP ratio from the current 17% per cent to over 20%. Efforts are also being made to work with other governments to bring in greater accountability in financial transactions and minimize the growth of tax havens.

Alongside mobilizing resources, India also needs to improve its standards of governance. Greater efficiencies and better outcomes will require policies aimed at decentralization, people's participation and the containment of corruption,

particularly at the service delivery level. The potential gains from such efforts are indicated by WHO's estimate that developing countries lose 20–40% of their health spending to corruption and inefficiencies every year (reference to paper by Elovainio and Evans, 2017).

Raising standards of accountability for people's welfare and providing needed leadership and resources require evidence-based policies. The Global Framework for Health Financing discussed in this issue provides clear direction and the necessary arguments for the way ahead. This must be accompanied with political will and a belief that every individual, regardless of the place of birth, has a right to health and well-being.

## References

- Elovainio, R. and D. B. Evans (2017), 'Raising more domestic money for health: prospects for low and middle income countries', *Health Economics, Policy and Law*, **12**(2): 139–157.
- McIntyre, D., F. Meheus and J.-A. Røttingen (2017), 'What level of domestic government health expenditure should we aspire to for universal health coverage?', *Health Economics, Policy and Law*, **12**(2): 125–137.
- National Health Systems Resource (2016), 'National health accounts estimates for India (2013–14)'. National Health Systems Resource (NHSRC) Centre Ministry of Health and Family Welfare, Government of India, New Delhi, <http://www.mohfw.nic.in/WriteReadData/1892s/89498311221471416058.pdf>.
- Røttingen, J. A., T. Otttersen, A. Ablo, D. Arhin-Tenkorang, C. Benn, R. Elovainio, D. B. Evans, L. E. Fonseca, J. Frenk, D. McCoy, D. McIntyre, S. Moon, G. Ooms, T. Palu, S. Rao, D. Sridhar, J. Vega, S. Wibulpolprasert, S. Wright and B. M. Yang (2014), 'Shared Responsibilities for Health: A Coherent Global Framework for Health Financing', Final Report of the Centre on Global Health Security Working Group on Health Financing, Chatham House, London.

## Editorial

# Health financing seen from the global level: beyond the use of gross national income

MARK DYBUL\*

*The Global Fund to Fight AIDS, Tuberculosis and Malaria, Geneva, Switzerland*

For several decades, International development and financing institutions have considered gross national income (GNI) the economic touchstone for assessing and evaluating countries' eligibility for development assistance. The World Bank first developed the metric in 1960s as the basis for decisions on concessional financing through International Development Association (IDA). Since its establishment, the IDA has approved concessional financing worth around \$312 bn to low-income countries (LICs), a term referring to economies below a certain GNI per capita threshold.<sup>1</sup>

The critical comparative advantage of GNI as a metric is its simplicity: it is a standardised statistic that is annually estimated for most economies and captures the level of wealth generated in that year. Historically, this aggregate level of wealth has been considered a useful proxy for the level of development. As a result, this universal, simple, standardised indicator, has been adopted to guide decision making in other financing institutions,<sup>2</sup> but also more broadly, in global health. Key multilateral health financiers and development agencies that disburse about 75% (Global and Donor Financing, 2012) of available external financing for health, base their eligibility, allocation and co-financing policies on GNI per capita levels [Equitable Access Initiative (EAI), 2016].

## Changing landscape: poverty, disease burden and middle-income economies

In the last decade, globalisation-driven rapid economic growth and statistical revisions have resulted in unprecedented movement of countries upwards across

\*Correspondence to: Mark Dybul, The Global Fund to Fight AIDS, Tuberculosis and Malaria, Chemin de Blandonnet 8, 1214 Vernier, Geneva, Switzerland. Email: [mark.dybul@theglobalfund.org](mailto:mark.dybul@theglobalfund.org)

1 The low-, middle- and high-income group thresholds were established in 1989 based largely on operational thresholds that had previously been established. These thresholds are updated annually at the beginning of the World Bank's fiscal year (i.e., 1 July), with an adjustment for inflation.

2 Including the Asian Development Bank, the African Development Bank and the Inter-American Development Bank.

these income groups, posing a critical question of whether GNI remains a useful proxy of development and health needs. Of the 63 economies classified as LICs in 2000, only 34 remain in this category today, representing less than 11% of the global population (Alonso *et al.*, 2015). Analyses on the issue suggest that within the next 15 years only 16 economies – mostly fragile states and small-island nations – are likely to be in the ‘low-income’ group that is eligible for IDA financing (Glennie, 2011; Sumner, 2012).<sup>3</sup> Underlining the immediacy of the situation, a World Bank input into the Sustainable Development Goal (SDG) discussions highlights the possibility that between 2015 and 2017 alone, 25 economies as likely to transition to higher lending groups (The World Bank Group, 2013).

This raises issues for global health, as the largest share of disease burden is now concentrated in middle-income countries (MICs) rather than LICs, a reality that GNI per capita metric was never designed to capture. GNI is an imperfect proxy for health and social development, as it does not reflect inequalities between subnational regions of states nor inequalities among populations within countries. Some of these key populations, for example, transgender people, refugees and prisoners, face high risk and vulnerability to HIV, tuberculosis and malaria, and must be included in the global response to these three diseases.

Presently, 70% of morbidity and mortality caused by communicable diseases occurs in MICs.<sup>4</sup> Multilateral global health financiers, who were set up with the goal of ending preventable deaths from major infectious diseases, will be challenged to maintain their focus on countries with the least economic capacity while adapting their funding and processes to address this shift in disease burden towards MICs. This will be complicated because most health financing is not provided by health agencies, but by the development finance arms of major donors where GNI is more commonly used than health metrics for allocating funds. Successfully addressing these changes will be critical to continue the fight against infectious disease.

This transition of countries to higher rate lending groups on being classified as middle income is also of general concern to development financiers since this process can coincide with the potential loss of financial and technical support from multilateral and bilateral partners. There is concern that some newly MICs with high poverty and disease rates may face rapid declines in official development assistance upon becoming ineligible for grant financing from major development finance institutions (EU Development Policy, 2011).

Further, there is the realisation that rapid economic growth has had lesser than anticipated impact in reducing inequity, with new MICs continuing to house a significant majority of the world’s poor. Since 1990, as more countries enter

3 In total, 36 countries will become ineligible for World Bank’s IDA financing by 2030, of which 25 economies as likely to transition to higher lending groups between 2015 and 2017 alone.

4 Global Burden of disease 2015 (age and time discounted) (<http://ghdx.healthdata.org/gbd-results-tool>).



middle-income status without the wealth generation having benefitted the worst off, the percentage of the world's poor living in MICs has grown from 10 to 70% (Glassman, 2013; McMichael, 2016). To highlight the severity of the situation, it is estimated that about 60% of the world's poor live in just five populous newly MICs.<sup>5</sup>

## EAI

In response to these challenge, the EAI was convened in early 2015 by nine leading multilateral health and development organisations to explore the strengths and weaknesses of GNI, and the potential for developing alternative and complementary measures that could inform policies. Under the able chairmanship of Pascal Lamy<sup>6</sup> and Donald Kaberuka, and in consultation with leading experts, national governments and civil society, four leading academic groups were tasked with proposing alternatives for the Expert Panel's consideration, based on convergences in their findings.

The analyses identified significant limitations of policy making based on the single GNI variable, but also noted the continued utility of a widely collected and standardised measure of wealth. The EAI concluded that complex health financing policies, including eligibility and prioritisation of health investments, should be informed by a more comprehensive framework for decision making based on the analysis of countries' needs, fiscal capacity and policies. For the Global Fund, this means considering both disease burden data for HIV, tuberculosis and malaria, and measures of economic capacity when allocating funding, while also accounting for unmet needs of key and vulnerable populations.

A second key finding was to emphasise incentive structures when providing grant financing. Several large MICs are far below needed levels of government spending on health, despite having fiscal space to increase social spending. To this end, the analyses highlighted the limitation of GNI per capita as not capturing the current level or future capability of governments to domestically finance health challenges. External financiers need to have an explicit focus on domestic government spending on the social sector. For the Global Fund, this means explicit co-financing requirements based on government spending on health that support the sustainability of health programs, but generating increased domestic financing is essential for achieving all of the Sustainable Development Goals.

Finally, the Expert Panel and conveners together recognised the real need to mitigate the risk of disease resurgence when external financing decreases. The initiative recognised the responsibility of external financiers, countries and

<sup>5</sup> There are, however, clear differences in poverty rates between LICs and MICs: for instance, extreme poverty incidence rates in LICs are extremely high as a whole (about 47% in 2012) compared with lower middle-income countries (around 18%) and upper middle-income countries (around 5%).

<sup>6</sup> Former head of the World Trade Organisation; former head of the African Development Bank.

partners to work together to plan smooth transitions from external financing that enable not only the preservation of the health gains of the past, but the acceleration of progress.

The health and development landscape has shifted and increased in complexity since the beginning of the Millenium Development Goals. As we begin efforts to achieve the SDGs, we must continue to challenge ourselves to adapt our investments, metrics and thinking to this new landscape or risk losing impact.

## References

- Alonso, J. A., A. L. Cortez and S. Klasen (2015), 'LDC and Other Country Groupings: How Useful are Current Approaches to Classify Countries in a More Heterogeneous Developing World?', in J. A. Alonso and J. A. Ocampo (eds), *Global Governance and Rules for the Post-2015 Era: Addressing Emerging Issues in the Global Environment*, 424.
- Brenzel, I. (2012), 'Hospital Pharmacy Management', *MDS-3: Managing Access to Medicines and Health Technologies*, 3rd ed. WHO Publication, 1088pp [1 December 2016].
- EU Development Policy (2011), *The Role of Aid to Middle-Income Countries: A Contribution to Evolving EU Development Policy*, London: ODI.
- Equitable Access Initiative (EAI) (2016), 'Final Draft Report', <http://www.theglobalfund.org/en/equitableaccessinitiative/> [1 December 2016].
- Glassman, A., D. Duran and A. Sumner (2013), 'Global health and the new bottom billion: what do shifts in global poverty and disease burden mean for donor agencies?', *Global Policy*, 4(1): 1–14.
- Glennie, J. (2011), *The Role of Aid to Middle-Income Countries: A Contribution to Evolving EU Development Policy*, London: Overseas Development Institute.
- McMichael, P. (2016), *Development and Social Change: A Global Perspective*. Sage Publications.
- Sumner, A. (2012), 'From Deprivation to Distribution: Is Global Poverty Becoming A Matter of National Inequality?', IDS Working Paper, Brighton: IDS.
- World Bank Group (2013), 'Financing for Development Post-2015', <https://openknowledge.worldbank.org/handle/10986/16310> License: CC BY 3.0 IGO. Washington, D.C. © World Bank.

## Editorial

# Global health financing and the need for a data revolution

JOSEPH L. DIELEMAN\*

*Institute for Metrics and Evaluation, University of Washington, Seattle, WA, USA*

ANNIE HAAKENSTAD

*Harvard T.H. Chan School of Public Health, Boston, MA, USA*

Although knowledge about global health financing has expanded over the past two decades, major gaps remain. We know little, for example, about how much governments spend on major disease areas, how these amounts have evolved over time and how countries compare. A global health financing data revolution is sorely needed.

The suite of papers that make up this special issue underline the importance of reliable information about financial resources for health. Data on health financing provide a foundation for assessing the provision of health care services, global public goods and resource mobilization for improving health. In a world of scarce resources, competing priorities, persistent inequality and increasingly complex health systems, allocating resources for health effectively is more difficult – and essential – than ever.

Granular, comparable and comprehensive health data can inform health system decision-making. These data could be used to better understand health systems, identify gaps and inefficiencies, assess equity and provide estimates of resources needed to reach prospective health goals. The lack of comprehensive, comparable health financing information is a roadblock that prevents robust health policy-making.

## What health financing data are currently available?

There are five basic types of data available, each furnishing essential information to policymakers, although each type is also limited in key ways.

\*Correspondence to: Joseph L. Dieleman, Institute for Health Metrics and Evaluation, 5th Avenue, Suite 600, Seattle, WA 98121, USA. Email: [dieleman@uw.edu](mailto:dieleman@uw.edu)

The most widely used, internationally-comparable data on health spending is the WHO's Global Health Expenditure Database (World Health Organization: WHO). This database captures national health spending disaggregated by the source of funds and financing agent, including external, out-of-pocket (OOP) and government spending. Expenditure on curative and rehabilitative care, and prevention and public health services is also reported. However, more detailed data on the type of care, subnational unit and health focus area are lacking. The data set could also benefit from more robust estimation and methodological transparency.

National Health Accounts (NHAs) also comprise an important source of health financing data. While recent investments will likely increase the depth, reliability and frequency of these reports, historically, the framework has not been systematically or comparably applied (Bui *et al.*, 2015). Health accounting is challenging and wrought with important assumptions that are not necessarily transferred from one health accounting team to the next. NHAs continue to require technical expertise and resources that make conducting them on a regular basis difficult for low- and middle-income countries. Additional effort is needed to increase the comparability and usability of NHAs across time and countries.

The third, core source of health financing data captures development assistance for health. Development assistance for health data is produced annually by the Institute for Health Metrics and Evaluation, with international spending on health broken down by approximately 20 program areas, all low- and middle-income countries and more than 25 yr (Institute for Health Metrics and Evaluation (IHME), 2016). The comparability and reliability of these data are strong, but development assistance makes up a relatively small share of health spending in many countries. Development assistance for health is also not disaggregated by type of care or subnational unit.

A fourth set of data consists of the disease-specific financing annually reported to international organizations such as UNAIDS (Joint United Nations Programme on HIV/AIDS), the WHO and others. These data provide a foundation off which we can understand how much is spent domestically on major health focus areas, such HIV/AIDS, vaccinations, maternal and child health, and malaria. However, the rigor of the tracking underpinning these data vary widely. Furthermore, these efforts often operate in silos. Data reporters are not forced to divide funding among different health focus areas. This likely leads to double-counting across areas of spend and makes compiling data in a cross-country time series infeasible.

Finally, an ever-growing set of surveys and country-level resource tracking exercises also capture financial resources for health. Public expenditure reviews, household surveys, compilations of administrative data and other data collection efforts are important sources for estimating OOP spending as well as breaking down spending by different types of care. However, these exercises are conducted intermittently and thus are not available for all countries for all time periods. Furthermore, their ad-hoc nature and the lack of standardization limits comparability.

## What is needed?

We believe that simplification and harmonization of health financing data are sorely needed. One, simple process for producing the information local and global policymakers need would greatly reduce the effort and time required of health officials. Procedures can be put in place to harness country-specific accounting systems and prepare administrators to report data on an annual basis. If the same data are required year after year, country-specific methods for addressing the complexities of existing systems can be developed.

The categories of expenditure collected should be simple and justified based on their applicability to a range of local and global health issues. Tying break-downs to a critical but limited set of health outcomes is also fundamental. We propose focusing on four core elements:

1. *Health focus areas.* Capturing the most important health focus areas in a comparable and comprehensive fashion is vital to connecting dollars with outcomes, and understanding whether spending aligns with burden of disease. Generating data on these health focus areas together will force accountants to decide where each dollar goes.
2. *Type of care.* Wide categories of types of service could be also easily captured, including: inpatient, ambulatory/outpatient, pharmaceuticals, administration and public health. Characterizing the distribution of funding across these areas can help health officials understand important system-wide characteristics, including inefficiencies, and under- and over-utilization.
3. *Payer.* The payer is also fundamental, as a representation of the use of pooled vs non-pooled funding can affect utilization and efficiency substantially. We propose dividing funding flows into: government, insurance/pre-paid and OOP spending. We recognize that, critically, OOP may require additional estimation or household surveys which may not be feasible on a regular basis. However, this category of payer is vital to understanding the weight of catastrophic expenditure and medical impoverishment.
4. *Subnational unit.* Depending on the context, it may be essential to develop state- or province-level expenditure. The benefit of these data are that they can be linked to the administrative level at which decisions are made.

Standardization and timeliness of production will also be important to making these data useful for the global health community. Producing data in a standardized fashion will ensure flows can be compared and contrasted across countries and time. Timeliness allows stakeholders to take action in close-to real time.

This endeavor will require up-front investment and in some cases technical assistance. Generating consensus in the health financing community will be challenging; it will not be possible to capture all categories of spend every year, and more granular, intervention- and disease-specific sub-categories may have to be excluded. Supporting administrators in developing a standardized approach to build off data produced through existing financial systems will also require

technical assistance. However, if efforts are pooled across reporting mechanisms, time and resources will be reduced overall.

The lack of comparable and comprehensive health financing estimates limits our ability to make evidence-based decisions in the health sector. These important health financing data will equip decision-makers in low-, middle- and high-income countries to make better policy for health. A foundation rooted in comparable and robust health financing data can provide important evidence for the progressive realization of universal health coverage and essential health gains through greater transparency, accountability and efficiency.

## References

- Bui, A., R. F. Lavado, E. K. Johnson, B. P. Brooks, M. K. Freeman, C. G. Graves, A. M. Haakenstad, E. K. Johnson, B. Shoemaker, M. Hanlon and J. Dieleman (2015), 'National Health Accounts data from 1996 to 2010: a systematic review', *Bulletin of the World Health Organization*, 93: 566D–576D.
- Institute for Health Metrics and Evaluation (IHME) (2016), *Financing Global Health 2015: Development Assistance Steady on the Path to New Global Goals*, Seattle, WA: IHME.
- WHO, Global Health Expenditure Database. WHO, Geneva, Switzerland. <http://apps.who.int/nha/database> [24 August 2016].

# What level of domestic government health expenditure should we aspire to for universal health coverage?

DI MCINTYRE\*

*Health Economics Unit, School of Public Health and Family Medicine, Faculty of Health Sciences, University of Cape Town, Cape Town, South Africa*

FILIP MEHEUS<sup>a</sup>

*Health Economics Unit, School of Public Health and Family Medicine, Faculty of Health Sciences, University of Cape Town, Cape Town, South Africa*

JOHN-ARNE RØTTINGEN

*Norwegian Institute of Public Health, Ministry of Health, Oslo, Norway*

*Department of Health Management and Health Economics, Institute of Health and Society, Faculty of Medicine, University of Oslo, Norway*

*Department of Global Health and Population, Harvard T.H. Chan School of Public Health, Harvard University, Cambridge, MA, USA*

**Abstract:** Global discussions on universal health coverage (UHC) have focussed attention on the need for increased government funding for health care in many low- and middle-income countries. The objective of this paper is to explore potential targets for government spending on health to progress towards UHC. An explicit target for government expenditure on health care relative to gross domestic product (GDP) is a potentially powerful tool for holding governments to account in progressing to UHC, particularly in the context of UHC's inclusion in the Sustainable Development Goals. It is likely to be more influential than the Abuja target, which requires decreases in budget allocations to other sectors and is opposed by finance ministries for undermining their autonomy in making sectoral budget allocation decisions. International Monetary Fund and World Health Organisation data sets were used to analyse the relationship between government health expenditure and proxy indicators for the UHC goals of financial protection and access to quality health care, and triangulated with available country case studies estimating the resource requirements for a universal health system. Our analyses point towards a target of government spending on health of *at least* 5% of GDP for progressing towards UHC. This can be supplemented by

\*Correspondence to: Professor Di McIntyre, Health Economics Unit, Department of Public Health and Family Medicine, University of Cape Town, Anzio Road, Observatory 7925, Cape Town, South Africa. Email: [Diane.McIntyre@uct.ac.za](mailto:Diane.McIntyre@uct.ac.za)

<sup>a</sup>Present address: International Agency for Research on Cancer, World Health Organisation, 150 Cours Albert Thomas, 69372 Lyon, France.

a per capita target of \$86 to promote universal access to primary care services in low-income countries.

Submitted 6 June 2016; revised 5 September 2016; accepted 3 November 2016

## Introduction

There is a growing international focus on the need for adequate domestic government spending on a range of social services, including health care. The debate leading up to the adoption of the Sustainable Development Goals (SDGs) was particularly influential in this regard. As noted by the UN System Task Team on the Post-2015 UN Development Agenda “Ensuring people’s rights to health and education, including through universal access to quality health and education services, is vital for inclusive social development” and requires investment to “close the gaps in human capabilities that help perpetuate inequalities and poverty across generations” (2012: 26). The Addis Ababa Agenda on Financing for Development was even more explicit, stating “We recognize that significant additional domestic public resources, supplemented by international assistance as appropriate, will be critical to realizing sustainable development and achieving the sustainable development goals” [United Nations (UN), 2015: para 22].

Universal health coverage (UHC) has been identified as one of the health-related SDGs. UHC calls for health systems in which everyone has access to the services they need (irrespective of whether such services are preventive, promotive, curative, rehabilitative or palliative), where these services are of adequate quality to be effective, and universal financial protection from the costs of using these services. The 2010 World Health Report unambiguously states that in order to move towards UHC, *mandatory pre-payment* financing mechanisms must form the core of domestic health care financing [World Health Organisation (WHO), 2010]. Mandatory pre-payment funding includes tax and other government revenue (e.g. royalties on the exploitation of mineral resources) and mandatory health insurance contributions [i.e. social health insurance (SHI) models], with the latter being frequently regarded as a form of dedicated health tax and counted as part of government expenditures in macroeconomic statistics. Recent research, using large cross-national panel data sets, confirms the importance of increased levels of public funding of health services (particularly increased tax funding) in improving countries’ health status, the ultimate goal of universal coverage reforms (Moreno-Serra and Smith, 2015; Reeves *et al.*, 2015).

This paper considers what level of public funding countries should aim for in order to move towards UHC. We focus specifically on *domestic* public funding, linked to an explicit value base about individual governments’ responsibilities to make available domestic resources to the maximum extent possible to meet their health and other human rights’ commitments to their citizens (Balakrishnan *et al.*,



2011). The basis for this is Article 2.1 of the International Covenant on Economic, Social and Cultural Rights (ICESCR), which asserts that: “Each State party to the present Covenant undertakes to take steps, *individually* and through international assistance and co-operation, especially economic and technical, *to the maximum of its available resources*, with a view to achieving progressively the full realization of the rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures” (emphasis added).

While many low-income countries will continue to require external funding for health and other social services for the foreseeable future, such funds should supplement and be additional to domestically generated public funds (Farag *et al.*, 2009). Hence, this paper focusses on individual country governments’ obligation to generate domestic funding to provide ‘maximum available resources’ and considers potential targets for government spending on health that reflect this concept in order to move towards UHC.

### **Potential quantitative targets for government spending on health care**

To date, targets related to the issue of how much should be spent on health care have generally fallen into one of two categories. Most often, an absolute per capita amount has been specified [Commission on Macroeconomics and Health (CMH), 2001; High-Level Taskforce (HLTF), 2009]. However, absolute targets have tended to focus on what is required to provide a limited number of health services rather than what is required to move towards UHC.

The second kind of target is a relative one, with the most well-known being the ‘Abuja target’, which called for African governments to devote at least 15% of total government spending to the health sector (Organisation of African Unity, 2001). Very few African countries have reached the Abuja target, or even made much progress towards reaching it (Govender *et al.*, 2008). That is partly because ministries of finance object to a target that they regard as undermining their autonomy to make sectoral budget allocation decisions (Njora, 2010).

A drawback of this form of relative target is that calling for an increased *share* of government expenditure on the health sector implies that spending on other sectors, and at least their share, should decline, which could mean less expenditure on other social services. This, in turn, could adversely affect other social determinants of health. Furthermore, given the large degree of variability in government revenue and expenditure across individual countries, irrespective of the level of economic development [e.g. ranging from government expenditure of less than 13% to over 40% of gross domestic product (GDP) in low-income countries] (International Monetary Fund, 2012), it is problematic to set a target relative to the government budget since this, in itself, does not exert pressure on governments to ensure ‘maximum available resources’.

An alternative relative target is to specify government spending on health relative to the total economy – namely, GDP. We argue that this is the most

appropriate target in the context of UHC goals and the right to health for several reasons. This measure takes account of affordability within a specific country context as the health expenditure target is expressed relative to the country's level of economic activity. Also, unlike the Abuja target, it does not argue for more government spending on health at the expense of other social services. Instead it directs attention also to the need for *overall* government revenue and expenditure as a percentage of GDP to reach levels that are adequate to realise the rights contained in the ICESCR. Calling for an increase in government spending on health as a percentage of GDP does not imply a reduction in spending on other social services; rather it provides a basis to advocate for increasing both government resource mobilisation and spending on the *full range of human rights and social determinants of health* in situations where governments are not presently providing 'maximum available resources' (see Meheus and McIntyre, 2017 for discussion of how government resource mobilisation can be improved).

If progress is to be made towards UHC, increased government funding (which includes all forms of mandatory pre-payment funding) will be necessary. Reliance on out-of-pocket (OOP) payments should be reduced in order to provide financial protection, as well as on voluntary private health insurance as neither financing mechanism contributes to equitable progress to UHC (WHO, 2010). We would, therefore, argue that the key target from a UHC perspective is government expenditure on health as a percentage of GDP. The main challenge remains: What percentage of GDP should a government spend on health services in order to meet the 'maximum available resource' to pursue UHC objectives?

### **Government health expenditure as a percentage of GDP: What should the target level be?**

Our approach to identify an appropriate relative target is to draw on as wide a range of evidence as possible, and to triangulate between these different sources of evidence and determine if they all point to a common figure. We first undertook our own international comparative analysis to explore the relationship between government health expenditure as a percentage of GDP and indicators of relevance to UHC (see Box 1). As indicated above, key elements of UHC include financial protection from the costs of ill health and access to and use of needed health services within a country.

Reducing the reliance on OOP payments for health care is important for financial protection, as demonstrated by Xu *et al.* (2003) in their study of 59 countries: 'A 1% increase in the proportion of total health expenditure provided by out-of-pocket payments is associated with an average increase in the proportion of households facing catastrophic payments of 2.2%'. Figure 1 shows that there is a strong correlation between government spending on health services as a percentage of GDP and the share of total health care expenditure funded from OOP payments (correlation

**Box 1.** Methodological approach to identifying an appropriate target

For our primary data analysis, an international comparative approach was used: the relationship between government health expenditure as a percentage of GDP (the target indicator) and a number of indicators related to UHC goals was assessed for all countries for which data are available.

The first step was to identify indicators that are of relevance from a UHC perspective. These indicators were selected on the basis of the definition of UHC (financial risk protection and access to needed care), and importantly their availability for most countries in the world. Recently, a range of possible indicators of health service coverage has been suggested (Boerma *et al.*, 2014), but the majority of these indicators are not presently available for most countries. We have used the indicators that are available.

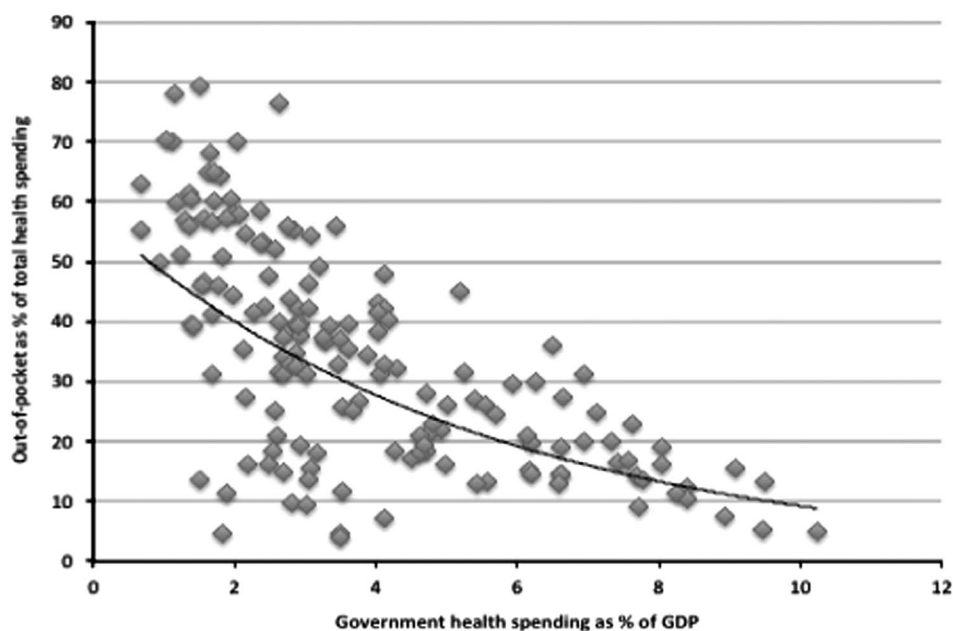
The relevant indicators for all available countries were extracted from International Monetary Fund and World Health Organisation data sets, and were plotted graphically (each UHC-related indicator was plotted separately against government health expenditure as a percentage of GDP) and a line fitted to the data. The correlation of each variable with the government health expenditure variable was also calculated. While inevitably there is some dispersion around the line, on the basis of acceptable correlation levels, we explored what government health expenditure target was implied by the country data. This was achieved by identifying a generally accepted target for the UHC-related variable (e.g. out-of-pocket payments being 20% or less of total health expenditure, 90% immunisation coverage, etc.), and determining the level of government health expenditure as a percentage of GDP that intersected with this target on the fitted line.

We then triangulated these estimates with available country case studies estimating the resource requirements for a universal health system through modelling of detailed health service cost and utilisation data.

coefficient =  $-0.62$ ); the greater the level of government health spending as a percentage of GDP, the lower the share of OOP payments in total health spending.

The 2010 World Health Report stated that: “It is only when direct payments fall to 15–20% of total health expenditures that the incidence of financial catastrophe and impoverishment falls to negligible levels” (WHO, 2010: xiv). If a vertical line is drawn from the fitted line in Figure 1 at the point where OOP payments are 20% of total health expenditure, it will meet the horizontal axis near the 6% of GDP point. Thus, this indicator suggests that a target of public spending of about 6% of GDP should be set if OOP payments are not to exceed 20% of the total amount spent on health care.

The other component of UHC is access to and use of needed health services for all within a country. The availability of data on this component relative to the need for health services is limited. Two indicators that are available – deliveries performed by a skilled birth attendant and child immunisation coverage rates – do not provide a good indication of overall health service coverage as they refer



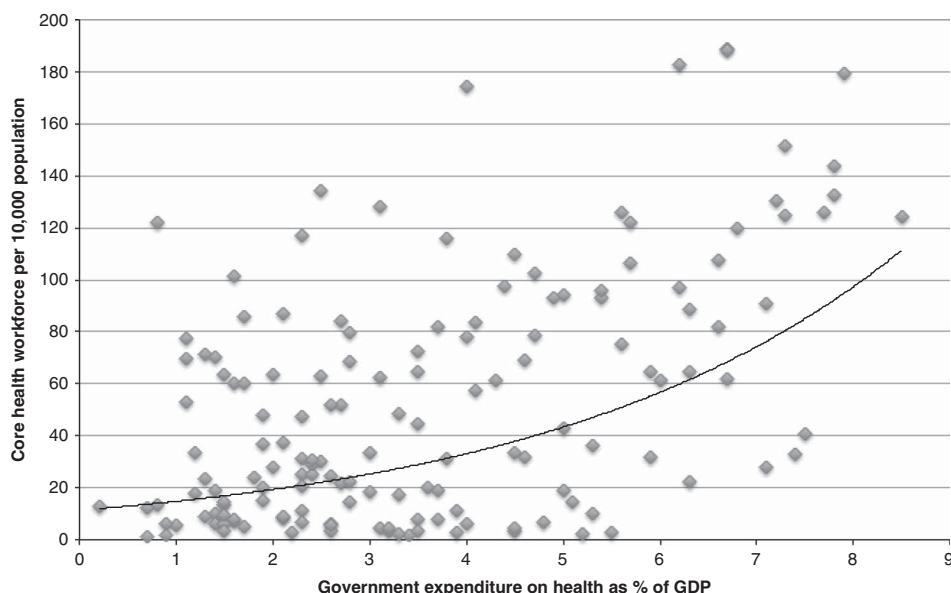
**Figure 1.** Relationship between government health spending and reliance on out-of-pocket payments (2011).

Source: Updated from McIntyre and Kutzin (2011) using data from <http://apps.who.int/nha/database/DataExplorer.aspx?ws=1&d=1>

Note: GDP = gross domestic product.

only to two types of maternal and child health (MCH) service, both of which have been singled out for significant improvement in the context of the Millennium Development Goals (MDGs). Nevertheless, analysis of both coverage indicators suggests that government spending on health of more than 5% of GDP will achieve a very conservative target of 90% coverage (which is the coverage target adopted by the CMH, 2001) (data not shown).

An indicator of the availability dimension of access to health services that is widely used and for which the WHO has set a target is that of health workers per 10,000 population. The WHO's Service Availability and Readiness Assessment project recommends a minimum of 23 core medical professionals/10,000 population, which it defines as 'physicians, non-physician clinicians, registered nurses, and midwives' (WHO, 2012). Figure 2 indicates that, based on the relationship between government expenditure on health and core health workforce indicators (correlation coefficient = 0.53), government expenditure should be around 3% of GDP to reach the minimum target of 23 core medical professionals/10,000 population and over 5% of GDP in order to achieve the current global average of 44/10,000 population. While the current average for low-income and lower-middle-income countries (LMICs) is only 10 and 27/10,000 population, respectively, the average for upper-middle-income countries is 67 and for high-income countries 107.



**Figure 2.** Relationship between availability of core health workforce and government health spending (2009).

Source: Adapted from WHO (2011).

Note: GDP = gross domestic product.

All the above analyses suggest that a target of government expenditure of *at least 5% of GDP* is an appropriate one. We then compared this figure with evidence from secondary sources. Savedoff (2007) argues that the most appropriate way of estimating the level of government resourcing needed to achieve a particular goal (in this case UHC), is to assess health service requirements and to cost these. While these costing exercises are often carried out to estimate the financial resource requirements of specific programmes (e.g. HIV/AIDS or MCH services), a few studies have examined the cost of more comprehensive preventative and curative health services, or the cost of achieving UHC.

Overall, studies projecting the financial resource requirements to achieve universal health systems using detailed health service cost data and modelling techniques indicate that public health expenditure should exceed 5% of GDP by 1–2 percentage points. For instance, in South Africa, McIntyre and Ataguba (2012) found that the least costly universal coverage scenario required government expenditure on health to increase to 6.4% of GDP, while in Tanzania, Borghi *et al.* (2012) estimated that in order to achieve universal coverage by 2025, public health service delivery costs (i.e. not all costs) would represent 4.3% of GDP. Financial feasibility studies of SHI carried out by the WHO using SimIns<sup>1</sup> showed public expenditure projections (including Ministry of Health and SHI

1 See [http://www.who.int/health\\_financing/tools/simins/en/](http://www.who.int/health_financing/tools/simins/en/)

**Table 1** Summary of analyses for relative target

Indicator/type of analysis	Public health spending as % GDP implied by analysis
International comparison of relationship between government health expenditure as a percentage of GDP and indicators related to UHC goals	
Limiting OOP payments to 20% of total health expenditure	± 6
At least 90% of deliveries performed by a skilled birth attendant	±5.5
At least 90% of children immunised for measles	±5.5
SARA minimum of 23 core medical professionals/10,000 population	±3
Global average of 44 core medical professionals/10,000 population	±5
Findings of detailed modelling of financial resource requirements to move to UHC	
South Africa (McIntyre and Ataguba, 2012)	6.4
Tanzania (only including costs of services provided by government) (Borghi <i>et al.</i> , 2012)	4.3
Swaziland (Mathauer <i>et al.</i> , 2008)	6.9
Lesotho (Mathauer <i>et al.</i> , 2007)	7.7

Note: GDP = gross domestic product; UHC = universal health coverage; OOP = out-of-pocket; SARA = Service Availability and Readiness Assessment.

expenditure) ranging between 6.9 and 7.7% of GDP in Swaziland and Lesotho, respectively (Mathauer *et al.*, 2007; Mathauer *et al.*, 2008).<sup>2</sup>

The final source of evidence we considered was analyses undertaken for the 2010 World Health Report, which documented actual levels of mandatory pre-payment funding for health in countries that are considered as having universal health systems. “Those countries whose entire populations have access to a set of services usually have relatively high levels of [mandatory] pooled funds – in the order of 5–6% of gross domestic product” (WHO, 2010: xv).

While each of the above methods for estimating resource requirements for moving towards UHC has its deficiencies, when taken together as a total body of evidence (see Table 1) a strong case for a target for government health expenditure of at least 5% of GDP can be argued for from a UHC perspective. This is also in line with the current global average of 5.1% of GDP. While a few countries, most notably Thailand, have made considerable progress to UHC at government expenditure levels of less than 5% of GDP, this is by far an exception and requires very high levels of efficiency that are difficult to achieve. Establishing a target of 5% of GDP for government spending on health does not mean that we should not do everything possible to use resources efficiently.

2 The WHO studies provided estimates on health expenditure to cover 100% of the population by 2018. The calculations of public health expenditure as a percentage of GDP were done by the authors using GDP projections (constant prices) from the IMF World Economic Outlook database (<http://www.imf.org/external/ns/cs.aspx?id=28>; accessed on 28 May 2014).

The proposed target is appropriate for countries across economic development levels and will be applicable over time: for low-income countries, this target will allow for progress towards universal primary health care (PHC) services; as GDP increases so the 5% will translate into an increase in absolute financial resources and the ability to expand the range of health services covered. A key criticism of the MDGs was that they were only applicable to low- and middle-income countries; the era of the SDGs demands targets that are universal and globally applicable (Scott and Lucci, 2015). While it may take longer for low-income countries to meet this target, a growing number of low- and middle-income countries are demonstrating that government revenue and expenditure levels relative to GDP can be increased dramatically with measures to improve tax compliance and revenue collection administration, ensuring public revenue gains from the exploitation of natural resources, increasing tax rates where these are low and introducing innovative public financing mechanisms (see Meheus and McIntyre, 2017). The target is one that countries can work systematically to achieve. Countries should be judged not by whether or not they have achieved this target, but by how much progress they have made towards this target over a particular period of time.

### **Should this be supplemented with a per capita target?**

Given the variation in per capita GDP across countries, the relative target of 5% of GDP translates into very different amounts in absolute monetary terms (across low-income countries, from as little as \$13/person in Burundi and Malawi to nearly \$60 in Kyrgyzstan, and up to \$190 in LMICs). Even if low-income countries achieved the target of 5% of GDP in government spending on health, would this be sufficient to deliver core PHC services universally? It is evident that most low-income countries, and some LMICs, will continue to require external assistance for the foreseeable future. An absolute per capita target would, therefore, be a useful complement to the relative target for *domestic* government expenditure as a percentage of GDP.

An absolute per capita target can be developed by costing a set of core PHC services. At present, there are two main sources of estimates on the resource requirements that LMICs have to meet in order to provide such services:

- The CMH (2001), and
- The HLTF (2009) on Innovative International Financing for Health Systems.

The CMH focussed on a very limited set of services dealing with AIDS, tuberculosis and malaria (ATM diseases) and key MCH services. Although both the CMH and the HLTF estimates included various costs of scaling up health services, the HLTF examined a wider range of services than did the CMH. Besides MDG-related services, it also included health promotion interventions and essential drugs for chronic diseases, some cancers, neglected tropical diseases, mental health and general care (Taskforce on Innovative International Financing

for Health Systems, 2009). Thus, the HLTF estimates approximate a more comprehensive range of PHC services. Both studies drew on demographic, epidemiological and costing data from a wide range of low-income countries.

The CMH estimated that by 2015, the per capita resource requirements in low-income countries would total \$38 (expressed in 2002 dollar terms), while the HLTF put that figure at \$54 (expressed in 2005 dollar terms) for more comprehensive services. We updated these estimates to 2012 terms based on inflation rates and changes in exchange rates since 2002 and 2005, respectively. Expressed in 2012 dollar terms, the CMH estimate is equivalent to \$71 and that of the HLTF \$86.<sup>3</sup>

In our view, it would be appropriate to use \$86 as the estimate of per capita resource requirements for providing core PHC services in low-income countries. The basis for this is that there is growing emphasis on all countries promoting universal access to at least primary level services that not only tackle MCH and the ATM diseases but also provide interventions for those suffering from non-communicable diseases, mental health problems and other conditions beyond the current MDG focus. The HLTF estimate includes the cost of medicines for this broader range of diseases and services as well as the costs related to expanding facility and equipment infrastructure, increasing staffing levels and other means of strengthening health systems. Though stopping short of a fully comprehensive set of PHC services, it is unlikely to be far off the mark. However, this will only be the case if the \$86 is devoted fully to PHC services (and not, e.g. spent on high-cost tertiary services), and if these limited resources are used efficiently with the aim to deliver quality services. This can be promoted through ensuring that there is strategic purchasing of health services (RESYST, 2014).

Even if all countries reached the relative target of 5% of GDP, no low-income countries and only 60% of LMICs would be spending above the absolute target of \$86 per capita. This highlights the need for external support to secure the needed health care in countries which even at their 'maximum available resources' cannot meet this absolute target alone through domestic resources. However, in the context of findings that international funding often simply substitutes for, or displaces, domestic government funding for health services (Farag *et al.*, 2009), the combination of these two targets can contribute to ensuring that international funds are truly additional to domestic public funds.

## Conclusion

Our analyses of international data sets, and review of published estimates of resource requirements to move towards universal health systems, all point

3 We further updated these estimates to 2015 and found that the average remained at \$71 for the CMH estimate and \$86 for HLTF due to variable inflation rates (with rates in some countries being negative in certain years) and variable exchange rate changes across the countries included in the CMH and HLTF calculations.



towards a relative target of government expenditure on health, funded from domestically mobilised resources, of at least 5% of GDP. While this may be aspirational for low- and middle-income countries that are currently far from this target, we believe it is achievable for all countries in the longer term. Other papers in this special issue consider how domestic government revenue can be increased so that this target can be achieved in support of moving towards UHC (Eloivano and Evans, 2017; McCoy *et al.*, 2017; Meheus and McIntyre, 2017). The Addis Ababa Agenda (UN, 2015) is unambiguous in its call for each government to pursue improvements in domestic public resources to fund the SDGs, and explores ways of creating an enabling international environment for this.

This proposed target is appropriate for countries across economic development levels; as GDP increases so will the 5% translate into an increase in absolute financial resources and the ability to expand the range of health services covered. However, a specific percentage of GDP obviously translates into a lower absolute amount in low-income countries than in middle- or high-income countries. It is within this context that a per capita monetary target has a role to play; domestic government spending of 5% of GDP will not even ensure universal access to primary care services in any low-income countries. Although absolute per capita targets have deficiencies, particularly that a set monetary amount will buy very different quantities of services in different countries due to differences in health worker wages and other input prices, it can play an important role in advocating for domestic government and international assistance funds that are truly additional to at least move towards universal primary care services.

Low- and middle-income countries will not make substantial progress towards universal health systems, and to realising the full range of economic, social and cultural rights, unless governments make concerted efforts to maximise their 'available resources'. An explicit target for government expenditure on health services relative to GDP is a potentially powerful tool for holding governments to account in terms of these rights.

## **Acknowledgements**

This research was undertaken to contribute to the Chatham House Working Group on Sustainable Health Financing. The authors are grateful to members of the Working Group for comments on this research.

## **Financial Support**

This work is based on research supported by the South African Research Chairs Initiative of the Department of Science and Technology and National Research Foundation (NRF) of South Africa and the RESYST research consortium funded by UKaid from the Department of International Development. Any opinion,

finding and conclusion or recommendation expressed in this material is that of the authors and the NRF and UKaid do not accept any liability in this regard. The study sponsor was not involved in the study design and collection, analysis and interpretation of data, or the writing of the article or the decision to submit it for publication. The authors were independent from study sponsors.

## References

- Balakrishnan, R., D. Elson, J. Heintz and N. Lusiani (2011), *Maximum Available Resources and Human Rights*, NJ: Center for Women's Global Leadership, Rutgers, New Brunswick, NJ.
- Boerma, T., C. AbouZahr, D. Evans and T. Evans (2014), 'Monitoring intervention coverage in the context of universal health coverage', *PLoS Med*, **11**(9): e1001728.
- Borghi, J., G. Mtei and M. Ally (2012), 'Modelling the implications of moving towards universal coverage in Tanzania', *Health Policy and Planning*, **27**(Supplement 1): i88–i100.
- Commission on Macroeconomics and Health (CMH) (2001), 'Macroeconomics and Health: Investing in Health for Economic Development', Report of the Commission on Macroeconomics and Health, World Health Organisation, Geneva.
- Eloivano, R. and D. Evans (2017), 'Raising more domestic money for health: prospects for low and middle income countries', *Health Economics, Policy and Law*, **12**(2): 139–157.
- Farag, M., A. K. Nandakumar, S. S. Wallack, G. Gaumer and D. Hodgkin (2009), 'Does funding from donors displace government spending for health in developing countries?', *Health Affairs*, **28**(4): 1045–1055.
- Govender, V., D. McIntyre and R. Loewenson (2008), 'Progress Towards the Abuja Target for Government Spending on Health Care in East and Southern Africa'. EQUINET Discussion Paper No. 60, Regional Network for Equity in Health in Southern Africa, Harare.
- High-Level Taskforce (HLTF) (2009), 'Constraints to Scaling Up and Costs. High Level Taskforce (HLTF) on Innovative International Financing for Health Systems'. Working Group 1 Technical Report, World Health Organisation, Geneva.
- International Monetary Fund (2012), *World Economic Outlook, October 2012*, Washington, DC: IMF.
- Mathauer, I., O. Doetinchem, J. Kirigia and G. Carrin (2007), *Feasibility Assessment and Financial Projection Results for a Social Health Insurance Scheme in Lesotho: Exploring Possible Options*, Geneva: World Health Organization.
- Mathauer, I., L. Musango, G. Carrin and K. Mthethwa (2008), *Feasibility Assessment and Financial Projection Results for a Social Health Insurance Scheme in Swaziland: Exploring Possible Options*, Geneva: World Health Organization.
- McCoy, D., S. Chigudu and T. Tillmann (2017), 'Framing the tax and health nexus: a neglected aspect of public health concern', *Health Economics, Policy and Law*, **12**(2): 179–194.
- McIntyre, D. and J. Kutzin (2011), 'Revenue collection and pooling arrangements in health system financing', in R. Smith and K. Hanson (eds) *Health Systems in Low- and Middle-Income Countries*, Oxford: Oxford University Press, 77–101.
- McIntyre, D. and J. Ataguba (2012), 'Modelling the affordability and distributional implications of future health care financing options in South Africa', *Health Policy and Planning*, **27**(Supplement 1): i101–i112.
- Meheus, F. and D. McIntyre (2017), 'Fiscal space for domestic funding of health and other social services', *Health Economics, Policy and Law*, **12**(2): 159–177.

- Moreno-Serra, R. and P. Smith (2015), 'Broader health coverage is good for the nation's health: evidence from country level panel data', *Journal of the Royal Statistical Society*, 178(1): 101–124.
- Njora, G. (2010), 'African finance ministers dismiss development declarations'. FAHAMU, <http://pambazuka.org/en/category/comment/63894> [25 May 2010].
- Organisation of African Unity (2001), *Abuja Declaration on HIV/AIDS, Tuberculosis and Other Related Infectious Diseases*, Addis Ababa: Organisation of African Unity.
- Reeves, R., Y. Gourtsoyannis, S. Basu, D. McCoy, M. McKee and D. Stuckler (2015), 'Financing universal health coverage – effects of alternative tax structures on public health systems: cross-national modelling in 89 low-income and middle-income countries', *Lancet*, 386(9990): 274–280.
- RESYST (2014), 'What is Strategic Purchasing for Health?', Resilient and Responsive Health Systems, London School of Hygiene and Tropical Medicine, London, <http://resyst.lshtm.ac.uk/sites/resyst.lshtm.ac.uk/files/docs/reseources/Purchasing%20brief.pdf> [13 October 2014].
- Savedoff, W. D. (2007), 'What should a country spend on health care?', *Health Affairs*, 26(4): 962–970.
- Scott, A. and P. Lucci (2015), 'Universality and ambition in the post-2015 development agenda: a comparison of global and national targets', *Journal of International Development*, 27(6): 752–775.
- Taskforce on Innovative International Financing for Health Systems (2009), *More Money for Health, and More Health for the Money: Report of the Taskforce*, Geneva: International Health Partnership.
- United Nations (UN) (2015), *Report of the Third International Conference on Financing for Development*, New York: United Nations.
- UN System Task Team on the Post-2015 UN Development Agenda (2012), *Realizing the Future we Want for All: Report to the Secretary-General*, New York: United Nations.
- World Health Organisation (WHO) (2010), 'Health Systems Financing: The Path to Universal Coverage'. World Health Report 2010, WHO, Geneva.
- World Health Organisation (WHO) (2011), *World Health Statistics, 2011*, Geneva: World Health Organisation.
- World Health Organisation (WHO) (2012), *Measuring Service Availability and Readiness: A Health Facility Assessment Methodology for Monitoring Health System Strengthening. Service Availability Indicators*, Geneva: WHO.
- Xu, K., D. B. Evans, K. Kawabata, R. Zeramdini, J. Klavus and C. J. L. Murray (2003), 'Household catastrophic health expenditure: a multicountry analysis', *Lancet*, 362(9378): 111–117.



# Raising more domestic money for health: prospects for low- and middle-income countries

RIKU ELOVAINIO

*World Health Organization, Egypt Country Office, Cairo, Egypt*

DAVID B. EVANS\*

*Health Systems Research and Dynamic Modelling Group, Swiss Tropical and Public Health Institute, Basel, Switzerland*

*University of Basel, Basel, Switzerland*

**Abstract:** Since the 2007/2008 financial crisis, the rhetoric in the development assistance dialogue has shifted away from raising more international funding for health, to requesting countries to move toward self-sufficiency. This paper examines the potential of 46 countries identified by an international panel in 2009 as being of high need to raise additional funding for health from domestic sources. Economic growth alone would allow 12 of them to reach a level of health spending where their populations could have access to a very basic set of health services. All of them have the potential to raise additional domestic funds through a range of measures that have been tried successfully in other low- and middle-income countries, but they would all remain well below the eventual objective of universal health coverage without increased and predictable external financial support.

## Introduction

All countries face a constant struggle to secure sustainable and sufficient funding of their health systems. Even the richest countries have found it difficult to keep up with rising health care costs even before the current economic downturn, which put further pressure on health spending. A report focusing on Europe concluded that a number of countries had seen their health budgets cut since the financial crisis hit in 2007/2008 – some substantially; in Iceland, total government health expenditure per capita shrank by 13% between 2008 and 2010, in Latvia government spending on health prevention and promotion activities fell by 89% over the same period (Mladovsky *et al.*, 2012).

\*Correspondence to: David Evans, Department of Health Systems Research and Dynamic Modelling, Swiss Tropical and Public Health Institute, Socinstrasse 57, 4051 Basel, Switzerland. Email: david.evans@unibas.ch

The absolute shortage of funds is much more acute, however, in low- and middle-income countries. Although the current international economic turmoil has affected their economic growth much less than in the high-income countries and they have received substantial inflows of development assistance for health (DAH) since the Millennium Declaration was signed in 2000, they still spend too little to assure their population access to even a minimum set of health services. In 2009, the High Level Taskforce on Innovative International Financing for Health Systems (HLTF) estimated that low-income countries<sup>1</sup> would need to spend an annual average<sup>2</sup> of \$60 per capita on health by 2015 in order to ensure coverage with a set of key health services, largely focusing on the conditions targeted by the Millennium Development Goals (MDGs) for health. The target is the very minimum necessary because the core set of interventions included only limited care and prevention for non-communicable diseases (NCDs) and it was assumed that the entire sum would be spent efficiently. As we are today in the era of the Sustainable Development Goals (SDGs), the funding needs will need to be updated based on the SDG health targets. This health SDG costing work is currently ongoing.

In the first article of this series, McIntyre *et al.* (2017) have made the arguments of setting government health expenditure targets at 5% of gross domestic product (GDP) and at US\$86 per capita. These targets emerge from several sources, including from the HLTF calculations. This paper looks more directly at the 46 HLTF countries<sup>3</sup> for which good enough data exists in order to establish a benchmark of the magnitude of the gap between the estimated cost of a package of health services, as defined in the HLTF calculations, and what these low- and middle-income countries can probably mobilize from domestic resource in the short term.

In second section we describe current spending patterns and then project how domestic health spending might evolve as a result of economic growth. In third section we ask how countries could improve their revenue raising for health. First looking at what would happen if countries chose to spend a higher proportion of their available resources on health, and then turn to different options for raising additional revenue for health domestically, independent of economic growth.

While raising more money for health is crucial, the available resources must also be used efficiently and equitably. This paper focuses only on the possibilities of raising additional domestic funds for health, but it is important to emphasize that moving toward universal health coverage will not only require more money, but also more value for money and active consideration of the equity implications of different ways of using the available resources (Ottersen *et al.*, 2014).

1 The HLTF analysis included countries classified as 'low income' by the World Bank as of June 2007.

2 All averages are unweighted averages unless otherwise noted.

3 The countries are listed in Appendix 1.

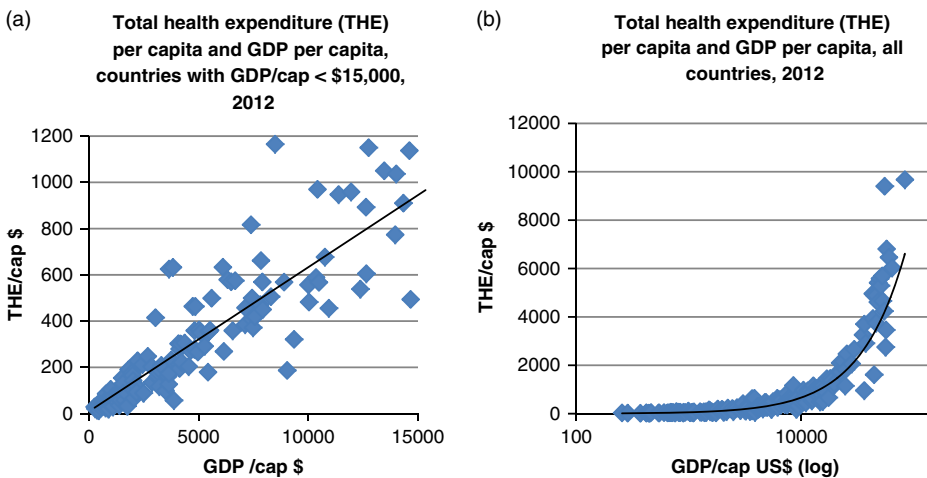
## Health expenditure trends and cross-country analysis

Cross-country comparisons suggest that total health spending per capita grows with national income per capita, illustrated in Figure 1. This is not deterministic, however. Some countries spend appreciably more than expected given their income level, and some considerably less. Even allowing for macroeconomic constraints, policy choices matter; health expenditure is determined by the capacity and desire of governments to raise revenues and by the willingness and ability of households, firms and governments to contribute and then to spend the available funds on health (Savedoff, 2007; Xu and Saksena, 2011).

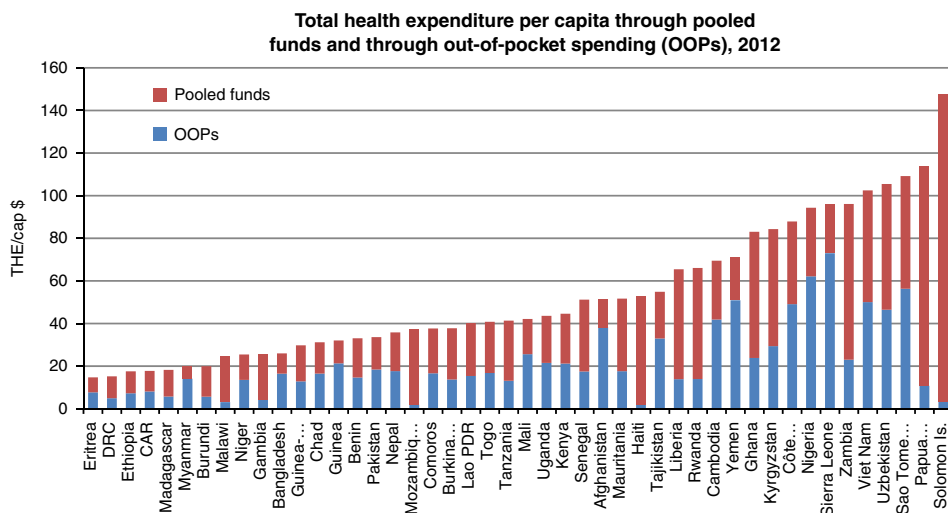
Domestic funds for health are either paid directly to health providers for the services that are received or are channeled through pooling mechanisms which spread the financial risks of ill health across the population. When pooling systems are weak, people are forced to pay for services out of their own pockets. Out-of-pocket spending (OOPs) for health leads to financial catastrophe and impoverishment for some people who need to use health services, while it deters others from seeking or continuing treatment.

In Figure 2, total health expenditure (THE) is divided into the shares derived from OOPs and from prepaid and pooled funds, respectively, for the 46 countries (including external funding which by definition is considered pooled funding).

At the two extremes, in six of the 46 countries prepaid and pooled funds represent more than 80% of THE (Gambia, Haiti, Malawi, Mozambique, Papua New Guinea and Solomon Islands), while in four they are less than 30% (Afghanistan, Myanmar, Sierra Leone and Yemen). Prepaid and pooled funds in most of the 46 countries consist primarily of government health expenditures and compulsory



**Figure 1.** Total health expenditure (THE) per capita and gross domestic product (GDP) per capita (a) in countries with GDP per capita under \$15,000 (b) in all countries (logarithmic scale). Source: WHO, Global Health Expenditure Database.



**Figure 2.** Per capita total health expenditure (THE) from out-of-pocket spending (OOPs) vs per capita health expenditure from pooled funds.

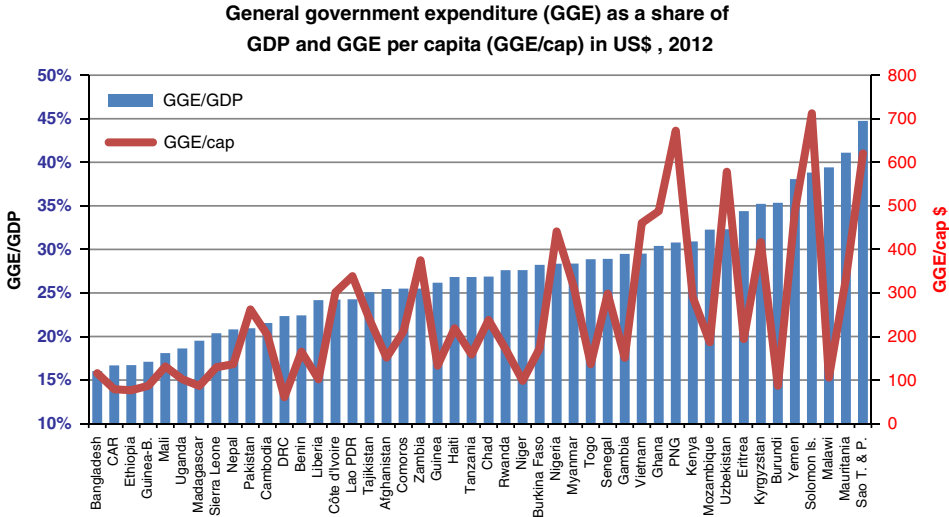
Source: WHO, Global Health Expenditure Database.

health insurance [the combination is called general government health expenditure (GGHE)]. Funds from external sources, channeled through GGHE or implemented through non-governmental organizations form a large share of pooled funds in many of the poorest countries. Private health insurance (including voluntary community health insurance) represents only 1.3% of THE in these countries – although the range is quite wide with many having zero or close to zero spending on private health insurance, while at the other extreme, in Kenya and Senegal the share of private health insurance in THE is 6 and 9%, respectively.

Governments' abilities to spend on health are influenced by their capacity to raise public revenues, reflected in the overall level of general government expenditure (GGE). Figure 3 reports GGE per capita (on everything, not just health) for our 46 countries, and GGE as a share of GDP. For 30 of the countries, GGE is below 30% of GDP: for five it is less than 20%.

There are no clear benchmarks for what the share of government spending in national income should be. In the EU countries, for example, GGE/GDP varies from 30 to 59% (European Commission, 2012). It is more difficult to raise revenues, notably through direct income taxes, in countries with large informal sectors, one of the reasons why GGE/GDP is frequently lower in low-income countries. Figure 3 shows that in many of the countries under discussion GGE/GDP was well below the 30% minimum observed in the EU countries, suggesting that there is scope to raise more revenues over time given their levels of GDP. To illustrate, the International Monetary Fund (IMF) compared countries' fiscal potential with their actual government revenues, finding that low-income





**Figure 3.** General government expenditure (GGE) per capita and as a share of gross domestic product (GDP).

Source: WHO, Global Health Expenditure Database.

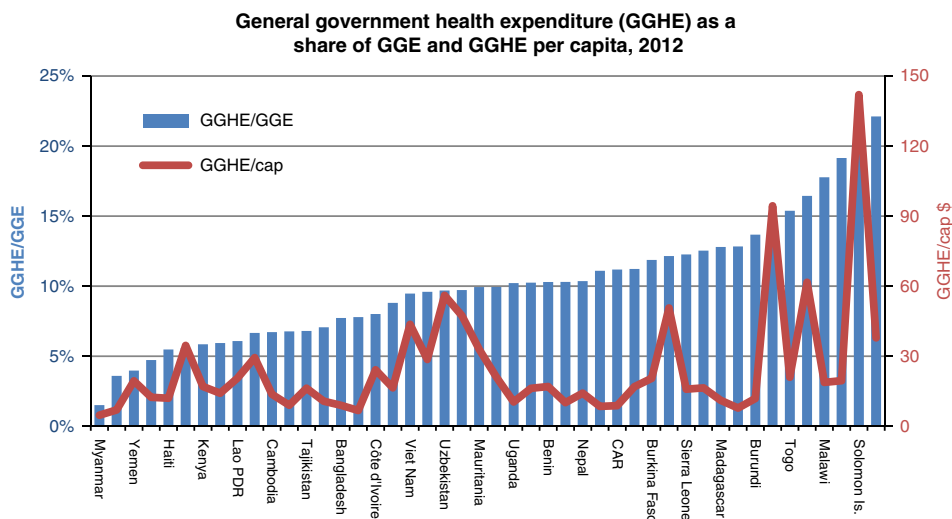
countries reach on average only 78%, and lower-middle-income countries 63% of their potential (estimated through an assessment of the size and structure of the economy) for mobilizing government revenues (IMF, 2011).

The GGE/GDP ratio does not reveal the whole picture of resource availability. In five of the 13 countries that have a GGE/GDP ratio of 30% or more, per capita GGE is still below \$300. This money has to be distributed across all sectors, not just health. If a country spending \$300 GGE per capita allocated 15% to health, as suggested in the Abuja Declaration for countries that are members of the African Union, GGHE would still reach only \$45 per capita, showing the limits imposed by low absolute levels of national income and a low government share of the economy.

While the revenue raised by governments limits their overall capacity to spend, the priority they give to health when allocating the available resources varies considerably. Figure 4 shows that the share of GGHE in GGE is below 10% for more than half of the 46 countries (24), and in four it is even below 5%. In only 10 is GGHE per capita more than \$30 and the average government health spending per capita is only \$25 for the countries as a whole. This figure includes funding from external sources channeled through government (it is not possible to extract external sources), so the level of government health spending from domestic resources is in most cases lower.

### *Projections of total health spending*

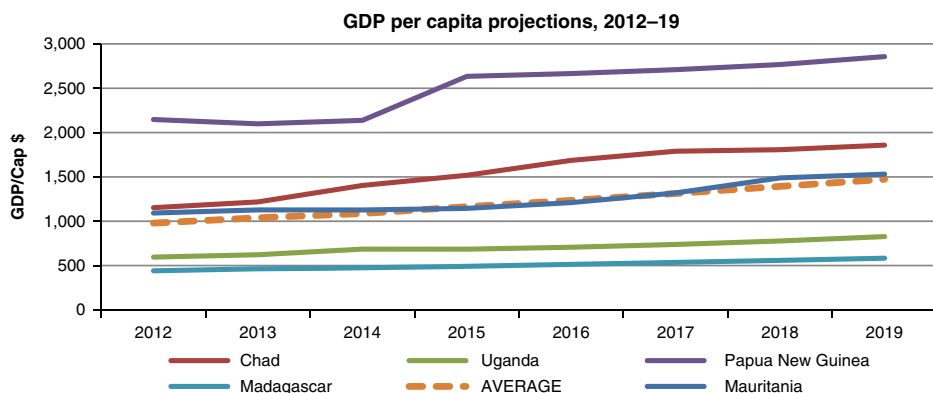
We now turn to the question of the potential for these countries to raise additional revenues for health in the future, initially focusing only on the impact of



**Figure 4.** Priority of health in general government expenditure (GGE).

Source: WHO, Global Health Expenditure Database.

Note: GGHE = general government health expenditure.



**Figure 5.** Projected gross domestic product (GDP) per capita growth in five countries and average for the 46 countries.

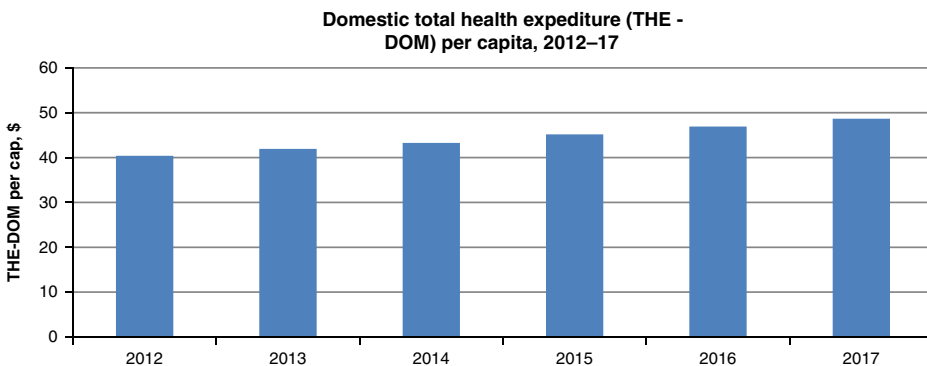
Source: IMF, World Economic Outlook Database, April 2012 edition.

economic growth. The IMF projects that GDP per capita will grow at an average rate of 3.4% per year between 2012 and 2019 in the set of countries that we are following (IMF, 2014). Growth is expected to vary, however, across these countries. Figure 5 shows the projected rates for Chad, Madagascar, Mauritania, Papua New Guinea, Uganda and Viet Nam (two rapid-growth, one average and two lower-growth countries). For example, in 2012 Chad and Uganda had a \$550 difference in GDP per capita, a difference projected to increase to \$1000 in 2019.

To examine the effect only of economic growth, we assume that nothing changes in terms of shares of GGE in GDP, of GGHE in GGE and of government health expenditure in GDP, nor in the amount of external inflows. THE from domestic sources would increase by \$20 billion in the 46 countries between 2012 and 2017 through domestic economic growth alone. This represents an average increase of \$8.3 per capita between 2012 and 2017, and would allow THE per capita from domestic sources to reach on average \$45 by 2015 and \$49 by 2017 (see Figure 6). This is still lower than the \$60 per capita the HLTF estimated would be needed by 2015 for even a minimum set of key health services. Looking at the country level HLTF targets, 12 of the 46 countries would reach their own ‘need’ targets (ranging from \$21 to \$146) for THE by 2015 from domestic sources through economic growth alone. The others have little realistic chance of reaching the levels required from domestic growth even if THE tends to, though not always, increase as a share of GDP over time. As yet, no good estimates exist of the cost of reaching the SDG health targets, but given that these health targets are more ambitious than those in the MDGs, it is safe to assume that the funding needs will be higher than we assume above. Our estimates, therefore, can be considered the most optimistic possible.

If we add to our projections of domestically sourced expenditures for 2015 the current 2012 levels of DAH, another four countries would reach their HLTF target, leaving 30 under their desirable 2015 spending levels – many of them substantially under. The HLTF argued that the inescapable conclusion is that if the global community is serious about helping these countries achieve internationally accepted targets in health, it is important not just to maintain current levels of DAH but to increase them.

It needs to be underlined that the projections discussed above are on THE. The core policy issue when linking the need to increase resources for health to the universal health coverage (UHC) objective lies in the way OOPs can be crowded



**Figure 6.** Projections of growth of total health expenditure (THE) per capita from domestic sources – average of the 46 countries.

Source: WHO, Global Health Expenditure Database.

out by GGHE (and, in some extents by external funding). The UHC imperative of reducing OOPs will open many streams of discussions on health financing system reform which we are not going to tackle in full in this article but which we are going to approach from the point of view of increasing domestic pooled funding for health in the following section.

### **Increasing domestic funding for health: options**

There are many ways countries could raise additional revenues for health, summarized in Table 1. These options were chosen not because they could work in theory, but because some low- and middle-income countries have actually done them, countries listed in the last column. We briefly discuss these options in this section.

#### ***Increasing the share of existing government revenues allocated to health***

The share of government revenue spent on health is one indication of government commitment to health. In Figure 7 we use the data reported in Figure 5 to map GGHE/GGE against GDP per capita. For the 46 countries, the share of total government spending allocated to health varies from 1.5 to 22% (including external funding flowing through government). GGHE/GGE is not highly correlated with GDP per capita suggesting that it is not necessary to wait for national income to grow before a higher proportion of government revenues can be allocated to health.

Allocating a higher share of government spending to health has the potential to generate substantial additional funding. For the 46 countries, increasing GGHE/GGE to 15% (the Abuja target) overnight would increase available health revenues by \$25 billion, or \$18 per capita using 2012 as the base year.<sup>4</sup> If the 15% threshold were maintained to 2017, government health spending would grow by \$34 billion using the growth rates reported above. Again there is considerable variation across countries. Nigeria would contribute \$3.7 billion to this, allowing it to increase GGHE by \$16 per capita through the combined effect of economic growth and increased priority to health in public spending.

Increasing the share of government expenditure going to health is politically complex, illustrated by the fact that in the 10 years after the Abuja Declaration was signed, almost as many African Union countries moved away from the target of 15% as moved closer to it (WHO Regional Office for Africa, 2011; McIntyre *et al.*, 2017). Yet, a number of low- and middle-income countries have shown that it is possible to increase the share of GGE going to health. In Viet Nam, the National Assembly promulgated laws guaranteeing increases in the health budget (Tien, 2011). The share of health in GGE increased from 5% in 2004 to 9.5% in 2012. This was partly in response to reel back the liberalization policies of the 1980s and

<sup>4</sup> Assuming that those currently over 15% will stay at their current level of GGHE/GGE.

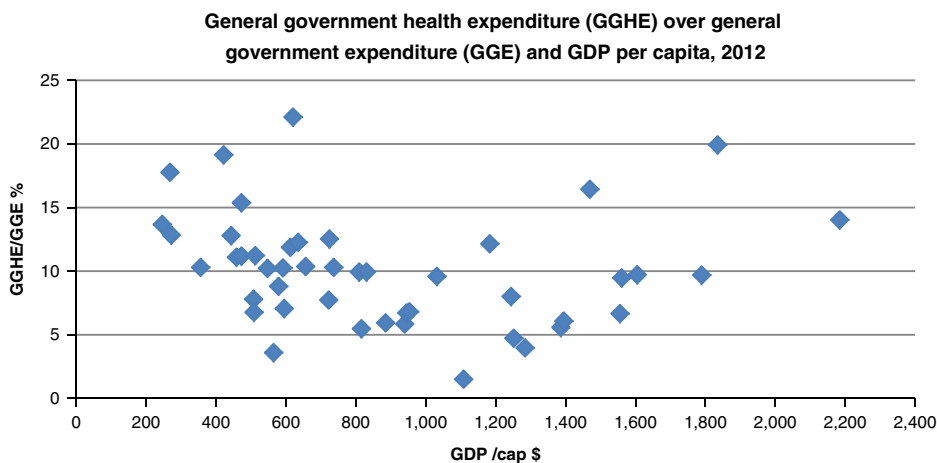
**Table 1.** Options for increasing domestic revenue for health beyond economic growth

Revenue mobilization approaches	Possible actions and strategies	Possible revenues generated (in general and for health)	Country examples
Redistributing existing government revenues to health or reducing subsidies on other things (e.g. fossil fuels) to spend on health	Advocacy; creating political will; demonstrating results; demonstrating efficiencies	If African Union countries would meet 15% GGHE/GGE target they would increase health expenditure by \$29 billion	Chile, Indonesia, Iran (shifting from fuel subsidy to social spending), Rwanda, Viet Nam
Formalization of economies, tax efficiency or expanded tax base	Improving governance; enforcing existing regulations; simplifying administrative procedures and reforming tax collection agencies	Depends on country contexts, but formalization could potentially increase GGE/GDP ratios by several percentage points	Indonesia, South Africa, Turkey, Uganda
Increased taxation on natural resources	Good governance to avoid the ‘resource curse’; <sup>a</sup> specific taxation measures on ‘super profits’ <sup>b</sup>	Context-specific; Botswana has shown that significant amounts of revenue can be raised with sound policies and transparency	Botswana, Lao PDR, Papua New Guinea
Increased taxation of harmful habits and products (e.g. tobacco, alcohol, drinks high in sugar)	Advocacy on the ‘win-win’ nature of these taxes; creating evidence on implications on revenue and health outcomes	Possibilities for increases especially for countries with existing rates below regional averages; e.g., Philippines, increased alcohol and tobacco taxes to raise additional \$3.4 billion = 1.3 times current GGHE	Djibouti, Egypt, Guatemala, Mexico, Mongolia, Nepal, Philippines, Thailand, Turkey, Tuvalu
Increased taxation on other types of products/industries	Obtaining support of powerful interest groups; advocating toward corporations that it is in their interest that government can invest in public goods	1% tax on turnover of companies that would represent 5% of GDP, will yield 0.05% of GDP in revenue	Financial transactions Argentina, Brazil Luxury products China, Indonesia, Viet Nam Telephone Services Gabon, Ghana, Senegal, Republic of Congo, Uganda
Voluntary sources of revenue (e.g. from businesses)	Mobilizing private sector actors behind public health goals; increase dialogue with private sector actors	Can provide catalytic resources and can be used as leverage to raise other funds	Corporate social responsibility Malawi, Papua New Guinea, South Africa Diaspora bonds (increases domestic funds from external sources) India, Lebanon, Sri Lanka

Note: GGHE = general government health expenditure; GGE = general government expenditure; GDP = gross domestic product; PDR = People’s Democratic Republic.

<sup>a</sup>‘Resource curse’ in general refers to a situation where country’s richness in natural resource has a negative impact on economic development (notably increased economic volatility), equality, social peace and governance.

<sup>b</sup>‘Super profits’ often linked to, but not always equating to, ‘windfall profits’ is used here to the kind of over the average profits which arise when companies can take advantage of a specific situation in their favor (such as a monopolistic or quasi-monopolistic situation or, for example, speculation riven rise in global commodity prices for extracting companies).



**Figure 7.** Priority given to health in government expenditure and gross domestic product (GDP) per capita.

Source: WHO, Global Health Expenditure Database.

Note: GGHE = general government health expenditure; GGE = general government expenditure.

1990s which had increased out-of-pocket expenditure to over 70% of THEs. In Chile, the government policy for effectively guaranteeing access to a set of services to the whole population (the AUGE plan) saw the share of GGHE in GGE rise from 12% in 2003 to 16% in 2010. This corresponded to a period of strong economic growth so the level of government health spending per head more than tripled from \$134 per capita to \$456 [World Health Organization (WHO), 2012].

### *Raising additional government revenues*

#### *Workforce formalization and tax efficiency*

The proportion of people working in the formal sector generally increases with GDP. This makes it theoretically easier for governments to collect income and company taxes, as well as indirect taxes like value added taxes (VAT) (World Bank, 2010). The rate at which governments can in practice increase their revenues will depend partly on the pace at which the formal sector develops, but it can also be influenced by strategies to increase the revenue base and to improve revenue collection efficiency.

There are several examples of countries that actively sought to increase the tax base or increase tax efficiency despite having large informal sectors. Uganda streamlined its business registration system and business registrations increased by 43% and revenue from registration fees by 40% (Sander, 2003). Indonesia's effort to simplify its tax system and to enforce collection was associated with an increase in tax revenues from 9.9 to 11.1% of non-oil GDP over 4 years. Health spending benefited disproportionately from the enhanced government revenues (WHO, 2010b).

Turkey took measures to speed up the transition to a formal economy and to raise additional funds, including increasing auditing of workplaces (World Bank, 2010). Laws were amended to lower employment costs by introducing progressive social security contributions. Accompanied by stable economic growth, the informal employment rate fell from 33% in 2005 to 26% in 2011.

### *Natural resource revenues*

According to the IMF, 20 of the 45 countries in sub-Saharan Africa are now significant exporters of natural resources (IMF, 2010b). In total, 10 already collected more public revenues from natural resources than from all other sources. Volatility in the prices of natural resources means volatility in revenues derived from them but carefully thought-out levies can increase government revenues substantially in many of these countries.

Botswana has long raised considerable government revenue from its diamond extraction industry, using much of it for social spending. The IMF has praised the sound management of diamond-related fiscal revenue (Basdevant, 2008), while Oxfam argued that the country has been something of an exception in trying to ensure that the revenues from exports of this natural resource are equitably distributed (Ross, 2001). In Papua New Guinea, tax proceeds from the country's biggest mine are channeled into the Sustainable Development Program, used for development programs including health. This mining revenue amounted to \$180 million yearly in 2008/2009 (or \$27 for every citizen). Lao People's Democratic Republic levies taxes on the sale of electricity to neighboring countries from a hydropower project. Around \$5.6 million (\$0.88 per capita) was collected in 2010 and revenues are projected to rise to \$80 million per year over a 25-year period (World Bank, 2011). Revenue allocation is focused on social and infrastructure spending, including health, which had received \$1 million by May 2011.

### *Taxes on specific products*

A small levy on individual financial transactions is one option. Argentina, for example, has been taxing current account credits and debits since 2001, reportedly raising half as much as from total corporation income taxes between 2006 and 2008 (IMF, 2010a). In 2001 Brazil implemented a levy of 0.38% on a set of bank withdrawals, raising up to \$20 billion per year partly earmarked for health. Abolition of the levy in 2007 after political pressure from the financial sector resulted in shortfalls for the public health care system (WHO, 2010a). In 2009 Brazil introduced a new 2% levy on stock and bond transactions from outside the country.

Other examples are taxes on luxury goods through differential rates applied to existing taxes such as VAT, vehicle and property taxes or more general taxes on items such as mobile phones or their use. China has a luxury tax on products including yachts, imported watches and high-performance cars; Viet Nam has a special consumption tax on premium items such as luxury cars, yachts

and private jets; and Indonesia has been taxing luxury consumption items for some time (Thrisk, 1997; *China Daily*, 2010; Reuters, 2010).

The HLTF noted that with 3.5 billion mobile phone users in the world, and with global revenues from post-paid mobile phone services high and rising (some \$750 billion per year), establishing a levy on the use of mobile phones would enlarge the tax base (High Level Task Force for Innovative International Financing, 2010). It estimated that a voluntary levy on mobile phone use could raise between \$260 million and \$1.69 billion annually. Uganda is already levying a targeted tax on mobile phone use and on handset sales. Taking into account the specific levies and other taxes on telecommunications products and services (such as VAT), the tax revenue from telecommunication companies amounted to \$3.57 billion in 2008, representing 9.5% of the country's total tax revenue (Butagira, 2009). In early 2015, Togo adopted a tax (25 francs CFA or 4 US¢) on incoming international calls; the revenue from this tax is earmarked for the national health insurance mechanism (Afrique It News, 2015).

Mobile phone use could also be taxed indirectly. Gabon has implemented a tax of 10% on the turnover of mobile phone companies. The revenue is earmarked for the national health insurance fund and covers the membership of people who cannot afford to contribute (Musango and Aboubacar, 2010). In 2009 the government collected 12 billion francs CFA, or US\$25 million, from it.

### *Taxing unhealthy habits and products*

Taxes on products and behaviors that are unhealthy, frequently called 'sin taxes', are particularly interesting options for revenue raising from the health perspective. They reduce harmful consumption and improve health, reduce the need for costly treatment in the future, and raise additional revenue, some of which could be used for health (WHO Regional Office for South-East Asia, 2012).

Taxation on alcohol and tobacco products has proven effective in reducing consumption and improving health (Chaloupka *et al.*, 2011; WHO, 2011). It is not new but many countries still apply low rates of taxation on these products, so there is considerable scope for increase. Some have already done so. In 2014 a presidential decree in Egypt increased tobacco taxes on the retail price of local and imported cigarettes to 50% and increased an additional levy to a range from EGP 1.75 to 2.75 per pack. These taxes are not earmarked for health although there is a longer-standing tax of 10 piastres (\$0.018) per pack that is used to provide medical insurance for students. For fiscal year 2013/2014, the projected annual revenue from combined tobacco taxes was EGP 32 billion (\$4.2 billion); if all this was channeled into health, it would represent a 25% increase in total government health expenditure. Moreover, it was calculated that the increase in tobacco taxation for 2010 alone would avert 190,000 deaths among current adult smokers. In the last decade Turkey has been actively increasing its tobacco taxes. Even before these recent increases, tobacco taxes represented 6.5% of all government revenues (Yurekli, 2010).



Thailand has taken an innovative approach by taxing cheap alcoholic beverages at a rate based on alcohol content, and more expensive alcoholic beverages at a rate calculated on the value of the product. This assures a higher average tax rate, lower alcohol consumption and higher revenue (Sarntisart, 2012). The Philippines government enacted legislation in 2012 increasing alcohol taxation indexed to inflation. It calculated this would increase revenues by 31 billion pesos (\$760 million) in 2012 and by 94 billion pesos (\$2.3 billion) in 2016.

Taxes on unhealthy foods or drinks, such as those high in salt and sugar, are receiving increased attention, particularly in high-income countries where obesity and NCDs are growing health problems with considerable implications for health costs. Relatively small taxes on unhealthy foods, for example, soft drinks (soda) or salty snacks have been imposed in countries including Australia, Canada, Finland, France and Norway, and in some US states. In France a tax on soda was adopted in 2012 and it raised €288 million (\$250 million) for the national health insurance (Le, 2011; Sénat, 2014). Given the increasing importance NCDs in low- and middle-income countries, this form of taxation is also an option there although revenues from taxing food items are believed to be more modest than for alcohol and tobacco and might lead to behavioral changes that reduce the revenues over time.

In general, revenue raising potential from taxation targeting unhealthy items and behavior will depend on the elasticity of the demand, that is, of how many the increased taxes will decrease the consumption of a specific item. The elasticities will vary between items, context and on how the tax will be practically implemented, so any policy on the ‘sin taxes’ will need to carefully factor in the effect of reduced consumption for any proposed measure.

### *Earmarking taxes for health*

Ministries of finance generally do not favor hypothecation where taxes are earmarked for health because it reduces their flexibility to allocate funds to all sectors as needed. Public health advocates and ministries of health generally favor hypothecation. Furthermore, it is often argued that tax increases through earmarked taxation is more motivating for tax payers as they can directly understand the cause for which the tax is used. Djibouti and Guatemala earmark all their revenues from tobacco taxes for health, while Bulgaria, Mongolia, Qatar and Thailand allocate a proportion (WHO Regional Office for South-East Asia, 2012). Nepal and Tuvalu make a fixed money allocation to health for each item sold (WHO Regional Office for South-East Asia, 2012). In the Philippines, a proportion of the increased revenues from both tobacco and alcohol taxes is earmarked to fund the extension of the health insurance program to the poor (Official Gazette, 2012).

In the same vein, Ghana and Chile increased the VAT rate and specifically earmarked the additional VAT percentages to fund their health insurance

programs (Witter and Garshong, 2009). Zimbabwe has since 1999 imposed an additional 3% tax on the income of formal sector employees as a national AIDS levy raising \$26 million in additional revenue in 2011, enabling 70,000 Zimbabweans to access antiretroviral therapy (UNAIDS, 2012).

The introduction of compulsory health insurance is effectively a tax specified for health. All citizens make an annual contribution (governments typically pay for people who cannot afford to contribute) to the insurance pool. A recent international review found that there is no conclusive evidence that the introduction of compulsory health insurance had reduced or increased available revenue for the health sector although generally it has reduced the financial problems poor households face when they need to pay out-of-pocket for health services (Spaan *et al.*, 2012). Indeed, earmarked taxes in general may not raise additional money for health if governments simply reduce health funding from their other sources of revenue. In Kazakhstan, for example, the introduction of a payroll tax earmarked for health had an overall negative effect, because different levels of government reduced their general taxation-based budget allocations to health (Kutzin *et al.*, 2010).

It is clear that, with or without hypothecation, there are many options for countries to increase domestic funding for health if they wish. The options provided here are not just theoretical possibilities, but options that at least one low- or middle-income country has already successfully introduced. Each country will need to consider which option would be most appropriate to it taking into account questions of (Tsounta, 2009):

- Adequacy and stability of the revenue raised;
- efficiency: that is, that it does not introduce major imbalances in the economy and/or distortions in behavior;
- equity and impact on the poor;
- ease and costs of collection;
- political acceptability.

We suggest a pragmatic approach. Where informal sectors are large, it is difficult to rely on direct income taxation to raise government revenue or to collect compulsory health insurance premiums, even if wage-based deductions offer the greatest potential for progressive taxation. Forms of indirect taxation, such as VAT, are simpler to collect and as a means to ensure that everyone contributes pending the growth of the formal sector. There are always concerns that taxes are distortionary – for example, it is often argued that taxes on mobile phones reduce their potential to be used for ‘good’ purposes such as the transmission of health data. A general concern is also that some forms of taxes are regressive, that is, that they overburden the poor and thus offsetting any pro-poor objective sought with the use of the money collected. But this is not always straight forward, for example, VAT can be more or less progressive or regressive depending on how it is implemented (what are the exclusion items, for example) (McIntyre and Kutzin,

2011). At the end of the day, all taxes have some distortionary effect and some taxes can be regressive – governments need to consider all possible ways of raising additional funds for health and select among them comparing their ability to raise revenue with any distortionary effects.

Raising taxes and other direct contributions or redirecting government budgets (e.g. by reducing energy subsidies) is never going to be popular. However, if a government can demonstrate clear impact of these raises in terms of extending health coverage, these policies will most probably obtain popular support; this has already happened in countries such as Mexico, Thailand or Turkey.

### ***Voluntary contributions to health***

To this point, the focus has been on mechanisms for increasing government revenues and expenditure on health. Private philanthropy and leveraging corporate responsibility are additional options. These types of contribution will inevitably come with challenges of predictability and adequacy of the revenue collected, but they could supplement the mandatory systems discussed above.

Corporate social responsibility is one version. In many countries large corporations have been funding health care services for a broader population than the companies' employees. In Papua New Guinea, for example, mining companies have been funding and providing logistical and other support to health care facilities in their area of operation (Thomason, 2011). The South African Business Coalition on HIV/AIDS has been raising revenue for HIV/AIDS prevention and treatment and for health system strengthening from South African business, while also channeling donor resources to its projects (Feeley *et al.*, 2009). In Malawi the national Business Coalition used its own funds to manage a mixed public–private project that expanded the distribution of antiretroviral therapies through private clinics at subsidized prices (Feeley *et al.*, 2009).

Diaspora bonds are a possible source of revenue for countries with a large population that has emigrated to live in another country (the diaspora). They raise money for health from the diaspora, backed by government guarantees. The interest rates offered on the bonds are slightly lower than market rates in the hope that emigrants will buy them from patriotism, forgoing a small part of the return they could obtain on the open market. They are not yet widely used. India has issued several types of these bonds, and raised, net of repayment, US\$11 billion from three separate bond offers – in 1991, 1998 and 2000; while Sri Lanka and Lebanon have also used them, although no details of their net revenues are available (Ketkar and Ratha, 2009).

### **Conclusions**

Global health expenditure has increased rapidly since 2000, even in the poorest countries. Domestic economic growth has facilitated a considerable part of the

increased spending and, despite the substantial scale-up in DAH, domestic health spending remains the predominant source of finance in all but a handful of countries. Despite this, in the 46 vulnerable countries that were the focus of our analysis, only 12 might be able to reach the level of per capita spending needed to ensure even a very minimum set of key interventions from their own domestic sources just through economic growth. Increased, predictable flows of external funding for health are still needed, despite the economic downturn in the high-income countries.

That said, there is considerable scope for these countries to increase their own domestic funding for health, independent of economic growth. Many low- and middle-income countries have already taken steps to do this, and their diverse experiences were highlighted, providing both proof that it is possible and options for other countries to consider.

We recognize that raising additional domestic funding, the focus of this paper, is not sufficient in itself. WHO has suggested that between 20 and 40% of total health spending, or from \$1.3 to \$2.6 trillion, might be lost through waste, corruption and other forms of inefficiency (WHO, 2010b). Improving value for money, at the same time as raising additional funds, would provide a double boost to population health while at all times a careful eye needs to be kept on equity.

Many countries are adopting universal health coverage as their health sector development target – in line with the SDG goal 3 target 8. Funding the implementation of UHC policies will be crucial. Even when acknowledging the need for increasing efficiency, it is clear that the shortage in health expenditure, as described in this paper, is one of the main obstacles for many countries to effectively move toward UHC. Options exist to raise more revenue for health which can be politically and technically feasible, especially when the benefits are tangible and understood by the population. Moving toward the UHC objective is thus a question of policy choices and the political and administrative will to implement them.

## Acknowledgment

This paper has benefited from comments and guidance from John-Arne Røttingen and Trygve Ottersen.

## References

- Afrique It News (2015), 'Les consommateurs contre la taxe sur les appels internationaux Entrants', 28 January, <http://www.afriqueitnews.com/2015/01/28/togo-les-consommateurs-contre-taxe-les-appels-internationaux-entrants/> [25 February 2015].
- Basdevant, O. (2008), '*Are Diamonds Forever? Using the Permanent Income Hypothesis To Analyze Botswana's Reliance on Diamond Revenue*', IMF Working Paper No. WP/08/08, International Monetary Fund, Washington, DC.

- Butagira, T. F. (2009), 'Uganda: Mobile Phone Tax – A Cash Cow or a Barrier to Development?' *Blog Post*, 20 November, <http://panos.org.uk/features/uganda-mobile-phone-tax-a-cash-cow-or-a-barrier-to-development/> [25 February 2015].
- Chaloupka, F. J., K. Straif and M. E. Leon (2011), 'Effectiveness of tax and price policies in tobacco control', *Tobacco Control*, 20(3): 235–238.
- China Daily* (2010), 'China to Raise Luxury Taxes Further', *China Daily*, 21 March, [http://www.chinadaily.com.cn/china/2006-11/15/content\\_733992.htm](http://www.chinadaily.com.cn/china/2006-11/15/content_733992.htm) [25 February 2015].
- European Commission (2012), 'Eurostat Database', [http://ec.europa.eu/eurostat/statistics-explained/index.php/Evolution\\_of\\_government\\_expenditure\\_by\\_function](http://ec.europa.eu/eurostat/statistics-explained/index.php/Evolution_of_government_expenditure_by_function) [25 February 2015].
- Feeley, F. G., P. Connelly and S. Rosen (2009), 'The Private Sector and HIV/AIDS in Africa: Recent Developments and Implications for Policy', in E. L. Lule. *et al.* (eds), *The Changing HIV/AIDS Landscape: Selected Papers for The World Bank's Agenda for Action in Africa, 2007-2011*, Washington, DC: World Bank, 267–293.
- High Level Task Force for Innovative International Financing (2010), 'Mobile Phone Voluntary Solidarity Contribution (VSC)'. Task Force Fact Sheet, [http://www.internationalhealthpartnership.net/fileadmin/uploads/ihp/Documents/Results\\_\\_\\_Evidence/HAE\\_results\\_\\_\\_lessons/Taskforce%20factsheet\\_-\\_mobile\\_phone\\_voluntary\\_solidarity\\_contribution\\_EN.pdf](http://www.internationalhealthpartnership.net/fileadmin/uploads/ihp/Documents/Results___Evidence/HAE_results___lessons/Taskforce%20factsheet_-_mobile_phone_voluntary_solidarity_contribution_EN.pdf) [25 February 2015].
- International Monetary Fund (IMF) (2010a), *A Fair and Substantial Contribution by the Financial Sector: Final Report for the G-20*, Washington, DC: IMF.
- International Monetary Fund (IMF) (2010b), *Economic Outlook: Sub-Saharan Africa. Sustaining Growth Amid Global Uncertainty*, Washington, DC: IMF.
- International Monetary Fund (IMF) (2011), 'Revenue Mobilization in Developing Countries', IMF, Washington, DC, [www.imf.org/external/np/pp/eng/2011/030811.pdf](http://www.imf.org/external/np/pp/eng/2011/030811.pdf) [25 February 2015].
- International Monetary Fund (IMF) (2014), 'World Economic Outlook Database', <https://www.imf.org/external/pubs/ft/weo/2016/01/weodata/index.aspx> [25 February 2015].
- Ketkar, S. and D. Ratha (2009), 'Development Finance Via Diaspora Bonds', in S. Ketkar and D. Ratha (eds), *Innovative Financing for Development*, Washington, DC: World Bank, 59–78.
- Kutzin, J., C. Cashin and M. Jakab (eds) (2010), *Implementing Health Financing Reform: Lessons From Countries in Transition*, Brussels: European Observatory on Health Systems and Policies.
- Le, M. (2011), 'Le taxe soda ne fait pas le poids'. 26 August, [http://www.lemonde.fr/economie/article/2011/08/26/la-taxe-soda-ne-fait-pas-le-poids\\_1563734\\_3234.html](http://www.lemonde.fr/economie/article/2011/08/26/la-taxe-soda-ne-fait-pas-le-poids_1563734_3234.html) [25 February 2015].
- McIntyre, D., F. Meheus and J.-A. Røttingen (2017), 'What level of domestic government health expenditure should we aspire to for universal health coverage?', *Health Economics, Policy and Law*, 12(2): 125–137.
- McIntyre, D. and J. Kutzin (2011), 'Revenue Collection and Pooling Arrangements in Health System Financing', in R. Smith and K. Hanson (eds), *Health Systems in Low- and Middle-Income Countries*, Oxford: Oxford University Press, 77–101.
- Mladovsky, P., D. Srivastava, J. Cylus, M. Karanikolos, T. Evetovits, S. Thomson and M. McKee (2012), *Health Policy Responses to the Financial Crisis in Europe*, Copenhagen: World Health Organization, on behalf of the European Observatory on Health Systems and Policies.
- Musango, L. and I. Aboubacar (2010), 'Assurance Maladie Obligatoire au Gabon: un atout pour le bien-être de la population', World Health Report 2010 Background Paper, WHO, Geneva.

- Official Gazette (2012), 'Sin taxes', Office of the President of the Philippines, <http://www.gov.ph/sin-tax/> [25 February 2015].
- Ottersen, T. and O. F. Norheim, on behalf of the World Health Organization Consultative Group on Equity and Universal Health Coverage (2014), 'Making fair choices on the path to universal health coverage', *Bulletin of the World Health Organization*, 92: 389–389.
- Reuters (2010), 'Bulgaria to Introduce "Luxury" Tax to Fight Crisis', 21 March, <http://in.reuters.com/article/idINIndia-47098920100321> [25 February 25 2015].
- Ross, M. (2001), *Extractive Sectors and the Poor*, Boston, MA: Oxfam America.
- Sander, C. (2003), *Less is More: Better Compliance and Increased Revenues by Streamlining Business Registration in Uganda*, London: Bannock Consulting.
- Sarntisart, I. (2012), 'Alcohol excise taxation in Thailand: more than a simple one', *Addiction*, 107(8): 1387.
- Savedoff, W. D. (2007), 'What should a country spend on health care', *Health Affairs*, 26(4): 962–970.
- Sénat (2014), 'Fiscalité et santé publique: état des lieux des taxes comportementales', <http://www.senat.fr/rap/r13-399/r13-3997.html> [25 February 2015].
- Spaan, E., J. Mathijssen, N. Tromp, F. McBain, A. Ten Have and R. Baltussen (2012), 'The impact of health insurance in Africa and Asia: a systematic review', *Bulletin of the World Health Organization*, 90: 685–692A.
- Thomason, J. (2011), 'PNG Mineral Boom: Harnessing the Extractive Sector to Deliver Better Health Outcomes', Discussion Paper No. 2, Australian National University.
- Thrisk, W. (ed.) (1997), *Tax Reform in Developing Countries*, Washington, DC: World Bank.
- Tien, T. V. (2011), *A Health Financing Review of Viet Nam With a Focus on Social Health Insurance*, Geneva: WHO.
- Tsounta, E. (2009), *Universal Health Care 101: Lessons from the Eastern Caribbean and Beyond*, Washington, DC: International Monetary Fund.
- UNAIDS (2012), 'Zimbabwe Levy Generates New Resources for Treatment: Feature Story', <http://www.unaids.org/en/resources/presscentre/featurestories/2012/february/20120221zimbabwe> [25 February 2015].
- World Health Organization (WHO) (2010a), 'Brazil's march towards universal coverage', *Bulletin of the World Health Organization*, 88(9): 646–647.
- World Health Organization (WHO) (2010b), *World Health Report 2010: Health Systems Financing: The Path to Universal Coverage*, Geneva: WHO.
- World Health Organization (WHO) (2011), *Global Status Report on Alcohol and Health*, Geneva: WHO.
- World Health Organization (WHO) (2012), *Chile: Improving Access, Quality and Financial Protection*, Geneva: WHO.
- WHO Regional Office for Africa (2011), 'The Abuja Declaration: Ten Years On'. WHO Regional Office for Africa, Brazzaville, [http://www.who.int/healthsystems/publications/abuja\\_declaration/en/index.html](http://www.who.int/healthsystems/publications/abuja_declaration/en/index.html). [25 February 2015].
- WHO Regional Office for South-East Asia (2012), *Tobacco Taxation and Innovative Health-Care Financing*, New Delhi: WHO Regional Office for South-East Asia.
- Witter, S. and B. Garshong (2009), 'Something old or something new? Social health insurance in Ghana', *BMC International Health and Human Rights*, 920.
- World Bank (2010), *Turkey, Country Economic Memorandum: Informality: Causes, Consequences, Policies*, Washington, DC: World Bank.
- World Bank (2011), 'Nam Theun 2 Factsheet', <http://www.worldbank.org/en/news/feature/2011/05/11/latest-nam-theun-2-factsheet> [25 February 2015].

- Xu, K. and P. Saksena (2011), *'The Determinants of Health Expenditure: A Country-Level Panel Data Analysis'*. World Health Organization and Results for Development Institute, Working Paper of the Results for Development Institute.
- Yurekli, A. (2010), *The Economics of Tobacco and Tobacco Taxation in Turkey*, Paris: International Union Against Tuberculosis and Lung Disease.

## Appendix 1

The 46 countries included in the analysis

<i>WHO African Region</i>	18. Malawi	34. Pakistan
1. Benin	19. Mali	35. Yemen
2. Burkina Faso	20. Mauritania	<i>WHO European Region</i>
3. Burundi	21. Mozambique	36. Kyrgyzstan
4. Central African Republic	22. Niger	37. Tajikistan
5. Chad	23. Nigeria	38. Uzbekistan
6. Comoros	24. Rwanda	<i>WHO South-East Asia Region</i>
7. Côte d'Ivoire	25. São Tomé and Príncipe	39. Bangladesh
8. Democratic Republic of the Congo	26. Senegal	40. Myanmar
9. Eritrea	27. Sierra Leone	41. Nepal
10. Ethiopia	28. Togo	<i>WHO Western Pacific Region</i>
11. Gambia	29. Uganda	42. Cambodia
12. Ghana	30. United Republic of Tanzania	43. Lao People's Democratic Republics
13. Guinea	31. Zambia	44. Papua New Guinea
14. Guinea-Bissau	<i>WHO Region of the Americas</i>	45. Solomon Islands
15. Kenya	32. Haiti	46. Viet Nam
16. Liberia	<i>WHO Eastern Mediterranean Region</i>	
17. Madagascar	33. Afghanistan	





# Fiscal space for domestic funding of health and other social services

FILIP MEHEUS<sup>\*a</sup>

*Health Economics Unit, School of Public Health and Family Medicine, Faculty of Health Sciences, University of Cape Town, Cape Town, South Africa*

DI MCINTYRE<sup>b</sup>

*Health Economics Unit, School of Public Health and Family Medicine, Faculty of Health Sciences, University of Cape Town, Cape Town, South Africa*

**Abstract:** To progress toward universal health coverage and promote inclusive social and economic development, it will be necessary to strengthen domestic resource mobilization for health. In this paper, we examine options for increasing domestic government revenue in low- and middle-income countries. We analyze the relationship between level of economic development and levels of government revenue and expenditure, and show that a country's level of economic development does not predetermine its spending levels. Government revenue can be increased through improved tax compliance and efficiency in revenue collection, maximizing revenue from mineral and other natural resources, and increasing tax rates where appropriate. The emphasis should be on increasing revenue through the most progressive means possible; the purpose of raising government spending on health would be defeated if that spending were funded by increasing the relative tax burden of those who are meant to benefit. Increasing government revenue through taxation or other sources is first and foremost a fiscal policy choice or political decision and should be supported through concerted global action.

## Introduction

There is growing recognition of the importance of creating fiscal space for increasing *domestic* government funding of health care and other social services such as education, social welfare, sanitation and housing. Since the publication of the World Health Report 2010, universal health coverage (UHC) is now strongly

<sup>\*</sup>Correspondence to: Dr Filip Meheus, International Agency for Research on Cancer, World Health Organisation, 150 Cours Albert Thomas, 69372 Lyon, France. Email: [meheusf@iarc.fr](mailto:meheusf@iarc.fr)

<sup>a</sup>Present address: International Agency for Research on Cancer, World Health Organisation, 150 Cours Albert Thomas, 69372 Lyon, France.

<sup>b</sup>Present address: Health Economics Unit, School of Public Health and Family Medicine, Faculty of Health Sciences, University of Cape Town, Anzio Road, Observatory 7925, South Africa.

supported by national governments and international organizations and increasingly considered as an overarching goal in which health equity and health as a human right are central features (WHO, 2010; UN General Assembly, 2012, 2015a). UHC means that everyone has access to needed, effective services of adequate quality and is protected against financial hardship from using these services. One of the fundamental and most debated issues within the context of UHC is the ability of countries to raise sufficient resources for health. Emerging evidence from countries in different regions of the world advancing toward UHC show progress was achieved by relying primarily on mandatory pre-payment financing mechanisms such as general taxes and mandatory health insurance contributions (Kutzin, 2012; Akiko *et al.*, 2014; Doherty *et al.*, 2014).

The recently adopted Addis Ababa Action Agenda that provides a global financing framework for implementing the sustainable development goals (SDGs) is also focusing attention on the need for improved domestic government funding of social services. The Action Agenda promotes ‘inclusive economic growth, protecting the environment and promoting social inclusion’ (UN General Assembly, 2015b: para 1). Inclusive development, either social or economic, requires investment in people’s capabilities through public spending on social services, particularly health, education and nutrition (UN Development Programme, 2013). Public spending on social services is a means of income redistribution and contributes to sustained inclusive economic development.

Thus, both the health policy focus on UHC and the broader SDGs call for increased government funding of health and other social services. This paper considers issues related to fiscal space for such increased government spending.

Fiscal space refers to the budgetary room that allows a government to devote resources to specific services or activities without prejudicing the sustainability of its financial position (Tandon and Cashin, 2010). There are two major factors that not only determine domestic government spending on health care (and other social services), but are the key policy levers for increasing such spending:

- The level of total government expenditure; this can be expressed as government expenditure as a percentage of gross domestic product (GDP), which, in turn, is influenced by government revenue as a percentage of GDP and government debt levels; and
- The percentage of total government expenditure devoted to the health sector (and other social sectors) – i.e., the prioritization of spending on the health sector.

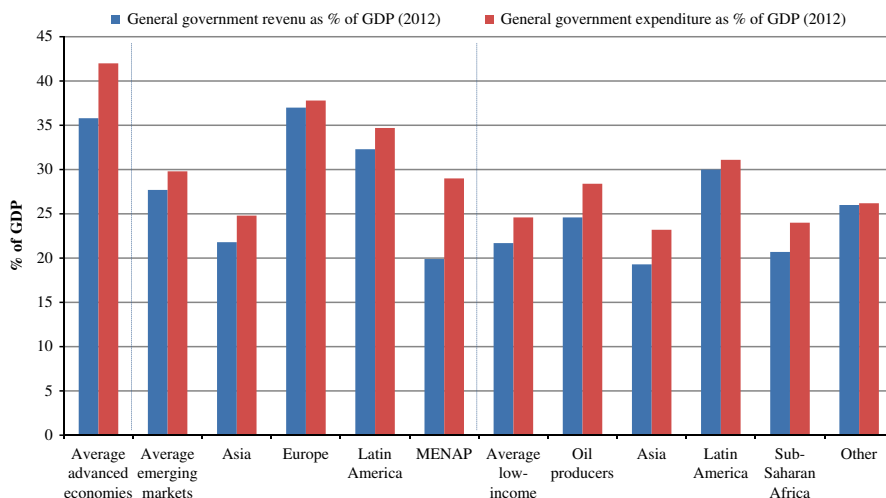
To date, most of the literature on the fiscal space for health care has focused on budget reprioritization in favor of the health sector, increasing external funding for health care, generating sector-specific funding (e.g. possible dedicated taxes or mandatory health insurance) and improving efficiency in the use of health sector funds, sometimes with a limited focus on the macro-economic context

(Tandon and Cashin, 2010). This is understandable, given that the more fundamental fiscal policy issues (e.g. government revenue, expenditure and debt levels) are generally seen as beyond the domain of the health sector. However, a key drawback of focusing on generating sector-specific funding and prioritization of the health sector in the use of government funds is that this potentially impacts adversely on other social services. Not only are social services such as education key social determinants of health, thus ultimately contributing to improved health status, they are of importance in their own right in contributing to inclusive social and economic development. In another paper in this special issue, McIntyre *et al.* (2017) argued that it would be more appropriate to express government spending on health relative to GDP rather than general government expenditure. They showed that in order to progress toward UHC, government spending on health should be at least 5% of GDP and that it would cost US\$86 per person to ensure access to primary health care services.

It is therefore important to consider broader fiscal space issues to improve public spending on all social services. In this paper we examine options for increasing domestic government revenue in low- and middle-income countries (LMICs). Other sources of fiscal space for the health sector noted above are outside the remit of this paper. We focus not only on sources of fiscal space, but also the factors influencing government revenue levels and domestic taxation policy choices. The paper is organized as follows. In the following section we examine the levels of government expenditure, revenue and debt by country category. In third section, we consider fiscal space options for LMICs, and discuss tax and non-tax options to generate government revenue as well as factors influencing domestic taxation policies. In the last section we summarize the various fiscal space options.

## **Overview of government revenue, expenditure and debt levels by country category**

Figure 1 provides an overview of government revenue and expenditure by country category (based on the latest International Monetary Fund [IMF] country categories). It should be noted that government revenue and expenditure includes resources generated through tax and other government sources such as the exploitation of mineral or other natural resources and social security or mandatory insurance contributions. Ministries of finance regard mandatory social security contributions as part of the ‘tax burden’ on residents when addressing fiscal issues. There is a relationship between the country categories and *average* government revenue and expenditure levels. Government revenue in 2012 ranged from an average of slightly <36% of GDP in advanced economies to about 28% in emerging markets and <22% in low-income countries. Government expenditure was nearly 42% of GDP in advanced economies, just under 30% in emerging markets and nearly 25% in low-income countries. Thus most countries in all categories were operating deficit budgets in 2012 – which is unsurprising, given the global economic crisis at



**Figure 1.** Government revenue and expenditure as % of GDP by country category (2012)

Source: International Monetary Fund (2014).

Note: MENAP: Middle East, North Africa and Pakistan.

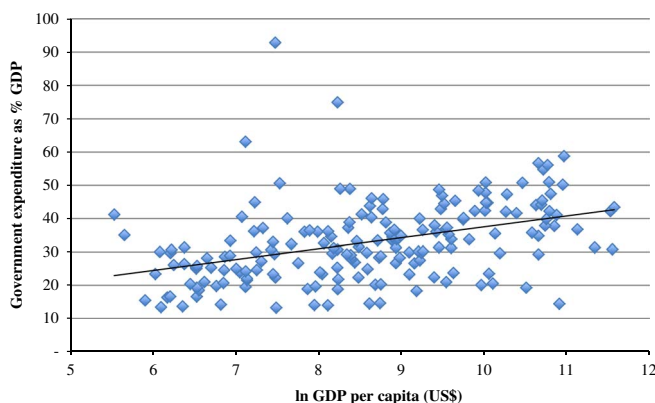
that time. However, the size of the budget deficit was far lower in low-income countries (<3% of GDP) and emerging markets (2% of GDP) than in advanced economies (just over 6% of GDP). The lowest levels of government revenue and expenditure are found in Sub-Saharan Africa, Asia (which include China and India) and MENAP countries (Middle East, North Africa and Pakistan).

The next sections examine in more detail the levels of government expenditure, revenue and debt across countries.

### *Government expenditure levels*

Figure 2 shows considerable variation in government expenditure relative to GDP across countries with government expenditure ranging from <14% of GDP (in countries such as Sudan, Madagascar and Guinea-Bissau) to >55% of GDP (in countries such as Finland, Denmark and France). While the relationship between per capita GDP and government expenditure relative to GDP is positive, it is a relatively weak correlation (correlation coefficient = 0.326). Some high-income countries/jurisdictions have relatively low levels of government expenditure, such as Singapore (14.5% of GDP) and Hong Kong (19.3% of GDP). Conversely, some low-income countries have relatively high levels of government expenditure, such as Lesotho (63.1% of GDP) and the Solomon Islands (50.6% of GDP).

Thus, although Figure 1 shows that the level of government expenditure tends to be higher on average in advanced economies than in emerging markets and low-income countries, those averages obscure wide variations across countries reflecting fiscal policy choices and the level of government revenue generated.



**Figure 2.** Relationship between log of per capita GDP and government expenditure (2012)  
Source: International Monetary Fund (2015).

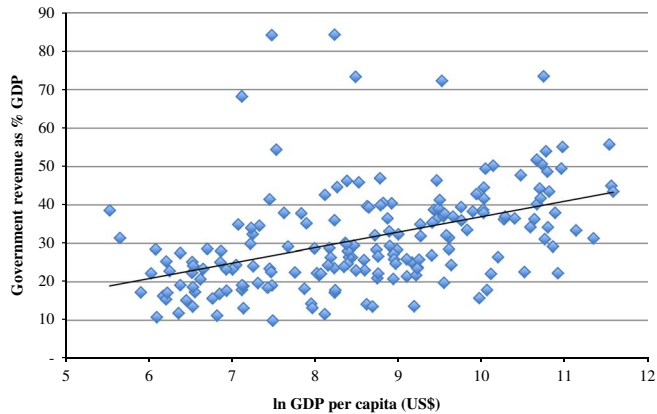
### *Government revenue levels*

As with government expenditure, there are wide variations in government revenue levels across countries. Government revenue as a percentage of GDP ranges from 9.9% in Sudan and <12% in for instance Guatemala and Bangladesh to >50% in countries such as Finland, Denmark and Norway as well as other oil-producing countries like Libya and Kuwait and some outlier low-income countries (particularly those emerging from long-standing conflict such as Timor-Leste, likely related to a weak economy and limited private sector activity in such contexts). As shown in Figure 3, there is a weak yet positive correlation (correlation coefficient = 0.387) between per capita GDP and government revenue levels.

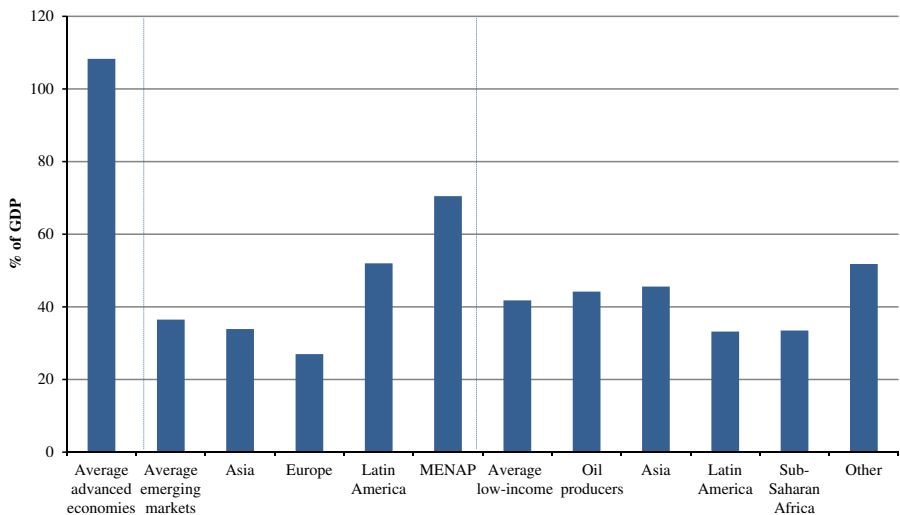
### *Government debt levels*

As Figure 1 shows all categories of country were operating on deficit budgets in 2012. Figure 4 provides an overview of the levels of government debt. The IMF has indicated that it regards ‘a debt to GDP ratio of 60% for high-income countries and 40% for LMICs as “prudent” debt levels’ (Chowdhury and Islam, 2010). However, there is no substantive basis for those recommendations: the 60% ratio is simply the median debt to GDP ratio in Europe at the time of moving toward monetary union. The IMF referred to the LMIC ratio as a ‘useful benchmark’ but added that “it bears emphasizing that a debt ratio above 40 percent of GDP by no means necessarily implies a crisis – indeed [...] there is an 80 percent probability of not having a crisis (even when the debt ratio exceeds 40 percent of GDP)” (Quoted in Chowdhury and Islam, 2010).

What is interesting to note from Figure 4 is that while most of the so-called emerging markets and low-income countries have complied with the IMF’s ‘prudent’ debt levels (the exceptions being the MENAP region, where many oil-producing countries are located), the advanced economies have not.



**Figure 3.** Relationship between log of per capita GDP and government revenue (2012)  
Source: International Monetary Fund (2015).



**Figure 4.** Government gross debt as % of GDP by country category (2012)  
Source: International Monetary Fund (2014).  
Note: MENAP: Middle East, North Africa and Pakistan.

Countries belonging to this last category registered gross debt levels exceeding 100% of GDP in 2012.

**Can LMICs create fiscal space for domestic funding of health and other social services?**

The above overview highlights that although levels of government revenue and expenditure are generally lower in LMICs than in high-income countries, there is

considerable variation across countries. This raises the question of whether LMICs that currently have relatively low levels of government expenditure are able to create budgetary room to allow them to devote an increasing amount of resources to social services over time without jeopardizing financial sustainability.

From this perspective, there are clearly concerns about constantly running a deficit budget and developing an unsustainable level of government debt. If domestic public expenditure on social services is to be increased, it will be necessary to explore ways of increasing government revenue. Deficit financing, which could be used to increase such spending in the short term, is an important mechanism for avoiding spending cuts on social services during periods of economic crisis. While operating a deficit budget is not a favorable option in any context, it is more appropriate to incur debt to develop assets, such as investing in human capital development, than to increase spending on military activities (Balakrishnan *et al.*, 2011).

The following sections of this paper consider ways in which LMICs could potentially increase government revenue. First, various sources of government revenue are examined and then issues involving tax rates and related taxation policy issues are discussed. Finally, non-tax government revenue sources are considered.

### *Overview of government revenue sources*

A range of factors influences government revenue levels, including the types of revenue that can feasibly be generated within a specific country. On average in OECD countries, 61% of government revenue is generated from taxes (e.g. on income, consumption, wealth, property and capital), 24% from social contributions (e.g. for pensions, health and social security) and 15% from grants and other revenue (OECD, 2013). The generation of revenue through social contributions is partly related to the level of formal sector employment; generating much revenue from this source is difficult if formal sector employment is low. However, it is also related to country preferences as regards levying social contributions. For example, as shown in Figure 5, while social contributions are widely used as a revenue source in many European countries, their use is very limited in countries such as Australia and New Zealand, despite those countries having high levels of formal sector employment.

Grants from foreign governments or international organizations are quite rare in OECD countries, though played a role in the past. For example, the US Marshall plan after World War II facilitated the establishment of the National Health Service in the UK (Fox, 2004). Other revenues (e.g. proceeds from the sale of state assets or natural resources and income from state-owned property) can be significant in some member countries. For example, Norway raises >25% of revenues from other sources – above all, the sale of oil and oil products (Figure 5).

The level of government revenue is also influenced by the types of tax that a government chooses to levy and the rate of each tax levied (the latter issue is

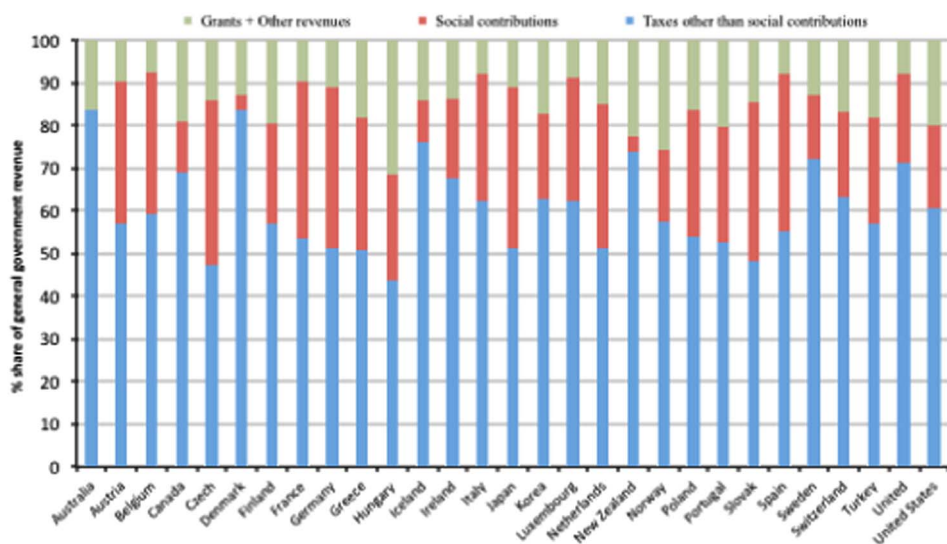


Figure 5. Distribution of government revenue in OECD countries by type of revenue (2011)  
Source: OECD (2013).

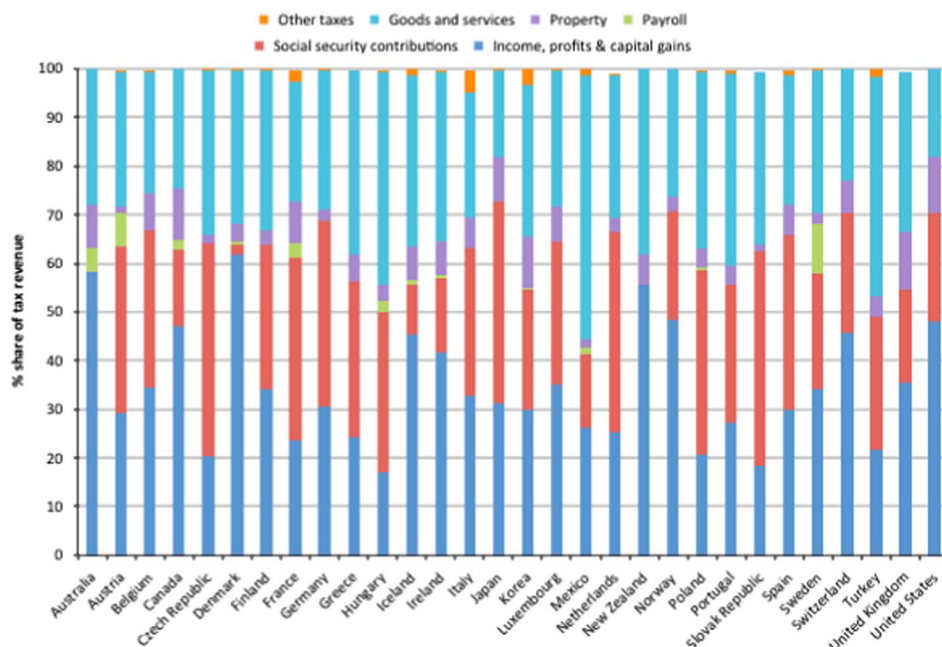
considered in the next section). On an average in OECD countries, income and profit taxes account for 35% of tax revenue, mandatory social contributions (which, as noted above, are a form of dedicated tax) 26%, payroll taxes 1%, property taxes 5.6%, taxes on goods and services (e.g., value added tax or general sales tax [GST]) 32% and other taxes <1%. Figure 6 shows that income and profit taxes and social contributions (which are also levied on income) account for the bulk of tax revenue in most OECD countries.

Figure 6 also shows that taxes on goods and services account for a much higher share of total tax revenue in OECD countries that do not fall into the high-income category (such as Mexico and Turkey) than in other OECD countries. Similarly, a relatively heavy reliance on indirect taxes on goods and services (e.g. VAT or GST and excise and import duties) is also observed for LMICs in Asia though there is nevertheless variation across countries (O'Donnell *et al.*, 2005).<sup>1</sup>

In general, there is greater reliance on indirect (as opposed to direct) taxes in LMICs than in high-income countries, which is related to the far lower levels of formal sector employment in the former. In many LMICs, the informal sector forms a large share of GDP and enforcing payment of income taxes and social contributions (i.e. direct taxes) on those outside of formal employment is challenging and administratively costly. Excise taxes on goods and services that are used by the informal sector can be imposed to raise additional revenue such as taxes on mobile phone use. However, additional forms of indirect

<sup>1</sup> Data for Asian countries was based on a different data source and may therefore not be directly comparable as it may not include all taxes incorporated in the OECD data set.





**Figure 6.** Distribution of tax revenue in OECD countries by type of tax (2012)

Source: OECD (2014).

taxation must be carefully evaluated as they may be potentially regressive (see also next sections).

However, across countries with comparable GDP and formal sector employment levels, there are differences in the level of total tax revenue and the distribution of that revenue by type of tax. Tax rates are a key factor contributing to those differences.

### *Tax rates*

There is considerable variation in the rates of direct and indirect taxes across countries. For example, within the EU, VAT rates range from 15% in Luxembourg and 18% in Cyprus and Malta to 25% in Croatia, Denmark and Sweden and 27% in Hungary (European Commission, 2013). Outside the EU, lower VAT rates can be found: 5% in Taiwan, 7% in Thailand and 10% in Botswana, Lebanon and South Korea (United States Council for International Business (USCIB), 2013). Some jurisdictions, such as the Canary Islands, Guernsey and Hong Kong, levy no VAT or GST.

Rates of personal income tax and mandatory social security contributions vary considerably across countries too. Those variations do not follow a set pattern according to the level of economic development. For example, while Papua New Guinea and India have per capita GDP levels of <\$2000, they levy some of

the highest taxes on personal income and mandatory social security contributions, alongside highest-income countries such as Luxembourg (per capita GDP of \$105,509), Denmark (\$56,369) and Belgium (\$43,593). All of these countries have effective income tax and social security rates that combined exceed 40% of personal income (KPMG, 2011). At the other end of the spectrum, LMICs such as Angola, along with high-income countries such as Singapore and Switzerland have income tax and social security rates of below 20%. Many of the oil-producing nations, such as Kuwait, Bahrain, Oman and the UAE, have no income tax but some social security payments (of < 10%), while Qatar levies no income tax or social security contributions (KPMG, 2011).

Some countries/jurisdictions, such as Denmark, impose high direct income taxes and social security contributions as well as high indirect taxes such as VAT. Others, such as Luxembourg, have high direct taxes but low VAT relative to other EU countries. Still others, such as Taiwan and Hong Kong, have both low direct income taxes and low VAT, although taxes on goods to which VAT does not apply may be high in those jurisdictions – e.g., Hong Kong and Singapore levy taxes of 35–100% on motor vehicles (USCIB, 2013). A tax that is increasingly levied in both high-income and LMICs are excise taxes on products harmful to health such as tobacco, alcohol and more recently unhealthy food and beverages (the so-called ‘sin taxes’). Sin taxes often serve a dual purpose: to generate additional government revenue and at the same time discourage the use of these goods and services (Stenberg *et al.*, 2010).

The rates set for the various categories of direct and indirect tax are ultimately a matter of fiscal policy choice. The next section explores some issues that may influence that choice.

### *Some factors influencing domestic taxation policy choices*

A key factor that can, or at least should, influence the relative emphasis placed on different forms of taxation, including the rate of each type of tax, is that of equity. From an equity perspective, there is a relative preference for progressive rather than regressive forms of taxation. A progressive tax is a tax whereby groups with a higher income contribute a higher percentage of their income than lower-income groups (i.e. the tax rate increases with income). A tax is considered regressive when lower-income groups contribute a higher share of income than higher-income groups. In general, direct taxes tend to be progressive and indirect taxes regressive (Van Doorslaer and Wagstaff, 1993; Wagstaff *et al.*, 1999). However, some recent studies have found that in some LMICs, VAT and other indirect taxes can be mildly progressive (O'Donnell *et al.*, 2008; Mills *et al.*, 2012). While taxes on goods and services may not be regressive in many low-income countries, they are unquestionably less progressive than taxes on personal income and corporate profits and are strongly regressive in most middle- and high-income countries (Wagstaff *et al.*, 1999; O'Donnell *et al.*, 2008; Mills *et al.*, 2012; Reeves *et al.*, 2015).

It defeats the purpose of investing in expenditure on social services if the revenue used for such expenditure is generated from regressive sources. For example, the UN special rapporteur on the right to food noted with reference to Brazil that

The tax structure in Brazil remains highly regressive. Tax rates are high for goods and services and low for income and property, bringing about very inequitable outcomes .... [W]hile the social programmes developed under the 'Zero Hunger' strategy are impressive in scope, they are essentially funded by the very persons whom they seek to benefit, as the regressive system of taxation seriously limits the redistributive aspect of the programmes (Quoted in: Balakrishnan *et al.*, 2011).

Progressive tax revenue sources should be prioritized, particularly in countries with high levels of income inequality. While in the past, international financial organizations such as the IMF have argued that taxes on personal income and corporate profits should be kept to a minimum to encourage savings and investment, respectively, there is scope for raising such taxes in some countries. As indicated in the previous section, there are many countries that have relatively low personal income taxes and social security contributions.

However, a key problem is 'tax competition' whereby some countries lower corporate taxes or offer other tax benefits in order to attract investment. While some analysts argue that such competition is healthy, there are growing international concerns about its harmful aspects by encouraging a 'race to the bottom', which ultimately leads to tax revenue losses in all countries involved in that race. The average corporate tax rate in OECD countries declined from 37.6% in 1996 to 28.3% in 2006 (Tax Justice Network, 2012). Unsurprisingly, tax competition is particularly harmful for lower-income countries and weaker states, which are less capable of dealing with such competition and ultimately suffer because of their lower revenue bases (Keen and Simone, 2004). There have been some efforts to address the issue, such as those outlined in the 1998 OECD report *Harmful tax competition*; but they have been largely unsuccessful (Tax Justice Network, 2006). The OECD is now focusing on promoting transparency in company earnings and tax payments and the sharing of information across countries' tax authorities. Recently, the European Commission has been more pro-active in investigating tax rulings granted to companies, and has ruled against 'selective tax advantages' in several member states considering them to be illegal under EU state aid rules (European Commission, 2015, 2016).

### ***Other factors affecting tax revenue***

Another practice closely associated with tax competition involves transnational companies avoiding corporate tax by 'transferring' earnings from activities in countries with higher tax rates to countries with low or zero taxes. For example, an ActionAid report documented how SABMiller, which owns most of the breweries in Africa and makes profits of >£2 billion a year, pays no tax at all in

countries such as Ghana (ActionAid, 2010). It is able to avoid doing so because the brands of beer sold in African countries, though invented locally, are owned by SABMiller in The Netherlands. The African breweries pay the Dutch company massive royalties, on which the latter pays very little tax owing to the tax regulations in The Netherlands. Moreover, profits are gained through substantial management service fees that the African breweries have to pay to SABMiller's sister companies based in Switzerland, where taxes on such earnings are minimal too.

Transfer pricing – whereby inputs are sold at highly inflated prices to a sister company so that very little profit is reflected in countries with high tax rates – is also frequently used for tax avoidance purposes. Although tax avoidance is not illegal insofar as companies comply with tax laws but simply ensure that profits are reflected to the greatest extent possible in countries with the lowest tax rates, many would nonetheless regard it as immoral, particularly when governments of LMICs are being deprived of desperately needed tax revenue to meet the social service needs of their population. The former and recently reappointed South African minister of finance has described 'aggressive tax avoidance' as a 'serious cancer eating into the fiscal base of many countries' (Quoted in: ActionAid, 2010).

Multinational corporations are not alone in practising tax avoidance. Domestic companies and high net worth individuals are frequently engaged in tax avoidance practices, too, not least because they have the resources to employ skillful tax consultants who ensure that the minimum tax is paid. For example, an investigation by the South African Revenue Service (SARS) determined that there are ~9300 high net worth individuals (defined as those with a gross income of >R7 million per year and/or assets in excess of R75 million), but only 360 of them are registered as taxpayers. SARS estimated that it was losing R48 billion in tax revenue annually from those individuals, which is equivalent to about 7% of total government revenue (Vanek, 2012).

Countries such as South Africa and Kenya have demonstrated how tax revenue can be increased significantly through improving tax compliance and without increasing tax rates (Hausman, 2010). This was achieved in South Africa by increasing the management capacity of the revenue authority, changing the authority's organizational culture to one of delivering a service and zero tolerance for corruption, offering amnesties for tax evaders (i.e., those who had previously evaded tax are able to begin declaring taxable income without being penalized for previous evasion) and taking legal steps against those who remained non-compliant.

To increase the fiscal space for government spending on health and other social services, it is crucial that tax revenue authorities introduce measures to improve tax compliance if it remains weak. However, this may require overall improvements in state governance (particularly addressing corruption) as compliance may be weak owing to lack of trust that the government will use tax revenue appropriately. In addition, steps need to be taken to reduce the potential for tax

avoidance. This is likely to be easier to achieve in the case of domestic companies and individuals.

As regards both tax avoidance by transnational corporations and activities such as capital flight, it is necessary to increase global cooperation and improve transparency, although those tasks have proved difficult to achieve to date. Nevertheless, it is important not only to exert moral suasion but also to highlight the potential for high-income countries to reduce their international aid responsibilities through creating an environment in which LMICs can increase their domestic government revenue. For example, it is estimated that the amount of annual tax revenue lost to developing countries as a result of transfer pricing manipulation is \$98–106 billion, compared with total overseas development assistance of \$83.5 billion in 2009 from the member countries of the OECD's Development Assistance Committee (Balakrishnan *et al.*, 2011). Suggested approaches to addressing this challenge include ensuring greater transparency in reporting on business activities and tax payments across the globe and the automatic exchange of information across tax authorities worldwide (Tax Justice Network, 2006, 2012; ActionAid, 2010). More ambitious proposals, including unitary taxation systems and taxing transnational companies on a consolidated basis and apportioning the revenue to states according to the geographical distribution of economic activities, are less likely to be enforceable.

### *Non-tax options for increasing government revenue*

As noted above, many oil-producing countries can avoid imposing any income taxes but are still able to generate substantial government revenue through oil extraction (e.g., government revenue accounts for 31% of GDP in Qatar, 30% in the UAE, 39% in Oman, 27% in Bahrain and 68% in Kuwait). Figure 1 shows that even oil-producing countries falling into the low-income country category are able to generate substantial government revenue relative to GDP.

However, some countries with extensive oil or other natural resource reserves could potentially generate more government revenue from this source than they currently do. Thus key factors influencing total revenue are whether a country has mineral and/or other natural resources and whether the government has instituted appropriate policies to ensure that the country as a whole benefits from the exploitation of those resources (e.g. through extraction by a state-owned company or through securing appropriate royalties from private companies that extract the natural resources) (Witter and Outhred, 2015). Good governance is also critical: according to a recent report, in the first half of 2013 Nigeria lost about 5% of its oil output through theft (Katsouris and Sayne, 2013). Maximizing domestic government revenue from natural resources is becoming an increasingly important issue in Africa, not least following the discovery of oil in Ghana and gas resources in Tanzania. To underscore the importance of this potential source of

government revenue: oil revenues account for an estimated 70% of government revenue in Nigeria (Revenue Watch Institute).

Once again, global action is required to support improved governance in the exploitation of natural resources in LMICs. A positive initiative was the approval of legislation by the European Parliament in June 2013 that requires all extractive companies (in the oil, gas and mineral sectors as well as loggers of primary forests) to publicly disclose any payments to national or regional governments that exceed €100,000.

In recent years, an increasing number of intergovernmental organizations and development banks, such as the IMF and the OECD, have also been advocating for a reform of fossil-fuel subsidies. The International Energy Agency estimated that in 2014, fossil-fuel subsidies totaled \$500 billion (International Energy Agency, 2015). Although the subsidies intended to support poorer income groups, most of the benefits of subsidies are captured by high-income groups (Arze del Granado *et al.*, 2010) and lead to excessive consumption that increases global carbon dioxide emissions and contribute to global warming (Bauer *et al.*, 2013). There is now wide recognition that fossil-fuel subsidies represent a large opportunity cost and could be allocated to more productive sectors such as health or education. Reforming subsidies may also increase government revenue if fossil fuels are currently taxed differently than other consumer goods or services (e.g. lower VAT or GST rates) (Clements *et al.*, 2013). In recent years, with the declining oil prices, a number of countries such as Indonesia, India, Iran and Malaysia have seized the opportunity to reform fossil-fuel subsidies (World Bank, 2015); Indonesia for instance reallocated the fiscal resources released by the subsidy reform toward social assistance programmes to mitigate the adverse impact on the poor and reduce public opposition (Asian Development Bank, 2015; Gupta *et al.*, 2015).

## Discussion

Current discussions about UHC and the SDGs highlight the need to increase domestic government expenditure on health and other social services in many countries. A frequent response to calls for increasing government expenditure on health and other social services in LMICs is that those countries lack the fiscal space. The information presented in this paper demonstrates that a country's level of economic development does not predetermine the level of government revenue as a percentage of GDP, nor does it dictate the tax rates that a country should levy. Rather, the level of taxation is a fiscal policy choice or political decision, and a government's revenue-generating ability is influenced by factors such as natural resource reserves and policies on their exploitation, employment levels, the degree of tax compliance and the efficiency of revenue collection. Clearly some countries appear more successful than others in creating fiscal space and have relatively high levels of government expenditure and revenue as a percentage of GDP irrespective

of the level of economic development. We have explored a range of factors that can contribute to the considerable variation in government revenue as a percentage of GDP across countries with similar GDP per capita (see Figure 3), but further detailed research could shed light on the most important contributory factors in countries that have been particularly successful in creating fiscal space.

For LMICs in which the level of government revenue remains relatively low, there is a range of opportunities to increase that revenue without further burdening poorer population groups. If a country has considerable mineral and other natural resources, a key starting point is to assess government policy on the exploitation of those resources and whether government revenue from that source could be increased. A principal concern, however, is that the natural resources will become depleted. But recent research has shown that if the state plays a strong role by adopting economic policies that provide incentives to invest in diversifying productive capacity and if it invests in social services (that build human capital), natural resource wealth can be harnessed for equitable and sustainable development (UN Research Institute for Social Development, 2012).

For countries that are not rich in natural resources, a careful assessment of existing taxation policy and practice is necessary. Recent experience has demonstrated how government revenue can increase significantly through increased efficiency in tax collection and improved compliance. While it may be important to introduce or increase some taxes such as sin taxes as soon as possible for public health reasons, it may only be appropriate to consider raising taxes after improving tax collection efficiency and compliance. From an equity perspective, priority should be given to generating revenue from direct taxes. However, in the context of low levels of formal sector employment in low-income countries, it is unavoidable that indirect taxes comprise a large proportion of tax revenue. Some indirect taxes, such as those on luxury goods, are far more progressive than others, including VAT. In addition, the careful selection of goods and services to be VAT exempt or zero-rated can reduce that tax's potential regressivity. There is a range of other 'innovative' financing options (such as financial transactions taxes) that are not explored in this paper as they are extensively documented elsewhere (see, e.g. High-Level Taskforce on Innovative International Financing for Health Systems, 2009).

The ability of LMICs to successfully implement such strategies for increasing government revenue is in many ways dependent on supportive global action. That includes addressing tax competition and improving transparency in business activities, tax payments and payments to governments by extractive companies. It is very encouraging that the Addis Ababa Action Agenda (UN General Assembly, 2015b: Clause 23) commits to such actions, including making 'sure that all companies, including multinationals, pay taxes to the Governments of countries where economic activity occurs and value is created'.

An important area for future research is the political-economy of creating fiscal space. While this paper argues that there is considerable potential for increasing

government revenue and expenditure in many LMICs, making this a reality depends on national political processes, which are often subject to external influence.

Finally, efforts to increase domestic public funding of health services should be accompanied by strategic purchasing reforms to promote the efficient and equitable use of scarce resources as demonstrated in Thailand (Tangcharoensathien *et al.*, 2015).

## Conclusion

In order to make progress toward UHC and the SDGs, governments in LMICs will need to improve domestic funding sources for health, focusing in particular on mandatory pre-payment financing. While external aid will still be needed for the poorest countries to implement UHC reforms, the mantra of 'lack of fiscal space' should be challenged; it is possible to increase government revenue where this is currently low through strategies such as improved efficiency and compliance in revenue collection, whether this takes the form of taxes or other revenue sources such as from the exploitation of natural resources, increased tax rates where appropriate and/or pursuing innovative financing mechanisms. This requires bold domestic fiscal policy choices but also global action to support domestic efforts.

## Acknowledgments

This paper was written as part of the Chatham House Working Group on Financing.

## Financial Support

This work is based on research supported by the South African Research Chairs Initiative of the Department of Science and Technology and National Research Foundation (NRF) of South Africa and the RESYST research consortium funded by UKaid from the Department of International Development. Any opinion, finding and conclusion or recommendation expressed in this material is that of the authors and the NRF and UKaid do not accept any liability in this regard.

## References

- ActionAid (2010), *Calling Time: Why SABMiller Should Stop Dodging Taxes in Africa*, London: ActionAid UK.
- Akiko, M., E. Araujo, C. Cashin, J. Harris, N. Ikegami and M. R. Reich (2014), *Universal Health Coverage for Inclusive and Sustainable Development: A Synthesis of 11 Country Case Studies, Directions in Development*, Washington, DC: World Bank.
- Arze del Granado, J., D. Coady and R. Gillingham (2010), *The Unequal Benefits of Fuel Subsidies: A Review of Evidence for Developing Countries*, Washington, DC: International Monetary Fund.



- Asian Development Bank (2015), *Fossil Fuel Subsidies in Indonesia: Trends, Impacts, and Reforms*, Philippines: Asian Development Bank.
- Balakrishnan, R., D. Elson, J. Heintz and N. Lusiani (2011), *Maximum Available Resources and Human Rights*, New Brunswick, NJ: Center for Women's Global Leadership, Rutgers.
- Bauer, A., D. Coady, A. Kangur, C. Josz, E. Ruggiero, C. Sdravovich, S. Singh and M. Villafuerte (2013), 'Chapter 3: Macroeconomic, Environmental and Social Implications', in B. Clements, D. Coady, S. Fabrizio, S. Gupta, T. Alleyne and S. Sdravovich (eds), *Energy Subsidy Reform: Lessons and Implications*, Washington, DC: International Monetary Fund.
- Chowdhury, A. and I. Islam (2010), 'Is there an optimal debt-to-GDP ratio?', VOX, <http://www.voxeu.org/debates/commentaries/there-optimal-debt-gdp-ratio> [12 February 2014].
- Clements, B., D. Coady, S. Fabrizio, S. Gupta, T. Alleyne and S. Sdravovich (eds) (2013), *Energy Subsidy Reform: Lessons and Implications*, Washington, DC: International Monetary Fund.
- Doherty, J, D Kirigia, H Ichoku, D McIntyre, K Hanson and J Chuma (2014), 'Increasing the fiscal space for health: the experience of Kenya, South Africa and Lagos State (Nigeria)', Poster Presented at the 3rd Global Symposium in Health Systems Research, Cape Town, South Africa, <http://resyst.lshtm.ac.uk/sites/resyst.lshtm.ac.uk/files/docs/reseources/Tax%20financing%20poster.pdf> [13 April 2015].
- European Commission (2013), *VAT Rates Applied in Member States of the European Union*, Brussels: European Commission.
- European Commission (2015), Press release: Commission decides selective tax advantages for Fiat in Luxembourg and Starbucks in the Netherlands are illegal under EU state aid rules, European Commission, Brussels, [http://europa.eu/rapid/press-release\\_IP-15-5880\\_en.htm](http://europa.eu/rapid/press-release_IP-15-5880_en.htm) [6 June 2015].
- European Commission (2016), Press release: State aid: Commission concludes Belgian 'Excess Profit' tax scheme illegal; around €700 million to be recovered from 35 multinational companies, Brussels: European Commission. [http://europa.eu/rapid/press-release\\_IP-16-42\\_en.htm](http://europa.eu/rapid/press-release_IP-16-42_en.htm).
- Fox, D. M. (2004), 'The administration of the Marshall Plan and British Health Policy', *The Journal of Policy History*, 16(3): 191–211.
- Gupta, V., R. Dhillon and R. Yates (2015), 'Financing universal health coverage by cutting fossil fuel subsidies', *Lancet*, 3(6): e306–e307.
- Hausman, D. (2010), *Reworking the Revenue Service: Tax Collection in South Africa, 1999–2009*, Princeton, NJ: Princeton University Press.
- High-Level Taskforce on Innovative International Financing for Health Systems (2009), 'Constraints to scaling up and costs', Working Group 1 Technical Report, World Health Organisation, Geneva.
- International Energy Agency (2015), *World Energy Outlook 2015*, Paris, France: International Energy Agency.
- International Monetary Fund (2014), *Fiscal Monitor April 2014 – Public Expenditure Reform: Making Difficult Choices*, Washington, DC: IMF.
- International Monetary Fund (2015), 'World Economic Outlook Database', April 2015 edition, <https://www.imf.org/external/pubs/ft/weo/2015/01/weodata/index.aspx> [11 June 2015].
- Katsouris, C. and A. Sayne (2013), *Nigeria's Criminal Crude: International Options to Combat the Export of Stolen Oil*, London: Chatham House.
- Keen, M. and A. Simone (2004), 'Is tax competition harming developing countries more than developed?', *Tax Notes International*, 34(Supplement): 1317–1325.

- KPMG (2011), *KPMG Individual Income Tax and Social Security Rate Survey 2011*, Switzerland: KPMG International.
- Kutzin, J. (2012), 'Anything goes on the path to universal coverage?', *Bulletin of the World Health Organization*, 90(11): 867–868.
- McIntyre, D., F. Meheus and J.-A. Røttingen (2017), 'What level of domestic government health expenditure should we aspire to for universal health coverage?', *Health Economics, Policy and Law*, 12(2): 125–137.
- Mills, A., J. E. Ataguba, J. Akazili, J. Borghi, B. Garshong, S. Makawia, G. Mtei, B. Harris, J. Macha, F. Meheus and D. McIntyre (2012), 'Equity in financing and use of health care in Ghana, South Africa and Tanzania: implications for paths to universal coverage', *Lancet*, 380(9837): 126–133.
- O'Donnell, O., E. van Doorslaer, R. P. Rannan-Eliya, A. Somanathan, S. R. Adhikari, B. Akkazieva, D. Harbianto, C. C. Garg, P. Hanvoravongchai, A. N. Herrin, M. N. Huq, S. Ibragimova, A. Karan, S.-M. Kwon, G. M. Leung, J.-F. R. Lu, Y. Ohkusa, B. P. Pande, R. Racelis, K. Tin, K. Tisayaticom, L. Trisnantoro, O. Wan, B.-M. Yang and Y. Zhao (2005), 'Who pays for health care in Asia?', Equitap Working Paper 1, <http://www.equitap.org/publications/docs/EquitapWP1.pdf>.
- O'Donnell, O., E. van Doorslaer, R. P. Rannan-Eliya, A. Somanathan, S. R. Adhikari, B. Akkazieva, D. Harbianto, C. C. Garg, P. Hanvoravongchai, A. N. Herrin, M. N. Huq, S. Ibragimova, A. Karan, S. M. Kwon, G. M. Leung, J. F. Lu, Y. Ohkusa, B. R. Pande, R. Racelis, K. Tin, K. Tisayaticom, L. Trisnantoro, Q. Wan, B. M. Yang and Y. Zhao (2008), 'Who pays for health care in Asia?', *Journal of Health Economics*, 27(2): 460–475.
- OECD (2013), 'Government at a Glance 2013', OECD, Paris.
- OECD (2014), Revenue Statistics 2014, Paris: OECD, <http://www.oecd-ilibrary.org/content/datacollection/tax-data-en> [13 June 2015].
- Reeves, A., Y. Gourtsoyannis, S. Basu, D. McCoy, M. McKee and D. Stuckler (2015), 'Financing universal health coverage – effects of alternative tax structures on public health systems: cross-national modeling in 89 low-income and middle-income countries', *Lancet*, 386(9990): 274–280.
- Revenue Watch Institute (2013), *The 2013 resource governance index: Nigeria*, [http://www.resourcegovernance.org/sites/default/files/country\\_pdfs/nigeriaRGI2013.pdf](http://www.resourcegovernance.org/sites/default/files/country_pdfs/nigeriaRGI2013.pdf) [12 February 2014].
- Stenberg, K., R. Elovianio, D. Chisholm, D. Fur, A.-M. Perucic, D. Rekve and A. Yurekli (2010), *Responding to the challenge of resource mobilization – mechanisms for raising additional resources for health*, Background paper to the World Health Report 2010. Geneva: World Health Organization.
- Tandon, A. and C. Cashin (2010), *Assessing Public Expenditure on Health from a Fiscal Space Perspective*, Washington, DC: World Bank.
- Tangcharoensathien, V., S. Limwattanon, W. Patcharanarumol, J. Thammatacharee, P. Kongudomsuk and S. Sirilak (2015), 'Achieving universal health coverage goals in Thailand: the vital role of strategic purchasing', *Health Policy and Planning*, 30(9): 1152–1161.
- Tax Justice Network (2006), *Tax Competition. Tax Justice Briefing*, London: Tax Justice Network.
- Tax Justice Network (2012), *Tax Wars: International Tax Cooperation and Competition*, London: Tax Justice Network.
- UN Development Programme (2013), *Human Development Report 2013: The Rise of the South: Human Progress in a Diverse World*, New York: United Nations Development Programme.

- UN General Assembly (2012), 'Global health and foreign policy', Resolution A/67/L.36. [undocs.org/A/67/L.36](http://undocs.org/A/67/L.36) [2 June 2016].
- UN General Assembly (2015a), 'Transforming our world: the 2030 Agenda for sustainable development', Resolution A/RES/70/1, [undocs.org/A/RES/70/1](http://undocs.org/A/RES/70/1) [2 June 2016].
- UN General Assembly (2015b), 'Addis Ababa Action Agenda of the Third International Conference on Financing for Development', Addis Ababa Action Agenda, Resolution A/RES/69/313, [undocs.org/A/RES/69/313](http://undocs.org/A/RES/69/313) [2 June 2016].
- UN Research Institute for Social Development (2012), 'Mineral rents and the financing of social policy: options and constraints', Research and Policy Brief 16, United Nations Research Institute for Social Development, Geneva.
- United States Council for International Business (USCIB) (2013), 'Duties and value-added taxes', USCIB, <http://www.uscib.org/?documentID=1676> [16 February 2014].
- Van Doorslaer, E. and A. Wagstaff (1993), 'Equity in the finance of health care: methods and findings', in E. Van Doorslaer, A. Wagstaff and F. Rutten (eds), *Equity in the Finance and Delivery of Health Care: An international perspective*, New York: Oxford University Press.
- Vanek, M. (2012), 'SARS uncovers 1000s of missing rich tax cheats', Moneywebtax, 13 January, <http://www.moneyweb.co.za/archive/sars-uncovers-1000s-of-missing-rich-tax-cheats/> [14 February 2014].
- Wagstaff, A., E. van Doorslaer, H. van der Burg, S. Calonge, T. Christiansen, G. Citoni, U. G. Gerdtham, M. Gerfin, L. Gross, U. Häkkinen, P. Johnson, J. John, J. Klavus, C. Lachaud, J. Lauritsen, R. Leu, B. Nolan, E. Perán, J. Pereira, C. Propper, F. Puffer, L. Rochoaix, M. Rodríguez, M. Schellhorn, G. Sundberg and O. Winkelhake (1999), 'Equity in the finance of health care: some further international comparisons', *Journal of Health Economics*, 18(3): 263–290.
- WHO (2010), *Health Systems Financing: The Path to Universal Coverage. World Health Report 2010*, Geneva: World Health Organisation.
- WHO (2015), *WHO Report on the Global Tobacco Epidemic. Raising Taxes on Tobacco*, Geneva: World Health Organisation.
- Witter, S. and R. Outhred (2015), *Paper 4: How to Use Revenues From Extractive Industries to Improve Health and Education in Africa*, African Development Bank and Bill & Melinda Gates Foundation. [http://www.gatesfoundation.org/~media/GFO/What-We-Do/Global\\_Policy\\_DPAF/Extractives-Report/Papers/20150814-Paper-4-Final-Version-sv.pdf?la=en](http://www.gatesfoundation.org/~media/GFO/What-We-Do/Global_Policy_DPAF/Extractives-Report/Papers/20150814-Paper-4-Final-Version-sv.pdf?la=en) [20 April 2016].
- World Bank (2015), *Global Economics Prospects: Having Fiscal Space and Using It*, Washington, DC: World Bank.



# Framing the tax and health nexus: a neglected aspect of public health concern

DAVID MCCOY\*

*Centre for Primary Care and Public Health, Queen Mary University of London, London, UK*

SIMUKAI CHIGUDU

*Oxford Department of International Development, University of Oxford, Oxford, UK*

TAAVI TILLMANN

*Department of Epidemiology and Public Health, University College London, London, UK*

**Abstract:** Previous studies have described various associations between tax policy and health. Here we propose a unifying conceptual framework of ‘Five R’s’ to stimulate awareness about the importance of tax to health improvement. First, tax can improve *representation* and democratic accountability, and help make governments more responsive to the needs of its citizens. Second, tax can create a *revenue* stream for a universal pool of public finance for health care and other public services. Third, progressive taxation when combined with appropriate public spending can help *redistribute* wealth and income and mitigate social and health inequalities. Fourth, the *re-pricing* of harmful products (e.g. tobacco, alcohol and unhealthy food) can help reduce their consumption. Fifth, taxation provides a route by which certain harmful industries can be *regulated*. The paper also discusses the barriers that hinder the full potential for taxation to be used to improve health, including: weak tax administrations, large ‘shadow economies’, international trade liberalisation, tax avoidance, transfer pricing by transnational corporations and banking secrecy. We suggest that a greater awareness of the manifold associations between tax and health will encourage health practitioners to actively promote fairer and better taxation, thereby helping to improve health and reduce health inequalities.

Submitted June 2016; revised September 2016; accepted November 2016

## Introduction

Public debate about taxation is usually focussed on the impacts of tax on household income and the extent to which it is progressive or regressive. There may also be some focus on different types of tax (Box 1), and their relative merits.

\*Correspondence to: Dr David McCoy, Centre for Primary Care and Public Health, Blizard Institute, Barts and The London School of Medicine and Dentistry, 4 Newark Street, London E1 2AT, UK. Email: d.mccoy@qmul.ac.uk

## Box 1.

Tax is applied in different forms, ranging from direct taxes on personal and corporate income and wealth, through to indirect taxes on retail sales, consumption of goods and services, trade and the discharge of pollutants, and mandatory social security contributions. Tax exemptions and subsidies are also aspects of tax policy

In mainstream economics, the primary concern is often the effect of tax policy on fiscal stability, private investment and other aspects of macroeconomic performance. Social scientists, on the other hand, are more likely to emphasise the social and political dimensions of tax (Moore, 2007; Bräutigam, 2008).

This paper examines the general policy domain of taxation through the lens of public health with the purpose of describing its relevance to several health-related challenges. It aims to encourage the international health community to take greater interest in the formulation of tax policy nationally and globally. In so doing, it intersects with the analysis of Riku Elovainio and David B. Evans whose contribution to this special issue, 'Raising domestic money for health: prospects for low and middle income countries', examines the potential of 46 low- and middle-income countries (LMIC) to substantially increase their health expenditures from domestic sources. Elovainio and Evans argue that measures such as redistributing existing tax revenues, expanding the tax base by formalising economies, increasing tax on natural resources and implementing 'sin taxes' (taxes on harmful consumptive products like tobacco) can increase domestic funding for health. This paper both reinforces this argument and expands it conceptually by offering a framework for thinking systematically about the multi-faceted interrelationships between tax and health. There is thus much overlap between the two papers, but it is argued that this overlap is complementary and underscores the need for further research and policy measures at the nexus of tax and health.

The paper first provides a brief overview of five different *effects* of tax and how they impact on health. The five effects, described as a set of five 'Rs' to facilitate recall, are representation, revenue, redistribution, re-pricing and regulation. It then discusses some of the difficulties and barriers that countries face in harnessing the benefits of tax (in their different forms), with an emphasis on low-income countries (LICs). Finally, the paper highlights some general policy recommendations and avenues for further research.

## The effects of tax

### *Representation*

Representation refers to the role that taxes can potentially play in strengthening democracy and giving citizens a 'claim' over government. By contributing to

public revenue generation, tax systems provide a mandate for households and communities to hold governments accountable and make claims on the state for the provision of various services and goods, including health services. Furthermore, tax provides a source for public finance which allows governments to pay for equitable and universal health care, an important issue given the inequities and market failures inherent in private financing for health care.

In describing the transition from *domain states* (in which government activities were funded from surpluses derived from the monarchy's own properties) to *tax states* (in which the state earned its revenue by taxing its citizens), Prichard (2010) describes the emergence of three inter-connected sets of processes by which taxation facilitates a 'political contract' between states and society.

The first set is described as *common interest processes* that arise from governments becoming dependent on tax revenue and thereby incentivised to promote economic prosperity amongst its citizens. The second set is described as *accountability and responsiveness processes* that arise from citizens making claims of government and engaging in political decision-making as a result of being a tax-payer. This is perhaps best illustrated by the famed 'Boston Tea Party' incident of 1773 when American settlers rebelled against unjust taxes imposed by the British after which the slogan 'no tax without representation' was coined and used as a rallying cry during the American war of independence. The third set is *state apparatus processes* which consist of the development of bureaucratic systems for administering tax, including the creation of population-based data collecting systems, that in turn facilitates more effective public sector planning and resource allocation.

Tax systems also affect the governance of society by influencing the social and political relationship between different population groups within a society, including groups defined by wealth, geographic region or even gender (Grown and Valodia, 2010). They can do this by imposing differential tax burdens on different groups and enabling a redistribution of wealth and income across society. As well as the potential tangible effects of redistributing wealth (and indirectly, economic and political power), differential tax burdens play a symbolic role in reflecting societal values about equity, solidarity and mutuality across society. In addition, as noted recently by Piketty (2014), the generation of accurate and public information about individual wealth that is required for the effective imposition of a wealth tax can help to shed light on how power is structured across society.

However, the democratic and socially progressive benefits of tax are not automatic and need to be accompanied by political action to ensure that tax is collected in ways that are considered fair and public revenue used appropriately and accountably. In the absence of effective forms of direct and representative democracy, taxes can equally be used as an instrument of appropriation and subjugation, as was often the case with imperial powers in their colonies (Fukuyama, 2012).

The potential for tax to catalyse the development of a democratic state can also be contingent on other means by which a state generates revenue. Where states are

able to derive a greater amount of income *independently of citizens* or with relatively little organisational or political effort, a ‘state-society disconnect’ may occur (Moore, 2001, 2004). This is typically seen in countries with substantial natural resource wealth (notably oil, minerals and timber), which can give states access to ‘unearned income’ in the form of ‘natural resource rents’ (Cooper, 2002).

Such sources of income offer states greater opportunity to exercise power without the support or consent of citizens, who are in turn discouraged from bargaining with the state to ensure appropriate use of public revenue. Because natural resource rents require a relatively small bureaucratic apparatus, they are also associated with a general neglect of public administration. Natural wealth has thus been described as a ‘resource curse’ because of its association with corruption, conflict, war and human rights abuses (Collier, 2008).

### *Revenue*

As already noted, tax is an important source of public revenue that can be used to finance health care and other public services that promote and protect health, including education, sanitation and public transport. According to the World Health Organization (2010b), increasing the efficiency of taxation and applying innovative financial mechanisms such as financial transaction taxes (FTT) are two important strategies for achieving universal health coverage. It also funds a range of political, juridical and economic institutions that are core to the functioning of societies.

States can also derive income from natural resource rents (as discussed earlier); charges applied to the provision of services (e.g. user fees) or access to privileges (e.g. licenses); profits made by state-owned companies and industries; returns on public investments; or loans or grants. However, generally speaking, tax revenues are the main source of government funds available for financing and expanding health care in most nations. In LMICs, they account for ~65% of total government revenues (International Monetary Fund (IMF), 2011).

Standardised and consistent data on general public and tax revenue in LMICs are difficult to obtain due in part to different systems of government and tax accounting. Statistics are often incomplete and not comparable across countries. For example, while in most countries central government finance data have been consolidated into one account, in others, central government accounts exclude certain pools of public finance such as social security funds (World Bank, 2015). Similarly, the way data on central or federal government tax revenue and local or state are organised and managed can vary.

On average, both public revenue in general and, more specifically tax revenue, as a proportion of gross domestic product (GDP), are lower in poor countries compared to middle- and high-income countries. However, within these country groupings, there can be tremendous variation. For example, within Organisation for Economic Cooperation and Development (OECD) countries between 2006



and 2010, the annual tax revenue ranged from 48.6% in Denmark to 26.2% in the United States (McQuaig and Brooks, 2013). And, as shown by Meheus and McIntyre (2016) in this issue, there is considerable variation in terms of government expenditure relative to GDP as well. For example, while government expenditure is <14% of GDP in some LICs such as Sudan, Madagascar and Guinea-Bissau, it is over 50% in Lesotho and the Solomon Islands. Similarly, while it is >55% of GDP in high-income countries such as Finland, Denmark and France, other high-income countries have relatively low levels of government expenditure, such as Singapore (14.5% of GDP) and Hong Kong (19.3% of GDP).

As a general rule, however, the proportion of GDP captured as tax revenue rises as countries become wealthier in terms of GDP (see Table 1). In addition, there is a general trend for the tax/GDP ratio to increase over time: among OECD countries, for example, this rose from 25 to 35% during the 49 yr between 1965 and 2014 (OECD 2015).

The relatively low tax-to-GDP ratio in LMICs means there is significant potential for generating additional revenues for health (Laffer, 2004). India is a prime example. In 2011 the government spent US\$18 per person on health, which is considerably less than the \$86 estimated to be required to fund essential and basic health care for all (McIntyre and Meheus, 2014). However, government budgets were constrained by the fact that tax revenue, as a percentage of GDP, was only 9% in 2011 (World Bank 2016). If tax revenue as a percentage of GDP were to be raised to allow the government to spend the equivalent of 5% of GDP on health, government per capita health expenditure would rise to US\$74 and approach the \$86 per capita target set by the Chatham House Working Group on Health Financing.

Quite apart from the potential for tax to expand health budgets, tax-based health care financing systems (including mandatory social health insurance) creates the conditions for cross-subsidisation and risk-pooling arrangements, as well as potential efficiency gains from stronger and more strategic purchasing power and the avoidance of transaction costs associated with multiple and fragmented risk pools (World Health Organization, 2000). To date, there has been relatively little data looking at whether different types of tax have a differential impact on health outcomes. However, a recent study of the association

**Table 1.** Average tax revenue as a proportion of GDP

Country category	Tax revenue as a % of GDP
Low-income countries	13.0
Low- and middle-income countries	17.7
Upper-middle-income countries	20.7
High-income countries/OECD countries	35.4

Source: House of Commons International Development Committee. Tax in Developing Countries: Increasing Resources for Development. Fourth Report of Session 2012–2013 (International Development Committee (IDC), 2012).

between different types of tax and various health indicators suggests that tax regimes with a stronger emphasise on direct rather than indirect tax are associated with better health outcomes and higher levels of health spending (Reeves *et al.*, 2015).

Indirect forms of tax can also be directly associated with health benefits, especially if ear-marked to support health and other forms of social spending (Gallagher and Porzecanski, 2009). In Thailand, an additional 2% surcharge on alcohol and tobacco was used to fund a Health Promotion Fund, raising ~US\$50–60 million a year (Srithamrongsawat *et al.*, 2010). Hungary too levied taxes on unhealthy foods during the Great Recession, in order to help maintain health care expenditure at a time of diminished government revenues from other sources (Mytton *et al.*, 2012). While taxes on tobacco, alcohol and unhealthy food can be ear-marked as revenue to support additional public spending on health, it is also argued that such taxes should be collected as general revenue that can then be allocated as appropriate by government as a whole.

However, the health benefits of tax revenue generation must be balanced against their potential negative impact on household income, with knock-on health effects. Tax simulation models from South Africa, for example, have found that while increased taxes on general income, consumption or both could help expand health coverage, poorly selected consumption taxes could reduce access to nutrition and health care for poorer households (McIntyre and Ataguba, 2012).

### ***Redistribution***

Tax systems, when designed to be socially progressive and redistributive, provide the basis for a fairer distribution of wealth and resources across society. As mentioned earlier, progressive tax systems also enable cross-subsidisation and risk-pooling within health systems, which enables them to achieve both efficiency and equity goals. Importantly, as economic growth projections show little prospect of eradicating absolute poverty globally, redistribution is seen as a vital and necessary requirement for development (Woodward, 2015).

There is some evidence that income inequality is a determinant of health and wellbeing in its own right (Wilkinson & Pickett, 2010). This thesis has been given added impetus by some evidence suggesting that inequality can also act as a drag on economic performance (Herzer, 2012). The postulated mechanisms by which social and income inequality generate health impacts include those that are mediated through behavioural, psycho-social and cultural pathways, as well as through their impact on public policy formulation. However, the thesis is also contested and remains an important area of research (Avendano and Hessel, 2015).

Tax policies that facilitate redistribution and fairness within society are therefore increasingly viewed as being important and valid public health measures. It is important to note that the optimal level of income or social equality is undefined and would be contested. Achieving complete equality through tax-based

redistribution is likely to be politically unfeasible and socially unacceptable, and may be economically damaging. Additionally, the health benefits of ever greater social equality may diminish: one meta-analysis of multi-level studies has suggested that while reducing the Gini coefficient of income distribution down to 30 may reduce excess deaths substantially, any further reduction has little additional effect (Kondo *et al.*, 2009).

Generally speaking, direct forms of tax upon wealth and income are more progressive than indirect forms of tax such as value-added tax (VAT), partly because indirect forms of tax tend to be flat and do not discriminate between rich and poorer households. One way to avoid or minimise the regressivity of indirect forms of tax is to exempt VAT from essential goods that are health promoting whilst aiming sales taxes at luxury goods. Additionally, the direct taxation of wealth has a greater potential to enable redistribution than the direct taxation on income given secular trends in the relative distribution of capital and labour in economies worldwide (Piketty, 2014).

It should be noted however that the progressivity of a country's tax collection system may only be instrumental in redistributing wealth if also accompanied by decisions to spend public tax revenue in ways that are progressive (Prasad, 2008). For example, while the USA's tax collection system is actually more progressive than most European states (Prasad and Deng, 2009), there is greater redistribution in European states due to the social welfare transfers achieved after public spending.

### *Re-pricing*

The ability of taxes to alter the price of goods, services and behaviours provides a mechanism, not just for raising revenue, but also for discouraging the consumption of unhealthy substances, or inhibiting behaviours that may be unhealthy or harmful. The most obvious example of this form of benefit is the taxation of tobacco which reduces smoking levels by increasing the cost of cigarettes (Frieden and Bloomberg, 2007).

Although many countries already impose high taxes on tobacco, the World Health Organization (2010b) estimates that a 5–10% increase in the tobacco tax rate could further reduce the prevalence of smoking, whilst also generating an additional US\$1.4 billion in revenue in LICs and US\$5 billion in middle-income countries (MICs) per annum. This would result in the 'triple win' of reducing unhealthy behaviour, raising public revenue for health care, and reducing the need for expensive treatments in the future (World Health Organization, 2012).

A potential fourth win is that once a commodity has been marked with a 'sin-tax', subsequent public perception of the industry producing the commodity changes. For example, opposition to the introduction of tobacco taxes in the form of tobacco industry claims that the tobacco industry was important for

economic wellbeing and job creation became less salient once the democratically mandated stigma of a 'sin-tax' had weakened the credibility of the tobacco industry.

With unhealthy diets having overtaken smoking as causes of premature death and disability in many countries, attention is now focussed on taxing foods high in fat, salt and sugar that are cheap, widely accessible and heavily marketed (World Health Organization, 2004; Slimani *et al.*, 2009). In Mexico, for example, a sugar sweetened beverage tax, which came into effect in early 2014 raised prices by 16% and reduced consumption by 12% (Colchero, 2016). In Hungary, a complex health-oriented food tax has reportedly led to a 25–35% decrease in the consumption of taxed goods (European Competitiveness and Sustainable Industrial Policy Consortium, 2014).

Taxes can also be applied to inhibit behaviours that have an indirect negative impact on health. For example, levies can be applied in order to increase the cost of polluting behaviour and protect the environment from damage. This could include the stronger use of taxes to curb greenhouse gas emissions which would help mitigate climate change and encourage renewable energy development (Bird & Zolt, 2003; Cobham, 2005a).

### *Regulation*

Taxes can be used to shape individual behaviour by affecting the price and cost of certain commodities or behaviours. But they are also associated with the regulation of entire markets or economic sectors by virtue of the fact that applying a tax on a commodity or service requires some form of government regulation and administration to enable the tax to be collected. This may contribute towards strengthening regulation more generally in an economic sector that is currently under-regulated and harmful to health.

For example, as far back as 1980, the Brandt Report proposed a tax on the global arms trade as a way of establishing arms sales registers which would in turn increase transparency and help reduce conflict (Brandt, 1980). The illegal drugs (narcotics) trade is another example of an unregulated market that causes a great deal of harm through both the effects of drug addiction and poisoning and the effects of violence and corruption associated with failed attempts to eradicate the trade. Not only does this unregulated trade cause untold amounts of human suffering, it generates billions of dollars of untaxed profit every year which is used to corrupt governments and undermine democracy.

A third example of taxes that can enable socially useful regulation whilst generating public revenue is FTTs that can be designed to inhibit harmful speculative commodity and currency exchange, and generate billions of dollars of public revenue. It has been estimated that a US FTT could raise up to \$175 billion a year (Baker *et al.*, 2009); while a FTT applied across the EU could bring in an estimated £46 billion a year (McQuaig and Brooks, 2013: 247).

## Harnessing the potential of tax

The preceding section describes how tax can promote health through five different pathways: (a) representation through more democratic, accountable and responsive government; (b) revenue generation for better financing of health systems; (c) redistribution of public wealth to reduce social inequalities; (d) re-pricing of goods and services to foster a healthier food environment and healthier consumption behaviours; and (e) regulation and control of the harmful and illicit economy.

However, the health benefits of tax are not necessarily easily achieved. In particular, for LMICs, a number of structural constraints would need to be overcome. In this section, we highlight what we believe are the key constraints that hinder LMICs from making use of tax as a health-promoting instrument.

One important constraint is the weak tax administrations of many countries which is a cause of substantial losses of public revenue (Moore, 2004). In Kenya, for example, arrears for tax payment defaults in 2005 were US\$1.32 billion and corresponded to about half the country's public revenues (Christian Aid, 2005). Estimates of non-compliance of VAT in some developing countries have been put at 50–60% compared with 7–13% in developed countries (OECD, 2000; IMF, 2011) and the failure to collect all property taxes due to deficiencies in the registration and valuation of properties is also relatively common (IMF, 2011).

The problems of weak tax administrations have been accentuated by the removal of import and export duties as part of prevailing trade liberalisation policies. These duties were amongst the easiest to administer and previously contributed significantly to revenue income in poor countries, in some cases 30 to 50% of total government revenue (Murphy, 2007). However, between 1995 and 2003, the share of customs revenues to total state revenues shrunk from an average of 22 to 16% in poor countries, and from 13 to 7% in MICs (Martens, 2007).

Such losses in revenue were supposed to have been compensated for by economic growth and increases in VAT revenue, but this has not always materialised. One study found that LICs were only able to compensate for about 30% of revenue losses caused by trade liberalisation (Baunsgaard and Keen, 2010), while other analyses have argued that the substitution of trade taxes with VAT has had negative welfare effects in countries with large informal economies (Emran and Stiglitz, 2005).

The relatively large 'informal' and illicit economy that operates beyond the ambit of tax collecting bodies is another structural constraint affecting many developing countries (Bird & Zolt, 2003). In one study from 2003, the 'shadow economy' (the production of goods and services that are deliberately concealed to avoid tax, social security contributions and labour and safety standards) was found to have made up 41.2 and 41.5% of GDP in Africa and Latin America, respectively, compared with 16.8% in OECD countries (Schneider, 2004).

In general, much larger sections of the population only contribute to public revenue indirectly through consumption taxes in poor countries compared with rich countries.

Economic globalisation and the greater mobility of finance and productive capacity have also resulted in many countries competing with each other for foreign direct investment (FDI) by offering low corporate tax rates, tax holidays, free repatriation of profits and establishing export processing zones (EPZs) where goods can be landed, handled and re-exported without the attention of customs authorities (Jauch, 2002; Goldman, 2006; Shaxson and O'Hagan, 2013). EPZs are also associated with absent or low labour standards, non-unionisation and low wages (Klein, 2001) which pose additional threats to health as well as to democracy and labour rights.

Losses in public revenue can also be traced to the rise in number and size of transnational corporations with complex legal structures and aggressive accounting practices intended to evade or avoid tax. These include 'transfer mispricing' and 'transfer misinvoicing' designed to shift profits from high to low tax jurisdictions, as well as other forms of aggressive tax avoidance based on arrangements for paying royalty fees and making loans between subsidiaries of the same company.

Tax evasion and avoidance, by individuals and trans-national corporations (TNCs), is linked to the international tolerance of tax havens: real or virtual jurisdictions that offer low or zero taxation and a secrecy regime sustained through laws and *de facto* judicial arrangements. Not only does this allow profits and wealth to be hidden away from tax authorities, banking secrecy enables the laundering of proceeds from a range of health-harming illegal activities such as drug, arms and human trafficking. The loss of tax revenues through illicit economic activities can amount to hundreds of billions of dollars every year (Cobham, 2005b). The African Union has previously estimated that \$148 billion a year (approximately a quarter of the continent's GDP) leaves the continent due to corruption (Jackson, 2006).

Because of the secrecy, the amount of revenue lost to tax havens is hard to determine. One estimate of illicit financial flows from developing countries between 2003 and 2012 amounted to \$6.6 trillion a year (Kar and Spanjers, 2014). Another study of 139 mainly LMICs estimated that as of 2010, between \$21 and \$32 trillion had been invested virtually tax-free through >80 offshore jurisdictions, of which \$7.3–\$9.3 trillion of this unrecorded offshore wealth was accounted for by individual private elites (Henry, 2012). These figures excluded non-financial wealth in the form of real estate, yachts, racehorses, gold bricks as well as the drain of human capital. Based on a conservative assumption of this wealth earning a return of 3% a year, it is estimated that up to \$189 billion per year of tax revenues was lost – more than twice the \$86 billion that OECD countries as a whole spend on overseas development assistance.

These inter-connected structural problems are clearly not just about tax policy, but embrace questions about effective democracy, the role and capacity of

government (including law enforcement and judicial systems), the shape and form of economic globalisation and global governance. As such they highlight the point that the use of tax to improve health through the five Rs is not simple or straightforward.

## Conclusion

This article describes how tax has the potential to address many pressing global health priorities including enduring poverty, widening social and health inequalities, under-resourced health systems and the unhealthy consumption of tobacco, sugar, alcohol and processed food. Ecological degradation and climate change, perhaps the ultimate threats to global health, can also be tackled through tax policy. Illicit trade in arms and narcotics, as well as the harmful speculative trading of currencies and food commodities can be curbed by tax instruments and regulation. Perhaps most importantly, tax policy provides a route by which better and more accountable government can be established.

The relationship between both public revenue in general and tax revenue specifically with GDP is critical, especially for poorer countries. McQuaig and Brooks (2013) have examined the association between the level of tax as a percentage of GDP and various social and health indicators, and have found patterns of correlation which support the thesis that tax can play an overall positive function in society. This would seem to reinforce other analyses suggesting a positive association between direct forms of tax upon citizens and democratic and accountable government, outlined earlier.

The potential for tax to be used as a positive and progressive public health instrument implies shifting away from a prevailing neoliberal orthodoxy that has tended to neglect the positive attributes of tax policy in favour of deregulation, privatisation and small government, towards a new political economy that places greater emphasis on public finance, democratic government, equity and public-interest regulation. In our view, the health community could help catalyse this shift. But action needs to occur at both the national and international level.

One action is for the global health community to help direct greater policy and public attention towards the simple fact that many LMICs have the capacity to capture a higher proportion of GDP as public revenue. Examples of countries that have enlarged their fiscal space include Indonesia which increased its tax revenues from 9.9 to 11.1% of GDP (excluding oil GDP) over a four-year period due to a simplification of the tax system (World Health Organization, 2010a) and Vietnam which increased its tax revenue to 28% of GDP over two decades (IMF, 2011).

A second action would be for public health advocates and organisations to call for more effective and efficient tax administrations (including better customs enforcement to detect and halt intentional misinvoicing of trade transactions), as well as tax regimes that are applied more to income and wealth rather than to

consumption. While responding to the immediate demands of illness and disease, the health community can also encourage the democratic and legal functioning of public institutions as a vital public health intervention.

Conducting research on the relationship between tax policy and health would be a further important action. In particular, more research is needed to examine the potential impact of taxes on alcohol, sugary drinks and ultra-processed foods on individual consumption behaviour as well as revenue generation. The relative advantages and disadvantages of different types of tax regime in enabling efficient and equitable health financing arrangements could also be better studied. Research findings and recommendations should however be linked explicitly to policy reform efforts that take into account the specific political, social and economic conditions of individual countries.

At the international level, the global health community should also direct attention towards efforts to curb tax avoidance and evasion, as noted by a UN Committee of Experts on International Cooperation in Tax Matters which proposed a 'UN Code of Conduct on Cooperation in Combating International Tax Evasion and Avoidance' (2007). To date, efforts have mostly focussed on voluntary behaviour change. But in light of limited progress having been made, rules and regulations that are binding and enforceable are required. These should include agreements on the establishment of public registries of meaningful beneficial ownership information on all legal entities; the requirement for TNCs to provide full disclosure of all economic and financial transactions including their revenues, profits, losses, sales, taxes paid, subsidiaries and staff levels on a country-by-country basis; developing a new set of international accountancy standards that are removed from the control of the International Accounting Standards Board (a private corporation funded by the Big Four accountancy firms); and calling for an end to the secrecy regimes of banks and tax havens.

Developed countries also have an important responsibilities as noted by the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda which called them to seize and return assets that may have been stolen, acquired corruptly or transferred abroad illegally from developing countries, and to do more to prevent illicit financial flows from developing countries.

Finally, the global health community are in a privileged position to call for taxes on 'global public bads', as a means of both preventing social harm and raising additional revenue for development finance. For example, the Technical Group on Innovative Financing Mechanisms (2004), derived from the 2004 Geneva Declaration, has noted the feasibility of a tax on heavy conventional weapon transactions which might help improve population health outcomes and strengthen health systems, and promote good government more generally. A regulatory approach towards the illicit drugs might also raise considerable public revenue whilst simultaneously reduce the burden of violence and harm caused by both narcotics and the war on drugs.



## Acknowledgements

The authors like to thank Aaron Reeves and Tomas Lievens for their helpful comments and suggestions as reviewers of the paper. The authors are also grateful to other colleagues who have provided important input for this manuscript.

## References

- Avendano, M. and P. Hessel (2015), 'The income inequality hypothesis rejected?', *European Journal of Epidemiology*, 30(8): 595–598.
- Baker, D., R. Pollin, T. McArthur and M. Sherman (2009), 'The potential revenue from financial transactions taxes'. Massachusetts: Political Economy Research Institute Working Paper 212.
- Baunsgaard, T. and M. Keen (2010), 'Tax revenue and (or?) trade liberalization', *Journal of Public Economics*, 94(9–10): 563–577.
- Bird, R. M. and E. M. Zolt (2003), *Introduction to tax policy design and development*, Washington DC: World Bank.
- Brandt, W. (1980), North-South: a programme for survival: report of the Independent Commission on International Development Issues, Massachusetts: MIT Press.
- Bräutigam, D. (2008), 'Introduction: Taxation and State-Building in Developing Countries', in D. Brautigam, H. Fjeldstad and M. Moore (eds), *Taxation and State-Building in Developing Countries: Capacity and Consent*, 1st edn, Cambridge: Cambridge University Press, 1–33.
- Christian Aid (2005), 'The shirts off their backs: how tax policies fleece the poor', Briefing Paper, September, 1–23. London: Christian Aid.
- Cobham, A. (2005a), *Taxation Policy and Development*, Volume 2, Oxford: Oxford Council on Good Governance.
- Cobham, A. (2005b), 'Tax evasion, tax avoidance and development finance.' QEH Working Paper Series 129, 1–20. Oxford: Queen Elizabeth House.
- Colchero, M. A., B. M. Popkin, J. A. Rivera and S. W. Ng (2016), 'Beverage purchases from stores in Mexico under the excise tax on sugar sweetened beverages: observational study', *British Medical Journal*, 352: h6704.
- Collier, P. (2008), *The Bottom Billion: Why the Poorest Countries Are Failing and What Can Be Done About It*, Oxford: Oxford University Press.
- Committee of Experts on International Cooperation in Tax Matters (2007), *The Proposed UN Code of Conduct on Cooperation in Combating International Tax Evasion and Avoidance*, Geneva: Committee of Experts on International Cooperation in Tax Matters.
- Cooper, F. (2002), *Africa Since 1940: The Past of the Present*, Cambridge: Cambridge University Press.
- Emran, M. S. and J. E. Stiglitz (2005), 'On selective indirect tax reform in developing countries', *Journal of Public Economics*, 89(4): 599–623.
- European Competitiveness and Sustainable Industrial Policy Consortium (2014), *Food Taxes and Their Impact on Competitiveness in the Agri-Food Sector*, Rotterdam: European Competitiveness and Sustainable Industrial Policy Consortium.
- Frieden, T. R. and M. R. Bloomberg (2007), 'How to prevent 100 million deaths from tobacco', *Lancet*, 369(9574): 1758–1761.
- Fukuyama, F. (2012), *The Origins of Political Order*, London: Profile Books.

- Gallagher, K. P. and R. Porzecanski (2009), *China and Latin America Commodities Boom: a critical assessment*, University of Massachusetts: Political Economy Research Institute.
- Goldman, I. (2006), 'Tax justice briefing: tax competition', London: *Tax Justice Network*.
- Grown, C. and I. Valodia (2010), 'Taxation and gender equity: an eight-country study of the gendered impact of direct and indirect taxes', University of KwaZulu-Natal: Population Studies & Development Studies.
- Henry, J. S. (2012), 'The price of offshore revisited'. London: *Tax Justice Network*.
- Herzer, D. (2012), 'How does foreign direct investment really affect developing countries' growth?', *Review of International Economics*, 20(2): 396–414.
- International Development Committee (IDC) (2012), *Tax in Developing Countries: Increasing Resources for Development*, London: IDC.
- International Monetary Fund (IMF) (2011), *Revenue Mobilization in Developing Countries*, Washington, DC: IMF.
- Jackson, P. (2006), 'The other side of the coin: the UK and corruption in Africa'. Report by the Africa All Parliamentary Working Group.
- Jauch, H. (2002), 'Export processing zones and the quest for sustainable development: a Southern African perspective', *Environment and Urbanization*, 14(1): 101–113.
- Kar, D. and J. Spanjers (2014), *Illicit Financial Flows from Developing Countries: 2003–2012*, Washington DC: Global Financial Integrity.
- Klein, N. (2001), *No Logo: Taking Aim at the Brand Bullies*, London: Picador.
- Kondo, N., G. Sembajwe, I. Kawachi, R. M. van Dam, S. V. Subramanian and Z. Yamagata (2009), 'Income inequality, mortality, and self rated health: meta-analysis of multilevel studies', *British Medical Journal*, 339(7731): 1178–1181.
- Laffer, A. B. (2004), 'The laffer curve: past, present, and future', The Heritage Foundation, [www.heritage.org/research/taxes/bg1765.cfm](http://www.heritage.org/research/taxes/bg1765.cfm) [21 October 2016].
- Martens, J. (2007), *The Precarious State of Public Finance*, London: Tax Justice Network.
- McIntyre, D. and J. E. Ataguba (2012), 'Modelling the affordability and distributional implications of future health care financing options in South Africa', *Health Policy and Planning*, 27(Suppl 1): i101–i112.
- McIntyre, D. and F. Meheus (2014), 'Fiscal space for domestic funding of health and other social services', Centre on Global Health Security Working Group Papers 44, 0–45. London: Chatham House.
- McQuaig, L. and N. Brooks (2013), *The Trouble with Billionaires*, London: Oneworld Publications.
- Meheus, F. and D. McIntyre (2017), Fiscal space for domestic funding of health and other social services. *Health Economics, Policy and Law*, 12(2): 159–177.
- Moore, M. (2001), 'Political underdevelopment: what causes 'bad governance.'', *Public Management Review*, 3(3): 385–418.
- Moore, M. (2004), 'Revenues, state formation, and the quality of governance in developing countries', *International Political Science Review*, 25(3): 297–319.
- Moore, M. (2007), *How Does Taxation Affect the Quality of Governance?* Volume 280 Sussex: Institute of Development Studies.
- Murphy, R. (2007), *Closing the Floodgates: Collecting Tax to Pay for Development*, London: Tax Justice Network.
- Mytton, O. T., D. Clarke and M. Rayner (2012), 'Taxing unhealthy food and drinks to improve health', *British Medical Journal*, 344: e2931.

- Organisation for Economic Cooperation and Development (OECD) (2000), 'Towards global tax co-operation', Report to the 2000 Ministerial Council Meeting and Recommendations by the Committee on Fiscal Affairs, Paris.
- OECD (2015), 'Tax policy - revenue statistics', <http://oecd.org/tax/tax-policy/revenue-statistics-ratio-change-latest-years.htm> [28 December 2015].
- Piketty, T. (2014), *Capital in the Twenty-First Century*, Boston, MA: Harvard University Press.
- Prasad, M. and Y. Deng (2009), 'Taxation and the worlds of welfare', *Socio-Economic Review*, 7(3): 431–457.
- Prasad, N. (2008), 'Policies for redistribution: the use of taxes and social transfers', International Institute for Labour Studies, Discussion Paper Series. Geneva: International Labour Organisation. [http://www.oit.org/wcmsp5/groups/public/—dgreports/—inst/documents/publication/wcms\\_193159.pdf](http://www.oit.org/wcmsp5/groups/public/—dgreports/—inst/documents/publication/wcms_193159.pdf).
- Prichard, W. (2010), "Taxation and state building: towards a governance focused tax reform agenda." Working Paper 341, Sussex: Institute of Development Studies. <https://doi.org/10.1017/S0022278X10000926> [21 October 2016].
- Reeves, A., Y. Gourtsoyannis, S. Basu, D. McCoy, M. McKee and D. Stuckler (2015), 'Financing Universal Health Coverage – effects of alternative tax structures on public health systems: cross-national modelling in 89 low-income and middle-income countries', *The Lancet*, 6736(15): 1–7.
- Schneider, F. (2004), 'The size of the shadow economies of 145 countries all over the world: first results over the period 1999 to 2003', Bonn: Institute for the Study of Labor Working Paper.
- Shaxson, N. and E. M. O'Hagan (2013), *A Competitive Tax System Is a Better Tax System*, London: New Economics Foundation.
- Slimani, N., G. Deharveng, D. A. T. Southgate, C. Biessy, V. Chajès, M. M. E. van Bakel, M. C. Boutron-Ruault, *et al.* (2009), 'Contribution of highly industrially processed foods to the nutrient intakes and patterns of middle-aged populations in the European prospective investigation into cancer and nutrition study', *European Journal of Clinical Nutrition*, 63(Suppl 4): S206–S225.
- Srithamrongsawat, S., W. Aekplakorn, P. Jongudomsuk, J. Thammatach-aree, W. Patcharanarumol and W. Swasdiworn (2010), 'Funding health promotion and prevention – the thai experience', World Health Report – Background Paper 45, 1–10. Geneva: World Health Organisation.
- Technical Group on Innovative Financing Mechanisms (TGIFM) (2004), 'Action against hunger and poverty', Report of the technical group on innovative financing mechanisms by Brazil, Chile, France and Spain for the Summit Conference, New York.
- Wilkinson, R. and K. Pickett (2010), *The Spirit Level: Why Equality If Better for Everyone*, 3rd edn, London: Penguin Books.
- Woodward, D. (2015), 'Incrementum ad absurdum: global growth , inequality and poverty eradication in a carbon-constrained world', *World Economic Review*, 4: 43–62.
- World Bank (2015), 'Tax revenue (% of GDP)', World DataBank, <http://databank.worldbank.org/data/views/reports/metadataview.aspx> [21 October 2016].
- World Health Organization (2000), *World Health Report – Health Systems Improving: Performance*, Geneva: World Health Organization. [http://www.who.int/whr/2000/en/whr00\\_en.pdf](http://www.who.int/whr/2000/en/whr00_en.pdf) [21 October 2016].
- World Health Organization (2004), *Global Strategy on Diet, Physical Activity and Health*, Geneva: World Health Organization.

- World Health Organization (2010a), *World Health Report 2010 – Health Systems Financing: The Path to Universal Coverage*, Geneva: World Health Organization.
- World Health Organization (2010b), 'More Money for Health', in WHO (ed.), *The World Health Report – Health Systems Financing: The Path to Universal Coverage*, Geneva: WHO.
- World Health Organization (2012), *Tobacco Taxation and Innovative Health-Care Financing*, New Delhi: World Health Organization.

# Global public goods for health: weaknesses and opportunities in the global health system

SUERIE MOON\*

*Lecturer on Global Health, Department of Global Health and Population, Harvard T.H. Chan School of Public Health, Boston, MA, USA*

JOHN-ARNE RØTTINGEN

*Director, Division of Infectious Disease Control, Norwegian Institute of Public Health, Oslo, Norway*

JULIO FRENK

*President, University of Miami, Miami, FL, USA*

*Professor, Public Health Sciences, Leonard M. Miller School of Medicine, University of Miami, Miami, FL, USA*

**Abstract:** Since at least the 1990s, there has been growing recognition that societies need global public goods (GPGs) in order to protect and promote public health. While the term GPG is sometimes used loosely to denote that which is ‘good’ for the global public, we restrict our use of the term to its technical definition (goods that are non-excludable and non-rival in consumption) for its useful analytical clarity. Examples of important GPGs for health include standards and guidelines, research on the causes and treatment of disease, and comparative evidence and analysis. While institutions for providing public goods are relatively well developed at the national level – being clearly recognized as a responsibility of sovereign states – institutional arrangements to do so remain fragmented and thin at the global level. For example, the World Health Organization, mandated to provide many GPGs, is not appropriately financed to do so. Three steps are needed to better govern the financing and provision of GPGs for health: first, improved data to develop a clearer picture of how much money is currently going to providing which types of GPGs; second, a legitimate global political process to decide upon priority missing GPGs, followed by estimates of total amounts needed; and third, financing streams for GPGs from governments and private sources, to be channeled through new or existing institutions. Financing should go toward fully financing some GPGs, complementing or supplementing existing national or international financing for others, or deploying funds to make *potential* GPGs less ‘excludable’ by putting them into the public domain. As globalization deepens the degree of interdependence between countries and as formerly low-income

\*Correspondence to: Suerie Moon, Lecturer on Global Health, Department of Global Health and Population, Harvard T.H. Chan School of Public Health, 655 Huntington Avenue, Boston, MA 02115, USA.  
Email: [smoon@hsph.harvard.edu](mailto:smoon@hsph.harvard.edu)

economies advance, there may be less relative need for development assistance to meet basic health care needs, and greater relative need to finance GPGs. Strengthening global arrangements for GPGs today is a worthy investment for improved global health in the years to come.

1. Introduction

It is difficult to imagine a healthy society without basic underpinnings such as peace and security, fundamental rules of behavior, regulations to protect health or knowledge of how to prevent and treat disease. These are all examples of ‘public goods’, defined as goods that are non-excludable and non-rival in consumption (Samuelson, 1954). A good is non-rival if consumption by one person does not diminish the quantity remaining for others, and non-excludable if others cannot be prevented from consuming it. Textbook examples of public goods include lighthouses, traffic rules and public information – for each of these goods, consumption by one ship captain, driver or student, respectively, does not diminish the availability of the good for others. Furthermore, other captains, drivers or students are generally not excluded from consuming them (Table 1).

Markets generally under-produce public goods relative to what is socially optimal, since private actors are not able to capture the full societal benefits of producing them. Therefore, governments have traditionally been responsible for supplying their populations with many public goods, which may be financed by taxation or incentivized by public policies such as intellectual property laws. However, public goods are needed not only at national level but also at global level (Kaul *et al.*, 1999b). Indeed, many public goods are inherently global in nature, such as knowledge and information. The growing density of trans-border interconnections and interdependence which are the hallmarks of globalization has arguably increased the demand for public goods responding to global social needs. While the term global public good (GPG) is sometimes used loosely to denote that which is ‘good’ for the global public, we restrict our use of the term to its technical definition for its useful analytical clarity (Kaul *et al.*, 1999a). Examples of important GPGs for health include norms and rules, standards and

Table 1. Categories of goods, with general and health-related examples

	Excludable	Non-excludable
Rivalrous	Private goods (e.g. a pill)	Common goods, common pool resources (e.g. efficacy of antibiotics)
Non-rivalrous	Club goods (e.g. patent-protected knowledge)	Public goods (e.g. public information, open access published research)

guidelines, research on the causes and treatment of disease, and comparative evidence and analysis (see Table 2 for further examples).

While institutions for public goods provision are relatively well developed at the national level – being clearly recognized as a responsibility of sovereign states – in the absence of a global government, many GPGs remain in short supply or absent entirely. There is a compelling rationale for global cooperation to ensure the provision of GPGs, both because they offer potential benefits to all countries and because cooperation to produce many such goods may be less costly and more efficient than each country or region going it alone (Barrett, 2007). For example, investing earlier in vaccines and diagnostics for Ebola could have strengthened the tools that health workers had available to combat the West African outbreak (Balasegaram *et al.*, 2015). Developing global rules to curb the overuse of antibiotics could help to protect the efficacy of antibiotics for all (Laxminarayan *et al.*, 2013). However, in general there is likely to be under-provision of GPGs since individual states are not willing or able to provide them unilaterally. In other words, there is a collective action or a free rider problem (Jamison *et al.*, 1998).

We have argued elsewhere that the global health system must perform four main functions: managing cross-border externalities (by carrying out activities such as infectious disease surveillance and information sharing); mobilizing global solidarity for disadvantaged populations (e.g. through development assistance and humanitarian aid); stewardship for the overall functioning of the system (such as convening for negotiation and rule making); and finally, ensuring the adequate provision of GPGs (Frenk and Moon, 2013). However, robust institutions to carry out this last function are missing. How can we do better?

We need international institutions to secure collective financing for, legitimate processes for prioritization of, and efficient production and delivery of GPGs for health.

We will first address the issue of sustainable and fair financing. Most new global health initiatives created over the past decade have focused on the global health system's function of 'mobilizing solidarity' through the system of development assistance for health (DAH) (Blanchet *et al.*, 2013) – for example, support to developing countries to provide health care services such as childhood immunizations through the GAVI Alliance, interventions for three target diseases through the Global Fund to Fight HIV/AIDs, tuberculosis and malaria (GFATM) and UNITAID, or enhanced financing for maternal and child health. While DAH to mobilize solidarity is essential and still merits high-level political attention and financing, inadequate attention has been paid to concomitantly using DAH to strengthen the supply of GPGs for health (Kickbusch, 2014).

This is not to say that GPGs have been entirely neglected. Some GPGs may be provided by individuals, organizations or governments on an *ad-hoc* basis when interests, motivations and/or resources align. For example, some two dozen product development partnerships (PDPs) were created in the past decade to develop new health technologies for neglected diseases (Ziemba, 2005). Depending on the policies

they adopt, the knowledge they produce can be made available as GPGs (Moon, 2009). UNITAID's interventions in global markets for certain health commodities, such as lowering the price of antiretroviral drugs or stabilizing artemisinin supplies for malaria, can provide GPGs for all (even if UNITAID's mandated beneficiaries are primarily in low- and lower-middle-income countries) (UNITAID, 2014).

Finally, the World Health Organization (WHO) has long played a central role in providing a broad range of GPGs, whether in the form of open access to WHO publications, standards (e.g. the International Classification of Disease, Codex Alimentarius, good manufacturing practices), guidelines (e.g. guidelines for HIV treatment in resource-poor settings), assessments (e.g. pre-qualification of drugs and vaccines), consensus building on contentious issues (e.g. the Pandemic Influenza Preparedness Framework for virus-sharing, the Global Strategy and Plan of Action on Public Health, Innovation and Intellectual Property), coordinating frameworks (e.g. Global Action Plan on Antimicrobial Resistance), voluntary normative guidance (e.g. Code of Conduct on Marketing of Breastmilk Substitute, Code of Conduct on the International Recruitment of Health Personnel) or binding international law (e.g. the International Health Regulations and Framework Convention on Tobacco Control). WHO also facilitates the sharing of knowledge across countries on health policies and practices.

While these GPGs have made significant contributions to improving global public health, institutional arrangements to finance and produce them are neither adequate nor secure. The PDPs are largely financed by the Bill and Melinda Gates Foundation and a handful of bilateral aid agencies through short-term grants (Moran *et al.*, 2015). UNITAID, which arguably has the steadiest source of financing based on an airline-ticket levy, relies heavily on one country (France) for the majority of its revenue. And about 80% of WHO's \$2 billion annual budget comes from earmarked donor contributions rather than core funds, a situation increasingly recognized as politically untenable for an agency whose technical independence and political neutrality are key enabling traits (Clift, 2013; Sridhar *et al.*, 2014). Indeed, WHO's unstable financial situation undermines its capacity to provide GPGs. How could existing financing arrangements be complemented and supplemented with more predictable, equitably assessed sources of funds for various GPGs? We return to this question in Section 3.

## 2. What kinds of GPGs should be financed?

A broad range of GPGs could strengthen global health. We present in Table 2 a non-exhaustive selection of examples for illustration.

Some GPGs are not yet supplied by any actor, and new financing streams may be required for their production. However, as reflected in Table 2, some GPGs are already produced at the national level. For example, when the US Food and Drug Administration (FDA) or European Medicines Agency (EMA) grants regulatory approval to a new chemical entity, it provides an important worldwide signal as



**Table 2.** Key examples of global public goods (GPGs) for strengthening global health

Category	Example
Research/assessment	Health technology R&D <sup>a</sup> Marketing approval (e.g. US FDA, EMA) Health technology assessment (e.g. UK's NICE) Product quality assessment (e.g. WHO pre-qualification, GMP certification) Guidelines/formularies (e.g. treatment guidelines, reimbursement decisions) Delivery/health systems research/implementation research
Normative functions	Standard setting (e.g. ICD, Codex Alimentarius, GMP) Regulation (e.g. FCTC, WHO pre-qualification) Policies to preserve the efficacy of antimicrobials
Managing externalities <sup>c</sup>	Infectious disease surveillance Strategic stockpiles of drugs and vaccines for pandemics <sup>b</sup> Early warning systems for natural disasters

Note: FDA = Food and Drug Administration; EMA = European Medicines Agency; NICE = National Institute for Clinical Excellence; WHO = World Health Organization; GMP = good manufacturing practices; ICD = International Classification of Disease; FCTC = Framework Convention on Tobacco Control.  
<sup>a</sup>The knowledge component of technologies can be made available as GPGs, even if the physical artifact of a tablet or vaccine is a private good. For example, the knowledge that 300 mg of compound X safely and effectively treats disease Y is a valuable GPG.

<sup>b</sup>While the physical drugs or vaccines in a stockpile are private goods, both rival and excludable, the risk reduction and added security provided to the global community from a stockpile can be considered a GPG, especially if all countries can reasonably expect to benefit from the stockpile should they be the first to be affected by a pandemic. Some stockpiles already exist, such as WHO's cholera, yellow fever and meningitis vaccine stockpiles, but they do not exist for many other products important for outbreak response.

<sup>c</sup>We identified 'managing cross-border externalities' above as a separate core function of the global health system, but include it in the table here as some of the benefits of these activities are non-rival and can be made non-excludable, therefore also qualifying as global public goods. While there is some overlap between the two categories, it is still analytically useful to separate them as the overlap is not complete. For example, pandemic preparedness support could be offered to a handful of countries rather than all, and would qualify as managing an externality but not necessarily as a global public good.

to the assessed safety and efficacy of a new medicine. Increased transparency regarding the basis on which such decisions are made would make this GPG for health even more valuable. Where national entities already ensure the provision of GPGs for health that can be used or adapted by other countries, new financing would be needed only to help adapt such GPGs for health for broader use. For example, in the previous example, regulatory experts at WHO (or elsewhere) could help countries adapt US or EU regulatory decisions to fit their own national risk/benefit profiles, especially if the US FDA or EMA make their detailed analysis available. Similarly, the UK's National Institute for Clinical Excellence (NICE) carries out assessments of health technologies that can provide useful information to other national health services or private insurers. New financing streams could, for example, support adapting NICE assessments to other national contexts where governments are weighing various technology options.

Other GPGs are already supplied at the international level, such as those produced by WHO, but their production is not secure or prioritized in a systematic way. As noted above, financing for WHO is now heavily earmarked and core financing that is multilateral, un-tied and levied based on ability to pay – the assessed contributions – is now a minority of its total budget. Longstanding political hurdles in the US Congress make it unlikely that the imposed policy of zero nominal growth of WHO's core budget, in place since the 1999 Helms-Biden Act, will be overturned soon (Mackey and Novotny, 2012). Nor have Member States resolved this issue in ongoing reform debates. This policy has gradually reduced WHO's real core budget since the turn of the century, leaving WHO to turn to donors to finance even core activities such as the development of GPGs like standards, guidelines and rules. Earmarked donor funds do not necessarily go toward GPGs. Even when they do, donors hold significant sway over which public goods are provided, and which to move up or down the inevitably long list of priorities (Sridhar, 2012).

Furthermore, some goods may best be understood as 'potential' GPGs rather than *de facto* GPGs. Club goods are often potential public goods that have been made excludable, often as a means to finance their production. A frequently used example is the use of decoders to provide access to blocked and scrambled cable television. The trait of non-excludability is not necessarily immutable. Rather, the degree to which a good is made more or less 'excludable' is frequently the result of social and political choices (Desai, 2003). For example, one can construct a paywall to charge a fee to access a research article online, or adopt an open access business model in which the author pays the journal in advance to provide the final article freely to all readers (Laakso *et al.*, 2011). Similarly, one can patent a health technology and exclude others from producing or using it, or choose not to apply for a patent or to license the patent freely to others. New financing streams could cover the costs of making a club good non-excludable, such as paying the fees charged to authors to publish in open access journals or buying-out patents on new medicines so they may be put into the public domain and immediately produced as generics. [For a longer discussion of a proposed publicly financed R&D fund for medicines, see Røttingen and Chamas (2012) and Special Programme for Research and Training in Tropical Diseases (TDR) (2016)].

In summary, new financing streams could go toward fully financing some GPGs, complementing or supplementing existing national or international financing for others, or to make *potential* GPGs less 'excludable' by putting them into the public domain.

### 3. How to govern the financing and production of GPGs for health?

The past decade has witnessed robust economic growth in many developing countries, which has enabled some to meet the basic needs of their populations with little to no reliance on external financing. (For further discussion of the evolving role of middle-income countries in the DAH system, see Ottersen *et al.*,

2017) While DAH still comprised a significant proportion of total health spending in low-income countries (31.7%) in 2013, it was an order of magnitude smaller in lower-middle-income countries (3.1%) and again in upper-middle-income countries (0.3%) (authors' calculations based on World Bank data (The World Bank, 2016). While increased DAH will still be needed to meet the basic health care needs of the poorest – and such increases remain quite uncertain (Dieleman *et al.*, 2016) – growing interdependence between countries suggests that increased financing will also be required for GPGs. As countries grow economically, more and more middle-income countries in particular will be expected to contribute to financing GPGs. How can adequate financing and provision of GPGs be ensured?

First, improved data are needed to develop a clearer picture of how much money is currently going to providing which types of GPGs. As several researchers have pointed out, existing data collection systems are not well suited to identifying spending on GPGs and new methods of monitoring such information need to be developed (Blanchet *et al.*, 2013; Birdsall and Diofasi, 2014; Schäferhoff *et al.*, 2015). To gain some intuition on current financing levels one could begin by looking at some existing categories of GPGs. Schäferhoff *et al.* (2015) analyzed data on official development assistance (ODA) and R&D financing for neglected diseases, and concluded that about \$3 billion was spent by donors on GPGs for health. (They also included an additional \$1.7 billion spent on the global functions of 'managing externalities' and 'leadership & stewardship', which could arguably also be considered GPGs.) The Institute for Health Metrics and Evaluation estimated that in 2013 about \$3.7 billion out of a total \$38 billion in DAH was dedicated to initiatives 'for activities that do not focus on a given geographic region but nonetheless contribute to global health' – a useful though imperfect proxy for GPGs (Institute for Health Metrics and Evaluation, 2016). Looking at development assistance overall, Birdsall and Diofasi (2014) found a similar proportion of donor spending going to GPGs – \$14 billion, or about 10% of all ODA. Other ballpark figures include total investment in neglected disease R&D, estimated at about \$3.4 billion in 2014 (Moran *et al.*, 2015) and the WHO annual budget of about \$2 billion (a significant proportion of which produced GPGs). On the one hand, it should be noted that there is significant overlap between these figures, yet on the other, many types of GPGs are not included within them. Thus, they should be seen only as a starting point.

Next, further analytical work is required to estimate total amounts needed and how these might change over time. Again, some intuition is provided by needs estimates from specific categories of GPGs. The US National Academies of Medicine has estimated that preparing for a global pandemic would require about \$4.5 billion per year, \$1 billion of which would go toward R&D (Sands *et al.*, 2016). The WHO Consultative Expert Working Group on Research and Development estimated that about \$6 billion per year was needed to address health needs specific to developing countries (Røttingen and Chamas, 2012).

In addition, a process to decide upon priority missing GPGs would be required, since the category encompasses a broad range of activities. In theory, it is difficult to determine an optimal level of public goods provision (Sandler, 2003) and demand for certain GPGs such as new knowledge could be infinite. How should the global community prioritize which GPGs to supply? One possibility is for such priorities to be decided through political deliberations at the World Health Assembly, including but not limited to those GPGs to be provided by WHO. Linking to this existing political process would obviate the need for burdensome new structures. An estimate of total financing needs could then follow. Alternatively, a formal decision-making role on expenditures and priorities could be tied to minimum contributions from countries in order to incentivize sustained financing. Further analytical work on how priorities for GPGs should be established would be valuable.

Finally, new financing for GPGs would need to be identified. Contributions could come primarily from governments, but philanthropic contributions from private sources may also play an important role. Analogous to the UN system, country contributions could be based on ability to pay and updated regularly, calculated by assessing objective indicators such as per capita GDP, burden of disease, existing contributions to GPGs or other factors. An alternate approach is Love's proposal for a World Trade Organization (WTO) agreement on financing public goods, intended to increase the credibility of governments' commitments to finance GPGs by linking them to the WTO's dispute resolution system (Love, 2016).

Once funds are mobilized, they could be channeled into a new organization, such as a Global Fund for Public Goods (GFPG), or in whole or in part through existing entities such as the WHO, GFATM, World Bank or other. Funds could also be aggregated for certain categories of GPGs, such as stockpiles or guideline development. Recent discussions regarding the potential creation of a pooled international fund for R&D to meet health needs in developing countries offer useful ideas on structure and governance that could be applied more broadly to other types of GPGs (TDR, 2016). A number of important questions would need to be addressed to create any new organization. In terms of structure, the advantages and disadvantages of creating one fund rather than several should be assessed, including considerations of legitimacy, efficiency, transaction and coordination costs, the benefits of pluralism, and the pros and cons of institutional competition, among others. The extent to which a new fund could complement new or existing entities and/or perform some of their functions should also be evaluated. For example, if a unified Global Fund for Health (Ooms and Hammond, 2014) or Global Social Protection Fund (de Schutter and Sepulveda, 2012) were to be created, focusing on the function of 'mobilizing solidarity', a GFPG could be complementary to such an institution.

As governments have shown little appetite for binding norms on international financial contributions, GPG financing streams could begin with soft norms for suggested contribution amounts that could eventually solidify into widely

accepted norms (as with the norm that industrialized countries contribute 0.7% of GDP to ODA (Thakur *et al.*, 2005). Countries could generate the required revenue through a wide range of traditional or innovative financing mechanisms (for a full discussion of new proposals, see UN DESA, 2012).

#### 4. Conclusions

GPGs offer potential health benefits to all societies, yet arrangements to ensure their provision are one of the most glaring ‘missing’ institutions at the global level. This proposal for a publicly and philanthropically financed new funding stream for GPGs is intended to fill this gap. It is also intended to bolster the crucial role of WHO in providing certain GPGs, which are essential for a well-functioning global health system. Strengthening global arrangements for GPGs for health today is a worthy investment for improved global health in the years to come.

#### Acknowledgments

The authors are grateful to Sue Goldie and David Evans for insightful comments received on this paper. The authors are also grateful for thoughtful comments from three peer reviewers, Nathan Blanchet, Marco Schäferhoff and Joseph Dieleman. All views, errors and omissions remain the responsibility of the authors.

#### References

- Balasegaram, M., C. Bréchet, J. Farrar, D. Heymann, N. Ganguly, M. Khor, Y. Lévy, P. Matsoso, R. Minghui, B. Pécou, L. Peilong, M. Tanner and J.-A. Røttingen (2015), ‘A global biomedical R and D fund and mechanism for innovations of public health importance’, *PLOS Medicine*, 12(5): e1001831.
- Barrett, S. (2007), *Why Cooperate?: The Incentive to Supply Global Public Goods*, Oxford: Oxford University Press.
- Birdsall, N. and A. DiOfasi (2014), ‘Global Public Goods for Development: How Much and What for’, <http://www.cgdev.org/sites/default/files/CGD-Note-Birdsall-Diofasi-Global-Public-Goods-How-Much.pdf> [29 June 2016].
- Blanchet, N., M. Thomas, R. Atun, D. Jamison, F. Knaul and R. Hecht (2013), ‘Global Collective Action in Health: The WDR + 20 Landscape of Core and Supportive Functions’, <http://investinginhealth2035.org/sites/default/files/working-papers/global-collective-action-in-health.pdf> [29 June 2016].
- Clift, C. (2013), *The Role of the World Health Organization in the International System*, London: Chatham House.
- Desai, M. (2003), ‘Public Goods: A Historical Perspective’, in I. Kaul, P. Conceicao, K. L. Goulven and R. U. Mendoza (eds), *Providing Global Public Goods: Managing Globalization*, New York: Oxford University Press, 63–77.
- de Schutter, O. and M. Sepulveda (2012), ‘Underwriting the Poor: A Global Fund for Social Protection’, Briefing Note 7. [http://www.ohchr.org/Documents/Issues/Food/20121009\\_GFSP\\_en.pdf](http://www.ohchr.org/Documents/Issues/Food/20121009_GFSP_en.pdf) [29 June 2016].

- Dieleman, J. L., M. T. Schneider, A. Haakenstad, L. Singh, N. Sadat, M. Birger, A. Reynolds, T. Templin, H. Hamavid, A. Chapin and C. J. L. Murray (2016), 'Development assistance for health: past trends, associations, and the future of international financial flows for health', *The Lancet*, 387(10037): 2536–2544.
- Frenk, J. and S. Moon (2013), 'Governance challenges in global health', *New England Journal of Medicine*, 368: 936–942.
- Institute for Health Metrics and Evaluation (2016), *Financing Global Health 2015: Development Assistance Steady on the Path to New Global Goals*, Seattle, WA: IHME.
- Jamison, D. T., J. Frenk and F. Knaul (1998), 'International collective action in health: objectives, functions and rationale', *The Lancet*, 351: 514–517.
- Kaul, I., I. Grunberg and M. A. Stern (1999a), 'Defining Global Public Goods', in I. Kaul, I. Grunberg and M. A. Stern (eds), *Global Public Goods: International Cooperation in the 21st Century*, New York: Oxford University Press, 2–19.
- Kaul, I., I. Grunberg and M. A. Stern (1999b), *Global Public Goods: International Cooperation in the 21st Century*, Oxford: Oxford University Press.
- Kickbusch, I. (2014), 'The Next Era of Global Health? Follow the Money', Chatham House Expert Comment, <http://www.chathamhouse.org/media/comment/view/196678> [29 June 2016].
- Laakso, M., P. Welling, H. Bukvova, L. Nyman, B. Björk and T. Hedlund (2011), 'The development of open access journal publishing from 1993 to 2009', *PLoS ONE*, 6(6): e20961.
- Laxminarayan, R., A. Duse, C. Wattal, A. K. M. Zaidi, H. F. L. Wertheim, N. Sumpradit, E. Vlieghe, G. L. Hara, I. M. Gould, H. Goossens, C. Greko, A. D. So, M. Bigdeli, G. Tomson, W. Woodhouse, E. Ombaka, A. Q. Peralta, F.N. Qamar, F. Mir, S. Kariuki, Z. A. Bhutta, A. Coates, R. Bergstrom, G. D. Wright, E. D. Brown and O. Cars (2013), 'Antibiotic resistance – the need for global solutions', *The Lancet Infectious Diseases*, 13(12): 1057–1098.
- Love, J. (2016), 'Proposal for a WTO Agreement on Global Public Goods', Submission to the UNSG High Level Panel on Access to Medicines, <http://www.unsgaccessmeds.org/inbox/2016/2/29/james-loveb> [1 July 2016].
- Mackey, T. K. and T. A. Novotny (2012), 'Improving United Nations funding to strengthen Global Health Governance: amending the Helms-Biden agreement', *Global Health Governance*, 6(1): 1–19.
- Moon, S. (2009), 'Medicines as global public goods: the governance of technological innovation in the new era of global health', *Global Health Governance*, 2(2): 1–23, <http://www.ghgj.org/moon2.2medecinespublicgood.htm>
- Moran, M., N. Chapman, L. Abela-Oversteegen, V. Chowdhary, A. Doubell, C. Whittall, R. Howard, P. Farrell and D. Halliday (2015), 'G-FINDER 2015: Neglected Disease Research and Development: The Ebola Effect', Policy Cures, <http://policycures.org/downloads/Y8%20GFINDER%20full%20report%20web.pdf> [29 June 2016].
- Ottersen, T., D. B. Evans, E. Mossialos and J.-A. Røttingen (2017), 'Global health financing towards 2030 and beyond', *Health Economics, Policy and Law*, 12(2): 105–111.
- Ooms, G. and R. Hammonds (2014), 'Financing Global Health through a Global Fund for Health?', Working Group on Financing Paper 4. London: Chatham House Centre on Global Health Security Working Papers, 2014. <https://www.chathamhouse.org/publications/papers/view/197444> [29 June 2016].
- Røttingen, J. and C. Chamas (2012), 'A new deal for global health R&D? The recommendations of the Consultative Expert Working Group on research and development (CEWG)', *PLoS Med*, 9(5): 1001219.

- Samuelson, P. A. (1954), 'The pure theory of public expenditure', *Review of Economics and Statistics*, 36: 387–389.
- Sands, P., C. Mundaca-Shah and V. J. Dzau (2016), 'The neglected dimension of global security – a framework for countering infectious-disease crises', *New England Journal of Medicine*, 374(13): 1281–1287.
- Sandler, T. (2003), 'Assessing the Optimal Provision of Public Goods: In Search of the Holy Grail', in I. Kaul, P. Conceicao, K. Le Goulven, R. U. Mendoza (eds), *Providing Global Public Goods: Managing Globalization*, New York: Oxford University Press, 131–151.
- Schäferhoff, M., S. Fewer, J. Kraus, E. Richter, L. H. Summers, J. Sundewall, G. Yamey and D. T. Jamison (2015), 'How Much Donor Financing for Health is Channelled to Global Versus Country-Specific Aid Functions?', *The Lancet*, 386(10011): 2436–2441.
- Special Programme for Research and Training in Tropical Diseases (TDR) (2016), 'Health Product Research and Development Fund: A Proposal for Financing and Operation', [http://www.who.int/tdr/publications/r\\_d\\_report/en/](http://www.who.int/tdr/publications/r_d_report/en/) [30 June 2016].
- Sridhar, D. (2012), 'Who Sets the Global Health Research Agenda? The Challenge of Multi-Bi Financing', *PLoS Med*, 9(9): e1001312.
- Sridhar, D., J. Frenk, L. Gostin and S. Moon (2014), 'Global rules for global health: why we need an independent, impartial WHO.' *British Medical Journal* g3841. <http://www.bmj.com/content/348/bmj.g3841.abstract>
- Thakur, R., A. Cooper and J. English (eds) (2005), *International Commissions and the Power of Ideas*, Tokyo: United Nations University Press.
- UN Department of Economic and Social Affairs (UN DESA) (2012), 'World Economic and Social Survey 2012: In Search of New Development Finance', E/2012/50/Rev. 1. New York: United Nations. [http://www.un.org/en/development/desa/policy/wess/wess\\_current/2012wess.pdf](http://www.un.org/en/development/desa/policy/wess/wess_current/2012wess.pdf) [1 July 2016].
- UNITAID (2014), 'UNITAID Annual Report 2013: Transforming Markets, Saving Lives', UNITAID, Geneva, [http://www.unitaid.org/media/annual\\_report/2013/UNITAID\\_Annual\\_Report\\_2013.pdf](http://www.unitaid.org/media/annual_report/2013/UNITAID_Annual_Report_2013.pdf) [29 June 2016].
- Ziemba, E. (2005), 'Public-Private Partnerships for Product Development: Financial, Scientific, and Managerial Issues as Challenges to Future Success', <Http://www.who.int/intellectualproperty/studies/Ziemba.pdf> [15 May 2014].





# Development assistance for health: critiques, proposals and prospects for change

SUERIE MOON\*

*Lecturer on Global Health, Department of Global Health and Population, Harvard T.H. Chan School of Public Health, Boston, MA, USA*

OLUWATOSIN OMOLE

*Resident Physician, Department of Community and Family Medicine, Howard University Hospital, Washington, DC, USA*

**Abstract:** After a ‘golden age’ of extraordinary growth in the level of development assistance for health (DAH) since 1990, funding seems to have reached a plateau. With the launch of the Sustainable Development Goals, debate has intensified regarding what international financing for health should look like in the post-2015 era. In this review paper, we offer a systematic overview of problems and proposals for change. Major critiques of the current DAH system include: that the total volume of financing is inadequate; financial flows are volatile and uncertain; DAH may not result in additional resources for health; too small a proportion of DAH is transferred to recipient countries; inappropriate priority setting; inadequate coordination; weak mechanisms for accountability; and disagreement on the rationale for DAH. Proposals to address these critiques include: financing-oriented proposals to address insufficient levels and high volatility of DAH; governance-oriented proposals to address concerns regarding additionality, proportions reaching countries, priority setting, coordination and accountability; and proposals that reach beyond the existing DAH system. We conclude with a discussion of prospects for change.

## Introduction

The past 15 years have witnessed unprecedented global attention to health challenges in developing countries.<sup>1</sup> There has been extraordinary growth in the level of development assistance for health (DAH) and the breadth of new actors engaged in global health initiatives [Institute for Health Metrics and Evaluation

\*Correspondence to: Suerie Moon, Lecturer on Global Health, Department of Global Health and Population, Harvard T.H. Chan School of Public Health, Boston, MA, 02115 USA. Email: [smoon@hsph.harvard.edu](mailto:smoon@hsph.harvard.edu)

<sup>1</sup> We use the term developing country to refer to all LICs and MICs, as classified by the World Bank. The most recent year for which data were relatively complete and available was 2014.

(IHME), 2016].<sup>2</sup> This rapid expansion has contributed to impressive achievements such as a dramatically scaled-up response to the HIV pandemic (UNAIDS, 2015), improved control of malaria in many endemic countries [World Health Organisation (WHO), 2014] and reinvigoration of research and development of medicines for diseases that primarily affect the world's poor (Pedrique *et al.*, 2013), among others. While increased DAH does not necessarily translate into health impact, and the causal pathways connecting the two are complex, there have been a number of rigorous evaluations suggesting that at least some interventions have had significant and positive health effects (Glassman and Temin, 2016). There has also been a departure from the traditional modes of DAH that characterized the second half of the 20th century – that is, a near-complete reliance on public sector funding channeled through the UN system and bilateral aid agencies – replaced by the emergence of new actors and significant experimentation with new institutional forms such as public–private partnerships (Szlezak *et al.*, 2010).

These developments have raised key questions about the current DAH system: Are the resources sufficient and sustainable? Are they being spent in the right way and on the right thing? Who should pay and who should receive, and how much? Who should decide these matters, and how? These questions have been sharpened by the flattening of DAH since 2011 (IHME, 2016).

At the same time, the system is being challenged by at least two major transitions: first is the 'health transition', in which many developing countries are wrestling with both communicable and non-communicable diseases (NCDs) as well as new health threats linked to processes of globalization (Frenk *et al.*, 2014). Second is an economic transition with the rise of many middle-income countries (MICs) – such as the BRICS (Brazil, Russia, India, China, South Africa) and MINTS (Mexico, Indonesia, Nigeria, Turkey, South Korea) – leading to increasing multipolarity in the global system. This phenomenon has at least two components: some formerly low-income countries (LICs) are developing quickly and are increasingly able to finance their own health needs; and some MICs are both continuing to grow and exerting increased influence in the global system, whether by joining established institutions or creating novel arrangements that may better serve their interests (Kickbusch, 2016). These transitions are taking place in the context of ongoing economic, social and political globalization, characterized by the intensified movement of people, goods, resources, ideas and microbes across

2 The IHME has defined DAH as 'financial and in-kind contributions made by ... institutions whose primary purpose is providing development assistance to improve health in developing countries (2011)'. We adopt the term DAH, as it is currently widely used in the literature, but note that other terms may also be used, such as global health financing, health aid or foreign aid. Alternative terms include external financing or international financing for health, but these could imply a broader field of enquiry that would encompass all health financing that crosses borders, such as remittances. The term global health financing could, arguably, include both national and international financing. These latter terms are not used in this paper for the sake of clarity.

borders. Finally, with the 2015 launch of the Sustainable Development Goals (SDGs), debate has intensified regarding what international financing for health should look like in the post-Millennium Development Goals era. The moment seems ripe to take a hard look at the DAH system, and to take stock of the many proposals that have been advanced to improve the *status quo*.

In this review paper we sought to respond to the following four questions:

1. What does the system for DAH look like today?: A brief description of the landscape.
2. Should the system be changed, and, if so, why?: A summary of the major critiques of the existing DAH system, based on a literature review.
3. What might be done?: A summary of proposals that have been advanced to address these critiques.
4. What are the prospects for change?: A discussion of recent trends and implications for reform.

In answering these questions, we seek to provide a systematic overview of problems and potential solutions, but considered advocating for any particular solution to lie outside the scope of this article.

## Landscape

As of 2014, developing countries accounted for 84% of the global population and 84% of the burden of disease, but only 36% of gross domestic product (GDP) and 21% of health spending.<sup>3</sup> DAH has increased dramatically over the past two decades, almost doubling from \$6.9 billion in 1990 to \$11.6 billion in 2000, and tripling again to \$33.9 billion by 2010 with growth leveling out since then (IHME, 2016).<sup>4</sup> In 2013 DAH reached its peak at an estimated \$36.9 billion (IHME, 2016). Notably, this amount was equivalent to only about 4.4% of total public spending on health in LICs and MICs, estimated at \$840 billion in 2014, and an even smaller proportion (2.3%) of total health spending (public and private) in lower-middle-income countries (LMICs), estimated at \$1.612 trillion. However, disaggregating developing countries reveals wide variability in the relative importance of DAH by income group, with external financing accounting for a hefty 33.2% of total health expenditure in LICs, but only 3.3% in LMICs and 0.2% in upper-MICs (see Table 1).<sup>5</sup> It is therefore likely that many of the shortcomings of the existing DAH system hit LICs the hardest.

3 This sentence updates the calculation by Gottret and Shieber that “Developing countries account for 84 percent of global population, 90 percent of the global disease burden, and 20 percent of global GDP, but only 12 percent of global health spending” (2006). Updated population, GDP and health expenditure data are from the World Bank, and burden of disease estimates from the Global Burden of Disease 2013.

4 Note that all IHME figures are expressed in 2014 dollars.

5 Authors’ analysis of 2014 data from the World Health Organization Global Health Expenditure database, as included in the World Development Indicators database of the World Bank. Note that these data differ from the IHME database, and provide a slightly different picture of the role of external financing.

**Table 1.** Health expenditure (2014, current \$)<sup>a</sup>

	Population (%)	GDP (%)	Per capita GDP (\$)	Health expenditure (billions \$/% of GDP)	Health expenditure per capita (\$)	External resources for health (% health expenditure)	Proportion of health expenditure public/private/ out of pocket (%) <sup>b</sup>
World	100	100	10,748	7743/10.0	1073	0.003	60/40/18
					By income group		
High-income countries	16.4	64.4	42,330	6131/12.3	5251	0.0	62/38/13
Upper-middle-income countries	35.1	27.5	8430	1326/6.2	516	0.2	55/45/32
Lower-middle-income countries	40.0	7.6	2033	263/4.5	90	3.3	36/64/56
Low-income countries	8.6	0.5	654	23/5.7	37	33.2	42/58/37
					By geographic region		
East Asia and Pacific	31.2	27.5	9492	1457/6.9	643	0.3	66/34/25
Europe and Central Asia	12.5	29.9	25,846	2187/9.5	2420	–	76/24/17
Latin America and Caribbean	8.6	8.0	9975	447/7.2	714	0.5	51/49/32
Middle East and North Africa	5.7	4.5	8470	180/5.3	433	0.8	61/39/31
North America	4.9	24.5	53,982	3187/16.5	8990	–	50/50/11
South Asia	23.7	3.3	1501	115/4.4	67	2.3	31/69/61
Sub-Saharan Africa	13.4	2.2	1801	95/5.5	98	11.2	43/57/35

Note: GDP = gross domestic product.

<sup>a</sup>All country categories and data from the World Bank World Development Indicators database.

<sup>b</sup>Out-of-pocket expenditure is a subset of private expenditure; it is shown here as a proportion of total health expenditure.

Governments remain by far the largest source of DAH, accounting for about 73% of the total. However, private sources of funding (including foundations, NGOs and corporations) have grown in importance, increasing from 6.5% of total DAH in 1990 to 16.5% in 2000 and 17.3% in 2014, with the largest single contributor being the Bill & Melinda Gates Foundation. International financing was directed toward a range of health issues, with HIV/AIDS receiving the largest total amount, followed by maternal, newborn and child health. Malaria, health sector support and tuberculosis ranked lower in terms of total funding received, but each of these areas saw rapid increases in recent years. Non-communicable diseases received the least funding of the disease categories tracked by IHME (2016).

To put these trends in perspective, it may be useful to consider what has been taking place more broadly in development assistance. The most authoritative figure available is the Organisation for Economic Cooperation and Development (OECD)'s estimate of official development assistance (ODA), which includes only government contributions from OECD members. A comparison with DAH is necessarily imperfect, since DAH includes both public and private sources from both OECD and non-OECD countries, but still useful to understand broad trends. Total ODA increased by 77% from 2000 to 2014 (OECD, 2015), while DAH grew by 332% in the same time period. Looking only at health ODA, the proportion of health within total ODA also grew over the same period, from less than 2% in 1990 to 8% in 2000 and to 17% in 2014 (OECD, 2015; IHME, 2016). In short, development assistance targeted at health has grown faster than development assistance overall.

## **Eight critiques of the DAH system**

Many of the critiques regarding the existing DAH system mirror those regarding the development aid system more broadly, while others are specific to the health sector. We categorize the critiques under eight themes, with brief summaries of each:

1. *Inadequate total volume of financing*: existing financial resources dedicated to health fall short of needs, and significant international resources will be required particularly to support the poorest countries (Committee of Experts to the Taskforce on International Financial Transactions and Development, 2010; McCoy and Brikci, 2010; Clift, 2011).
2. *Volatility and uncertainty of financing*: aid disbursement is irregular and information on future financial flows is uncertain, which is particularly detrimental when DAH funds recurring costs in the health sector such as salaries, drugs and transport; volatility can also undermine longer-term efforts to build health systems (Lane and Glassman, 2009).
3. *Additionality of financing*: external financing may displace rather than augment domestic financing for health (Farag *et al.*, 2009; Lu *et al.*, 2010; Dieleman *et al.*, 2013). Critiques have been raised regarding fungibility between health and

non-health spending (such as between health and road building), and between various priorities within health spending (such as between HIV and NCDs). However, it should be noted that there is considerable disagreement in the literature regarding the degree to which DAH is in fact additional (or fungible), the reasons behind it, and whether it is necessarily negative (Ooms *et al.*, 2010a, 2010b; Roodman, 2010; Sridhar and Woods, 2010; Stuckler *et al.*, 2011; Garg *et al.*, 2012; Roodman, 2012a, 2012b; Dykstra *et al.*, 2015).

4. *Proportion transferred to recipient countries*: the proportion of DAH that is transferred to or spent in developing countries is unclear and/or inadequate. There have been longstanding critiques that a significant proportion of ODA is ‘phantom aid’ that remains in the donor country, for example, through administrative costs, grants to donor-linked NGOs, or debt relief. The OECD estimates that the proportion of ODA that qualifies as Country-Programmable Aid (targeted at specific countries and ‘over which partner countries could have a significant say’) was 78% in 2014 (OECD, 2016a). We did not find an estimate for the proportion of DAH that remains in donor countries, but studies narrower in scope support the overall critique. For example, a 2009 study of the Gates Foundation’s grants from 1998 to 2007 estimated that 40% of grant funding went to supranational organizations and 82% of the remaining amount went to US-based organizations (McCoy *et al.*, 2009). A 2013 study on PEPFAR found that only 8% of funds went directly to governments in LMICs (Fan *et al.*, 2013).
5. *Priority setting*: critiques on priority setting in DAH center around three distinct but interrelated questions: *how* priorities actually get set, with disagreement on whether donor interests, recipient needs or other factors determine final priorities (Shiffman, 2006; Glassman *et al.*, 2012); *who should* set priorities, with concern that donors continue to drive decision making at the cost of meeting recipients’ greatest needs or highest priorities, which also undermines country ownership (Kickbusch, 2002; Ollila, 2005; Kipiriri, 2012); and *how* priorities *should* be set, with concern that spending is not allocated based on objective indicators such as disease burden or through fair, transparent processes (Sridhar and Woods, 2010; Glassman *et al.*, 2012).
6. *Coordination*: the proliferation of actors involved in DAH, particularly over the last decade, has exacerbated the problem of coordination among them, with the predictable consequences of system fragmentation, inefficiencies, confusion, gaps and transaction costs. The total number of major global health actors (donors, foundations, initiatives, etc.) was estimated in 2015 to exceed 200 (Hoffman *et al.*, 2015).
7. *Accountability*: the existing DAH system has weak mechanisms of accountability, particularly for strengthening the accountability of stronger actors toward weaker ones. Critiques encompass a diverse set of issues regarding *who* should be accountable to *whom*, and for *what*. While discussions of accountability have tended to focus on relationships between donor and recipient governments, also significant are accountability relationships between governments and their own constituents (Hudson and GOVNET Secretariat, 2009; Sridhar and Woods, 2010) and those between donors and recipients across societies as increasing amounts of DAH are channeled outside governmental channels (Jordan and

van Tuijl, 2006). In particular, concerns have been raised regarding the lack of accountability mechanisms governing the Gates Foundation, given its tremendous financing power and influence in global health (*The Lancet*, 2009).

8. *Rationale*: debates have arisen regarding what *is* and what *should be* the rationale or justification for DAH. The foundations of the existing system of DAH and ODA were built after the Second World War and decolonization, and were initially framed as ‘foreign aid’, with recipients in a hierarchical relationship of dependence on donors. Alternative framings have since emerged, including ‘cooperation’, which implies a more equal relationship based on the principle of mutual benefit; ‘national security’, based on the argument that infectious diseases or other health threats arising in a foreign country may spread back to the donors’ country unless managed at the source; ‘global public goods’, which emphasizes the responsibility of all states to contribute to the shared benefit of health; ‘health diplomacy’, which can include the use of DAH to achieve a donor’s other foreign policy goals; ‘investment’, eyeing future commercial relationships to be built between a donor and recipient country; ‘restitution’, which emphasizes obligations to remedy past and/or ongoing wrongs; ‘global solidarity’, based on the notion of the emergence of a global society bound together by relationships of interdependence (Commission on Macroeconomics and Health, 2001; Mackintosh *et al.*, 2006; Frenk and Moon, 2013; Heymann *et al.*, 2015; Kickbusch, 2016). Each of these framings implies different institutional arrangements for DAH and is reflected in various reform proposals for the DAH system.

## Proposals for reforming the DAH system

We roughly divided proposals for reform of the DAH system into three categories: those that primarily seek to address financing issues (e.g. volumes, volatility); those that seek primarily to address governance issues within the existing DAH system (e.g. additionality, proportion, coordination, priority setting and accountability); and those that reach beyond the DAH system. (Some proposals cover more than one category.)

1. *Financing-oriented proposals (e.g. volumes and predictability)*: in response to critiques regarding insufficient levels and high volatility of DAH, a number of proposals for innovative financing mechanisms have been advanced – both specifically for health and more broadly for development. These include international taxes such as a levy on financial transactions (such as trade in equities or currencies), ‘sin taxes’ on products that are (potentially) harmful to health (such as tobacco, alcohol, fossil fuels or some foods), a tax on every individual earning more than \$1 billion per year, or expanding the tax on air tickets currently used to fund the global health initiative UNITAID. Estimates of total amounts that could be raised range from \$5 billion to \$400 billion per year, depending on the tax rate, the taxed item and which countries implement it (deFerranti *et al.*, 2008; Leading Group on Innovative Financing for Development, 2010; World Bank and GAVI Alliance, 2010; WHO SEARO, 2012).

Finally, earmarked contributions from the sale of products by the private sector have been proposed to generate additional funds for health, such as (Product) Red for the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM). While Product Red has raised important sums (\$306 million from 2001 to 2015), it remains a very small proportion (0.8%) of the \$38 billion contributed to the GFATM, 95% of which came from governments (\$36.2 billion).<sup>6</sup>

One estimate found that innovative financing mechanisms had raised \$94 billion for development between 2000 and 2014 (Global Development Incubator, 2014). It should be noted, however, that there is no clear consensus on what kinds of financing deserve to be labeled ‘innovative’, and that financial flows from traditional governmental sources continue to dwarf those from innovative sources (Atun *et al.*, 2012).

Other proposals involve novel mechanisms for managing financial flows (rather than generating new financial flows), including: leveraging the International Monetary Fund (IMF)’s Special Drawing Rights to back bonds for development purposes; building on the GAVI Alliance’s International Finance Facility for Immunization, which frontloads financial flows by using long-term pledges from donor governments to sell ‘vaccine bonds’ in capital markets; designating a ‘swing donor’ or donor of last resort that would counterbalance unpredictable disbursements by individual donors to smooth out resource transfers; and building on the GFATM’s (or Global Fund) Debt2Health initiative, which redirects funds for debt repayment by recipient countries to domestic health investments.

Finally, advocates have long urged OECD donor governments to live up to their commitments to allocate 0.7% of gross national income for development assistance and to extend their planning horizons to make aid more predictable (see e.g. Millennium Development Goals (MDG) Gap Task Force, 2013). As of May 2016, however, only seven governments had ever achieved the 0.7% target (OECD, 2016b).

2. *Governance-oriented proposals within the DAH system (e.g. additionality, proportion, priority setting, coordination and accountability)*: at national level, proposals to improve coordination (many of these at least partially implemented) have included: Sector-Wide Approaches, General Budget Support or donor specialization in one sector, referring broadly to the principle that donors coordinate within a given country and with its government to harmonize aid with country priorities, and with each other; the Three Ones approach for HIV/AIDS, referring to one action framework, one national coordinating authority and one monitoring and evaluation system for all actors involved in a country’s response to HIV/AIDS; and the One UN/Delivering as One initiative to improve coordination among UN organizations within a country based on six principles – One Leader, One Budget, One Programme, One Office, One Voice for advocacy and One Fund.

6 Authors’ calculations based on data from GFATM.



At the international level, initiatives and proposals include: the 2005 Paris Declaration on Aid Effectiveness, signed by more than 100 countries and international organizations and based on the five principles of ownership, alignment, harmonization, results and mutual accountability, with the follow-up 2008 Accra Agenda for Action putting additional emphasis on ownership, ‘inclusive partnerships’ and results; the International Health Partnership, started in 2007 to apply the Paris Declaration principles to the health sector, and provide better coordination for donor countries and agencies; the H8, an informal group of eight health-related organizations (WHO, UNICEF, UNFPA, UNAIDS, GFATM, GAVI, the Bill & Melinda Gates Foundation and the World Bank) formed in 2007 to improve coordination, especially on the health-related MDGs; and the H4+ for maternal and child health, created in 2010 (WHO, UNFPA, UNICEF, UNAIDS, UN Women and the World Bank) to coordinate support for countries with the highest infant and maternal mortality rates. It is beyond the scope of this article to assess how well each of these initiatives have fared, but clearly, many have recognized that improved coordination is necessary. Despite these many initiatives, recent assessments of the overall quality of DAH have found that much room for improvement remains (Duran and Glassman, 2012).

In addition to these organizational approaches, priority setting methodologies can also be seen as efforts to improve coordination at an ideational rather than organizational level. For example, the development of the Disability- (or Quality-) Adjusted Life Year and the Disease Control Priorities Project both aimed to make priority setting more rational, objective and evidence based. Other initiatives, such as the UN Commission on Information and Accountability for Women’s and Children’s Health, sought to improve accountability of DAH actors through transparency and the use of information and evaluation. Lastly, some proposals have urged restructuring of existing institutions rather than new coordination efforts: for example, calls to expand the mandates of the GFATM and UNITAID beyond HIV, tuberculosis and malaria; or to merge Gavi, GFATM and the World Bank’s health financing into a consolidated global ‘Principal Financier(s)’ to channel funding to national health strategies (Dybul *et al.*, 2012).

3. *Proposals reaching beyond the existing DAH system:* some proposals reach at least one step beyond the existing set of actors and institutions in DAH. These include the proposal for a Global Social Protection Fund for long-term resource transfers (or redistribution) to poorer countries or populations to meet basic health needs, based on an expansion of the notion of social protection beyond the nation state and possibly a transformation of the GFATM (Ooms *et al.*, 2010a, 2010b). Many have also argued for the increased use of formal international law for global health (including but not limited to the purpose of resource generation), building on the precedent established by the 2005 WHO Framework Convention on Tobacco Control. Proposals include those for a treaty on antimicrobial resistance (Hoffman and Behdinan, 2016), research and development of new medicines focusing on the needs of the poor (Røttingen and Chamas, 2012), an alcohol

convention (Sridhar, 2012), a chronic disease ‘global compact’ (Magnusson, 2009), a ‘fake drugs’ treaty (*The Lancet*, 2011a), an obesity convention (*The Lancet*, 2011b) and a Framework Convention on Global Health (Gostin, 2007). The track record of international law in achieving its intended effects is both mixed and difficult to assess, however; therefore, both the problems to be targeted by treaties and treaty design itself merit careful consideration (Hoffman and Røttingen, 2014).

## Discussion and conclusions

Significant and rapid changes have taken place in the system for DAH since 2000, and we are now entering an era of major transition with the launch of the SDGs. There is no shortage of critiques or proposals to reform the DAH system. What should we look for in reform proposals?

Proposals should lead to adequate, or at least additional (at national and/or international level), resources to provide a basic minimum package of services. They should reduce the volatility of financial flows to provide more predictable, sustainable financing. Proposals should offer legitimate processes for decision making, such that those most affected by these decisions are substantively involved in making them. They should incorporate both objective evidence and legitimate political processes into priority setting. Proposals should provide robust arrangements for better coordination, including merging or restructuring existing organizations if needed. And they should offer accountability mechanisms for results, and for compliance with commitments on financing, monitoring and coordination.

No single proposal will be able to address all major critiques of DAH. Most aim to address only one or two. This is not necessarily problematic, but suggests the need for multiple reforms over many years. Furthermore, many of the proposals we identified are characterized by a ‘big idea’, but remain nascent and would benefit from more detailed justification. In particular, many proposals do not address basic governance questions, such as how decisions would be made, or how new initiatives would fit within a complex ecosystem of actors and interests.

What are the prospects for reform? The ‘golden age’ of rapid increases in DAH may be over, with DAH increasing only 1% per year since 2010, compared with over 11% annual growth in the decade prior (IHME, 2012; IHME, 2016). Political attention in the traditional donor OECD countries may be shifting to other global challenges, such as climate change, refugees and terrorism. No major new financing commitments were made at the 2015 Financing for Development summit in Addis Ababa. Though difficult to predict, major increases in the amount of DAH seem unlikely (Dieleman *et al.*, 2016). Emerging powers are often mentioned as potential new sources of DAH. But, while some MICs have funded bilateral and multilateral DAH initiatives, data are scarce and overall do not suggest that this group of countries will provide DAH at a scale comparable with

the OECD countries (Fan *et al.*, 2014). Neither has innovative financing been adopted on a large scale, beyond the initial major experiment with UNITAID. Nor is health spending in most LICs and many MICs projected to increase to cover basic needs before 2040 (Dieleman *et al.*, 2016). Thus, without significant changes in mindset, significant increases in the levels of DAH seem unlikely, and major gaps between actual and total financing needed seem likely to persist.

Given a relatively fixed resource envelope, it becomes even more important, then, to improve other aspects of DAH. The emerging powers may have an appetite for reform. Within the global financial institutions, they have sought a weightier decision-making role at the World Bank and IMF, or created alternate arrangements such as the Asian Infrastructure Investment Bank and New Development Bank (formerly known as the BRICS Development Bank). Determined leadership from one or more countries could champion any of the reform proposals above. However, as demonstrated in Table 1, DAH accounts for a small proportion of health financing in MICs. It is the LICs that have the greatest stake in strengthening the system, and will need to push for change. While LICs, in general, will have fewer levers of influence than MICs, leadership and political alliances with like-minded development actors can wield significant power. In addition, many LICs are undergoing rapid economic growth which may change the nature of the donor–recipient relationship. Furthermore, the rationale for DAH may shift with the increased health interdependence that results from the intensified movement of people, goods, pathogens, ideas and financial resources across borders (Frenk *et al.*, 2014). The closer the health of one country's population is tied to that of another, the stronger the interest in ensuring healthy populations on both sides of the border. The recent Ebola and Zika health emergencies have reminded the world of these realities.

Reforming a complex, entrenched DAH system will never be easy. While there are numerous problems, there is also no shortage of promising proposals for change, or of political possibility. What is needed are determined leaders who will champion reforms and invest the political capital needed to build better institutions for DAH in the SDG era.

## Acknowledgments

The authors are grateful to David Evans for insightful comments received on an earlier version of this paper. The authors are also grateful for thoughtful comments from three peer reviewers, Amanda Glassman, Ilona Kickbusch and Joseph Dieleman. All views, errors and omissions remain the responsibility of the authors.

## References

- Atun, R., F. M. Knaul, Y. Akachi and J. Frenk (2012), 'Innovative financing for health: what is truly innovative?', *The Lancet*, 380(9858): 2044–2049.

- Clift, C. (2011), *Meeting Report: Commission on Macroeconomics and Health – 10 Years On*. London: Chatham House. <https://www.chathamhouse.org/sites/files/chathamhouse/public/Research/Global%20Health/0112summary.pdf> [30 December 2016].
- Commission on Macroeconomics and Health (2001), *Macroeconomics and Health: Investing in Health for Economic Development*, Geneva: World Health Organization.
- Committee of Experts to the Taskforce on International Financial Transactions and Development (2010), 'Globalizing Solidarity: The Case for Financial Levies. Report of the Committee of Experts to the Taskforce on International Financial Transactions and Development.' Paris: Leading Group on Innovative Financing to Fund Development, [http://www.leadinggroup.org/IMG/pdf\\_Financement\\_innovants\\_web\\_def.pdf](http://www.leadinggroup.org/IMG/pdf_Financement_innovants_web_def.pdf) [30 June 2016].
- deFerranti, D., C. Griffin, M.-L. Escobar, A. Glassman and G. Lagomarsino (2008), 'Innovative Financing for Global Health: Tools for Analyzing the Options', Working Paper No. 2, Global Health Financing Initiative, Brookings Global Economy and Development, Washington DC, [http://www.brookings.edu/~media/research/files/papers/2008/8/global-health-de-ferranti/08\\_global\\_health\\_de\\_ferranti.pdf](http://www.brookings.edu/~media/research/files/papers/2008/8/global-health-de-ferranti/08_global_health_de_ferranti.pdf) [1 July 2016].
- Dieleman, J. L., C. M. Graves and M. Hanlon (2013), 'The fungibility of health aid: reconsidering the reconsidered', *Journal of Development Studies*, 49(12): 1755–1762.
- Dieleman, J. L., M. T. Schneider, A. Haakenstad, L. Singh, N. Sadat, M. Birger, A. Reynolds, T. Templin, H. Hamavid, A. Chapin and C. J. Murray (2016), 'Development assistance for health: past trends, associations, and the future of international financial flows for health', *The Lancet*, 387(10037): 2536–2544.
- Duran, D. and A. Glassman (2012), 'An Index of the Quality of Official Development Assistance in Health', CGD Working Paper No. 287, Center for Global Development, Washington DC, <http://www.cgdev.org/content/publications/detail/1425926> [1 July 2016].
- Dybul, M., P. Piot and J. Frenk (2012), 'Reshaping global health.' *Policy Review* 173, <http://www.hoover.org/research/reshaping-global-health>
- Dykstra, S., A. Glassman, C. Kenny and J. Sandefur (2015), 'The Impact of Gavi on Vaccination Rates: Regression Discontinuity Evidence', Working Paper, Center for Global Development, Washington DC, <http://www.cgdev.org/sites/default/files/GAVI-Paper-2014-10-08.pdf> [1 July 2016].
- Fan, V., D. Duran, A. Glassman and R. Silverman (2013), 'The Financial Flows of PEPFAR: A Profile', CGD Policy Paper No. 27, Center for Global Development, Washington DC, <http://www.cgdev.org/publication/financial-flows-pepfar-profile> [1 July 2016].
- Fan, V. Y., K. A. Grépin, G. C. Shen and L. Chen (2014), 'Tracking the flow of health aid from BRICS countries', *Bulletin of the World Health Organization*, 92(6): 457–458.
- Farag, M., A. K. Nandakumar, S. S. Wallack, G. Gaumer and D. Hodgkin (2009), 'Does funding from donors displace government spending for health in developing countries?', *Health Affairs*, 28(4): 1045–1055.
- Frenk, J., O. Gómez-Dantés and S. Moon (2014), 'From sovereignty to solidarity: a renewed concept of global health for an era of complex interdependence', *The Lancet*, 383(9911): 94–97.
- Frenk, J. and S. Moon (2013), 'Governance challenges in global health', *New England Journal of Medicine*, 368: 936–942.
- Garg, C. C., D. B. Evans, T. Dmytraczenko, J.-A. Izazola-Licea, V. Tangcharoensathien and T. T.-T. Ejeder (2012), 'Study raises questions about measurement of “additionality,” or maintaining domestic health spending amid foreign donations', *Health Affairs*, 31(2): 417–425.

- Glassman, A., K. Chalkidou, U. Giedion, Y. Teerawattananon, S. Tunis, J. B. Bump and A. Pichon-Riviere (2012), 'Priority-setting institutions in health', *Global Heart*, 7(1): 13–34.
- Glassman, A. and M. Temin (2016), *Millions Saved: New Cases of Proven Success in Global Health*, Baltimore, MD: Center for Global Development.
- Global Development Incubator (2014), 'Innovative Financing for Development', Global Development Incubator, <http://2uqnr73tznysl15p2nqglls.wpengine.netdna-cdn.com/wp-content/uploads/2016/02/Innovative-Financing-for-Development.pdf> [30 June 2016].
- Gostin, L. O. (2007), 'A proposal for a framework convention on global health', *Journal of International Economic Law*, 10(4): 989–1008.
- Gottret, P. and G. Shieber (2006), 'Health financing revisited: a practitioner's guide', Washington DC: World Bank. <https://siteresources.worldbank.org/INTHSD/Resources/topics/Health-Financing/HFRFull.pdf> [ 1 July 2016].
- Heymann, D. L., L. Chen, K. Takemi, D. P. Fidler, J. W. Tappero, M. J. Thomas, T. A. Kenyon, T. R. Frieden, D. Yach, S. Nishtar, A. Kalache, P. L. Olliaro, P. Horby, E. Torreele, L. O. Gostin, M. Ndomondo-Sigonda, D. Carpenter, S. Rushton L. Lillywhite, B. Devkota, K. Koser, R. Yates, R. S. Dhillon, and R. P. Rannan-Eliya (2015), 'Global health security: the wider lessons from the West African Ebola virus disease epidemic', *The Lancet*, 385(9980): 1884–1901.
- Hoffman, S. J. and A. Behdinan (2016), 'Towards an international treaty on antimicrobial resistance', *Ottawa Law Review*, 47(2): 503–533. [https://commonlaw.uottawa.ca/ottawa-law-review/sites/commonlaw.uottawa.ca.ottawa-law-review/files/olr\\_47-2\\_09\\_hoffman\\_behdinan\\_final.pdf](https://commonlaw.uottawa.ca/ottawa-law-review/sites/commonlaw.uottawa.ca.ottawa-law-review/files/olr_47-2_09_hoffman_behdinan_final.pdf)
- Hoffman, S. J., C. Cole and M. Pearcey (2015), 'Mapping Global Health Architecture to Inform the Future', Research Paper, Chatham House, London, [https://www.chathamhouse.org/sites/files/chathamhouse/field/field\\_document/20150120GlobalHealthArchitecture-HoffmanColePearceyUpdate.pdf](https://www.chathamhouse.org/sites/files/chathamhouse/field/field_document/20150120GlobalHealthArchitecture-HoffmanColePearceyUpdate.pdf) [ 1 July 2016].
- Hoffman, S. J. and J.-A. Røttingen (2014), 'Assessing the expected impact of global health treaties: evidence from 90 quantitative evaluations', *American Journal of Public Health*, 105(1): 26–40.
- Hudson, A., GOVNET Secretariat (2009), 'Background Paper for the Launch of the Work-Stream on Aid and Domestic Accountability', OECD, Paris, <http://www.oecd.org/dataoecd/45/26/42811639.pdf> [30 June 2016].
- Institute for Health Metrics and Evaluation (IHME) (2012), 'Financing Global Health 2012: The End of the Golden Age?', IHME, Seattle, WA, <http://www.healthmetricsandevaluation.org/publications/policy-report/financing-global-health-2012-end-golden-age> [30 June 2016].
- Institute for Health Metrics and Evaluation (IHME) (2016), 'Financing Global Health 2015: Development Assistance Steady on the Path to New Global Goals', IHME, Seattle, WA, [http://www.healthdata.org/sites/default/files/files/policy\\_report/FGH/2016/IHME\\_Policy\\_Report\\_FGH\\_2015.pdf](http://www.healthdata.org/sites/default/files/files/policy_report/FGH/2016/IHME_Policy_Report_FGH_2015.pdf) [30 June 2016].
- Jordan, L. and P. V. Tuijl (2006), *NGO Accountability: Politics, Principles & Innovations*, Sterling, VA: Earthscan.
- Kapiriri, L. (2012), 'Priority setting in low income countries: the roles and legitimacy of development assistance partners', *Public Health Ethics*, 5(1): 67–80.
- Kickbusch, I. (2002), 'Influence and opportunity: reflections on the U.S. role in global public health', *Health Affairs*, 21(6): 131–141.
- Kickbusch, I. (2016), 'Global health governance challenges 2016 – are we ready?', *International Journal of Health Policy and Management*, 5(6): 349–353.

- The Lancet* (2009), 'What has the Gates Foundation done for global health?', *The Lancet*, 373(9675): 1577.
- The Lancet* (2011a), 'Fighting fake drugs: the role of WHO and pharma', *The Lancet*, 377(9778): 1626.
- The Lancet* (2011b), 'Urgently needed: a framework convention for obesity control', *The Lancet*, 378(9793): 741.
- Lane, C. and A. Glassman (2009), *Smooth and Predictable Aid for Health: A Role for Innovative Financing?*, Washington, DC: Brookings Institution.
- Leading Group on Innovative Financing for Development (2010), *Globalizing Solidarity: The Case for Financial Levies*, Paris: Leading Group on Innovative Financing for Development.
- Lu, C., M. T. Schneider, P. Gubbins, K. Leach-Kemon, D. Jamison and C. J. L. Murray (2010), 'Public financing of health in developing countries: a cross-national systematic analysis', *The Lancet*, 375(9723): 1375–1387.
- Mackintosh, M., K. Mensah, L. Henry and M. Rowson (2006), 'Aid, restitution and international fiscal redistribution in health care: implications of health professionals' migration', *Journal of International Development*, 18(6): 757–770.
- Magnusson, R. S. (2009), 'Rethinking global health challenges: towards a "global compact" for reducing the burden of chronic disease', *Public Health*, 123(3): 265–274.
- McCoy, D., G. Kembhavi, J. Patel and A. Luintel (2009), 'The Bill & Melinda Gates Foundation's grant-making programme for global health', *The Lancet*, 373(9675): 1645–1653.
- McCoy, D. and N. Brikci (2010), 'Taskforce on innovative international financing for health systems: what next?', *Bulletin of the World Health Organization*, 88(6): 478–480.
- MDG Gap Task Force (2013), *The Global Partnership for Development: The Challenge We Face*. UN. [http://www.un.org/en/development/desa/policy/mdg\\_gap/mdg\\_gap2013/mdg\\_report\\_2013\\_en.pdf](http://www.un.org/en/development/desa/policy/mdg_gap/mdg_gap2013/mdg_report_2013_en.pdf) [3 July 2016].
- Ollila, E. (2005), 'Global health priorities – priorities of the wealthy?', *Globalization and Health*, 1(1): 6.
- Ooms, G., D. Stuckler, S. Basu and M. McKee (2010a), 'Financing the millennium development goals for health and beyond: sustaining the "Big Push"', *Globalization and Health*, 6(1): 17.
- Ooms, G., K. Decoster, K. Miti, S. Rens, L. V. Leemput, P. Vermeiren and W. V. Damme (2010b), 'Crowding out: are relations between international health aid and government health funding too complex to be captured in averages only?', *The Lancet*, 375(9723): 1403–1405.
- Organisation for Economic Cooperation and Development (OECD) (2015), 'Development Aid Stable in 2014 but Flows to Poorest Countries Still Falling', OECD, <http://www.oecd.org/dac/stats/documentupload/ODA%202014%20Teconical%20Note.pdf> [30 June 2016].
- Organisation for Economic Cooperation and Development (OECD) (2016a), 'Country Programmable Aid (CPA)', <http://www.oecd.org/dac/aid-architecture/cpa.htm> [14 July 2016].
- Organisation for Economic Cooperation and Development (OECD) (2016b), 'History of the ODA 0.7 Percent Target', OECD, <http://www.oecd.org/dac/stats/ODA-history-of-the-0-7-target.pdf> [30 June 2016].
- Pedrique, B., N. Strub-Wourgaft, C. Some, P. Oliaro, P. Trouiller, N. Ford, B. Pécoul and J.-H. Bradol (2013), 'The drug and vaccine landscape for neglected diseases (2000–11): a systematic assessment', *The Lancet Global Health*, 1(6): e371–e379.
- Roodman, D. (2010), 'Squishy Findings on Aid Fungibility', Center For Global Development, <http://www.cgdev.org/blog/squishy-findings-aid-fungibility> [16 April 2016].

- Roodman, D. (2012a), 'Doubts about the evidence that foreign aid for health is displaced into non-health uses', *The Lancet*, **380**(9846): 972–973.
- Roodman, D. (2012b), 'The Health Aid Fungibility Debate: Don't Believe Either Side', Center For Global Development, <http://www.cgdev.org/blog/health-aid-fungibility-debate-dont-believe-either-side> [29 April 2016].
- Røttingen, J.-A. and C. Chamas (2012), 'A new deal for global health R&D? The recommendations of the Consultative Expert Working Group on research and development (CEWG)', *PLoS Med*, **9**(5): 1001219.
- Shiffman, J. (2006), 'Donor funding priorities for communicable disease control in the developing world', *Health Policy and Planning*, **21**(6): 411–420.
- Sridhar, D. (2012), 'Regulate alcohol for global health', *Nature*, **482**: 302.
- Sridhar, D. and N. Woods (2010), 'Are there simple conclusions on how to channel health funding?', *Lancet*, **375**(9723): 1326–1328.
- Stuckler, D., S. Basu and M. McKee (2011), 'International Monetary Fund and aid displacement', *International Journal of Health Services*, **41**(1): 67–76.
- Szlezak, N. A., B. R. Bloom, D. T. Jamison, G. T. Keusch, C. M. Michaud, S. Moon and W. C. Clark (2010), 'The global health system: actors, norms, and expectations in transition', *PLoS Med*, **7**(1): e1000183.
- UNAIDS (2015), 'How AIDS Changed Everything. MDG 6: 15 Years, 15 Lessons of Hope from the AIDS Response', UNAIDS (Joint United Nations Programme on HIV/AIDS), [http://www.unaids.org/sites/default/files/media\\_asset/MDG6Report\\_en.pdf](http://www.unaids.org/sites/default/files/media_asset/MDG6Report_en.pdf) [30 June 2016].
- WHO SEARO (2012), 'Tobacco Taxation and Innovative Health-Care Financing', <http://www.searo.who.int/tobacco/documents/2012-pub1.pdf> [30 June 2016].
- World Bank and GAVI Alliance (2010), 'Brief 18 Airline Ticket Tax', [http://apps.who.int/immunization\\_financing/tools/Brief\\_18\\_Airline\\_Ticket\\_Tax.pdf](http://apps.who.int/immunization_financing/tools/Brief_18_Airline_Ticket_Tax.pdf) [30 June 2016].
- World Health Organisation (WHO) (2014), 'World Malaria Report 2014', WHO, [http://www.who.int/malaria/publications/world\\_malaria\\_report\\_2014/en/](http://www.who.int/malaria/publications/world_malaria_report_2014/en/) [30 June 2016].





# Development assistance for health: what criteria do multi- and bilateral funders use?

TRYGVE OTTERSEN\*

*Department of Global Public Health and Primary Care, University of Bergen, Bergen, Norway*

*Department of International Public Health, Norwegian Institute of Public Health, Oslo, Norway*

*Oslo Group on Global Health Policy, Department of Community Medicine and Global Health and Centre for Global Health, University of Oslo, Oslo, Norway*

APARNA KAMATH

*Harvard T.H. Chan School of Public Health, Harvard University, Boston, Massachusetts, USA*

SUERIE MOON

*Harvard T.H. Chan School of Public Health, Harvard University, Boston, Massachusetts, USA*

LENE MARTINSEN

*Department of International Public Health, Norwegian Institute of Public Health, Oslo, Norway*

JOHN-ARNE RØTTINGEN

*Harvard T.H. Chan School of Public Health, Harvard University, Boston, Massachusetts, USA*

*Department of Health Management and Health Economics, University of Oslo, Oslo, Norway*

*Infectious Disease Control and Environmental Health, Norwegian Institute of Public Health, Oslo, Norway*

**Abstract:** After years of unprecedented growth in development assistance for health (DAH), the system is challenged on several fronts: by the economic downturn and stagnation of DAH, by the epidemiological transition and increase in non-communicable diseases, and by the economic transition and rise of the middle-income countries. This raises questions about which countries should receive DAH and how much, and, fundamentally, what criteria that promote fair and effective allocation. Yet, no broad comparative assessment exists of the criteria used today. We reviewed the allocation criteria stated by five multilateral and nine bilateral funders of DAH. We found that several funders had only limited information about concrete criteria publicly available. Moreover, many funders not devoted to health lacked specific criteria for DAH or criteria directly related to health, and no funder had criteria directly related to inequality. National income per capita was emphasised by many funders, but the associated eligibility thresholds varied considerably. These findings and the broad overview of criteria can assist funders in critically examining and revising the criteria they use, and inform the wider debate about what the optimal criteria are.

\*Correspondence to: Trygve Ottersen, Department of Global Public Health and Primary Care, University of Bergen, PO Box 7804, 5020 Bergen, Norway. Email: [trygve.ottersen@medisin.uio.no](mailto:trygve.ottersen@medisin.uio.no)

## Introduction

The past two decades have witnessed an unprecedented growth in development assistance for health (DAH). Disbursements by bilateral, multilateral and other donors increased from \$7 billion in 1990 to \$34 billion in 2010 (2015 \$US) [Institute for Health Metrics and Evaluation (IHME), 2016]. In the ‘golden age’ between 2000 and 2010, the annual growth rate was more than 11% in average, and DAH grew almost three times faster than development assistance to non-health sectors (IHME, 2016). Now, however, the DAH system is challenged on several fronts. One challenge is the economic downturn and stagnation of DAH, with only 1.2% in average annual growth since 2010 (IHME, 2016). Another challenge is the epidemiological transition and the triple burden of disease that many countries are facing today (Frenk *et al.*, 2011; Frenk and Moon, 2013). New challenges, and opportunities, for the DAH system are also emerging with the economic transition and the rise of middle-income countries (MICs). The MIC category now comprises 105 countries (fiscal year 2015), 70% of the world’s population, over 30% of the global gross domestic product (GDP), over 75% of the world’s poor, and almost 70% of the disease burden in the world (Sumner, 2012) (based on data from the World Bank and the IHME).

These transitions raise questions about which countries should receive DAH and how much, and, fundamentally, which criteria promote fair and effective allocation of DAH across countries. The weight of this question is now being increasingly appreciated, as indicated by the recent Equitable Access Initiative (EAI, 2015). This initiative was led by the Global Fund to Fight AIDS, Tuberculosis and Malaria (GF) and eight co-conveners, with the aim of developing a new framework to classify countries and guide global health investments. The initiative recommended the use of a multi-criterion framework that takes into account income levels and health needs, in addition to domestic capacity and policies, where relevant (EAI, 2016).

In the search for the best allocation policy, an understanding of the criteria used by major funders of development assistance can provide a valuable basis. A good understanding of these criteria is also relevant for the many new global financing mechanisms that have been proposed (Ooms *et al.*, 2006; CEWG, 2012; Moon and Omole, 2013; Gostin, 2014; OWG, 2014). Over the recent years, we have started to get better grip on the range of allocation criteria currently used for DAH (Salvado and Walz, 2013; Burgett *et al.*, 2016), but we still lack an in-depth broad comparative review focussing on these criteria.<sup>1</sup>

The objective of this paper is to provide a broad comparative overview of the allocation criteria stated by major funders of DAH. We reviewed the policy documents made readily available to the public, and we communicated directly with the funders on points in need of clarification. In this article, we first categorise allocation criteria for development assistance, next examine the criteria stated by

<sup>1</sup> This article is based on a 2014 working paper for the Chatham House Centre on Global Health Security (Ottersen *et al.*, 2014).

bilateral and multilateral funders, and finally consider similarities and differences among the criteria.

### **Allocation criteria and analytical framework**

Allocation criteria, of the kind addressed here, guide the allocation of DAH across countries. Every funder of DAH employs some allocation criteria, but these are not necessarily explicit. Under a broad understanding of ‘allocation criteria’, these include criteria for deciding what countries are eligible for assistance, criteria for determining how much assistance each country will be offered, and criteria for setting the levels of co-financing required of recipients (Fan *et al.*, 2014). Particular attention is often paid to eligibility criteria as these typically apply early in the allocation process, are binary (i.e. countries are eligible or not), and are linked to a necessary condition for receiving funding.

Explicit criteria have a number of advantages (Daniels and Sabin, 2008). Compared with implicit ones, explicit criteria tend to better facilitate transparency, accountability and public deliberation. These effects are valuable in themselves, but they are also likely to promote the development of better criteria. Moreover, explicit and especially quantitative criteria may improve the consistency of funding decisions, increase predictability and support the coordination of DAH allocations and contributions. Several of these benefits may materialise even when funders set up criteria ad hoc to fit certain decisions they would like to make in the future. At the same time, the criteria *stated* by the funders may only partly guide actual decisions. Especially for bilateral donors, a range of other, often political and trade-related considerations are likely to influence the final outcomes of the allocation process (Berthelemy, 2006; Vázquez, 2015).

When identifying, examining and comparing criteria, it is useful to have a framework for analysis. Most criteria used by the major providers of DAH can be seen as members of one of two categories: need criteria and effectiveness criteria. Need criteria can overlap significantly with what are called ‘equity criteria’ (Guillaumont, 2008).

### ***Need criteria***

Need criteria dictate that aid is to be allocated to countries with the greater need. Most often, need is understood to decrease with the current or projected level of development or some other outcome of interest (Anderson, 2008; Leo, 2010; Basu *et al.*, 2014). Candidate indicators are, for example, gross national income per capita (GNIPc), the Human Development Index (HDI), life expectancy at birth, under-five mortality rate (U5MR) and burden of disease.

Need for assistance can also be understood in terms of the country’s capacity to address domestic challenges and further develop without aid – the lower that capacity, the greater the need (Knack *et al.*, 2012; Resch *et al.*, 2015). So understood,

‘capacity need’ can be distinguished from ‘development need’ of the kind described above. GNIpc is a commonly used indicator for economic capacity, either directly or through the World Bank income classification of countries. For the fiscal year 2015, countries with GNIpc  $\leq$  \$1045 in 2013 are classified as low-income countries (LICs); countries with GNIpc \$1046–4125 and \$4126–12,745 as lower- and upper-middle income countries (LMICs and UMICs), respectively; and countries with GNIpc  $\geq$  \$12,746 as high-income countries (HICs) (World Bank, 2016a).

### *Effectiveness criteria*

According to effectiveness criteria, aid is to be allocated to where it will be more effective. Effectiveness can be defined as increasing with the health gain, such as a reduction in U5MR, or some other desired outcome from the intervention in question (Pietschmann, 2013; Cagé, 2015). If one consider the effectiveness of a given amount DAH, effectiveness overlaps with common understandings of cost-effectiveness and efficiency. ‘Effectiveness’ can also overlap with ‘expected impact’, ‘performance’ and ‘absorptive capacity’ in several different ways, depending on the terminology used.

Need criteria are often complemented with effectiveness criteria because assistance to those most in need is not necessarily the most effective use of resources and is sometimes very ineffective. This may be the case, for example, with so-called failed states (McGillivray, 2011). Conversely, effectiveness criteria is usually insufficient alone because most people not only care about the sum total of benefits, but also how badly off those who receive the benefits are.

Specific effectiveness criteria rarely refer directly to a comprehensive metric of development, partly because the information needed is not directly available. Instead, effectiveness criteria typically refer to an indicator of expected effectiveness which may pertain to demonstrated improvements in the past or to a country characteristic perceived to correlate with the effectiveness of aid (Pietschmann, 2013; Cagé, 2015). The former may include past reduction in U5MR or past improvement in vaccine coverage, and the latter may include high institutional quality and low level of corruption.

### *Cross-cutting criteria*

Some criteria have little direct relation to the need and effectiveness categories or substantially relate to both. Examples include criteria related to population size, expected aid from other donors, and universality or equality in aid shares among countries, as well as criteria emphasising the distinction between a country’s effort and circumstances (Llavador and Roemer, 2001; Cogneau and Naudet, 2007). There is also a distinction – particularly relevant to bilateral DAH – between criteria primarily related to donor interest and criteria primarily related to recipient need (Berthelemy, 2006).

Criteria that relate substantially to both need and effectiveness may relate to the two in the same way or in opposing ways. Poor quality of policy and governance may decrease the effectiveness of aid, but at the same time increase the need for aid

due to lower domestic capacity for making progress without external assistance (McGillivray, 2011). In contrast, criteria linked to economic structural vulnerability may harbour no conflict between need and effectiveness. This is suggested by the claim that vulnerability so defined increases need, but also represents a situation in which at least some kinds of aid may be particularly effective (Guillaumont, 2008). Where the two are perceived to go together, need is sometimes used as a proxy for effectiveness.

Finally, many allocation criteria involve some form of conditionality (Gibson *et al.*, 2005; Koeberle *et al.*, 2005; Temple, 2010). The intended purpose may primarily pertain to the effectiveness of aid, as is likely the case with many co-financing requirements. But conditionality may also be motivated by the wish to target DAH towards the most needy subpopulations or for other, more political reasons.

### Criteria stated by multilateral funders

Alongside the World Health Organisation (WHO), the top four multilateral funders of DAH are the GF; Gavi, the Vaccine Alliance (Gavi); the International Development Association (IDA); and the United Nations Children's Fund (UNICEF). In 2015, these channelled DAH amounting to 3.3, 1.6, 1.3 and 1.2 billion \$US, respectively (IHME, 2016). Table 1 summarises the criteria put forward by these four funders plus the United Nations Development Programme (UNDP), which is known to have a very explicit allocation formula.

**Table 1.** Allocation criteria explicitly emphasised by multilateral funders

Metric	Typical impact on allocation	GF	Gavi	IDA	UNICEF	UNDP
Criteria primarily related to need						
GNI per capita	–	•	•	•	•	•
Population size	+			•	•	•
Disease burden	+	•	•			
U5MR	+				•	
Other sources of funding	+ / –			•		
Sub-Saharan Africa	+			•	•	
LDCs	+				•	•
Key and vulnerable populations	+	•				
Criteria primarily related to effectiveness						
Performance/impact	+	•	•	•		
Efficiency/value for money	+	•	•			
Criteria primarily reflecting conditionality						
Domestic co-financing	+	•	•			
Domestic spending on immunisation	+		•			

GNI = gross national income; GF = The Global Fund to Fight AIDS, Tuberculosis and Malaria; Gavi = Gavi, the Vaccine Alliance; IDA = The International Development Association; UNICEF = United Nations Children's Fund; UNDP = United Nations Development Programme; U5MR = under-five mortality rate; LDC = least developed countries.

The WHO and Bill & Melinda Gates Foundation differ in nature from the funders in Table 1 and were not examined. The European Commission is a major funder, but falls short of the four big ones, with DAH in 2015 amounting to 0.4 billion \$US, according to IHME estimates (IHME, 2016).

In both this and the subsequent section, emphasis is put on criteria related to initial allocations. These may differ from criteria related to renewals, adjustments and transition, although eligibility and transition criteria often are closely linked. Moreover, emphasis is put on the main features of the allocation schemes and many details, including most exceptions, are omitted. The aim was to describe, clarify and compare, not to judge whether the content of the criteria is good or bad. When comparing, it is important to note that the institutions are heterogeneous in their nature and in the kinds of allocations they make. For example, while GF and Gavi largely channel funds to disease-specific programmes implemented by others, UNICEF and UNDP partly allocate funds across their own country offices, which also act as implementers. The allocation criteria described are sought to reflect the funders' allocation policies as of June 2016.

### *The Global Fund to Fight AIDS, Tuberculosis and Malaria (GF)*

GF is a public–private partnership concentrating on HIV/AIDS, tuberculosis and malaria. For the period 2017–2019, allocations are based on criteria sets related to eligibility, basic application requirements, technical merit and grant size.

The two primary eligibility criteria are GNIpc and disease burden (GF, 2016b). The GNIpc criterion is based on the World Bank income classification and utilises countries' average GNIpc over a three-year period. LICs and LMICs are eligible regardless of burden. UMICs are eligible if the burden from the disease in question is 'high', 'severe' or 'extreme', while HICs are ineligible. For these eligibility criteria and for several other parts of the allocation process, there are certain flexibilities for 'challenging operating environments', that is, countries or regions characterised by weak governance, poor access to health services, and manmade or natural crises (GF, 2016c).

For the application, there are requirements for focus and co-financing (GF, 2016d). LMICs have to focus at least 50% of the funding on key and vulnerable populations, 'highest impact interventions', or both. For UMICs, the requirement is 100%. Co-financing requirements also vary with GNIpc and disease burden, and these requirements can be seen as a form of conditionality.

A review panel assesses the application focus and the technical merits of each application with the aim of ensuring that investments achieve the highest impact (GF, 2013, 2016e). The technical criteria are concerned with soundness of approach, feasibility, potential for sustainable outcomes and value for money.

For determination of grant size, an allocation formula is applied (GF, 2016f). The main criteria are again economic capacity or ability to pay (measured by GNIpc) and disease burden. After application of the formula, the Secretariat can

make adjustments based on qualitative factors that may include major sources of external financing, minimum funding levels, willingness to pay, past programme performance and absorptive capacity, risk, increasing rates of new infections in lower prevalence countries, and populations disproportionately affected by HIV and tuberculosis, and in low-endemicity malaria settings. The GF Board has also opened up for adjustments for each disease to account for the needs of concentrated burdens in higher income settings (GF, 2016f). For example, specific estimates for key populations of people living with HIV may be used.

Apart from the funds distributed according to the allocation formula, significant funds are set aside for catalytic investments in strategic priorities, including for key and vulnerable populations, women and girls, human rights, multi-country approaches and strategic initiatives (GF, 2016f).

### *Gavi, The Vaccine Alliance (Gavi)*

Gavi is a public–private partnership whose primary objective is to improve immunisation coverage in developing countries. Gavi’s allocation process has three central stages (Gavi, 2015b): determination of eligibility to apply, assessment of applications and ranking of the recommended applications if Gavi funds are insufficient.

To be eligible, countries must have GNIpc equal to or below \$1580 in average over the past three years (Gavi, 2015c, 2016a). For new vaccine support and most vaccines, an additional eligibility criterion is that coverage for the third dose of the pentavalent vaccine against diphtheria, tetanus, pertussis, hepatitis B and *Haemophilus influenzae* type B (Penta3) is equal to or above 70%. In addition, a co-financing requirement that depends on GNIpc applies to most vaccines.

A wide range of specific criteria is applied in the assessment of applications, and among these criteria is burden of disease (Gavi, 2015a). Available resources may be insufficient to fund all applications recommended by the application review committee. For such situations, Gavi has a specific prioritisation mechanism (Gavi, 2013, 2016b). This has not been frequently used because funding has been sufficient relative to applications, but it illustrates an explicit way of balancing concerns. The mechanism ranks applications according to an index motivated by the following four objectives and calculated from a corresponding set of four criteria:

- Maximise health impact: ratio of future deaths averted to total population from the first five years of vaccination;
- Maximise value for money: cost per future death averted;
- Reinforce financial sustainability: number of years for which a country has not fulfilled its co-financing commitment, and percentage of spending on vaccines used in routine immunisation financed with government funds;
- Support countries with the greatest need: GNIpc.

These criteria are weighted 30, 30, 25 and 15%, respectively. The prioritisation mechanism includes also a fifth criterion, which operates as a constraint: when resources are scarce, a maximum of one application per country is funded per round. This is seen as a way to promote an equitable distribution across countries.

### *International Development Association (IDA)*

IDA is the World Bank's main lending and grant mechanism for the poorest countries, and improving health is central to the bank's mission. The allocation process is very explicit and has two basic components: determination of eligibility and a performance-based allocation system (IDA, 2013; World Bank, 2016b).

To access IDA resources, a country must have a GNIpc below an annually updated threshold, which is \$1215 for the fiscal year 2016. In addition, the country must lack creditworthiness to borrow on market terms.

For the allocation across eligible countries, IDA employs what it calls a performance-based allocation (PBA) system. Central to this system is the PBA formula, which has three arguments: the IDA's Country Performance Rating (CPR), population size, and GNIpc. As the name of the formula suggests, country performance is intended to be the main determinant of allocations, and the CPR is supposed to capture determinants of aid effectiveness. For example, the formula assigns less aid to countries with institutions of low quality as aid is expected to be less effective in these settings. The CPR is based on the Country Policy and Institutional Assessment (CPIA) rating and the Portfolio Performance Rating (PPR). The CPIA consists of 16 criteria grouped into four clusters: (a) economic management; (b) structural policies; (c) policies for social inclusion and equity; and (d) public sector management and institutions. The PPR is supposed to reflect the health of the IDA projects portfolio and decreases with the percentage of problem projects in the country. Both CPIA and PPR ratings are done by World Bank staff. The CPR is calculated as follows:

$$\text{CPR} = (0.24 \text{CPIA}_{A-C} + 0.68 \text{CPIA}_D + 0.08 \text{PPR})$$

where  $\text{CPIA}_{A-C}$  is the average ratings of CPIA clusters A to C, and  $\text{CPIA}_D$  is the rating of CPIA cluster D.

The CPR calculated is then used in a formula according to which country allocation increases with CPR and population size and decreases with GNIpc as follows:

$$\text{IDA country allocation} = f(\text{CPR}^4, \text{population}, \text{GNIpc}^{-0.125})$$

### *United Nations Children's Fund (UNICEF)*

UNICEF is the UN organisation concentrating on the world's children, and improving their health is a core objective. UNICEF's system for the allocation of its regular resources for programs consists of an eligibility criterion, three core criteria and two distributional targets (UNICEF, 1997, 2012, 2016). Eligible



countries are those that have not achieved high-income status, according to World Bank data and definitions. Beyond a minimum amount, allocations are based on three core criteria: U5MR, child population and GNIpc. More specifically, the allocation to a country tends to increase with U5MR and child population and decrease with GNIpc. Constraining the three criteria are two distributional targets, according to which at least 60 and 50% of the regular resources are to be allocated to least-developed countries (LDCs) and countries in sub-Saharan Africa, respectively.

### ***United Nations Development Programme (UNDP)***

UNDP is the UN's global development network, and health is central to its agenda. The annual level of regular programme resources (TRAC-1) available for an individual country is determined by eligibility criteria, an allocation formula and distributional targets.

Previously, GNIpc had to be at or below \$5500 for a country to be eligible (UNDP, 2012b). For 2014 and onwards, UNDP has adopted the World Bank high-income threshold to determine eligibility (UNDP, 2012a, 2013b).

Beyond a minimum amount, allocations are based on a formula that is basically the product of two weights related to GNIpc and population size, respectively (UNDP, 2011, 2012a). In the previous period, the GNIpc weight decreased with GNIpc at a decreasing rate from 9.31 at GNIpc of \$0 to 0.250 at GNIpc of \$1464 and then remained constant. The population weight increased with population size at a decreasing rate from 0.050 at 0 million to 6.450 at 1 billion and then remained constant. For the period 2014–2017, the weighting functions have been modified (UNDP, 2012a, 2013b), but the details are not yet publicly available. In any case, overall allocations must comply with the same distributive targets as before: LICs are supposed to receive between 85 and 91% of total resources, MICs between 9 and 15%, and the cross-cutting category of LDCs at least 60% (UNDP, 2012a).

### **Criteria stated by bilateral funders**

Of the \$36.4 billion of DAH provided in 2015, 33% (\$12 billion) was disbursed by bilateral agencies (IHME, 2016). The criteria stated by nine major agencies of this kind are summarised in Table 2. These were selected based on the extent to which they represented countries providing large amounts of DAH – in absolute terms, per capita terms or both – and the extent to which a minimum of information about their criteria was readily available. At the same time, many bilateral funders channel a significant part of their assistance through multilateral institutions, and these funds will then be allocated according to the criteria used by that institution.

Table 2. Allocation criteria explicitly emphasised by bilateral funders

Metric	Typical impact on allocation	USAID	PEPFAR	MCC	DFID	BMZ	GAC	DFAT	Norad	LuxDev
Criteria primarily related to recipient need										
GNI per capita <sup>a</sup>	–			•				•	•	•
HDI	–									•
Disease burden	+	•	•					•	•	
Need (unspecified)	+	•			•	•	•			
Criteria primarily related to effectiveness										
Effectiveness/impact	+		•	•	•		•			
Performance	+	•		•				•		
Good governance/policy environment (including transparency/ democracy)	+			•	•	•			•	
Other										
Political/economic/linguistic/geographic linkages	+	•			•	•	•	•		
Human rights	+			•	•	•			•	
Fragility/conflict	+				•	•			•	

GNI = gross national income; HDI = Human Development Index; USAID = United States Agency for International Development; PEPFAR = United States President's Emergency Plan for AIDS Relief; MCC = Millennium Challenge Corporation (United States); DFID = Department for International Development (United Kingdom); BMZ = Federal Ministry for Economic Cooperation and Development (Germany); GAC = Global Affairs Canada; DFAT = Department of Foreign Affairs and Trade (Australia); Norad = Norwegian Agency for Development Cooperation; LuxDev = Luxembourg Agency for Development Cooperation.

<sup>a</sup>Use of GNI per capita beyond indirect use through the OECD-DAC list of ODA recipients, which is centrally based on GNI per capita. LuxDev uses the HDI, of which GNI per capita is one part.

***United States Agency for International Development (USAID)***

USAID is the United States' primary foreign assistance agency. Its global health programmes are geared towards addressing maternal and child health, HIV/AIDS, and other infectious diseases in developing countries (Department of State, 2014). One of USAID's nine principles of development and reconstruction assistance is 'selectivity', which calls for resources to be allocated on the basis of need, local commitment, and foreign policy interests (USAID, 2011). In the context of global health, allocation decisions primarily depend on the needs and on the commitment of the recipient government with respect to the specific programme issue at hand, rather than needs more generally (USAID, 2006). For example, resources for maternal and child health and HIV/AIDS may be allocated based on criteria such as disease severity and magnitude, while resources for family planning are concentrated in countries with the greatest unmet needs for family planning (USAID, 2006, 2014, 2015). In addition, allocations are often informed by previous programme performance (USAID, 2006).

***United States President's Emergency Plan for AIDS Relief (PEPFAR)***

PEPFAR is primarily focussed on combating HIV/AIDS. Country eligibility is based on the size and demographics of the population with HIV/AIDS and on lack of financial resources (US Congress, 2003, 2008; PEPFAR, 2011; Institute of Medicine, 2013). Specific criteria for the allocation of resources across eligible countries are not made readily available to the public. More generally, PEPFAR seeks to target geographic areas and populations where HIV/AIDS is most prevalent and in which it can achieve the greatest impact for its investments (PEPFAR, 2015).

***Millennium Challenge Corporation (MCC), United States***

MCC was established by the US Congress in 2004 as an independent foreign aid agency. MCC partners with poor countries, but only those committed to principles of good governance, economic freedom, and investment in their citizens (MCC, 2015c). MCC is very explicit about its allocation criteria, and it publishes its methodology and criteria for approval by Congress and public comment (MCC, 2016).

First-line candidacy for aid is restricted to those countries classified as LICs or LMICs by the World Bank (MCC, 2015a). Accordingly, to pass the candidacy test in the fiscal year 2016, GNIpc in 2014 had to be at or below \$4125.

Eligibility among the candidate countries is based on policy performance and the opportunity to reduce poverty and generate economic growth, as well as the funding available (MCC, 2015b). Policy performance is assessed using 20 third-party indicators in the categories of encouraging economic freedom, investing in people and ruling justly. To be eligible, a country must normally attain a score greater than the median score of its income group (LIC or LMIC) on at least half of the indicators, pass the control of corruption indicator and pass either

the political rights or civil liberties indicator. Indicators gauged against an absolute threshold, rather than the median score, are those related to inflation, political rights, civil liberties, immunisation rates (LMICs only).

The assessment of the opportunity to reduce poverty and generate economic growth is somewhat less structured. However, central considerations will often pertain to governance, human rights, markets and MCC's own experience and ability to reduce poverty and generate economic growth in the country in question.

### *Department for International Development (DFID), United Kingdom*

DFID leads the United Kingdom's work to end extreme poverty around the world. Eligibility has been based on recipient country need, expected effectiveness of aid, and strategic fit with UK government priorities, with the aim of prioritising countries where UK aid can make the greatest impact (DFID, 2011). In 2015, the UK government launched its new aid strategy (DFID, 2015). As part of this strategy, the government will direct more funding to fragile and conflict affected states and allocate at least 50% of DFID's budget to fragile states and regions. The government wants to do more to support a broader range of countries which are home to very large numbers of the world's poorest people, and it will also continue to drive development in regions where the United Kingdom has close ties, including strong historical, cultural and diaspora links. In allocating aid, the government will consider the fit with its strategic objectives, the level of need, the ability of partner countries to finance their own development, what support they get from others and their future risks, including humanitarian, economic and climate. Exactly how level of need will be assessed is yet not clear (UK Parliament, 2016).

### *Federal Ministry for Economic Cooperation and Development (BMZ), Germany*

BMZ aims at reducing poverty, promoting equitable forms of globalisation, and building peace. Chief criteria for assessing eligibility for bilateral aid and the level of engagement are good governance and general conditions in the partner country, poverty and need, German interests and division of labour with other actors operating in the partner countries (BMZ, 2013). Other considerations relevant to the selection of countries are the human rights situation, relevance to global public goods, and particular treatment for fragile and post-conflict countries (BMZ, 2013, 2014).

### *Global Affairs Canada (GAC)*

GAC is Canada's lead agency for development assistance. It primarily supports 25 focus countries. These were chosen on the basis of the countries' needs, their capacity to benefit from development assistance, and their alignment with Canadian

foreign policy priorities (GAC, 2016). However, the way need and capacity to benefit is operationalised for the selection of countries is not readily available.

### *Department of Foreign Affairs and Trade (DFAT), Australia*

The Australian Agency for International Development was integrated into DFAT in 2013. DFAT's stated aim for Australia's aid programme is to 'promote Australia's national interests by contributing to sustainable economic growth and poverty reduction' (DFAT, 2016). DFAT concentrates on countries in the Indo-Pacific region with the aim of targeting at least 90% of country programme aid in this region (DFAT, 2014). Correspondingly, DFAT's Health for Development Strategy focusses on Southeast Asia and the Pacific, and it does so in order to help protect Australia's health security and advance the economic and poverty objectives of the aid programme in the region (DFAT, 2015). As part of the strategy, a set of Australian aid policy tests are applied to health (DFAT, 2015). It is made clear that DFAT health diplomacy and investments will prioritise LICs and LMICs. Health needs does not appear to be an important criterion in itself, but it is indicated that one consideration is whether poor health is limiting partner countries' progress with economic growth and poverty reduction. At all levels, DFAT seeks to link funding to performance, and this includes rewarding partner governments that perform well with additional funding (DFAT, 2014).

### *Norwegian Agency for Development Cooperation (Norad)*

Norad's mandate is to support poverty-reduction strategies around the world, and the Norwegian Ministry of Foreign Affairs is in charge of priority setting and country selection at the overarching level (Norad, 2014, 2016).

Up until 2014, Norway was providing bilateral aid to a large number of countries (116 in 2013). From 2015, the Norwegian Government has aimed to reduce the number of partner countries down to 84 (Ministry of Foreign Affairs Norway, 2014a). In addition, 12 focus countries where efforts will be particularly strengthened have been selected (Ministry of Foreign Affairs Norway, 2014a). In the selection process, the Government looked for LICs or LMICs with limited access to capital and expertise from sources other than aid, and with attention on human rights, democracy and strengthening of the private sector (Ministry of Foreign Affairs Norway, 2014b). One category of focus countries consists of six fragile countries, where stabilisation and peacebuilding are the central objectives. These countries are Afghanistan, Haiti, Mali, Palestine, Somalia and South-Sudan. The other category is countries currently undergoing a process of development, where efforts will be concentrated on the private sector and on resource and revenue management. These countries are Ethiopia, Malawi, Mozambique, Myanmar, Nepal and Tanzania. From 2017, the Norwegian Ministry of Foreign Affairs is

planning to focus even more on fragile states due to the terrorism threat and the refugee situation (Ministry of Foreign Affairs Norway, 2016).

### *Luxembourg Agency for Development Cooperation (LuxDev)*

LuxDev's mission is to eradicate poverty and ensure sustainable development in all spheres (LuxDev, 2015a). Assistance is concentrated in nine 'privileged partner countries', selected on the basis of their HDI value (LuxDev, 2013). The HDI integrates GNIpc, life expectancy and education. The privileged partner countries are Burkina Faso, Cape Verde, Mali, Niger, Senegal, Laos, Vietnam, El Salvador and Nicaragua (LuxDev, 2015b). More specific allocation criteria are not made readily available to the public.

## **Comparison and implications**

### *Transparency*

One clear finding from the review is that several funders only to a limited extent had made concrete criteria for eligibility and allocation across countries readily available to the public. This was particularly the case for the bilateral funders. The lack of explicit criteria is problematic from the perspective of transparency, accountability, learning and predictability (Daniels and Sabin, 2008; McGee, 2011; Moon and Omole, 2013). From this perspective, citizens in recipient countries and *potential* recipient countries should have access to information about criteria that can profoundly affect their health and well-being, while citizens in donor countries should have access to information about the use of their tax money. A commonly held ideal is also to have mechanisms in place that enable citizens and other stakeholders to challenge the criteria used and to provide input to revisions (Daniels and Sabin, 2008). Finally, transparency about the criteria used can help make DAH more predictable for recipient governments (Moon and Williamson, 2010). Against this background, there are good reasons for funders of DAH to critically examine the extent to which their allocation policy and practices comply with the now widely accepted standards for accountability.

Other funders had very concrete and explicit criteria, including GF, IDA and MCC. To the extent that funders were transparent about the specific criteria they use, important differences are displayed by Tables 1 and 2. Several criteria were only used by one or some few funders, including the HDI based criterion used by LuxDev.

### *Need vs effectiveness*

Tables 1 and 2 further suggest that funders strike the balance between need and effectiveness differently. The eligibility criteria of GF, for example, seem to concentrate on need, as they emphasise GNIpc and disease burden. Likewise, UNICEF's allocation formula considers U5MR, child population and GNIpc.

In contrast, IDA's allocation formula concentrates on effectiveness, to the extent that CPR is perceived as a useful proxy for this. While the concerns for need and effectiveness may point in the same direction, the trade-off between these two concerns is a fundamental issue for the allocation of DAH, especially from the perspective of normative theory (Brock, 2002; Anderson, 2008; Guillaumont, 2008). According to many of these theories, the size of benefits matters, but benefiting people matters more the worse off these people are. It is therefore important that funders of DAH carefully consider to what extent they will accept smaller gains for the sake of benefiting the worse off, make the choices explicit and design their criteria accordingly. Gavi's prioritisation mechanism illustrates how the trade-offs can be made explicit and modified: the objective 'maximize value for money' is given twice the weight of 'support countries with the greatest need' (Gavi, 2013, 2016b). Obviously, if it so wished, Gavi could tilt the balance towards needs by increasing the weight assigned to the latter criterion.

### *Fragility and self-interest*

Funders also varied in focus in several other ways. In particular, some funders stressed that fragility and conflict is a key criterion in country selection (e.g. DFID and Norad), while other funders seemed to put no weight on such a criterion at all. The funders also differed greatly in the extent to which they were open about political interests or self-interest being a key criterion for eligibility and allocation across countries. DFID and DFAT, for example, were very open about this.

### *Economic capacity*

One specific criterion was emphasised by many funders: GNIpc. This was done directly as part of World Bank's income classification, or both. In addition, LuxDev emphasised the HDI, which integrates GNIpc. Several funders also focused on countries on the OECD-DAC list of ODA recipients, which is centrally based on the World Bank's income classification and thus GNIpc. The use of a GNIpc criterion was particularly prominent in the determination of eligibility. However, the GNIpc threshold value, at or above which countries are deemed ineligible for aid, varied considerably: from \$1215 (IDA), via \$1580 (Gavi) and \$4125 (MCC), to more than \$12,000 for several other funders. In comparison, LICs and HICs are classified by the World Bank as having GNIpc  $\leq$  \$1045 and  $\geq$  \$12,746, respectively (fiscal year 2015) (World Bank, 2016a). The range of eligibility thresholds thus spanned almost the entire range of GNIpc for MICs. This variation reflects the current disagreement over the proper role of GNIpc in aid allocation. Related to this question of role is the question about what other measures and criteria should be combined with GNIpc. In particular, few argue that GNIpc correlates perfectly with need for DAH or countries capacity to provide health services without DAH.

As indicated by Tables 1 and 2, there was considerable variation in what criteria accompanied GNIpc. Funders of DAH may carefully assess each of these in order to develop a package of criteria in which GNIpc is suitably embedded.

### *Methodologies*

As for what the funders did not do or did not emphasise, there were at least three commonalities. None of the funders defined their allocation criteria directly on the basis of a health production function or a costing or budget methodology (Fan *et al.*, 2014). While the former specifies the relationship between inputs in the terms of DAH and outcomes in the terms of health improvements, the latter estimates resources needed to achieve a given goal, for example, a certain level of health service coverage. While each of these approaches has its strengths, funders may avoid them because they are methodologically demanding and data hungry. In addition, these approaches may seem to leave funders with less flexibility in their decision making.

### *Health indicators*

Funders not specifically devoted to health did typically not have specific criteria for DAH, and many funders also lacked criteria directly related to health. This can be unfortunate because health state influences the overall need for assistance, and it may be particularly problematic for that part of development assistance whose primary purpose is to improve health. Several funders with a broad mandate provide large amounts of DAH, including IDA whose DAH reached \$861 million in 2013 (IHME, 2014). Funders of development assistance may thus look for criteria that take health properly into account, both for assistance directed towards improving health and for other kinds of assistance. These health-needs criteria can be disease-specific, like the disease-burden criteria used by GF, or more generic, like the U5MR criterion used by UNICEF, which covers a range of diseases but is restricted to children under five. For many funders, even more generic health-needs criteria may be most useful. In particular, it has been suggested that life expectancy and disability-adjusted life year rate perform well against the criteria of relevance, salience, validity, consistency, and timeliness and availability (Ottersen *et al.*, 2016). At the same time, exactly how health-related criteria should differ from and interact with other types of criteria is still an open question and an important topic for future deliberation and research.

### *Inequality indicators*

Another shared feature among the funders was the lack of criteria directly related to economic inequalities or to inequalities in health or health care. Criteria pertaining to inequality can be important because these criteria are sensitive to information often masked by country averages. Such criteria may be particularly relevant in the context



of MICs, whose mid-level GNIPC often is combined with pronounced inequalities and substantial health needs (reference to paper on MICs by Ottersen, Moon and Røttingen in this series). At the same time, the role of inequality indicators in the allocation of DAH is tricky. One reason is that greater inequality may indicate greater capacity (Ceriani and Verme, 2013) and at the same time greater unmet needs, and these two may counteract each other. Inequality indicators are also associated with challenges related to incentives. If higher inequality implies more DAH, countries have less incentive to promote equality (reference to paper on MICs by Ottersen, Moon and Røttingen in this series) (Basu *et al.*, 2014). Funders that seek to introduce an inequality criterion may therefore consider linking it to other criteria that can help preserve such incentives (reference to paper on MICs by Ottersen, Moon and Røttingen in this series).

## Conclusion

Recent changes in the landscape for DAH raise the fundamental question about what criteria promote fair and effective allocation of DAH across countries. This paper has reviewed the allocation criteria stated by 14 major funders of DAH. We found substantive similarities and differences, as well as gaps in the use of explicit criteria. The broad overview and these findings can assist funders and the global community in their search for better criteria.

## Acknowledgements

The authors are grateful to the members of the Working Group on Health Financing at Chatham House Centre on Global Health Security and to Edward Anderson, Joseph Dieleman and Victoria Fan for their valuable comments. The authors also thank Eliane Furrer, Aurelia Nguyen, Ingvar Theo Olsen and Kumanan Rasanathan for their helpful responses to specific issues that arose in the preparation of this article.

## References

- Anderson, E. (2008), 'Practices and implications of aid allocation', Background Study for the 2008 Development Cooperation Forum, UN Economic and Social Council (ECOSOC).
- Basu, S., D. Stuckler and M. McKee (2014), 'An alternative mechanism for international health aid: evaluating a global social protection fund', *Health Policy and Planning*, 29: 127–136.
- Berthelemy, J.-C. (2006), "Bilateral donors' interest vs. recipients' development motives in aid allocation: do all donors behave the same?", *Review of Development Economics*, 10(2): 179–194.
- BMZ (2013), 'The German Government's 14th Development Policy Report', Federal Ministry for Economic Cooperation and Development Germany, [http://www.bmz.de/en/publications/archiv/type\\_of\\_publication/information\\_flyer/information\\_brochures/Materialie223\\_Weissbuch\\_large.pdf](http://www.bmz.de/en/publications/archiv/type_of_publication/information_flyer/information_brochures/Materialie223_Weissbuch_large.pdf) [24 June 2016].

- BMZ (2014), 'German Development Cooperation Work', Federal Ministry for Economic Cooperation and Development Germany, [http://www.bmz.de/en/publications/topics/development\\_policy/Materialie239\\_ez.pdf](http://www.bmz.de/en/publications/topics/development_policy/Materialie239_ez.pdf) [24 June 2016].
- Brock, D. W. (2002), 'Priority to the Worse Off in Health-Care Resource Prioritization', in R. Rhodes, M. P. Battin and A. Silvers (eds), *Medicine and Social Justice: Essays on the Distribution of Health Care*, New York: Oxford University Press, 362–372.
- Burgett, A., S. Orzell and R. Salvado (2016), 'Running from behind: global aid allocation and the new geography of poverty', DPAF Working Paper Series, Bill & Melinda Gates Foundation.
- Cagé, J. (2015), 'Improving upon the World Bank's country policy and institutional assessment: a new performance indicator based on aid effectiveness', *Journal of Globalization and Development*, 5(2): 213–233.
- Ceriani, L. and P. Verme (2013), *The Income Lever and the Allocation of Aid Research* Working Paper No. WPS 6367. Washington, DC: World Bank Group: Society for the Study of Economic Inequality.
- CEWG (2012), *Research and Development to Meet Health Needs in Developing Countries: Strengthening Global Financing and Coordination*. Consultative Expert Working Group on Research and Development: Financing and Coordination, Geneva: World Health Organization.
- Cogneau, D. and J.-D. Naudet (2007), 'Who deserves aid? Equality of opportunity, international aid, and poverty reduction', *World Development*, 35(1): 104–120.
- Daniels, N. and J. E. Sabin (2008), *Setting Limits Fairly: Learning to Share Resources for Health*, 2nd edn, New York: Oxford University Press.
- Department of State (2014), 'Congressional budget justification. Department of state, foreign operations, and related programs. Fiscal year 2015', <http://www.usaid.gov/sites/default/files/documents/9276/222898.pdf> [8 March 2015].
- DFAT (2014), 'Making performance count: enhancing the accountability and effectiveness of Australian aid', Department of Foreign Affairs and Trade, <http://www.dfat.gov.au/about-us/publications/Documents/framework-making-performance-count.pdf> [8 March 2015].
- DFAT (2015), 'Health for Development Strategy 2015–2020', Department of Foreign Affairs and Trade, <http://dfat.gov.au/about-us/publications/Documents/health-for-development-strategy-2015-2020.PDF> [16 June 2016].
- DFAT (2016), 'Australia's aid program', Department of Foreign Affairs and Trade, <http://dfat.gov.au/aid/Pages/australias-aid-program.aspx> [16 June 2016].
- DFID (2011), *Bilateral Aid Review: Technical Report*, London: Department for International Development.
- DFID (2015), 'UK aid: tackling global challenges in the national interest', UK Government, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/478834/ODA\\_strategy\\_final\\_web\\_0905.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/478834/ODA_strategy_final_web_0905.pdf) [23 June 2016].
- EAI (2015), 'Updated – terms of reference for the Equitable Access Initiative', The Global Fund, [http://www.theglobalfund.org/documents/eai/EAI\\_EquitableAccessInitiative\\_ToRs\\_en/](http://www.theglobalfund.org/documents/eai/EAI_EquitableAccessInitiative_ToRs_en/) [28 June 2015].
- EAI (2016), 'The Equitable Access Initiative', Final report, [http://www.theglobalfund.org/documents/eai/EAI\\_EquitableAccessInitiative\\_Report\\_en/](http://www.theglobalfund.org/documents/eai/EAI_EquitableAccessInitiative_Report_en/) [14 January 2017].
- Fan, V. Y., A. Glassman and R. L. Silverman (2014), 'How a new funding model will shift allocations from the Global Fund to Fight AIDS, tuberculosis, and malaria', *Health Affairs*, 33(12): 2238–2246.
- Frenk, J., O. Gómez-Dantés and F. Chacón (2011), 'Global health in transition', in R. Parker and M. Sommer (eds), *Routledge Handbook in Global Public Health*, New York: Routledge, 11–17.

- Frenk, J. and S. Moon (2013), 'Governance challenges in global health', *New England Journal of Medicine*, 368: 936–942.
- GAC (2016), 'Where we work in International Development', Global Affairs Canada, <http://www.international.gc.ca/development-developpement/countries-pays/index.aspx?lang=eng> [16 June 2016].
- Gavi (2013), 'Review of GAVI's pilot prioritisation mechanism. Report to the GAVI Alliance Board, 11–12 June 2013', Gavi, The Vaccine Alliance, <http://www.gavi.org/Library/GAVI-documents/Policies/GAVI-Alliance-Prioritisation-Mechanism/> [18 February 2015].
- Gavi (2015a), 'Independent Review Committee review criteria for applications for all types of GAVI support 2016', Gavi, The Vaccine Alliance, <http://www.gavi.org/library/documents/gavi-documents/guidelines-and-forms/irc-review-criteria-for-2016/>
- Gavi (2015b), 'General guidelines for expressions of interest and applications for all types of GAVI support in 2016', Gavi, The Vaccine Alliance, <http://www.gavi.org/library/gavi-documents/guidelines-and-forms/> [31 May 2016].
- Gavi (2015c), 'Country eligibility policy', <http://www.gavi.org/about/governance/programme-policies/country-eligibility/> [16 June 2015].
- Gavi (2016a), 'Countries eligible for support', <http://www.gavi.org/support/apply/countries-eligible-for-support/> [16 June 2016].
- Gavi (2016b), 'Prioritisation mechanism', <http://www.gavi.org/about/governance/programme-policies/prioritisation/> [31 May 2016].
- GF (2013), 'Terms of reference of the Technical Review Panel', The Global Fund to Fight AIDS, Tuberculosis and Malaria, [http://www.theglobalfund.org/documents/trp/TRP\\_TechnicalReviewPanel\\_ToR\\_en/](http://www.theglobalfund.org/documents/trp/TRP_TechnicalReviewPanel_ToR_en/) [18 February 2015].
- GF (2016b), 'The Global Fund Eligibility Policy (GF/B35/06)', The Global Fund to Fight AIDS, Tuberculosis and Malaria, [http://www.theglobalfund.org/documents/board/35/BM35\\_06-Eligibility\\_Policy\\_en/](http://www.theglobalfund.org/documents/board/35/BM35_06-Eligibility_Policy_en/) [16 June 2016].
- GF (2016c), 'The Challenging Operating Environments Policy (GF/B35/03)', The Global Fund to fight AIDS, Tuberculosis and Malaria, [http://www.theglobalfund.org/documents/board/35/BM35\\_03-ChallengingOperatingEnvironments\\_Policy\\_en/](http://www.theglobalfund.org/documents/board/35/BM35_03-ChallengingOperatingEnvironments_Policy_en/) [16 June 2016].
- GF (2016d), 'The Global Fund Sustainability, Transition and Co-financing Policy (GF/B35/04)', The Global Fund to Fight AIDS, Tuberculosis and Malaria, [http://www.theglobalfund.org/documents/board/35/BM35\\_04-SustainabilityTransitionAndCoFinancing\\_Policy\\_en/](http://www.theglobalfund.org/documents/board/35/BM35_04-SustainabilityTransitionAndCoFinancing_Policy_en/). [16 June 2016].
- GF (2016e), 'What the Technical Review Panel Looks for in a Concept Note', The Global Fund to Fight AIDS, Tuberculosis and Malaria, [http://www.theglobalfund.org/documents/trp/TRP\\_WhatTheTRPLooksForInAConceptNote\\_Paper\\_en/](http://www.theglobalfund.org/documents/trp/TRP_WhatTheTRPLooksForInAConceptNote_Paper_en/). [16 June 2016].
- GF (2016f), 'Allocation Methodology 2017–2019 (GF/B35/05)', The Global Fund to Fight AIDS, Tuberculosis and Malaria, [http://www.theglobalfund.org/documents/board/35/BM35\\_05-AllocationMethodology2017-2019\\_Report\\_en/](http://www.theglobalfund.org/documents/board/35/BM35_05-AllocationMethodology2017-2019_Report_en/) [16 June 2016].
- Gibson, C. C., K. Andersson, E. Ostrom and S. Shivakumar (2005), *The Samaritan's Dilemma: The Political Economy of Development Aid*, Oxford: Oxford University Press.
- Gostin, L. O. (2014), *Global Health Law*, Cambridge, MA: Harvard University Press.
- Guillaumont, P. (2008), 'Adapting aid allocation criteria to development goals', Essay for the 2008 Development Cooperation Forum.
- IDA (2013), 'Annex 2. IDA's performance-based allocation system for IDA17', International Development Association, [http://www.worldbank.org/ida/papers/Annex\\_2\\_IDA17.pdf](http://www.worldbank.org/ida/papers/Annex_2_IDA17.pdf) [28 February 2015].

- IHME (2014), *Financing Global Health 2013: Transition in an Age of Austerity*, Seattle, WA: IHME.
- IHME (2016), *Financing Global Health 2015: Development Assistance Steady on the Path to New Global Goals*, Seattle, WA: IHME.
- Institute of Medicine (2013), *Evaluation of PEPFAR*, Washington, DC: The National Academies Press.
- Knack, S., F. H. Rogers and J. C. Heckelman (2012), 'Crossing the threshold: a positive analysis of IBRD graduation policy', *Review of International Organizations*, 7: 145–176.
- Koeberle, S., H. Bedoya, P. Silarszky and G. Verheyen (eds) (2005), *Conditionality Revisited: Concepts, Experiences, and Lessons*, Washington, DC: World Bank.
- Leo, B. (2010), *Inside the World Bank's Black Box Allocation System: How Well Does IDA Allocate Resources to the Neediest and Most Vulnerable Countries?*, Washington, DC: Center for Global Development.
- Llavador, H. G. and J. E. Roemer (2001), 'An equal-opportunity approach to the allocation of international aid', *Journal of Development Economics*, 64: 147–171.
- LuxDev (2013), 'Vietnam', Luxembourg Agency for Development Cooperation, [http://dak.luxdev.lu/files/documents/VIE\\_light.pdf](http://dak.luxdev.lu/files/documents/VIE_light.pdf) [7 March 2015].
- LuxDev (2015a), 'Annual Report 2014', Luxembourg Agency for Development Cooperation, [https://luxdev.lu/files/documents/RAPANN2014\\_web\\_UK.pdf](https://luxdev.lu/files/documents/RAPANN2014_web_UK.pdf) [23 June 2016].
- LuxDev (2015b), 'Our activities', Luxembourg Agency for Development Cooperation, <http://luxdev.lu/en/activities#countries> [23 June 2016].
- MCC (2015a), 'Candidate country report', Millenium Challenge Corporation, <https://www.mcc.gov/resources/doc/report-candidate-country-fy-2016> [23 June 2016].
- MCC (2015b), 'Selection criteria and methodology report', <https://www.mcc.gov/resources/doc/report-selection-criteria-and-methodology-fy16> [23 June 2016].
- MCC (2015c), 'About MCC', Millennium Challenge Corporation, <https://www.mcc.gov/pages/about> [3 March 2015].
- MCC (2016), 'Who We Fund – the Country Selection Process', Millenium Challenge Corporation, <https://www.mcc.gov/who-we-fund> [23 June 2016].
- McGee, R. (2011), 'Aid transparency and accountability: 'build it and they'll come'?', *Development Policy Review*, 31(S1): s107–s124.
- McGillivray, M. (2011), 'Aid allocation and fragile states', in W. Naudé, A. U. Santos-Paulino and M. McGillivray (eds), *Fragile States: Causes, Costs, and Responses*, New York: Oxford University Press, 166–185.
- Ministry of Foreign Affairs Norway (2014a), 'Reforming development assistance to improve results', [https://www.regjeringen.no/en/aktuelt/development\\_reform/id2005626/](https://www.regjeringen.no/en/aktuelt/development_reform/id2005626/) [16 June 2016].
- Ministry of Foreign Affairs Norway (2014b), 'St. Prop. 1 (2014–2015) 10 Programområde 03 Internasjonal Bistand': R. N. M. o. Finance, <http://www.statsbudsjettet.no/Statsbudsjettet-2015/Dokumenter-NY/Fagdepartementenes-proposisjoner/Utenriksdepartementet-UD/Prop-1-S/Del-1-Innledende-del-/10-Programomrade-03-Internasjonal-bistand/> [22 June 2016].
- Ministry of Foreign Affairs Norway (2016), 'Utenrikspolitisk redegjørelse 1. mars 2016', [https://www.regjeringen.no/no/aktuelt/redegjoerelse\\_160301/id2477557/](https://www.regjeringen.no/no/aktuelt/redegjoerelse_160301/id2477557/)
- Moon, S. and O. Omole (2013), *Development Assistance for Health: Critiques and Proposals for Change*, London: Chatham House.
- Moon, S. and T. Williamson (2010), *Greater Aid Transparency: Crucial for Aid Effectiveness, Project Briefing*, London: Overseas Development Institute.

- Norad (2014), 'Instruks for Direktoratet for Utviklingssamarbeid (Norad)', Ministry of Foreign Affairs, [https://www.regjeringen.no/no/dokumenter/instruks\\_norad/id748340/](https://www.regjeringen.no/no/dokumenter/instruks_norad/id748340/) [22 June 2016].
- Norad (2016), 'About Norad', <https://www.norad.no/en/front/about-norad/> [22 June 2016].
- Ooms, G., K. Derderian and D. Melody (2006), 'Do we need a world health insurance to realise the right to health?', *PLoS Medicine*, 3(12): e530.
- Ottersen, T., A. Kamath, S. Moon and J.-A. Røttingen (2014), *Development Assistance for Health: Quantitative Allocation Criteria and Contribution Norms*, London: Chatham House.
- Ottersen, T., K. Grépin, K. Henderson, C. B. Pinkstaff, C. Clift, O. F. Norheim and J.-A. Røttingen (2016), 'Health and Development: An Explicit Approach to the Design and Assessment of Country Classification Frameworks Final Report for the Equitable Access Initiative Oslo: Norwegian Institute of Public Health.
- OWG (2014), 'Open Working Group proposal for Sustainable Development Goals', Open Working Group, <https://sustainabledevelopment.un.org/content/documents/1579SDGs%20Proposal.pdf> [7 March 2015].
- PEPFAR (2011), 'Fiscal year 2011: PEPFAR operational plan', The United States President's Emergency Plan for AIDS Relief, <http://www.pepfar.gov/documents/organization/183974.pdf> [14 January 2017].
- PEPFAR (2015), 'PEPFAR Country/Regional Operational Plan (COP/ROP) 2016 Guidance', US Department of State, <http://www.pepfar.gov/documents/organization/250377.pdf> [16 June 2016].
- Pietschmann, E. (2013), *Assist Those Most in Need, or Most of Those in Need? The Challenge of Allocative Efficiency for Aid Effectiveness*, Bonn: German Development Institute.
- Resch, S., T. Ryckman and R. Hecht (2015), 'Funding AIDS programmes in the era of shared responsibility: an analysis of domestic spending in 12 low-income and middle-income countries', *Lancet Global Health*, 3: e52–e61.
- Salvado, R. C. and J. Walz (2013), *Aid Eligibility and Income Per Capita: A Sudden Stop for MICs?* DPAF Working Paper Series Seattle: Bill & Melinda Gates Foundation: Bill & Melinda Gates Foundation.
- Sumner, A. (2012), 'Where do the poor live?', *World Development*, 40(5): 865–877.
- Temple, J. R. W. (2010), 'Aid and conditionality', in D. Rodrik and M. Rosenzweig (eds), *Handbook of Development Economics* Volume 5 Amsterdam: North-Holland, 4415–4523.
- UK Parliament (2016), 'UK aid: allocation of resources: interim report', House of Commons, International Development Committee.
- UNDP (2011), 'Executive Board informal meeting. Information note on the 2008–2013 programming arrangements', United Nations Development Programme.
- UNDP (2012a), 'Programming arrangements, 2014–2017', United Nations Development Programme, <http://www.undp.org/content/dam/undp/library/corporate/Executive%20Board/2012/second-regular-session/English/dp2012-25.doc> [16 June 2016].
- UNDP (2012b), 'Second review of the programming arrangements, 2008–2013', United Nations Development Programme, <http://www.undp.org/content/dam/undp/library/corporate/Executive%20Board/2012/first-regular-session/english/dp2012-3e.pdf> [16 June 2016].
- UNDP (2013b), 'Decisions adopted by the Executive Board in 2012', United Nations Development Programme, <http://www.undp.org/content/dam/undp/library/corporate/Executive%20Board/2013/English/dp2013-2e.pdf> [22 June 2016].

- UNICEF (1997), 'Report on the allocation of general resources', United Nations Children's Fund.
- UNICEF (2012), 'Report on implementation of the modified system for allocation of regular resources for programmes', Item 5 of the provisional agenda, Second regular session 2012, Executive Board, United Nations Children's Fund.
- UNICEF (2016), 'Regular resources', [http://www.unicef.org/publicpartnerships/66662\\_66850.html#Allocation\\_of\\_Regular\\_Resources\\_to\\_programme\\_countries](http://www.unicef.org/publicpartnerships/66662_66850.html#Allocation_of_Regular_Resources_to_programme_countries) [16 June 2016].
- US Congress (2003), 'United States Leadership Against HIV/AIDS, Tuberculosis, and Malaria Act of 2003', H.R. 1298. 108th Congress.
- US Congress (2008), 'Tom Lantos and Henry J. Hyde United States Global Leadership Against HIV/ AIDS, Tuberculosis, and Malaria Reauthorization Act of 2008', P.L. 110–293. 110th Congress.
- USAID (2006), 'Policy framework for bilateral foreign aid: implementing transformational diplomacy through development', United States Agency for International Development, [http://pdf.usaid.gov/pdf\\_docs/PDACG244.pdf](http://pdf.usaid.gov/pdf_docs/PDACG244.pdf) [16 June 2016].
- USAID (2011), 'The Nine Principles of Development', United States Agency for International Development, <https://www.usaid.gov/sites/default/files/documents/1872/200mbn.pdf> [14 January 2017].
- USAID (2014), 'Ending preventable maternal mortality: USAID maternal health vision for action', United States Agency for International Development, <http://www.usaid.gov/sites/default/files/documents/1864/MCHVision.pdf> [16 June 2016].
- USAID (2015), 'Family planning program overview', United States Agency for International Development, <https://www.usaid.gov/sites/default/files/documents/1864/FP-program-overview-508.pdf> [23 June 2016].
- Vázquez, S. T. (2015), 'Geographical Allocation of Aid: Lessons from Political Economy', in B. M. Arvin and B. Lew (eds), *Handbook of the Economics Of Foreign Aid*, Cheltenham: Edward Elgar Publishing, 90–108.
- World Bank (2016a), 'World Bank GNI per capita operational guidelines & analytical classifications', <http://siteresources.worldbank.org/DATASTATISTICS/Resources/OGHIST.xls> [1 July 2016].
- World Bank (2016b), 'How IDA resources are allocated', World Bank, <http://ida.worldbank.org/financing/resource-management> [16 June 2016].

# Distributing development assistance for health: simulating the implications of 11 criteria

TRYGVE OTTERSEN\*

*Department of Global Public Health and Primary Care, University of Bergen, Bergen, Norway*

*Department of International Public Health, Norwegian Institute of Public Health, Oslo, Norway*

*Oslo Group on Global Health Policy, Department of Community Medicine and Global Health, Centre for Global Health, University of Oslo, Oslo, Norway*

SUERIE MOON

*Harvard T.H. Chan School of Public Health, Harvard University, Boston, MA, USA*

JOHN-ARNE RØTTINGEN

*Harvard T.H. Chan School of Public Health, Harvard University, Boston, MA, USA*

*Department of Health Management and Health Economics, University of Oslo, Oslo, Norway*

*Infectious Disease Control and Environmental Health, Norwegian Institute of Public Health, Oslo, Norway*

**Abstract:** After years of unprecedented growth in development assistance for health (DAH), the DAH system is challenged on several fronts: by the economic downturn and stagnation of DAH, by the epidemiological transition and increase in non-communicable diseases and by the economic transition and rise of the middle-income countries. Central to any potent response is a fair and effective allocation of DAH across countries. A myriad of criteria has been proposed or is currently used, but there have been no comprehensive assessment of their distributional implications. We simulated the implications of 11 quantitative allocation criteria across countries and country categories. We found that the distributions varied profoundly. The group of low-income countries received most DAH from needs-based criteria linked to domestic capacity, while the group of upper-middle-income countries was most favoured by an income-inequality criterion. Compared to a baseline distribution guided by gross national income per capita, low-income countries received less DAH by almost all criteria. The findings can inform funders when examining and revising the criteria they use, and provide input to the broader debate about what criteria should be used.

\*Correspondence to: Trygve Ottersen, Department of Global Public Health and Primary Care, University of Bergen, PO Box 7804, 5020 Bergen, Norway. Email: [trygve.ottersen@medisin.uio.no](mailto:trygve.ottersen@medisin.uio.no)

## Introduction

### *Transitions and challenges*

The past two decades have witnessed an unprecedented growth in development assistance for health (DAH). Disbursements by bilateral, multilateral and other donors increased from \$7 billion in 1990 to \$34 billion in 2010 (2015 \$US) (Institute for Health Metrics and Evaluation [IHME], 2016). Now, however, the DAH system is challenged on several fronts. The economies of many traditional and emerging funders of DAH are struggling, and while funders can choose to still prioritise DAH (Stuckler *et al.*, 2011), there has only been tepid growth in DAH over the last five years (IHME, 2016). Another challenge is the epidemiological transition and the triple burden of disease that many countries are facing today (Frenk *et al.*, 2011; Frenk and Moon, 2013). New opportunities but also new challenges, for the DAH system are also emerging with the economic transition and the rise of middle-income countries (MICs). The MIC category now comprises 105 countries (fiscal year 2015), 70% of the world's population, over 30% of the global gross domestic product, over 75% of the world's poor, and almost 70% of the disease burden in the world (Sumner, 2012) (based on data from the World Bank and the Institute for Health Metrics and Evaluation).

Central to any potent response to this situation is a fair and effective allocation of DAH across countries. The fundamental question is what allocation criteria should be utilised by the funders in this evolving and increasingly complex landscape. This is unsettled. A myriad of criteria is currently employed, by funders such as Gavi, the Vaccine Alliance (Gavi) and the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund), or has been proposed (Ottersen *et al.*, 2017). In particular, gross national income per capita (GNIpc) is widely used to guide allocations of aid today, and one key question is what role GNIpc should play.

Many studies have examined what factors – including country characteristics – that *de facto* correlate with the allocation of aid across countries and country categories (Alesina and Dollar, 2000; Neumayer, 2003; Berthelemy, 2006; Dieleman *et al.*, 2014). However, surprisingly few studies have examined the potential distributional implications of a wide range of aid allocation criteria, including the consequences for countries and country categories of using various criteria to a greater extent than today (Llavador and Roemer, 2001; Collier and Dollar, 2002; McGillivray, 2004; Guillaumont, 2008; Guillaumont *et al.*, 2015). Moreover, no study, to our knowledge, has done this in the specific context of health and the distribution of DAH, although recent work for the Equitable Access Initiative has examined how the classification of countries may change with different criteria (Global Fund, 2016).

### *Objective*

The objective of this study was to examine the potential distributional implications of 11 quantitative allocation criteria for DAH across countries and country categories.



A basic understanding of the implications of different candidate criteria is important for several reasons. For funders of DAH, it is helpful to have insight in these implications when they assess or revise the criteria they use. This is the case even if many other considerations also influence funders' choice of allocation criteria and actual allocations. Especially for bilateral funders, historical, political and trade-related considerations are likely to influence what criteria are used and what decisions are made (Berthelemy, 2006; Vázquez, 2015). An understanding of the implications of different candidate criteria is also important for other stakeholders and the broader community when debating how DAH should be allocated across countries. A good understanding of allocation criteria is also central to the many new global financing mechanisms that have been proposed (Ooms *et al.*, 2006; Consultative Expert Working Group, 2012; Moon and Omole, 2013; Gostin, 2014).

The remainder of this section discusses allocation criteria in general, while the third section describes the specific criteria examined and the simulation procedure used to derive distributional implications. The fourth section presents these implications, the fifth section discusses the findings, and the final section concludes.

### *Allocation criteria*

Allocation criteria, of the kind addressed here, guide the allocation of DAH across recipient countries. Every funder of DAH uses some allocation criteria, but they are not necessarily explicit and they may go by another names. Most eligibility criteria, for example, can be seen as one kind of allocation criteria that apply early in the allocation process and that is linked to a necessary condition for receiving any funding.

Explicit criteria generally have a number of advantages (Daniels and Sabin, 2008). Compared with implicit ones, explicit criteria tend to better facilitate transparency, accountability and public deliberation. These effects are valuable in themselves, but they are also likely to promote the development of better criteria. Moreover, explicit and especially quantitative criteria may improve the consistency of funding decisions, increase predictability and support the coordination of DAH allocations and contributions. Quantitative criteria are particularly apt for being explicit and for generating these benefits.

Explicit, quantitative allocation criteria are currently not as widely used as they could be, and the criteria stated by major funders of DAH vary considerably (Ottersen *et al.*, 2017). Amidst the multitude of allocation criteria used or proposed, there are also commonalities. Two overarching criteria pervade the allocation schemes used by major funders of DAH: criteria related to need and criteria related to effectiveness (Ottersen *et al.*, 2017). While terminology varies considerably, many specific criteria can be usefully subordinated to one of these.

According to need criteria, aid is to be allocated to countries with the greater need. Need is often understood to decrease with the current or projected level of development or some other outcome of interest (Anderson, 2008;

Guillaumont, 2008; Leo, 2010; Basu *et al.*, 2014; Crosswell, 2015). Candidate indicators include, for example, GNIpc, the Human Development Index (HDI), life expectancy at birth, under-five mortality rate (U5MR) and burden of disease. Need for assistance can also be understood in terms of the country's capacity to address domestic challenges and further develop without external assistance (Anderson, 2008; Guillaumont, 2008; Leo, 2010; Crosswell, 2015; Resch *et al.*, 2015). Need criteria can overlap significantly with equity criteria (Guillaumont, 2008).

According to effectiveness criteria, aid is to be allocated to countries where it will be more effective. Effectiveness can be defined as increasing with the health gain, such as a reduction in U5MR, or some other desired outcome from the intervention in question (Anderson, 2008; Guillaumont, 2008; Pietschmann, 2014; Cagé, 2015; Crosswell, 2015). If one consider the effectiveness of a given amount of DAH, effectiveness overlaps with common understandings of cost-effectiveness and efficiency. 'Effectiveness' can also overlap with 'expected impact', 'performance' and 'absorptive capacity' in several different ways, depending on the terminology used. Specific effectiveness criteria rarely refer directly to the ultimate outcome of interest, partly because the information needed is not readily available. Instead, effectiveness criteria typically refer to an indicator of expected effectiveness which may pertain to demonstrated improvements in the past or to a country characteristic perceived to correlate with the effectiveness of aid (Anderson, 2008; Guillaumont, 2008; Pietschmann, 2014; Cagé, 2015; Crosswell, 2015). The former may include past reduction in U5MR or past improvement in vaccine coverage, and the latter may include high institutional quality and low level of corruption.

Need criteria should be complemented with effectiveness criteria because assistance to those most in need is not necessarily the most effective use of available resources and is sometimes very ineffective. Conversely, effectiveness criteria will typically be insufficient alone because most of us not only care about the sum total of benefits, but also how badly off the people who receive the benefits are. The two overarching criteria can also relate in various ways and interact with several other criteria, including criteria involving conditionality (Ottersen *et al.*, 2017).

## Methods

We simulated the implications of 11 quantitative allocation criteria across countries and country categories.

### Criteria

Multiple criteria are currently guiding the allocation of DAH, and many others have been proposed. For any assessment, discussion or choice of criteria, it is crucial to understand how the basic candidate criteria influence the

distribution of DAH. Even if no criterion is sufficient alone, the distributional implications of single criteria indicate how each of those criteria affects the overall distribution if part of a set. Examination of single criteria is thus also a useful first step to examining packages of criteria.

Against this background, we examined 11 criteria. The selection of criteria was based on a review of indicators and criteria currently used by major funders and criteria proposed in the literature (Anderson, 2008; Guillaumont, 2008; Ottersen *et al.*, 2017). We specifically sought to include criteria that related to different kinds of needs, to effectiveness, or to inequality. Similarly, the operationalisation of each of criteria examined was motivated by allocation criteria currently used or previously proposed, but the criteria were streamlined and simplified to facilitate comparison and intuitive understanding.

The nature of each criterion is best appreciated if it is seen as a combination of a metric and a prioritisation rule. The metric is the country characteristic that the criterion is directly concerned with, for example, level of GNIpc. The prioritisation rule specifies how the amount of DAH changes when a country's value of a given metric increases. Key properties of the criteria are summarised in Table 1.

### *Criteria related to need*

We examined six needs-based criteria. Three of these are linked to health outcomes. According to the U5MR criterion, DAH increases with U5MR. This is a key indicator of severe deprivation in health, and it is part of the allocation formula used by United Nations Children's Fund (UNICEF) (Ottersen *et al.*, 2017). According to the life expectancy (LE) criterion, DAH decreases with life expectancy at birth. Life expectancy is an indicator of health deprivation that is sensitive to mortality in both children and adults, but not directly sensitive to morbidity. Life expectancy is part of the HDI, which is used by the Luxembourg Agency for Development Cooperation to determine country eligibility for aid (Ottersen *et al.*, 2017). According to the disability-adjusted life year rate (DALYr) criterion, DAH increases with DALYr, which is the number of DALYs per 100,000 individuals. DALYr is an indicator of health deprivation in terms of length of life as well as quality of life. The Global Fund is among the funders that use disease burden to guide their decisions on country eligibility and allocation of DAH (Ottersen *et al.*, 2017).

The three remaining needs-based criteria are primarily linked to countries' capacity to address health needs. According to the GNIpc criterion, DAH decreases with GNIpc. This is an indicator widely used to determine countries' eligibility for aid and how much aid they are to be offered (Ottersen *et al.*, 2017). In the context of DAH, GNIpc is particularly relevant as an indicator of domestic capacity to address health needs.

According to the criterion linked to government health expenditure per capita (GHEpc), DAH decreases with GHEpc. This is an indicator of the short-term

Table 1. Properties of the examined criteria

Name of metric and criterion	Abbreviation	Prioritisation rule (effect on DAH)	Weighting	Data year	Data source
Needs-related criteria					
Under-five mortality rate (per 1000 live births)	U5MR	+	Yes	2011	World Bank
Life expectancy (years)	LE	–	Yes	2011	World Bank
Disability-adjusted life year rate (per 100,000 individuals)	DALYr	+	Yes	2010	IHME
Gross national income per capita (\$US)	GNIpc	–	Yes	2011	World Bank
Government health expenditure per capita (\$US)	GHEpc	–	Yes	2011	World Bank
Government health expenditure gap from \$86 (\$US)	GHEpc gap	+	Yes	2011	World Bank
Conditional government health expenditure gap from \$86 (US)	5% gap	+	Yes	2011	World Bank
Effectiveness-related criteria					
International Development Association Resource Allocation Index	IRAI	+	No	2011	World Bank
Reduction in under-five mortality rate (per 1000 live births)	cU5MR	+	No	2005–2011	World Bank
Other					
Gini index	Gini	+	Yes	2005–2012	World Bank
Inequality in life expectancy	LEi	+	Yes	2011	UNDP

Note: IHME = Institute for Health Metrics and Evaluation. UNDP = United Nations Development Programme.

Missing data: GNIpc: countries for which data for years other than 2011 used were Djibouti (2009), Iran (2012), Libya (2009) and Syria (2010). Sufficiently recent estimates were unavailable for Myanmar, North Korea and Somalia. LE: estimates were unavailable for Dominica and Marshall Islands. DALYr: estimate was unavailable for South Sudan. GHEpc: estimates were unavailable for North Korea, occupied Palestinian Territory, Somalia and Zimbabwe. GHEpc gap: estimates were unavailable for North Korea, occupied Palestinian Territory, Somalia and Zimbabwe. 5% gap: countries for which data for years other than 2011 were used were Djibouti (2009), Iran (2012), Libya (2009) and Syria (2010). Sufficiently recent estimates were unavailable for Myanmar, North Korea and Somalia. IRAI: for Azerbaijan, the value for 2010 was used. The estimate for Sudan was also used for South Sudan. Estimates were unavailable for 59 countries. Gini: for 64 countries, estimates for years between 2005 and 2012 other than 2011 were used. The 2009 estimate for Sudan was also used for South Sudan. Sufficiently recent estimates were unavailable for 35 countries. LEi: for Kiribati, Seychelles, South Sudan and Sudan estimates for 2013 were used. Estimates for Dominica and Marshall Islands were unavailable.

capacity to ensure priority services for the entire population.<sup>1</sup> According to criterion linked to GHEpc gap from \$86, DAH increases with the shortfall of GHEpc from \$86. This gap is supposed to indicate the lack of resources for ensuring priority services for everyone in the context of low-income countries (LICs). The reference level of \$86 (in both 2012 and 2015 terms) is a recently updated figure of the estimate for total health expenditure per capita of the Task Force for Innovative International Financing for Health Systems (McIntyre *et al.*, 2017). In this study, however, \$86 was taken to represent the minimum level of GHEpc, because it was believed that for \$86 to ensure priority services to everyone, it needs to come from mandatory, prepaid, pooled funds rather than from private spending. According to the criterion linked to conditional GHEpc gap from \$86 (5% gap), DAH increases with the shortfall of GHEpc from \$86 that would exist if GHE in the country represented 5% of GNI. A GHE/GNI<sup>2</sup> ratio of at least 5% has been suggested as a useful target for government health expenditure (McIntyre *et al.*, 2017). The 5% gap can be seen as a indication of the lack of capacity to meet health needs, since any such gap suggests that countries are unable to reach the \$86 target even if they spent 5% of GNI on publicly financed health services. It has been suggested that the primary role of DAH is to reduce this gap (Røttingen *et al.*, 2014).

For most need-based criteria, rank-dependent weights were applied (see Table 1). This was done by first ranking all countries from best off to worst off in terms of the indicator in question. The worst-off country was assigned a weight of two and the best-off country a weight of one. The weights assigned to each country in between decreased proportionally with its rank. This adjustment was made in order to incorporate the widespread belief that the worse off should have some special priority and to do so in a simple manner that retained an intuitive grasp of how the criteria work.

### *Criteria related to effectiveness*

We examined two criteria related to effectiveness. According to the criterion linked to the International Development Association (IDA) Resource Allocation Index (IRAI), DAH increases with the IRAI. This measure is developed by the IDA and based on the Country Policy and Institutional Assessment (CPIA), which evaluates performance in terms of the quality of country's policy and institutional framework (International Development Association, 2013). As many believe good governance improves the effectiveness of aid, IRAI is typically seen as an indicator of expected aid effectiveness.

According to the criterion linked to reduction in U5MR (rU5MR), DAH increases with recent reduction in U5MR. Reduction in U5MR can be seen as an indicator of demonstrated effectiveness and possibly an indicator of expected aid effectiveness.

1 Although GHEpc can be seen as an indicator of domestic capacity, part of GHE in many LICs and MICs derives from external assistance.

2 We do not distinguish between GNI and gross domestic product (GDP) here.

### *Other criteria*

We examined three criteria that does not clearly fall into the need or effectiveness categories, although inequality measures are often linked to need. According to the Gini index (Gini) criterion, DAH increases with the Gini index for income. A high value indicates greater inequality and more specifically that many people fall below the average level of income, that some people fall far below that average, or some combination. Income inequality is relevant for DAH primarily due to the correlation between income and health and due to the fact that low income can make health services unaffordable.

According to the criterion linked to inequality in life expectancy (LEi), DAH increases with LEi. This criterion is relevant for mainly the same reasons as the Gini criterion, but refers more directly to inequalities in health.

### *Countries and country categories*

Our initial sample of countries included all low- and middle-income countries (LMICs) that received DAH in 2011 ( $n = 138$ ) (Institute for Health Metrics and Evaluation [IHME], 2014). In the presentation of results, we concentrate on five focus countries for illustrative purposes: Ethiopia, India, Ghana, Nigeria and South Africa. The five countries were chosen with aim of creating a diverse set of countries well suited for highlighting the distributional implications of different allocation criteria. Table 2 exhibits key characteristics of these countries, including several of the indicators examined in this study. As shown, the countries vary in multiple dimensions, including in population size, national income (GNIpc), health spending (GHEpc), health outcomes (U5MR and LE), improvement in health outcomes (cU5MR), inequality (Gini), and DAH received in 2011.

**Table 2.** Characteristics of focus countries

Countries	Population (million)	Income class	GNIpc (\$US)	GHEpc (\$US)	U5MR (per 1000)	LE (years)	cU5MR (per 1000)	Gini index	DAH (million \$US)	DAHpc (\$US)
Ethiopia	89	LIC	390	7	71	62	38	34	816	10
Nigeria	164	LMIC	1710	29	126	52	33	43	757	5
Ghana	25	LMIC	1420	46	82	61	7	43	224	9
India	1221	LMIC	1450	19	58	66	17	34	933	1
South Africa	52	UMIC	6850	319	48	55	32	65	666	13

Note: GNIpc = gross national income per capita; GHEpc = government health expenditure per capita; U5MR = under-five mortality rate; LE = life expectancy; cU5MR = reduction in under-five mortality rate; DAH = development assistance for health; DAHpc = DAH per capita; LIC = low-income country; LMIC = low- and middle-income country; UMIC = upper-middle-income country.

Data sources: data on DAH and DAHpc from Institute for Health Metrics and Evaluation and for 2011. Other data from World Bank and for 2011. World Bank income class for fiscal year 2015.

Implications for four categories of countries were also examined. Three of these were World Bank income classes for the fiscal year 2015 (World Bank, 2015). According to this classification, countries with GNIpc  $\leq \$1045$  in 2013 are classified as LICs; countries with GNIpc  $\$1046$ – $\$4125$  and  $\$4126$ – $\$12,745$  as LMICs and upper-middle-income countries (UMICs), respectively; and countries with GNIpc  $\geq \$12,746$  as high-income countries. The fourth category examined comprised the 20% of countries with the lowest life expectancy. Implications across income classes were examined because much of the debate on the allocation of DAH and aid more generally is framed in terms of the role of MICs compared with that of LICs. Similarly, implications for the countries with the lowest life expectancy were studied because concerns for countries with profound health needs also figure prominently in the current debate.

### *Simulation procedure*

For each criterion, the question was the following: how will the total amount of DAH currently available be distributed across countries and country categories if only this criterion is applied? For each criterion, we also examined how the distribution differed from an income baseline, that is the distribution based on a GNIpc criterion alone. Given the prominent role of GNIpc in the allocation of aid (Ottersen *et al.*, 2017), it is useful to directly compare the shares of DAH resulting from each criterion with the distribution that follows from a GNIpc criterion alone.

Obviously, no single funder or other actor is in position to determine the allocation criteria for all DAH worldwide. Funders also have different goals and mandates. However, examining how different criteria would allocate the total amount helps demonstrate how these criteria can affect the overall distribution of DAH, and this can inform funders' choice of criteria. The overall distribution of DAH is also relevant for debates in the wider global community, where broad patterns of DAH are discussed.

The model used to simulate distributions relied heavily on proportional relationships in order to facilitate an intuitive understanding of the criteria and their implications. The scales of the 11 indicators were normalised so that the lowest and highest observed value for every indicator were 1 and 10, respectively. For criteria according to which DAH increases with the metric, the following procedure was used. We posited that DAH for a given country  $i$  ( $D_i$ ) increases proportionally with DAH per capita (DAHpc) ( $d_i$ ) and population size  $s_i$ . We further assumed that  $d_i$  increases proportionally with a constant  $a$  that applied for every country, the rank-dependent weight for the country ( $w_i$ ), and the level of the metric for the country ( $m_i$ ).

$$D_i = d_i s_i = a w_i m_i s_i \quad (1)$$

We imposed the constraint that the sum of DAH across all countries  $n$  must equal total DAH currently available. This was defined as the total amount of

DAH in 2011 that could be attributed to specific countries (IHME, 2014). That total was \$14,582,799,981.

$$\sum_i^N D_i = \sum_i^N a w_i m_i s_i = a \sum_i^N w_i m_i s_i = 14,582,799,981 \text{ \$ US} \quad (2)$$

We solved (2) for each criterion to find  $a$ . With  $a$  identified, we calculated the distribution of DAH, that is the amount of DAH allocated to each country  $i$ , by using (1).

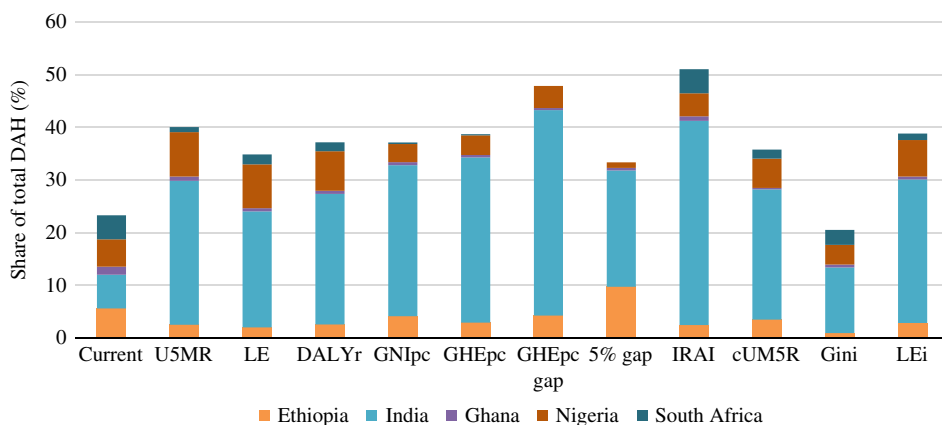
For criteria according to which DAH decreases with the metric, such as the GNIpc criterion,  $m_i$  in (1) and (2) was replaced by  $m_i^{-1}$ . When the estimate for  $m_i$  for a given indicator and given country was unavailable, DAH actually received in 2011 was used to calculate  $a$  and overall DAH for country categories.

## Results

### *Shares of assistance*

Figure 1 shows for each criterion the share of total DAH going to each focus country. The leftmost bar exhibits the countries' actual share of DAH in 2011. Supplementary Appendix 1 provides findings for all countries.

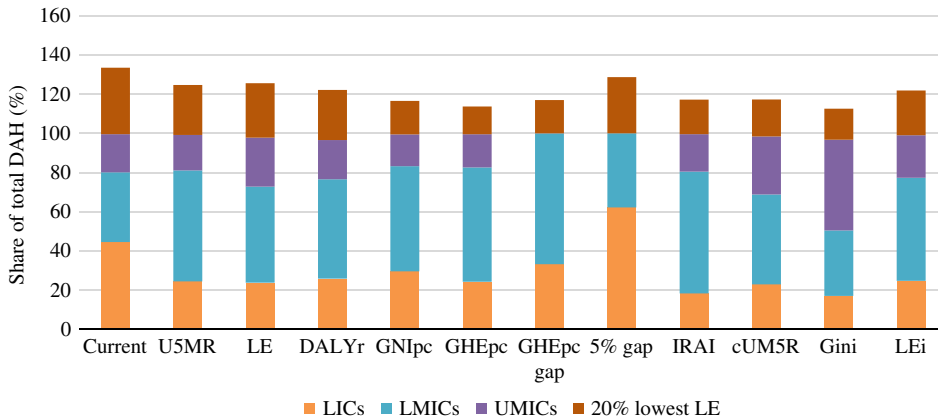
This figure demonstrates substantial variation in how the criteria allocate DAH across the five countries. For example, Ethiopia's share varied from 1% (Gini) to 10% (5% gap). This represents a difference of >\$1.4 billion, which is almost double the amount that Ethiopia currently receives. The greatest variation, however, was seen for India, whose share varied from 12% (Gini) to 39% (GHEpc gap). Through comparison with the leftmost bar, Figure 1 also illustrates



**Figure 1.** Allocations across focus countries by different criteria (share of total development assistance for health [DAH])

Note: abbreviations and data sources: see Table 1





**Figure 2.** Allocations across country categories by different criteria (share of total development assistance for health [DAH])

Note: abbreviations and data sources: see Table 1

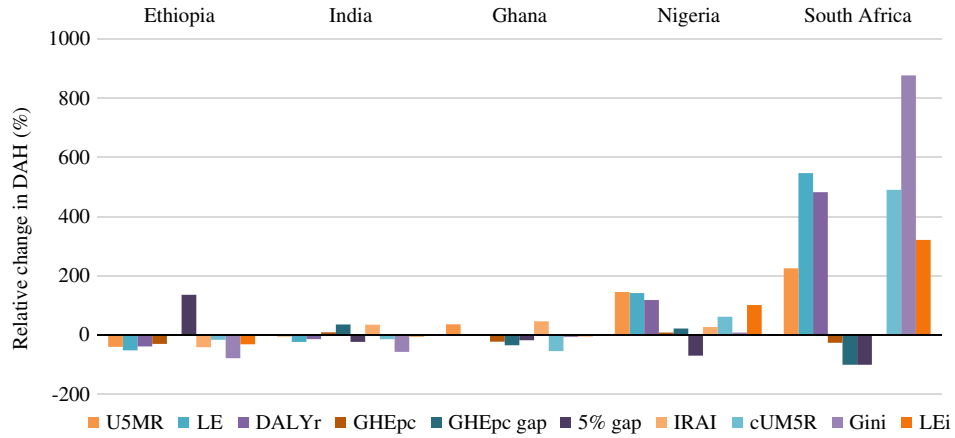
the differences between the allocations following each of the criteria and the actual allocations in 2011. Again, allocations to India stand out most clearly as India is consistently allocated more than double the amount it receives today. This is likely to be mainly explained by the assumption of proportionality with respect to population size in the simulation procedure.

With regard to country categories, Figure 2 shows for each criterion the share of total DAH to each category. The sum of shares for the LICs, LMICs and UMICs is 100% since these categories are mutually exclusive and only countries in these income classes were included in the sample.

This figure demonstrates substantial variation also across country categories, with several clear patterns. LICs as a group was most favoured by needs-based criteria linked to capacity (GNIpc, GHEpc gap, and 5% gap), while the UMIC group was clearly most favoured by the Gini criterion. The 20% of countries with the lowest life expectancy was most favoured by needs-based criteria linked to health outcomes (U5MR, LE and DALYr) and to the 5% gap. Compared with the current distribution (leftmost bar), the LMICs appear to benefit most consistently from the use of the examined criteria. This is again likely to be partly explained by the assumption of proportionality with respect to population size in the simulation procedure and the fact that many LMICs have large populations.

### *Difference from income baseline*

Given the prominent role of GNIpc in today's allocation of aid, it is useful to directly compare the shares of DAH following from each of the other criteria with the distribution that follows from a GNIpc criterion alone. In contrast to a baseline based on today's distribution of DAH, the comparison with such a GNIpc baseline is less sensitive to assumption about proportionality with respect to



**Figure 3.** Allocations across focus countries by different criteria (relative difference from income baseline)

Note: abbreviations and data sources: see Table 1

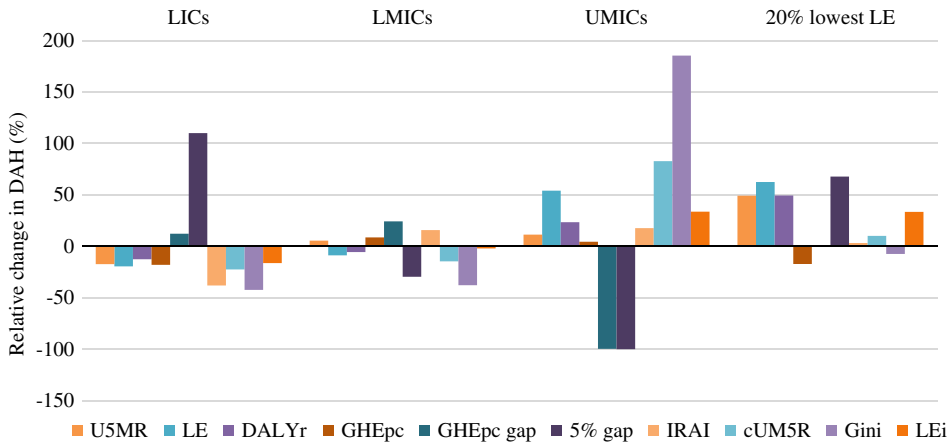
population size in the simulation procedure. Figure 3 exhibits the relative differences for each focus country, and Supplementary Appendix 2 provides findings for all countries.

This figure demonstrates marked deviations from a distribution based on the GNipc criterion alone. The greatest changes are seen for South Africa, which experienced a pronounced increase in DAH from any move from the GNipc criterion towards the criteria linked to health outcomes (U5MR, LE and DALYr), recent health improvements (cUM5R), or inequality (Gini and LEi), with the Gini criterion as the most favourable. However, South Africa was disadvantaged by any move from the GNipc criterion to the other capacity-related criteria (GHEpc, GHEpc gap and 5% gap).

The other focus countries also experienced substantial changes, and there were several clear patterns. Ethiopia received less DAH by any move from the GNipc criterion, except by a move towards the criteria linked to the GHEpc gap or the 5% gap. Conversely, Nigeria benefited from any move from the GNipc criterion to another criterion, except the 5%-gap criterion. For India and Ghana, the picture was more mixed.

With regard to country categories, Figure 4 shows the change in allocations when moving from a GNipc criterion to each of the other criteria.

The figures shows that there were substantial changes also for country categories. The most pronounced shifts were seen for the UMICs, with a pattern quite similar to that seen for South Africa (an UMIC). Specifically, the UMIC group benefited profoundly from a move from the GNipc criterion to the Gini criterion and to a lesser extent also to any other criterion, except the needs criteria linked to capacity (GHEpc, GHEpc gap and 5% gap). Conversely, LICs as a group



**Figure 4.** Allocations across country categories by different criteria (relative difference from income baseline)

Note: abbreviations and data sources: see Table 1

was consistently disadvantaged by a move away from the GNIpc criterion, only with the exception of the criteria linked to the GHEpc gap and the 5% gap. This pattern is similar to that seen for Ethiopia (a LIC).

The 20% countries with the lowest life expectancy received more DAH as a group when one moved from the GNIpc criterion to criteria linked to health outcomes, the 5% gap, or LEi. For LMICs the picture was more mixed.

## Discussion

The findings show that the distribution of DAH across countries and country categories vary substantially among different criteria. Although not surprising, this demonstrates that countries' various characteristics are not aligned in a way that makes all plausible criteria favour the same countries, and that the choice of criteria matters. The findings also demonstrate that the criteria examined in this study are likely to affect the relationship between LICs and MICs, which is a key topic in the ongoing debate on the allocation of DAH.

More specifically, the findings suggest that LICs may receive most DAH from needs-based criteria linked to capacity, and especially criteria such as the 5% gap criterion. UMICs, on the other hand, may benefit the most from criteria linked to inequality, such as the Gini criterion. Compared with a distribution guided by GNIpc, LICs may be disadvantaged by the move to most other criteria. Implications for LMICs appear more diverse.

The overview of distributional implications does not provide direct recommendations to funders about what criteria they should use. Instead, it provides a basis for funders to themselves consider their current criteria and possibly revise

the criteria they use. This includes both bilateral funders and multilateral funders such as Gavi and the Global Fund.

In addition to providing general input to the assessment and revision of criteria, the findings specifically shed light on issues related to health needs, inequalities and population size and the cross-cutting issue about the proper role of MICs (Ottersen *et al.*, 2017).

### *Health needs*

To meet health needs is widely seen as a central purpose of DAH. Many have therefore argued for supplementing GNIpc criteria with criteria directly linked to health needs in the country. The findings of this study indicate what would be the implications of applying any of the three health-needs criteria (U5MR, LE and DALYr). Specifically, the findings suggest that LICs may receive less DAH if funders supplement their GNIpc criterion with a health-needs criterion, compared with using GNIpc alone. These findings may also serve as a useful reminder for those who push for new criteria to supplement GNIpc in the allocation of DAH. The findings call for any such push to be accompanied by an examination of the consequences for LICs. The stagnation of DAH in recent years only underscores the importance of a careful examination of this kind.

### *Inequalities*

Persisting or increasing inequalities in income or health pose a challenge to the current practices of allocating DAH. Even for countries with an adequate average level of income or health, pronounced inequalities suggest that parts of the population experience severe poverty, poor health or both. It may thus be tempting to use inequality as a metric of need, where DAH increases with the level of inequality. The findings of this study indicate what the implications of such a strategy could be. Specifically, the findings suggests that inequality-based criteria, and criteria based on Gini in particular, may markedly favour UMICs.

Irrespective of the distribution across country categories, inequality criteria risk being damaging on incentives (Basu *et al.*, 2014). If greater inequalities implies more DAH, countries have less incentive to reduce these. It has also been argued that greater inequality may indicate higher capacity to address needs (Ceriani and Verme, 2013). If so, one may hold that the relation between inequality and DAH should be the opposite, ie. that DAH should decrease with inequality. Whatever criteria are used, there is also a question about to what extent one should bypass the government in face of persisting inequalities.

### *Population size*

The role of population size often remains in the periphery of discussions on the allocation of DAH. The findings of this study indicates that how one deals with

population size can have a huge impact on allocation. In the simulations, highly populous countries, such as India, tended to receive much more DAH than they do today. This is likely to have been driven in large part by the assumption about proportionality with respect to population size in the simulation procedure. The underlying rationale for such an assumption is that needy individuals have an equal claim on assistance, irrespective of whether they happen to be part of a small or large population.

However, proportionality with respect to population size seems to be far from today's *de facto* allocation of aid. It has been suggested that per capita development assistance tend to decrease with population size or increase and then decrease (Alesina and Dollar, 2000; Neumayer, 2003; Salois, 2012). This may be explained by perceptions about the correlation between population size and other factors, such as economies of scale, resilience to shocks and effectiveness. However, there is reason to question whether today's approach is well-founded and consistent, especially with regard to health needs. While some studies have simulated the implications of different approaches to population size (Guillaumont, 2008; Guillaumont *et al.*, 2015), its proper role in the allocation of DAH deserves more systematic scrutiny.

### *Wider considerations*

To promote a fair and effective overall distribution of DAH is likely to be only one among several considerations that funders make. As mentioned above, historical ties and political and trade-related interests will often play a key role. These factors may lead funders to make decisions that go against their own stated criteria, but the same factors may also influence the choice of criteria in the first place. Irrespective of their fundamental aims, funders may also want to consider the quality and availability of indicators when choosing their allocation criteria, and they may want to consider the risk for gaming or false reporting. It is also important, of course, that the criteria align with other policies. For example, the criteria for allocation across countries may need to be adjusted to fit the desired criteria for allocation across disease areas.

### *Limitations and future inquiry*

Although this study examined eleven criteria, there are many other plausible candidates, and the various criteria may be operationalised in ways different from what was done here. This study also examined only single criteria. Future studies may consider other criteria and examine the implications of packages of criteria, building on insights on the implications of individual criteria. These studies could also pay more attention to effectiveness criteria and to how GNIpc and income class relate to the effectiveness of DAH (Glennie, 2011; Thomas, 2013).

The simulation involved a number of methodological choices, and many of these could reasonably be made differently. One example is the choice of normalisation, which may have considerable impact (McGillivray, 2004; Guillaumont, 2008; Guillaumont *et al.*, 2015). In addition, the operationalisation of the criteria and the specification of the weights, including the weight capturing the concern for the worse off, could have been based on empirically derived preferences. This would have been interesting although the relevance for the question about how DAH *should* be allocated is not straightforward. Another general issue is that none of the examined criteria was forward looking in that they included future projections. Finally, none of the criteria was directly based on a health production function or a costing or budget methodology (Fan *et al.*, 2014).

Future research can address the issues highlighted by this study in greater depth, including the role of health needs, inequalities, and population size in the allocation of DAH. In particular, it would be useful to examine how major funders of DAH deal with population size – implicitly or explicitly – and what approaches that could be justified by economies of scale and other widely accepted concerns. Since populous countries, including China and India, heavily influence the distribution across country categories, it would also be useful to characterise their role with more precision than have been done here. This would also allow for more useful comparisons between distributional implications from specific criteria and today's pattern of DAH.

Finally, this study has considered criteria for the allocation of DAH among eligible countries. It is important to also examine the implications of different criteria determining eligibility for DAH and transitioning from DAH (Glassman *et al.*, 2013; Salvado and Walz, 2013). Although the same metric – such as GNIpc – often is used for these different kinds of criteria, the consequences can be very different.

## Conclusion

With large unmet needs and limited funds available, a fair and effective allocation of DAH is essential. In this study, we simulated distributional implications across countries and country categories for 11 allocation criteria. We found that the distributions varied profoundly. The group of LICs received most DAH from needs-based criteria linked to domestic capacity, while the group of UMICs was most favoured by the income-inequality criterion. Compared with a baseline distribution guided by GNIpc, LICs received less DAH from almost all criteria. The findings can inform funders when examining and revising the criteria they do use, and provide input to the broader debate about what criteria should be used.

## Acknowledgements

The authors are grateful to the members of the Working Group on Health Financing at Chatham House Centre on Global Health Security and to Joseph Dieleman, Victoria Fan and Martin McKee for their valuable comments.

## Supplementary material

To view supplementary material for this article, please visit <https://doi.org/10.1017/S1744133116000487>

## References

- Alesina, A. and D. Dollar (2000), 'Who gives foreign aid to whom and why?', *Journal of Economic Growth*, 5: 33–63.
- Anderson, E. (2008), 'Practices and implications of aid allocation', Background Study for the 2008 Development Cooperation Forum. UN Economic and Social Council (ECOSOC). [http://www.un.org/en/ecosoc/newfunct/pdf/revised%20draft\(anderson\).pdf](http://www.un.org/en/ecosoc/newfunct/pdf/revised%20draft(anderson).pdf)
- Basu, S., D. Stuckler and M. McKee (2014), 'An alternative mechanism for international health aid: evaluating a global social protection fund', *Health Policy and Planning*, 29: 127–136.
- Berthelemy, J.-C. (2006), 'Bilateral donors' interest vs. recipients' development motives in aid allocation: do all donors behave the same?', *Review of Development Economics*, 10(2): 179–194.
- Cagé, J. (2015), 'Improving upon the World Bank's Country Policy and Institutional Assessment: a new performance indicator based on aid effectiveness', *Journal of Globalization and Development*, 5(2): 213–233.
- Ceriani, L. and P. Verme (2013), 'The Income Lever and the Allocation of Aid', ECINE Working Paper Series, Society for the Study of Economic Inequality, Verona, Italy.
- Collier, P. and D. Dollar (2002), 'Aid allocation and poverty reduction', *European Economic Review*, 46: 1475–1500.
- Consultative Expert Working Group (2012), 'Research and Development to Meet Health Needs in Developing Countries: Strengthening Global Financing and Coordination', CEWG on Research and Development: Financing and Coordination. Geneva: World Health Organization.
- Crosswell, M. (2015), 'Country Selectivity and Extreme Poverty', USAID Economics Brief, USAID, Washington, DC.
- Daniels, N. and J. E. Sabin (2008), *Setting Limits Fairly: Learning to Share Resources for Health*, 2nd edn, New York: Oxford University Press.
- Dieleman, J. L., C. M. Graves, T. Templin, E. Johnson, R. Baral, K. Leach-Kemon, A. M. Haakenstad and C. J. L. Murray. (2014), 'Global health development assistance remained steady in 2013 but did not align with recipients' disease burden', *Health Affairs*, 33(5): 878–886.
- Fan, V. Y., A. Glassman and R. L. Silverman (2014), 'How a new funding model will shift allocations from the Global Fund to Fight AIDS, tuberculosis, and malaria', *Health Affairs*, 33(12): 2238–2246.
- Frenk, J., O. Gómez-Dantés and F. Chacón (2011), 'Global Health in Transition', in R. Parker and M. Sommer (eds), *Routledge Handbook in Global Public Health*, New York: Routledge.
- Frenk, J. and S. Moon (2013), 'Governance challenges in global health', *New England Journal of Medicine*, 368: 936–942.
- Glassman, A., D. Duran and A. Sumner (2013), 'Global health and the new bottom billion: what do shifts in global poverty and disease burden mean for donor agencies?', *Global Policy*, 4(1): 1–14.

- Glennie, J. (2011), 'The Role of Aid to Middle-Income Countries: A Contribution to Evolving EU Development Policy', *Working Paper 331*, Overseas Development Institute, London.
- Global Fund (2016), 'Equitable Access Initiative', Global Fund to Fight AIDS, Tuberculosis and Malaria, <http://www.theglobalfund.org/en/equitableaccessinitiative/> [25 September 2016].
- Gostin, L. O. (2014), *Global Health Law*, Cambridge, MA: Harvard University Press.
- Guillaumont, P. (2008), 'Adapting Aid Allocation Criteria to Development Goals', Essay for the 2008 Development Cooperation Forum, Clermont-Ferrand, France.
- Guillaumont, P., S. G. Jeanneney and L. Wagner (2015), 'How to Take Into Account Vulnerability in Aid Allocation Criteria and Lack of Human Capital as Well: Improving the Performance Based Allocation', FERDi Working Paper, Fondation pour les Etudes et Recherches sur le Développement International, Clermont-Ferrand, France.
- Institute for Health Metrics and Evaluation (IHME) (2014), *Financing Global Health 2013: Transition in an Age of Austerity*, Seattle, WA: IHME.
- Institute for Health Metrics and Evaluation (IHME) (2016), *Financing Global Health 2015: Development Assistance Steady on the Path to New Global Goals*, Seattle, WA: IHME.
- International Development Association (2013), 'Annex 2. IDA's performance-based allocation system for IDA17', IDA, [http://www.worldbank.org/ida/papers/Annex\\_2\\_IDA17.pdf](http://www.worldbank.org/ida/papers/Annex_2_IDA17.pdf) [28 February 2015].
- Leo, B. (2010), 'Inside the World Bank's Black Box Allocation System: How Well Does IDA Allocate Resources to the Neediest and Most Vulnerable Countries?', Working Paper 216, Center for Global Development, Washington, DC.
- Llavorador, H. G. and J. E. Roemer (2001), 'An equal-opportunity approach to the allocation of international aid', *Journal of Development Economics*, **64**: 147–171.
- McGillivray, M. (2004), 'Descriptive and prescriptive analyses of aid allocation: approaches, issues, and consequences', *International Review of Economics and Finance*, **13**: 275–292.
- McIntyre, D., F. Meheus and J.-A. Røttingen (2017), 'What level of domestic government health expenditure should we aspire to for universal health coverage?', *Health Economics, Policy and Law*, **12**(2): 125–137.
- Moon, S. and O. Omole (2013), 'Development Assistance for Health: Critiques and Proposals for Change', Centre on Global Health Security Working Group Papers, Chatham House, London.
- Neumayer, E. (2003), 'The determinants of aid allocation by regional multilateral development banks and United Nations agencies', *International Studies Quarterly*, **47**(1): 101–122.
- Ooms, G., K. Derderian and D. Melody (2006), 'Do we need a world health insurance to realise the right to health?', *PLoS Medicine*, **3**(12): e530.
- Ottersen, T., A. Kamath, S. Moon, L. Martinsen and J.-A. Røttingen (2017), 'Development assistance for health: what criteria do multi- and bilateral funders use', *Health Economics, Policy and Law*, **12**(2): 223–244.
- Ottersen, T., S. Moon and J.-A. Røttingen (2017), 'The challenge of middle-income countries to development assistance for health: recipients, funders, both or neither', *Health Economics, Policy and Law*, **12**(2): 265–284.
- Pietschmann, E. (2014), *Forgotten or Unpromising? The Elusive Phenomenon of Under-Aided Countries, Sectors and Sub-National Regions*, Bonn: German Development Institute.
- Resch, S., T. Ryckman and R. Hecht (2015), 'Funding AIDS programmes in the era of shared responsibility: an analysis of domestic spending in 12 low-income and middle-income countries', *Lancet Global Health*, **3**: e52–e61.



- Røttingen, J.-A., T. Ottersen, A. Ablo, D. Arhin-Tenkorang, C. Benn, R. Elovainio, D. B. Evans, L. E. Fonseca, J. Frenk, D. McCoy, D. McIntyre, S. Moon, G. Ooms, T. Palu, S. Rao, D. Sridhar, J. Vega, S. Wibulpolprasert, S. Wright and B. M. Yang. (2014), *Shared Responsibilities for Health: A Coherent Global Framework for Health Financing*, London: Chatham House.
- Salois, M. J. (2012), 'Biases in the distribution of bilateral aid: a regional decomposition analysis', *Applied Economics Letters*, **19**(2): 203–206.
- Salvado, R. C. and J. Walz (2013), 'Aid Eligibility and Income Per Capita: A Sudden Stop for MICs?', DPAF Working Paper Series, Bill & Melinda Gates Foundation, Seattle.
- Stuckler, D., S. Basu, S. W. Wang and M. McKee (2011), 'Does recession reduce global health aid? Evidence from 15 high-income countries, 1975–2007', *Bulletin of the World Health Organization*, **89**: 252–257.
- Sumner, A. (2012), 'Where do the poor live?', *World Development*, **40**(5): 865–877.
- Thomas, A. (2013), *Do Middle-Income Countries Need Aid? Literature Review and Analysis of Evidence and Opinions Used in the Aid Differentiation Debate*, London: Bond.
- Vázquez, S. T. (2015), 'Geographical Allocation of Aid: Lessons from Political Economy', in B. M. Arvin and B. Lew (eds) *Handbook of the Economics of Foreign Aid*, Cheltenham: Edward Elgar Publishing.
- Word Bank (2015), 'Country and lending groups', <http://data.worldbank.org/about/country-and-lending-groups> [2 March 2015].



# The challenge of middle-income countries to development assistance for health: recipients, funders, both or neither?

TRYGVE OTTERSEN\*

*Oslo Group on Global Health Policy, Department of Community Medicine and Global Health and Centre for Global Health, University of Oslo, Oslo, Norway*

*Department of Global Public Health and Primary Care, University of Bergen, Bergen, Norway*

*Department of International Public Health, Norwegian Institute of Public Health, Oslo, Norway*

SUERIE MOON

*Harvard T.H. Chan School of Public Health, Harvard University, Boston, MA, USA*

JOHN-ARNE RØTTINGEN

*Harvard T.H. Chan School of Public Health, Harvard University, Boston, MA, USA*

*Department of Health Management and Health Economics, University of Oslo, Oslo, Norway*

*Infectious Disease Control and Environmental Health, Norwegian Institute of Public Health, Oslo, Norway*

**Abstract:** Recent developments have transformed the role and characteristics of middle-income countries (MICs). Many stakeholders now question the appropriate role of MICs in the system of development assistance for health (DAH), and key funders have already recast their approach to these countries. The pressing question is whether MICs should be recipients, funders, both or neither. The answer has deep implications for individual countries and their citizens, and for the DAH system as a whole. We clarify the fundamental issues involved and emphasise a special feature of many MICs: mid-level gross national income per capita (GNIpc) combined with substantial health needs and large inequalities. We discuss the trade-off between concerns for capacity and need, and illustrate a capacity-based approach to setting the level of a GNIpc eligibility threshold. We also discuss how needs-based exceptions and incentive-preserving instruments can complement such a threshold. Against this background, we outline options for the future roles of MICs in various circumstances. We conclude that major players in the DAH system have reason to reconsider the criteria for allocating DAH among countries and the norms for which countries should contribute and how much.

\*Correspondence to: Trygve Ottersen, Department of Community Medicine and Global Health, Institute of Health and Society, PO Box 1130 Blindern, 0318 Oslo, Norway. Email: [trygve.ottersen@medisin.uio.no](mailto:trygve.ottersen@medisin.uio.no)

## Introduction

### *Recent changes*

Recent developments have transformed the role and characteristics of middle-income countries (MICs), as defined by the World Bank. The MICs have increased in number, and the economies of many of current MICs have been rapidly growing, yet often coupled with rising or persistent within-country inequalities. The MIC category now comprises 105 countries (fiscal year 2015), 70% of the world's population, over 30% of the global GDP, over 75% of the world's poor, and almost 70% of the disease burden in the world (Sumner, 2012) [based on data from the World Bank and the Institute for Health Metrics and Evaluation (IHME)].

These transitions have reinforced a special feature of MICs collectively and of many MICs individually: mid-level gross national income per capita (GNIPC) combined with substantial poverty and unmet health needs and large inequalities in income and health. For example, in several of these countries, the under-five mortality rate (U5MR) in the lowest wealth quintile is more than double the rate in the highest wealth quintile [World Health Organisation (WHO), 2015]. Moreover, many MICs are now both recipients and increasingly significant funders of aid [Global Health Strategies initiatives (GHSi), 2012; IHME, 2016].

### *Challenge and key questions*

In response to these changes, many have questioned the role of MICs in the system of development assistance for health (DAH). The pressing question is this: should MICs be DAH recipients, funders, both, or neither? As nearly all countries are DAH funders to some extent, for example through their contributions to the UN system, the real question is about which countries should be significant recipients and funders. This is currently a topic of intense debate, and the positions differ widely, as expressed in both word and action. On the one side are those who support that aid should be concentrated in low-income countries (LICs), and in line with this view, Gavi, the Vaccine Alliance (Gavi) and the International Development Association (IDA) use eligibility thresholds that exclude most and nearly all MICs, respectively. On the other side are those who support that most or all MICs should be fully eligible for development assistance or at least provide forceful arguments to that end (Glennie, 2011; Verbeke and Renard, 2011; Kanbur and Sumner, 2012; Glassman *et al.*, 2013). Corresponding to this, funders such as the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund), the United Nations Children's Fund (UNICEF) and the United Nations Development Programme (UNDP) consider all MICs eligible for assistance (reference to paper by Ottersen, Kamath, Moon, Martinsen and Røttingen in this series).

Despite this profound divergence in approaches to MICs, there have been relatively few comprehensive analyses of the various roles they may play in

development assistance (Glennie, 2011; Verbeke and Renard, 2011; Kanbur and Sumner, 2012; Alonso *et al.*, 2014; Kanbur, 2016), and hardly any such inquiries with regard to DAH (Glassman *et al.*, 2013).

Underlying the specific question about MICs is also a fundamental question for the DAH system: what should be the criteria for identifying recipient and funding countries? Linked to both questions is the issue of country classification and income classification in particular.

### *Objective*

We wanted to address the specific question about what roles MICs can play in DAH and the more general question about criteria for identifying recipient and funding countries. Below, we initially focus on direct financial transfers and the criteria for identifying countries that should reasonably be net recipients and net funders, respectively. We first seek to clarify the fundamental issues involved and highlight a special feature of many MICs. We then examine allocation criteria and the identification of recipients, before addressing contribution norms and the identification of funders. In the final section, we conclude and offer some recommendations for decision makers.

### *Importance*

Examining what roles the MICs can play is important because MIC is a category widely used today and because many believe that the role different countries should have in the DAH system can be usefully tied to their income class (reference to paper by Ottersen, Kamath, Moon, Martinsen and Røttingen in this series). According to the World Bank classification for the fiscal year 2015, countries with GNIpc  $\leq$  \$1045 in 2013 are classified as LICs; countries with GNIpc \$1046–4125 and \$4126–12,745 as lower- and upper middle-income countries (LMICs and UMICs), respectively; and countries with GNIpc  $\geq$  \$12,746 as high-income countries (HICs) (World Bank, 2015). While this classification and the MIC category is commonly used, it is also widely agreed that MICs are very heterogeneous, and several categorisations of MICs have been offered. For example, one recent proposal categorises MICs in genuine MICs, premature MICs, post-Soviet ‘bounce-back’ MICs, and MICs with small populations (Sumner, 2016). Irrespective of their view on GNIpc per se, most people also seem to agree that the GNIpc classification thresholds are at least somewhat arbitrary and that the question about how these thresholds should be adjusted over time can be difficult. Nonetheless, examining the role of MICs can be highly instructive because a simple income classification may be a useful starting point for decisions on eligibility and allocation of DAH even if such a classification is imperfect and insufficient alone.

Answers to the specific question about MICs and the general question about criteria can have profound implications for individual countries and the DAH

system as a whole. The importance of satisfactory answers is further underscored by the general economic downturn and the stagnation of DAH after a decade of unprecedented growth (IHME, 2016), the epidemiological transition and rise of non-communicable diseases, the increasing complexity of the DAH landscape, the ongoing work on the UN Sustainable Development Goals, and the upsurge of initiatives for new financing mechanisms for global health which require norms for which countries should contribute and how much (contribution norms) and criteria for which countries should receive funding and how much (allocation criteria) [Ooms *et al.*, 2006; Consultative Expert Working Group (CEWG), 2012; Gostin, 2014] (reference to paper by Ottersen, Kamath, Moon, Martinsen and Røttingen in this series). The challenge posed by MICs also motivated the recent Equitable Access Initiative – a multi-partner initiative set to develop a new framework to classify countries and to guide global health investments (Equitable Access Initiative, 2015). Finally, contribution norms and allocation criteria can be as pivotal to the financing and provision of global public goods as to traditional DAH.

### The special feature of MICs

The crux of the issue is a special feature of most MICs: mid-level GNIpc and substantial health needs and large inequalities. These characteristics will for most people pull in opposite directions. Mid-level GNIpc may suggest that MICs have the internal capacity to respond to domestic health needs, or at least greater capacity than LICs. Accordingly, one may hold that MICs have no claim on DAH and should be ineligible, or at least that DAH to MICs are less important than to LICs. Mid-level GNIpc may also suggest that many MICs can and should contribute significantly to DAH. On the other hand, substantial unmet health needs suggests that DAH to MICs is warranted, as meeting such needs is generally considered a central purpose of DAH. In fact, the absolute amount of unmet need and the number of individuals in need will often be greater in MICs than in LICs. Accordingly, one may hold that MICs have a claim on DAH and should be eligible, and perhaps even that DAH to MICs is equally or more important than to LICs. Balancing the concerns associated with GNIpc and unmet health needs is thus the crux of the issue, and this balancing act is a useful starting point for analysing the roles MICs can play and the criteria for identifying recipient and funding countries.

Table 1 highlights the points just made. It exhibits central characteristics of LICs, LMICs, UMICs, and HICs, as well as of some countries in each class. Beyond GNIpc, the characteristics include indicators related to need, inequality, health expenditure and DAH received. The ‘cross’ category emphasises four central relationships. GNI/U5M is the ratio of GNI to under-five mortality (U5M) while GNI/DALY is the ratio of GNI to the number of disability-adjusted life years (DALYs). Both ratios can be seen as a measure of a country’s economic capacity to address needs per unit of unmet health needs. Correspondingly,

**Table 1.** Key characteristics of low-income countries (LICs), middle-income countries (MICs) and high-income countries (HICs)

		Capacity		Need		Inequality			Expenditure		Assistance received		Cross				
	Number	Population (million)	GNlpc (US\$)	% in poverty at \$2/day	U5MR (per 1000)	DALY rate (per 1000)	Income share of lowest 10% (%)	Gini index	U5MR ratio across quintiles	GHEpc (US\$)	GHE/ GNI (%)	DAH (million US\$)	DAHpc (US\$)	GNl/U5M (million)	GNl/ DALY ('000)	DAH/ U5M ('000)	DAH/ DALY
LICs	34	849	664	74	76	555	na	na	na	10	2.0	6498	8.0	0.2	0.6	2.9	15
Ethiopia		94	470	72	64	534	3.2	34	1.6	9	2.1	816	9.6	0.2	0.7	3.8	18
Tanzania		49	630	73	52	586	3.2	38	1.2	16	2.9	697	15.0	0.3	0.9	6.5	26
LMICs	50	2561	2067	51	59	417	na	na	na	33	1.7	5113	2.1	1.5	4.1	1.4	5
India		1252	1570	61	53	416	3.7	34	3.0	20	1.3	933	0.8	1.4	3.1	0.6	2
Vietnam		90	1730	12	24	242	2.9	36	na	44	2.8	295	2.8	4.6	5.1	8.2	14
Ghana		26	1760	52	78	485	2.0	43	1.7	47	3.0	224	9.0	0.7	2.6	3.5	19
Nigeria		174	2710	82	117	795	2.2	43	2.5	29	1.2	757	4.6	0.6	1.8	0.9	6
Indonesia		250	3580	43	29	303	3.4	36	2.5	43	1.2	223	0.9	6.4	8.3	1.5	3
UMICs	55	2409	7594	14	20	266	na	na	na	248	3.7	2836	1.2	24.1	22.5	3.7	4
Thailand		67	5370	4	13	280	2.8	39	na	164	3.1	86	1.2	39.1	15.4	8.6	5
China		1357	6560	19	13	244	1.7	42	na	180	3.1	207	0.2	42.7	17.0	0.9	1
South Africa		53	7190	26	44	653	1.1	65	na	309	4.1	666	13.2	7.8	9.1	12.8	20
Colombia		48	7560	12	17	255	1.1	54	2.2	402	5.7	114	2.4	23.4	21.4	6.9	10
Brazil		200	11,690	7	14	277	1.0	53	na	490	4.2	175	0.9	56.4	34.3	3.8	3
HICs	76	1175	42,881	na	7	267	na	na	na	3170	7.5	0	0	527.0	125.3	0	0
UK		64	42,040	na	5	271	2.9	33	na	3025	7.4	0	0	715.4	141.9	0	0
Norway		5	104,130	na	3	248	3.6	26	na	7947	8.0	0	0	3148.5	350.1	0	0

UK = United Kingdom. na = Not available. Number: number of countries in income class. World Bank classification for fiscal year 2015, based GNlpc for 2013. Population: number of people in millions. World Bank data for 2013. GNlpc: gross national income per capita, Atlas method, in US\$. World Bank data for 2013. Averages provided directly by the World Bank. % in poverty at \$2/day: poverty headcount ratio at \$2/day (purchasing power parity) in per cent. World Bank data for most recently available year, but no later than 2010 except for Ghana (2006). Averages provided directly by the World Bank. U5MR: under-five mortality rate per 1000 live births. World Bank data for 2013. Averages provided directly by the World Bank. DALY rate: disability-adjusted life years per 1000 people. Based on IHME data on DALY rate for 2010. Population-weighted averages. Income share of lowest 10%: income share held by the 10% of the population with the lowest income, in per cent. World Bank data for most recently available year, but no later than 2010 except for India (2009) and Ghana (2006). Gini index: World Bank data for most recently available year, but no later than 2010 except for India (2009) and Ghana (2006). U5MR ratio across quintiles: under-five mortality rate per 1000 live birth in the lowest wealth quintile relative to the rate in the highest quintile. Data from World Health Statistics 2014 for most recently available year, but no later than 2005–2006 (India). GHEpc: Government health expenditure per capita, in US\$. Based on World Bank data for 2012. Averages provided directly by the World Bank. GHE/GNI: Government health expenditure relative to gross national income, in per cent. Based on World Bank data for 2012. Population-weighted averages. DAH: development assistance for health received, in million US\$. IHME data for 2011. Figures include only DAH that could be tracked to a particular recipient country. DAHpc: development assistance for health received per capita, in US\$. IHME data for 2011. Figures include only DAH that could be tracked to a particular recipient country. Population-weighted averages based on World Bank data on population for 2011. GNl/ U5M: gross national income relative to under-five mortality, in thousands. Based on World Bank data on GNl, population, and U5MR for 2013 and crude birth rate for 2012. Population-weighted averages. GNl/DALY: gross national income relative to disability-adjusted life years, in thousands. Based on World Bank data on GNl for 2010 and IHME data on DALYs for 2010. Population-weighted averages. DAH/U5M: development assistance for health received relative to under-five mortality. Based on IHME data on DAH for 2011 and World Bank data on population, crude birth rate, and U5MR for 2011. Population-weighted averages. DAH/DALY: development assistance for health received relative to disability-adjusted life years. Based on IHME data on DAH for 2011 and DALYs for 2010. Population-weighted averages.

DAH/U5M and DAH/DALY can be seen as measures of DAH per unit of unmet health needs.

Table 1 indicates how GNIPC and unmet health needs tend to be inversely correlated, but also that this trend has important exceptions, given that several countries have greater needs than countries with lower GNIPC. Apart from inter-country relations, Table 1 also demonstrates the substantial unmet needs in LMICs and even UMICs. South Africa, for example, has a GNIPC that places it well within the UMIC class, while U5MR is very high and higher than in several LMICs and even in some LICs (not shown). Moreover, the severe situation of certain populations stands out even clearer if one also considers the ratio of U5MR in the lowest and highest wealth quintile. In India, for example, that ratio is as high as three. When it comes to the cross categories, there is also clear trends across GNIPC and countries categories, as well as important exceptions. For example, while Brazil has a national income of 56 million/child death, Ethiopia has only 0.2 million. Ethiopia has thus arguably a much lower capacity to address these deaths and may be in greater need of development assistance. With regard to DAH, one clear example of cross-country variation is how Vietnam receives almost 14 times more DAH per child death than India, despite the two countries having similar GNIPC.

### **Allocation criteria and identification of recipients**

When considering the role of MICs in the DAH system, it is natural to start examining the relevance of GNIPC.

#### ***National income and capacity***

Today, GNIPC is a prominent criterion for identifying recipients and for determining the amount of DAH to be received (reference to paper by Ottersen, Kamath, Moon, Martinsen and Røttingen in this series). The central role of GNIPC criteria can be explained by the quantitative and objective nature of GNIPC, the availability of data, and its relationship to overarching objectives and criteria for development assistance. For development assistance in general, GNIPC can be an indicator of development need, effectiveness and capacity. For DAH, the link to capacity is likely to be most relevant. While national income may be seen as integral to general development need, DAH is primarily concerned with unmet health needs. As is well known, GNIPC is correlated with many health outcomes, including life expectancy, but the correlation between GNIPC and health needs is far from perfect, as is indicated in Table 1 and Figure 3. Similarly, DAH is primarily concerned with effectiveness in terms of improvements in *health* outcomes, and a consistent link between GNIPC and such improvements has yet to be established. Development assistance may be more effective in MICs than in LICs, but the relationship between level of GNIPC and effectiveness of



development assistance is clearly not a straightforward one (Glennie, 2011; Verbeke and Renard, 2011; Kanbur and Sumner, 2012; Glassman *et al.*, 2013; Alonso *et al.*, 2014; Glennie and Sumner, 2014).

Higher GNIpc generally indicates greater domestic capacity, where domestic capacity is understood as the country's ability to address needs without external support. This understanding is in line with many other definitions of capacity, and capacity so understood relates to ability to pay, fiscal space and absence of financial constraints (Reddy and Heuty, 2004; Knack *et al.*, 2012; Glassman *et al.*, 2013; Resch *et al.*, 2015). Capacity as the ability to meet needs without external support is different from absorptive capacity, which is the country's ability to effectively make use of such support.

GNIpc is a broader capacity indicator than both general government expenditure per capita (GGEpc) and government health expenditure per capita (GHEpc). This is underscored by the fact that governments have numerous levers at their disposal to raise the levels of GGEpc and GHEpc even for a given level of GNIpc (reference to paper by Elovainio and Evans; paper by Meheus and McIntyre; and paper by McCoy, Chigudu and Tillmann in this series).

The idea that higher GNIpc indicates greater capacity can be combined with the generally acknowledged principle that countries with greater capacity have less claim on external support. This principle is sometimes motivated by ideals for allocating aid on the basis of responsibility, desert or equality of opportunity among countries (Llavador and Roemer, 2001; Cogneau and Naudet, 2007). However, if individuals are our ultimate unit of concern, it is equality of opportunity *among individuals* that really matters. Nevertheless, holding countries responsible for reasons related to incentives can be compatible with this. The very activity of holding states responsible – including allocating less DAH to countries with higher GNIpc – may reduce perverse incentives and moral hazard, and induce higher domestic health spending, with positive consequences for individuals overall. Conversely, if states qualify for DAH irrespectively of GNIpc and their capacity to address domestic health needs, they may not be motivated to invest sufficiently in health and health services. This mechanism is discussed extensively in several bodies of literature, including those on aid conditionality and aid dependency (Svensson, 2000; Gibson *et al.*, 2005).

### *Identifying capacity thresholds*

Given the preceding discussion, it is relevant to explore how a general GNIpc threshold may be specified from a capacity perspective. This can be done by considering the minimum GNIpc necessary to ensure priority services for different levels of effort. Such an attempt is bound to be crude, but a general threshold – based on concerns for capacity or otherwise – can be useful in practice even if imperfect and insensitive to many country particularities. The approach outlined

can also provide a framework for reasoning and starting point for further discussion and for adjustments of thresholds.

From a capacity perspective, the search for a threshold may start by asking what minimum level of GNIpc that is required for a country to ensure priority services for everyone *if* it exerts very high effort. This level can be sought by way of two steps. First, one estimates the minimum level of GHEpc typically required to ensure priority services for everyone. The 2001 Commission on Macroeconomics and Health (CMH) and the 2009 Task Force for Innovative International Financing for Health Systems (HLTF) have provided such estimates for total health expenditure per capita (THEpc) (CMH, 2001; HLTF, 2009). A recently updated estimate based on the HLTF methodology suggests that GHEpc of \$86<sup>1</sup> (in both 2012 and 2015 terms) is the minimum expenditure required in 2015 to ensure priority services for everyone the context of LICs (reference to paper by McIntyre, Meheus and Røttingen in this series).<sup>2</sup> The rationale for seeing \$86 as a target for GHEpc rather than THEpc is that in order to ensure universal health coverage (UHC) of priority services for everyone, the \$86 would probably need to come from mandatory, prepaid, pooled funds rather than from private spending.

The second step is to exploit the link between country effort and the ratio of GHE to GNI. A reasonable estimate of what ratio that indicates very high effort is the upper centile for LICs and MICs when ranked from lowest to highest. For 2012, the upper centile ratio was 6.1%.<sup>3</sup> The minimum GNIpc required to ensure priority services for everyone given very high effort can then be estimated by dividing the minimum GHEpc, that is \$86, by the upper centile ratio, which gives a GNIpc of \$1410 (2012). It is important to note that the GNIpc and GHEpc estimates used are not adjusted for purchasing power parity (PPP), which is in line with the World Bank classification and most eligibility thresholds and allocation policies employed today. Use of PPP-based estimates is likely to have generated different results, and the advantages and disadvantages of such measures are extensively discussed elsewhere.

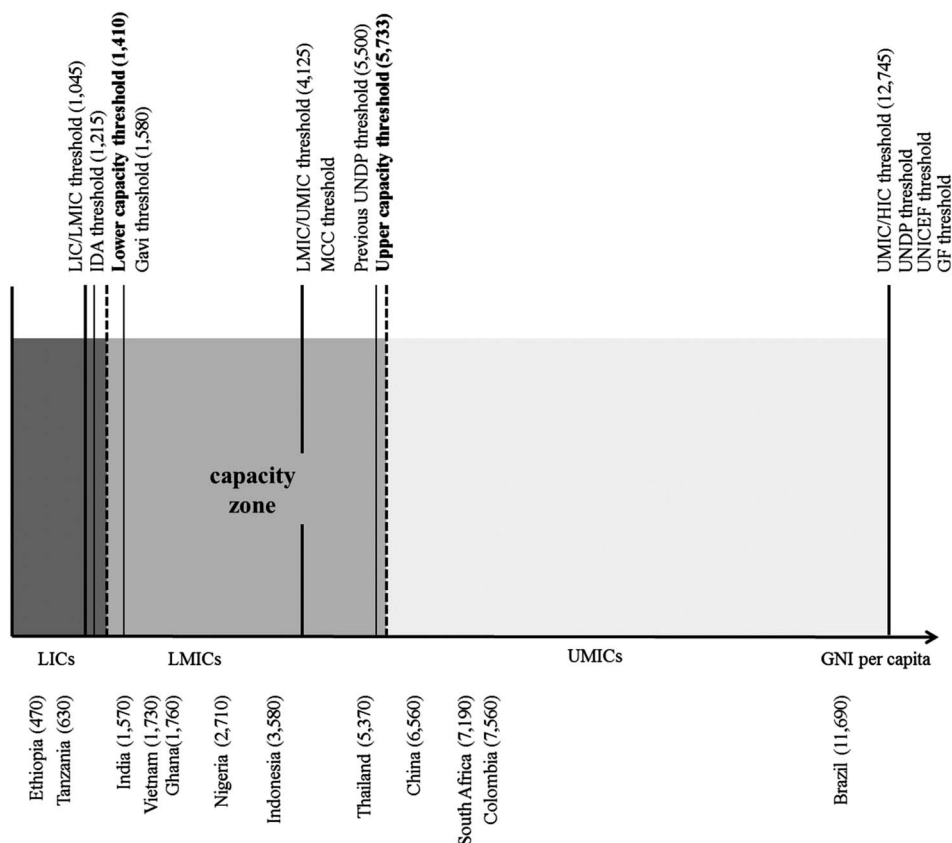
The upshot of the two-step procedure is that countries below \$1410 GNIpc will be unable to ensure priority services for everyone, even if they exert very high effort (by dedicating 6.1% or more of GNI to health). From a capacity perspective, it may thus be good reasons to consider all these countries eligible for DAH and reasonable net recipients. Accordingly, \$1410 may be what we can call the lower capacity threshold. Its relations to other thresholds are illustrated in Figure 1.

Even if one believes that every country below the lower capacity threshold should be eligible, it may not be appropriate to consider every country above that threshold ineligible. One reason is that very high effort, by any reasonable standard, can

1 All dollar amounts in this article is in US dollars.

2 While the corresponding estimates for MICs are likely to be higher, partly due to higher price levels, we will use that estimate throughout.

3 Based on World Bank data. Only countries with available GNIpc estimates for 2012 were included, except Cuba (2011). These ratios are partly influenced by external funding and funders' priorities.



**Figure 1.** Eligibility thresholds and gross national income per capita (GNIPc) of selected countries.

Explanation: income classification thresholds are based on the World Bank classification for fiscal year 2015. GNIPc figures are based on World Bank data for 2013 (Atlas method). All figures are in US\$. GNI = gross national income; LICs = low-income countries; LMICs = lower middle-income countries; UMICs = upper middle-income countries; IDA = The International Development Association; MCC = The Millennium Challenge Corporation; UNDP = The United Nations Development Programme; UNICEF = The United Nations Children's Fund; GF = The Global Fund to Fight AIDS, Tuberculosis and Malaria.

translate into a GHE/GNI ratio lower than 6.1% if the circumstances are difficult enough. The set of barriers which countries face in their pursuit of social objectives are not fully captured by GNIPc. Generally, it may also be easier to secure a certain share of GNIPc for health, the higher GNIPc is, although evidence suggests that both the ratio of general government expenditures to GNI and the share of general government expenditures being devoted to health are largely matters of political choice (reference to paper by Meheus and McIntyre and paper by Elovainio and Evans in this series). In addition, we may not want to strictly require *very* high effort for countries to be eligible. Accordingly, we may want to

identify a capacity-related threshold *above* which countries generally should be considered ineligible.

We may identify such a threshold by asking what minimum level of GNIPC that is required for a country to ensure priority services for everyone if it exerts *very low effort*. The ratio that represents very low effort can be identified as the lower centile for LICs and MICs when ranked from lowest to highest. For 2012, the lower centile ratio was 1.5%. The minimum GNIPC required to ensure GHEpc of \$86 and priority services for everyone if a country exerts very low effort can then be estimated to a GNIPC of \$5733 (2012). From a capacity perspective, it then appears to be good reasons for considering countries with a GNIPC *above* this level generally ineligible for DAH – because all countries with GNIPC above this level can be seen to have the capacity to ensure priority services for everyone without external support. We may call this the upper capacity threshold. Its relations to other thresholds are illustrated in Figure 1.

Also the upper capacity threshold may be challenged for being too restrictive, for a range of reasons. One could be that the role of DAH goes beyond GHEpc of \$86. On the other hand, the upper capacity threshold may be challenged for being too liberal and too damaging to incentives. The optimal threshold, from a capacity perspective, may thus lie somewhere in between the lower and upper capacity thresholds. Between these two thresholds, we may speak of a ‘capacity zone’. The capacity thresholds and the capacity zone are illustrated in Figure 1. That figure also exhibits the thresholds used in the World Bank income classification, thresholds used by some major funders of DAH, and the GNIPC for the countries listed in Table 1.

As indicated by the figure, the entire capacity zone falls within the GNIPC range for MICs. Accordingly, from a capacity perspective, there are reasons to suggest that some MICs should be eligible for DAH while other MICs should not. Specifically, with respect to capacity, there seems to be a case for all LICs and most LMICs to be eligible and most UMICs to be ineligible.

### *Health needs*

To address health needs is typically considered a central purpose of DAH, and most discussions on the allocation of DAH centre on health needs (Bell and Fink, 2005; Gostin, 2014; IHME, 2016). There is a strong case for a country’s legitimate claim to DAH to increase with unmet health needs, and there is a strong imperative to attend to individual health needs wherever they are. This suggests that health needs should be taken directly into account and that GNIPC is an insufficient basis for identifying DAH recipients. Health needs may be considered on a country-by-country basis, but we may also want to adjust the general GNIPC threshold – based a concerns for capacity or otherwise – for such needs.

There are several reasons why one may want to adjust the general eligibility threshold for health needs. Most fundamentally and as just described, there is

a case for attending to unmet health needs wherever these are, and this have also been put forward as a key reason to support MICs, including UMICs. In addition, the legitimacy of the DAH system may partly depend on it being relevant to a significant share of total health needs. Figure 2 shows the total number of under-five deaths that is excluded from the scope of DAH across the range of possible GNIpc thresholds. These thresholds are applied to countries and thus not directly sensitive to internal income inequalities.

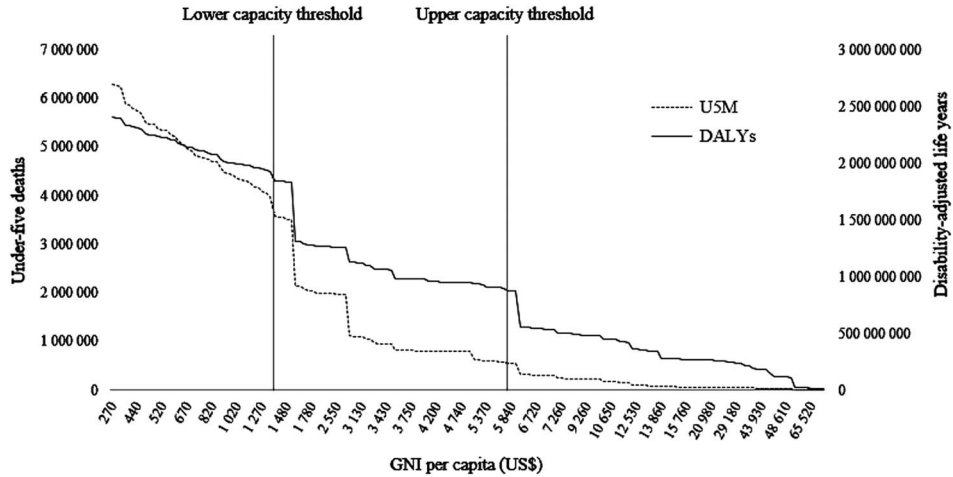
Figure 2 shows that as many as 3.6 million under-five deaths (56%) fall outside the remit of DAH if the lower capacity threshold (\$1410) is applied, while the number is substantially reduced, to 582,000 (9%), if the upper threshold (\$5733) is used. The number of under-five deaths excluded from DAH dips at GNIpc of \$1570, \$2710 and \$6560; dips caused by India, Nigeria, and China. A similar pattern is seen for disease burden in terms of DALYs. If it is important not to exclude a major amount and share of health needs from the scope of DAH, there is a reason to have a threshold that is at least somewhat above the lower capacity threshold.

Another reason why one may want to adjust thresholds for health needs has to do with the ratios between capacity, as proxied by GNIpc, and health needs across countries. One may think that countries with low ratios should fall within the reach of DAH even when they are capable – according to the reasoning described above – to meet unexceptional health needs over time. Moreover, the ratios between GNIpc and health needs may be relevant for fairness. It may seem unfair if some ineligible countries have considerably higher ratios than some eligible countries. Figure 3 shows the GNI/U5M and GNI/DALY ratio for LICs and MICs with GNIpc below the upper capacity threshold.

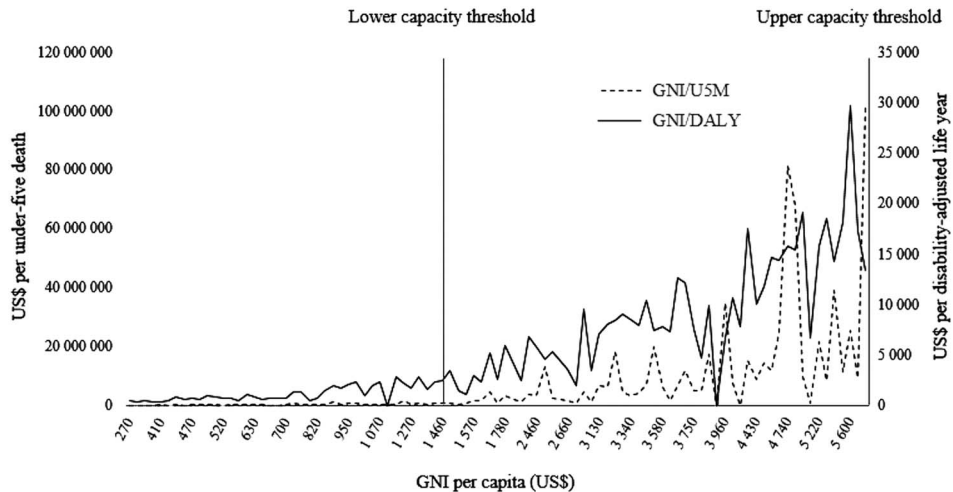
Figure 3 shows that while the GNI/U5M and GNI/DALY ratios have a general upward trend over GNIpc, there is considerable variation by country. The pattern does not by itself suggest any obvious threshold. Instead, the figure underscores the obvious point that, in addition to a general threshold, one may want eligibility and allocation criteria to be more sensitive to country particularities. Accordingly, one would like to make the GNIpc threshold part of the eligibility criteria in a way that can both take such particularities into account and properly integrate the concerns for capacity and need.

### *Further integration of capacity and need*

A single eligibility threshold motivated by concerns for capacity and incentives and generally adjusted for health needs may only be the first step towards balancing capacity and needs. Further integration can be done by the parallel use of needs-based exceptions and incentive-preserving instruments. The latter are methods that help preserve countries' incentives to address domestic health needs themselves. Such exceptions and instruments are used by some DAH funders already, but a review of major funders showed that many funders did not have criteria explicitly linked to health needs or to inequalities (reference to paper by



**Figure 2.** Total under-five deaths and disability-adjusted life years (DALYs) excluded from the scope of DAH for different country-eligibility thresholds.  
Explanation: based on World Bank data on gross national income (GNI), population, and under-five mortality rate (U5MR) for 2013, World Bank data on crude birth rate for 2012, and on IHME data on DALYs for 2010. Countries for which data were unavailable were excluded.



**Figure 3.** Ratio of gross national income (GNI) to under-five mortality (U5M) and ratio of GNI to disability-adjusted life years (DALYs) for countries below the upper capacity threshold.  
Explanation: GNI/U5M ratio based on World Bank data on GNI, population, and under-five mortality rate for 2013 and on crude birth rate for 2012. GNI/DALY ratio based on World Bank data on GNI for 2010 and IHME data on DALYs for 2010. Countries for which data were unavailable were excluded.

Ottersen, Kamath, Moon, Martinsen and Røttingen in this series), and there seems to be great potential in a more careful integration of capacity and health needs more generally. The challenge here, however, is to find the best compromise between a single, over-simplistic threshold and a complex, opaque set of differentiated criteria with multiple exceptions.

There are several types of health needs that may trigger exceptions. Most obviously, exceptions may be warranted by poor aggregate health outcomes in the country, linked to measures such as mortality rates or DALYs. Alternatively, exceptions can be linked to a specific relation between health needs and capacity in terms of GNIpc. For example, ratios of GNI relative to U5M and DALYs are shown in Table 1 and Figure 3. Some funders already consider such ratios when allocating development assistance (reference to paper by Ottersen, Kamath, Moon, Martinsen and Røttingen in this series). For example, UNICEF uses an allocation formula with GNIpc, U5MR and child population as the central arguments. The Global Fund also uses a kind of need-based exceptions in determining eligibility as UMICs are only eligible if their burden from the disease in question is 'high', 'severe' or 'extreme'.

Given the nature of the challenge posed by MICs, needs-based exceptions should probably go beyond country averages and account for the needs of subpopulations (Kanbur and Sumner, 2012). For example, countries that have subpopulations with severe health needs may be considered eligible even when GNIpc is above the standard threshold and average population health is fairly adequate. As indicated by Table 1, India and South Africa could be reasonable candidates for exceptions based on subpopulation needs if the chosen standard threshold otherwise would make them ineligible. Moreover, irrespectively of whether one compares the needs of countries or subpopulations, it may be necessary to go beyond the current state to also consider the risks for greater needs in the future. These risks may include emerging epidemics and other infectious disease threats.

With needs-based exceptions, the issue of incentives reappears, although in a different form. It will therefore be useful to combine such exceptions with instruments for preserving countries' incentives to properly address domestic health needs themselves. As indicated above, this is essential because the countries' own spending on health is likely to depend on the criteria used by funders to allocate DAH and the allocated amounts. In particular, there is evidence suggesting that DAH may displace some domestic financing for health (reference to paper by Moon and Omole in this series).

Numerous considerations are relevant when designing incentive-preserving instruments. Many of these have been widely discussed in the general literature on aid conditionality (Gibson *et al.*, 2005; Koeberle *et al.*, 2005; Temple, 2010). The design of an effective incentive-preserving-instrument scheme requires in particular four careful choices. One key choice is whether incentive-preserving instruments should be primarily linked to policies (inputs), outputs or outcomes. Potentially relevant policy aspects include budget composition and government health

expenditures, and service coverage rates are among the potentially relevant outputs. For example, both the Global Fund and Gavi uses co-financing requirements, and, for most kinds of support, Gavi also requires that coverage for the third dose of the pentavalent vaccine diphtheria, tetanus, pertussis, hepatitis B and *Haemophilus influenzae* type B (Penta3) is equal to or above 70% (reference to paper by Ottersen, Kamath, Moon, Martinsen and Røttingen in this series). A second key choice is whether incentive-preserving instruments should be *ex ante* or *ex post*, where the latter links funding to demonstrated achievements. Many funders currently experiment with various results-based or performance-based aid schemes, but there is still no agreement on whether and when these schemes work (Paul, 2015; Perakis and Savedoff, 2015; Silverman *et al.*, 2015). A third choice is the extent to which the incentive-preserving instruments should depend on the state of affairs at a given point in time or on improvements over time. While the former is more common, it has been argued that linking conditionality to improvements can be crucial for incentives (Öhler *et al.*, 2012). A fourth choice, which is particularly important in the context of MICs, is the degree of targeting (Kanbur, 2016). Incentive-preserving instruments can be specifically linked to addressing the needs of subpopulations or reduction of inequalities. For example, the Global Fund requires that LMICs and UMICs focus at least 50 or 100%, respectively, of the funding on key and vulnerable populations, ‘highest impact interventions’, or both (reference to paper by Ottersen, Kamath, Moon, Martinsen and Røttingen in this series).

Beyond these incentive-preserving instruments, funders may of course employ broader requirements, which are not specifically linked to exceptions. Among other things, funders could require a certain level of *de facto* effort for a country to be eligible irrespective of whether or not a high level of effort would be sufficient to meet health needs. In any case, there are many well-known challenges related to aid conditionality in general, including challenges of ensuring compliance and of respecting country ownership (Gibson *et al.*, 2005; Koeberle *et al.*, 2005; Temple, 2010), and some of these apply to incentive-preserving instruments. This underscores the need for DAH funders to carefully examine their criteria and seek ways to better balance the concerns for capacity and health needs.

### **Contribution norms and identification of funders**

So far, we have addressed criteria for being eligible as a recipient of DAH, understood as criteria for reasonably being a net recipient. These criteria do not automatically tell which countries should be net funders. Reasonable criteria for identifying recipients and funders share, however, a central concern for capacity or ability to pay.

#### ***National income and capacity***

Capacity to pay, and specifically national income, is central to many, if not most, contribution norms. One prominent example is the well-known 0.7 ODA/GNI



target, which is based on GNI (Pearson *et al.*, 1969). Another is the United Nations scale of assessments, which is based on both GNI and GNIpc [United Nations General Assembly (UNGA), 2012].

Also in the specific context of assistance for health, it is reasonable that the criteria for identifying required net funders are at least partly based on capacity and national income. Accordingly, we may want a GNIpc funder threshold similar in kind to the eligibility threshold. The eligibility threshold is also a useful starting point for specifying the funder threshold, but there are at least four reasons why the latter may be set considerably higher than the former. Most obviously, one may want to be fairly confident that countries do have the capacity to ensure priority services for everyone domestically before calling on them to become net funders. Second, it is preferable with a smooth transition from net recipient status to net funder status (Salvado and Walz, 2013). Third, various transactions costs (Acharya *et al.*, 2006; Paul and Vandeninden, 2012) may suggest that the differences between recipients and funders should be significant in most cases. Fourth, countries may have a legitimate prerogative to privilege their own population to some, yet limited extent. This may go beyond any practical considerations as many, if not most, theories of global justice do leave space for such a prerogative (Johri *et al.*, 2012).

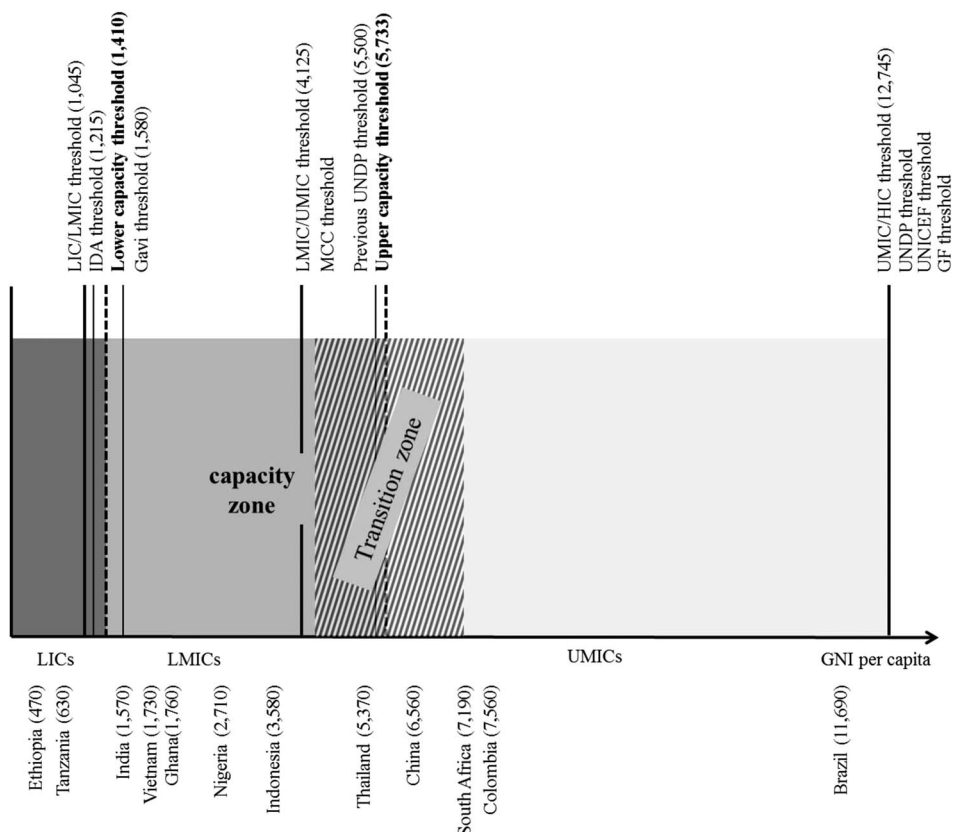
This set of reasons motivates a transition zone, that is, a range of GNIpc in which countries are neither eligible for DAH nor required net funders. This zone may extend from the chosen eligibility threshold to a significantly higher level of GNIpc, as illustrated in Figure 4. As for the eligibility threshold, need-based exceptions can be attached to the funder threshold.

These thresholds suggest that all or most LMICs should not be net funders, while most UMICs should be.

### ***Rationale for being both funder and recipient***

One of the seemingly paradoxical features of today's situation is that several major recipients of DAH are also increasingly significant funders (GHSi, 2012; IHME, 2016). For example, India and South Africa were among the top 10 recipients of DAH in 2011, but provided \$1100 and \$212 million in foreign assistance in 2013 (GHA, 2014).

That some recipients of DAH also provide foreign aid can, of course, be explained by various strategic political and economic interests. However, from a system perspective, joint funder and recipient status may often be inefficient due to transaction costs (Acharya *et al.*, 2006; Paul and Vandeninden, 2012). At the same time, there are reasons to suggest that such a joint status may be beneficial even for the DAH system as a whole under certain circumstances. In particular, this may be the case when DAH goes beyond direct financial transfer to include some form of knowledge transfer and when certain DAH recipients do have special expertise relevant for other countries (Glennie, 2011; Verbeke and Renard, 2011;



**Figure 4.** Eligibility thresholds, gross national income per capita of selected countries, and possible transition zone.

Explanation: income classification thresholds are based on the World Bank classification for fiscal year 2015. GNIpc figures are based on World Bank data for 2013 (Atlas method). All figures are in US\$. GNI = gross national income; LICs = low-income countries; LMICs = lower middle-income countries; UMICs = upper middle-income countries; IDA = The International Development Association; MCC = The Millennium Challenge Corporation; UNDP = The United Nations Development Programme; UNICEF = The United Nations Children's Fund; GF = The Global Fund to Fight AIDS, Tuberculosis and Malaria.

Glassman *et al.*, 2013). Perhaps most clearly, countries that have recently made progress may hold unique lessons for other countries. Thailand and Mexico, for example, have recent experience with successful health reform and progress towards UHC, and their insights can be valuable for many other countries (Hughes and Leethongdee, 2007; Knaul *et al.*, 2012). In addition, many countries that are DAH recipients may have special expertise in the development and production of low-cost delivery technologies. Accordingly, DAH in the form of knowledge transfer and technical support can sometimes be usefully provided by net recipients and usefully received by net funders.

## Conclusion

The role of MICs in the DAH system is a complex issue which also raises fundamental questions about the criteria for allocating DAH among countries and the norms for which countries should contribute and how much. This gives reason for major actors in the DAH system to critically examine their current criteria and norms, and this paper has offered a framework for doing this. Funders may also want to consider projections for economic growth and the geography of poverty, as a majority of the world's poor may again be located in LICs in the future. More specifically, we offer four recommendations to these actors.

First, it is useful to focus on the central trade-off between the concerns for capacity and incentives and the concern for meeting health needs everywhere. If a single GNIPC eligibility threshold is desired for coherence and simplicity, the capacity-based approach illustrated in this paper suggests a threshold between \$1410 and \$5733. To the extent that this is reasonable, these thresholds suggest that all LICs and most or all LMICs should be eligible, while most or all UMICs should be ineligible. From the perspective of these illustrative thresholds, funders such as Gavi and IDA could consider raising their threshold, while funders such as the Global Fund, UNICEF and UNDP could consider lowering their threshold.

Second, while maintaining simplicity and transparency, it may be optimal to combine a single general GNIPC eligibility threshold with a limited set of needs-based exceptions and incentive-preserving instruments. The exceptions and the instruments should plausibly pay particular attention to inequalities, the needs of subpopulations, and other special health needs.

Third, relevant decision makers may implement a funder threshold at a GNIPC level significantly higher than for the eligibility threshold. This will imply that some MICs can reasonably be neither net recipients nor net funders. The capacity-based approach illustrated in this paper suggests a funder threshold that requires none or few LMICs to contribute significantly to DAH, but most UMICs to do so.

Fourth, decision makers should probably acknowledge that certain countries can usefully be both recipients and funders, especially when DAH goes beyond direct financial transfers.

In short, the role MICs should play in the DAH system is likely to be diverse. Some may mainly be recipients, some may mainly be funders, some may be both recipients and funders, and some neither. A simple, yet adequately nuanced approach to MICs can help ensure that DAH is mobilised and allocated to meet health needs in a complex global landscape.

## Acknowledgements

The authors are grateful to the members of the Working Group on Health Financing at Chatham House Centre on Global Health Security and to Joseph Dieleman, Amanda Glassman, and Andrew Sumner for their helpful comments.

## References

- Acharya, A., A. T. F. de Lima and M. Moore (2006), 'Proliferation and fragmentation: transactions costs and the value of aid', *Journal of Development Studies*, **42**(1): 1–21.
- Alonso, J. A., J. Glennie and A. Sumner (2014), *Recipients and Contributors: Middle Income Countries and the Future of Development Cooperation*, New York: Department of Economic and Social Affairs, United Nations.
- Bell, C. and C. Fink (2005), 'Aid and Health'. *Development Aid: Why and How? Towards Strategies for Effectiveness*, Paris: Agence Française de Développement, 163–190.
- Cogneau, D. and J.-D. Naudet (2007), 'Who deserves aid? Equality of opportunity, international aid, and poverty reduction', *World Development*, **35**(1): 104–120.
- Commission on Macroeconomics and Health (CMH) (2001), *Macroeconomics and Health: Investing in Health for Economic Development*, Geneva: World Health Organization.
- Consultative Expert Working Group (CEWG) (2012), *Research and Development to Meet Health Needs in Developing Countries: Strengthening Global Financing and Coordination* Consultative Expert Working Group on Research and Development: Financing and Coordination Geneva: World Health Organization.
- Equitable Access Initiative (2015), 'Updated – Terms of reference for the Equitable Access Initiative', [http://www.theglobalfund.org/documents/eai/EAI\\_EquitableAccessInitiative\\_ToRs\\_en/](http://www.theglobalfund.org/documents/eai/EAI_EquitableAccessInitiative_ToRs_en/) [28 June 2015].
- Gibson, C. C., K. Andersson, E. Ostrom and S. Shivakumar (2005), *The Samaritan's Dilemma: The Political Economy of Development Aid*, Oxford: Oxford University Press.
- Glassman, A., D. Duran and A. Sumner (2013), 'Global health and the new bottom billion: what do shifts in global poverty and disease burden mean for donor agencies?', *Global Policy*, **4**(1): 1.
- Glennie, J. (2011), *The Role of Aid to Middle-Income Countries: A Contribution to Evolving EU Development Policy* Working Paper 331 London: Overseas Development Institute.
- Glennie, J. and A. Sumner (2014), 'The \$138.5 billion question: when does foreign aid work (and when doesn't It)?', CGD Policy Paper 049. Center for Global Development, Washington, DC.
- Global Humanitarian Assistance (GHA) (2014), 'Country profiles: overview', Development Initiatives, <http://www.globalhumanitarianassistance.org/country-profiles> [5 December 2014].
- Global Health Strategies initiatives (GHSi) (2012), *Shifting Paradigm: How the BRICS are Reshaping Global Health and Development*, New York: Global Health Strategies initiatives.
- Gostin, L. O. (2014), *Global Health Law*, Cambridge, MA: Harvard University Press.
- Hughes, D. and S. Leethongdee (2007), 'Universal coverage in the land of smiles: lessons from Thailand's 30 baht health reforms', *Health Affairs*, **26**(4): 999–1008.
- Institute of Health Metrics and Evaluation (IHME) (2016), *Financing Global Health 2015: Development Assistance Steady on the Path to New Global Goals*, Seattle, WA: Institute of Health Metrics and Evaluation.
- Johri, M., R. Chung, A. Dawson and T. Schrecker (2012), 'Global health and national borders: the ethics of foreign aid in a time of financial crisis', *Globalization and Health*, **8**(19): 1–10.
- Kanbur, R. (2016), 'Can a Country be a Donor and a Recipient of Aid?', in S. M. Dev and P. G. Babu eds *Development in India: Micro and Macro Perspectives*, New Delhi: Springer India, 71–81.
- Kanbur, R. and A. Sumner (2012), 'Poor countries or poor people? Development assistance and the new geography of global poverty', *Journal of International Development*, **24**: 686–695.

- Knack, S., F. H. Rogers and J. C. Heckelman (2012), 'Crossing the threshold: a positive analysis of IBRD graduation policy', *Review of International Organizations*, 7: 145–176.
- Knaul, F. M., E. González-Pier, O. Gómez-Dantés, D. García-Junco, H. Arreola-Ornelas, M. Barraza-Lloréns, R. Sandoval, F. Caballero, M. Hernández-Avila, M. Juan, D. Kershenobich, G. Nigenda, E. Ruelas, J. Sepúlveda, R. Tapia, G. Soberón, S. Chertorivski and J. Frenk (2012), 'The quest for universal health coverage: achieving social protection for all in Mexico', *Lancet*, 380: 1259–1279.
- Koeberle, S., H. Bedoya, P. Silarszky and G. Verheyen (eds) (2005), *Conditionality Revisited: Concepts, Experiences, and Lessons*, Washington, DC: World Bank.
- Llavador, H. G. and J. E. Roemer (2001), 'An equal-opportunity approach to the allocation of international aid', *Journal of Development Economics*, 64: 147–171.
- Ooms, G., K. Derderian and D. Melody (2006), 'Do we need a world health insurance to realise the right to health?', *PLoS Medicine*, 3(12): e530.
- Öhler, H., P. Nunnenkamp and A. Dreher (2012), 'Does conditionality work? A test for an innovative US aid scheme', *European Economic Review*, 56: 138–153.
- Paul, E. (2015), 'Performance-based aid: why it will probably not meet its promises', *Development Policy Review*, 33(3): 313–323.
- Paul, E. and F. Vandeninden (2012), 'Foreign aid transaction costs: what are they and when are they minimised?', *Development Policy Review*, 30(3): 283–304.
- Pearson, L. B., E. Boyle, R. de Oliveira Campos, C. D. Dillon, W. Guth, W. A. Lewis, R. E. Marjolin and S. Okita (1969), *Partners in Development: Report of the Commission on International Development*, London: Pall Mall Press.
- Perakis, R. and W. Savedoff (2015), 'Does results-based aid change anything? Pecuniary interests, attention, accountability and discretion in four case studies', CGD Policy Paper 052, Center for Global Development, Washington, DC.
- Reddy, S. and A. Heuty (2004), 'Achieving the MDGs: A critique and a strategy', Harvard Center for Population and Development Studies Working Paper Series 14 (3).
- Resch, S., T. Ryckman and R. Hecht (2015), 'Funding AIDS programmes in the era of shared responsibility: an analysis of domestic spending in 12 low-income and middle-income countries', *Lancet Global Health*, 3: e52–e61.
- Salvado, R. C. and J. Walz (2013), 'Aid eligibility and income per capita: a sudden stop for MICs?', DPAF Working Paper Series, Seattle: Bill & Melinda Gates Foundation.
- Silverman, R. L., M. Over and S. Bauhoff (2015), *Aligning Incentives, Accelerating Impact: Next Generation Financing Models for Global Health* Report for the Center for Global Development Working Group on Next Generation Financing Models in Global Health Washington, DC: Center for Global Development.
- Sumner, A. (2012), 'Where do the poor live?', *World Development*, 40(5): 865–877.
- Sumner, A. (2016), 'The world's two new middles. Growth, precarity, structural change, and the limitations of the special case', WIDER Working Paper 2016/34, Helsinki: United Nations University World Institute for Development Economics Research.
- Svensson, J. (2000), 'When is foreign aid policy credible? Aid dependence and conditionality', *Journal of Development Economics*, 61: 61–84.
- Taskforce on Innovative International Financing for Health Systems (HLTF) (2009), 'More money for health, and more health for the money'. Taskforce on Innovative International Financing for Health Systems, [http://www.internationalhealthpartnership.net/fileadmin/uploads/ihp/Documents/Results\\_Evidence/HAE\\_results\\_lessons/Taskforce\\_report\\_EN.2009.pdf](http://www.internationalhealthpartnership.net/fileadmin/uploads/ihp/Documents/Results_Evidence/HAE_results_lessons/Taskforce_report_EN.2009.pdf) [28 June 2015].

- Temple, J. R. W. (2010), 'Aid and conditionality', in D. Rodrik and M. Rosenzweig eds *Handbook of Development Economics* Volume 5 Amsterdam: North-Holland, 4415–4523.
- United Nations General Assembly (UNGA) (2012), 'Scale of assessments for the apportionment of the expenses of the United Nations'. United Nations General Assembly Resolution 67/238, Sixty-Seventh Session.
- Verbeke, K. and R. Renard (2011), 'Development cooperation with middle-income countries', IOB Working Paper, Antwerpen: Institute of Development Policy and Management, University of Antwerp.
- World Bank (2015), 'World Bank GNI per capita operational guidelines & analytical classifications', <http://siteresources.worldbank.org/DATASTATISTICS/Resources/OGHIST.xls> [28 June 2015].
- World Health Organisation (WHO) (2015), *World Health Statistics 2015*, Geneva: World Health Organization.

# Towards a coherent global framework for health financing: recommendations and recent developments

TRYGVE OTTERSEN\*

*Oslo Group on Global Health Policy, Department of Community Medicine and Global Health and Centre for Global Health, University of Oslo, Oslo, Norway*

*Department of Global Public Health and Primary Care, University of Bergen, Bergen, Norway*

*Department of International Public Health, Norwegian Institute of Public Health, Oslo, Norway*

RIKU ELOVAINIO

*World Health Organization, Egypt Country Office, Cairo, Egypt*

DAVID B. EVANS

*Health Systems Research and Dynamic Modelling Group, Swiss Tropical and Public Health Institute, Switzerland*

*University of Basel, Basel, Switzerland*

DAVID MCCOY

*Centre for Primary Care and Public Health, Queen Mary University of London, London, UK*

DI MCINTYRE

*Health Economics Unit, School of Public Health and Family Medicine, Faculty of Health Sciences, University of Cape Town, Cape Town, South Africa*

FILIP MEHEUS

*Health Economics Unit, School of Public Health and Family Medicine, Faculty of Health Sciences, University of Cape Town, Cape Town, South Africa*

SUERIE MOON

*Department of Global Health and Population, Harvard T.H. Chan School of Public Health, Harvard University, Boston, MA, USA*

GORIK OOMS

*Institute of Public Health, Heidelberg University, Heidelberg, Germany*

JOHN-ARNE RØTTINGEN

*Department of Health Management and Health Economics, University of Oslo, Oslo, Norway*

*Harvard T.H. Chan School of Public Health, Harvard University, Boston, MA, USA*

*Infectious Disease Control and Environmental Health, Norwegian Institute of Public Health, Oslo, Norway*

**Abstract:** The articles in this special issue have demonstrated how unprecedented transitions have come with both challenges and opportunities for health financing. Against the background of these challenges and opportunities, the Working Group on Health Financing at the Chatham House Centre on Global Health Security laid out, in 2014, a set of policy responses encapsulated in 20 recommendations

\*Correspondence to: Trygve Ottersen, Department of Community Medicine and Global Health, Institute of Health and Society, PO Box 1130 Blindern, 0318 Oslo, Norway. Email: [trygve.ottersen@medisin.uio.no](mailto:trygve.ottersen@medisin.uio.no)

for how to make progress towards a coherent global framework for health financing. These recommendations pertain to domestic financing of national health systems, global public goods for health, external financing for national health systems and the cross-cutting issues of accountability and agreement on a new global framework. Since the Working Group concluded its work, multiple events have reinforced the group's recommendations. Among these are the agreement on the Addis Ababa Action Agenda, the adoption of the Sustainable Development Goals, the outbreak of Ebola in West Africa and the release of the Panama Papers. These events also represent new stepping stones towards a new global framework.

## Background and recommendations

Financing is at the centre of efforts to improve health and health systems. It is only when resources are adequately, efficiently and equitably mobilised, pooled and spent that all people can enjoy sustained progress towards universal health coverage (UHC) and the full benefits of global public goods for health (GPGHs).

The articles in this special issue have demonstrated how unprecedented transitions and new and persisting challenges shared by all countries put such progress at risk, and do so particularly for low- and middle-income countries. These transitions include profound changes in the global economy, changes in health and risk factors for disease, and transformations of the institutional landscape of global health. Despite important advances, persisting challenges include poor health outcomes, poor access to health services and financial risks to patients stemming from out-of-pocket health service payments. These are compounded by profound inequalities both between and within countries and by uneven distribution of recent improvements.

Health financing is central to meeting these grand challenges. But to do so effectively, shortcomings in today's approach to health financing must be addressed. As shown in Table 1, we believe the current approach must be revised with respect to the domestic financing of national health systems, the joint financing of GPGHs, and the external financing of national health systems where domestic capacity is inadequate.

Recent and ongoing transitions also come with unprecedented opportunities to improve health financing. Economic growth in many countries expands the fiscal space for domestic spending on health. Projections up to 2035 forecast real gross domestic product (GDP)-growth per year at 4–5, 4.3 and 4.2% for low-, lower-middle and upper-middle-income countries, respectively (Jamison *et al.*, 2013). The proliferation of global health institutions provides an opportunity to test a variety of financing arrangements and draw lessons from natural experiments. At the national level, governments demonstrate increasing



**Table 1.** Shortcomings in today's approach to health financing

Domestic financing of national health systems	Joint financing of global public goods for health	External financing for national health systems
Insufficient total funds	Insufficient total funds	Insufficient total funds
Over-reliance on out-of-pocket payments	Inadequate focus among countries	Unsettled contribution norms
Inadequate mechanisms to raise public finance through effective tax and revenue systems <sup>a</sup>	Inadequate institutions and mechanisms for collective action	Volatility and uncertainty
Rudimentary mechanisms for mandatory prepayment with pooling of funds		Fungibility
Problematic priorities and inefficient health spending		Inadequate priority setting
Inadequate accountability		Inadequate coordination
		Inadequate accountability
		Unclear rationale

<sup>a</sup>Added to the list presented in the original report.

willingness to invest in health and explore new financial mechanisms in the context of UHC.

Against the background of these challenges and opportunities, the Working Group on Health Financing at the Chatham House Centre on Global Health Security laid out a set of policy responses encapsulated in 20 recommendations for how to make progress towards a coherent global framework for health financing (Panel 1) (Røttingen *et al.*, 2014). While the recommendations speak to different areas of health financing, the Working Group emphasised how these areas closely interact and how a comprehensive view is needed to attain coherence. The recommendations also shared a common basis in justice, solidarity and human rights.

### ***Panel 1: recommendations***

The recommendations offered by the Working Group fall into four categories. Recommendations in the first category describe what every government should do to strengthen the domestic financing of national health systems. These recommendations cover resource mobilisation, pooling and use, and include key targets for health expenditure. The recommendations in the second category emphasise the additional responsibility governments have to help finance and provide GPGHs, describe how this can be done, and point to how other actors can facilitate the process. Recommendations in the third category describe how governments and other donors can provide more and smarter external financing for health and offer a key target for governments' contributions. Recommendations in the final category cut across the others. These recommendations pertain to how accountability can be strengthened and how agreement can be sought to make progress towards a coherent global framework.

*Domestic financing of national health systems*

To strengthen domestic financing of national health systems, the Working Group concluded that

1. Every government should meet its primary responsibility for securing the health of its own people. This involves a responsibility to oversee domestic financing for health and ensure that it is sufficient, efficient, equitable and sustainable.
2. Every government should commit to spend at least 5% of GDP on health and move progressively towards this target, and every government should ensure government health expenditures (GHE) per capita of at least \$86<sup>1</sup> whenever possible. Most middle-income countries should be able to reach both targets without external support.
3. Every government should ensure that catastrophic and impoverishing out-of-pocket payments (OOPs) are minimised. Specifically, governments should commit to the targets of OOPs representing <20% of total health expenditures (THE) and no OOPs for priority services or for the poor.
4. Every government should improve revenue generation and achieve reduction of OOPs through effective, equitable and sustainable ways of increasing mandatory prepaid pooled funds for health services. Individual contributions to the pool(s) should primarily be based on capacity to pay and be progressive with respect to income.
5. Every government should consider improved and innovative taxation as a means to raise funds for health. Promising policies include the introduction or strengthening of excise taxes related to tobacco, alcohol, sugar and carbon emissions, and these should be combined with measures to increase tax compliance, reduce illicit flows and curb tax competition among countries. Other sources of government revenue, particularly in countries rich in natural resources, should also be explored.
6. Every government should ensure that mandatory prepaid pooled funds are used with the aim of making progress towards UHC – that is, affordable access for everyone. Specifically, every government should seek to ensure a universal health system with full population coverage of comprehensive primary health care, high-priority specialized care and public health measures, and should not prioritise expanding coverage of a more comprehensive set of services for only some privileged groups in society.
7. Every government, in collaboration with civil society, should formalize systematic and transparent processes for priority-setting and for defining a comprehensive set of entitlements based on clear, well-founded criteria. Potential criteria include those related to cost-effectiveness, severity and financial risk protection. The processes can build on the methods of health technology assessment and multicriteria decision analysis, which can help translate evidence and explicit values into policy decisions.

1 In the original report, this estimate was in 2012 \$US terms. An update to 2015 \$US terms based on inflation and exchange rates generated the exact same figure, partly due to negative inflation rates in some countries (McIntyre *et al.*, 2017).

8. Every government and other actor involved in the financing or provision of health care must continuously strive to improve efficiency. In particular, this will require action on corruption and strategic purchasing, with continuous assessment and active management of which services are purchased and what providers and payment mechanisms are used.

### *Joint financing of global public goods*

To strengthen joint financing of GPGHs, the Working Group concluded that

9. Every government should meet its key responsibility for the co-financing of GPGHs and take the necessary steps to correct the current undersupply of such goods. Among key GPGHs are health information and surveillance systems, and research and development for new technologies that specifically meet the needs of the poor. Public funding for the latter purpose should be at least doubled compared with the current level.
10. Every government should increase its support for new and existing institutions charged with the financing or provision of GPGHs. In particular, the World Health Organization's capacity to provide GPGHs should be enhanced and adequate funds provided on a sustainable basis for that purpose.
11. Every government, international organisation, corporation and other key actor should promote a global environment that enables all countries to pursue government-revenue policies that can sufficiently finance their social sectors, including health, education and welfare. This requires action on illicit financial flows, tax havens, harmful tax competition and overexploitation of natural resources.

### *External financing for national health systems*

To strengthen external financing for national health systems, the Working Group concluded that

12. Every country with sufficient capacity should contribute with external financing for health. Determination of capacity should partly depend on GDP per capita. Net contributing countries should include all high-income countries and most upper-middle-income countries and not only member countries of the Organisation for Economic Co-operation and Development's Development Assistance Committee (OECD-DAC).
13. High-income countries should commit to provide external financing for health equivalent to at least 0.15% of GDP. Most upper-middle-income countries should commit to progress towards the same contribution rate.
14. Every provider of external financing for health, including contributing countries and international organisations, should establish clear, well-founded and publicly available criteria to guide the allocation of resources. These should be the outcome of broad, deliberative processes with input from key stakeholders, including civil society in contributing and recipient countries.

15. Every provider of external financing for health should align its support with recipient-country government priorities to the greatest extent possible. This calls for strong adherence to the Paris Declaration on Aid Effectiveness and the Accra Agenda for Action. In particular, providers of external financing for health should encourage and comply with national plans and strategies, improve transparency and monitoring of disbursements and results, and help to build domestic governance and institutional capacity.
16. All providers of external financing for health should strive to strengthen coordination among themselves and with each recipient country, in order to improve efficiency as well as equity. In particular, they should encourage and comply with country-led division of labour, harmonise procedures, increase the use of joint and shared arrangements, and improve information sharing.
17. Every government should actively assess the existing mechanisms for pooling of external funds for health – including the Global Fund to Fight AIDS, Tuberculosis and Malaria; Gavi, the Vaccine Alliance (Gavi); and the World Bank's health trust funds – and consider the feasibility of broader mandates, mergers and increased global pooling with the aim of improving efficiency and equity.

### *Accountability and agreement*

Strong accountability mechanisms and global agreement on responsibilities, targets and strategies will facilitate the implementation of the needed policy responses and a coherent global framework. The Working Group concluded that

18. Every government and other actor involved in domestic or external financing or in the provision of health services should seek to strengthen accountability at global, national and local levels. This should be done by improving transparency about decisions, resource use and results, by improving monitoring and data collection and by ensuring critical evaluation of information with effective feedback into policy making. Accountability should also be strengthened through active monitoring by civil society and by ensuring the broad participation of stakeholders throughout the policy process.
19. Every government and other key actor should seek to ensure that health and UHC are central goals and yardsticks in the post-2015 development agenda. These actors should also seek to ensure that the responsibilities, targets and strategies of a coherent global framework for health financing are integrated to the fullest extent possible. Moreover, the agenda should make clear that health is important both for its own sake and for the sake of other goals, including poverty eradication, economic growth, better education and sustainability.
20. All stakeholders should enter into a process of seeking global agreement on key responsibilities, targets and strategies for health financing – including on the mechanisms for monitoring and enforcement – in order to expedite the implementation of a coherent global financing framework. In the short term, consultation on the post-2015 development agenda is one useful arena for

building consensus, and the agenda itself can be a valuable commitment device. In the longer term, a more specific process should be devised in one or more relevant forums, such as the UN General Assembly, the World Health Assembly, World Bank/International Monetary Fund, or a high-level stand-alone meeting.

## **Recent developments and the way forward**

Since the Working Group concluded its work, multiple events have reinforced the group's recommendations. The Third International Conference on Financing for Development took place in July 2015 and resulted in the Addis Ababa Action Agenda (United Nations (UN), 2015a). Two months later the 2030 Agenda for Sustainable Development, with the Sustainable Development Goals (SDGs), was adopted in New York (United Nations (UN), 2015b). Both endorsed UHC. The Addis Ababa Action Agenda committed governments to a new social compact, to provide fiscally sustainable and nationally appropriate social protection systems and measures for all, and to achieve UHC. In the 2030 Agenda for Sustainable Development, SDG 3 is to '[e]nsure healthy lives and promote well-being for all at all ages', and one of its targets is to achieve UHC.

At both meetings it was clear that trillions, not billions, of dollars would be required to accomplish the SDGs. One estimate suggests incremental public and private spending needs in low- and lower-middle-income countries of 1.4 trillion (US\$ 2013) per year, of which \$68–\$87 billion (all public) is in the area of health (Schmidt-Traub, 2015). While mobilising these resources would be a huge step forward, it will at least not in the short term close all shortfalls from the target of \$86 in GHE per capita, which was one key target proposed by the Working Group. In 2012, these shortfalls amounted to a global financing gap of \$196 billion (Røttingen *et al.*, 2014). Recent projections also suggest that even by 2040, only seven of today's low-income countries will have reached that target (Dieleman *et al.*, 2016).

All this underscores the need for bold action on health financing. The need for action has recently also been demonstrated in the specific areas of domestic financing, financing of GPGHs and external financing.

### ***Domestic financing of health systems***

The Addis Ababa Action Agenda emphasises the centrality of domestic resource mobilisation in development financing and for achieving the SDGs. In particular, governments committed to fairer, more transparent and more efficient tax systems and to scale-up international tax cooperation, which is in line with the analyses presented in this supplement (McCoy *et al.*, 2017). The 2030 Agenda for Sustainable Development also underscores that each country has primary responsibility for its own economic and social development. One of the targets highlighted in the

Agenda is to strengthen domestic resource mobilisation, and the scope for doing this is thoroughly examined in this special issue (Elovainio & Evans, 2017; Meheus and McIntyre, 2017). Concurrently, there has been a number of calls for better use of resources. In May 2014, the World Health Assembly affirmed the importance of national systems for health technology assessment with systematic use of evidence (World Health Organization [WHO], 2014), and the overarching theme of the 2016 Prince Mahidol Award Conference was ‘priority setting for universal health coverage’ (Prince Mahidol Award Conference, 2016).

### *Joint financing of global public goods*

Two transnational health threats have come more prominently to the fore over the last two years. Ebola and later Zika have underscored the constant threat of emerging infectious diseases and the need for a much stronger system for preventing, detecting, and responding to epidemics (Moon *et al.*, 2015; CHRF Commission, 2016; High-Level Panel on the Global Response to Health Crises, 2016). At the same time, the challenge of antimicrobial resistance has attracted more attention from policy makers, and, in May 2015, the World Health Assembly endorsed a global action plan to tackle resistance (World Health Organization (WHO), 2015a; Årdal *et al.*, 2016). The Global Health Security Agenda, launched in February 2014, has also helped raising awareness about epidemics as well as antimicrobial resistance (Global Health Security Agenda, 2016).

Over the last two years, the World Health Assembly has also explored options to strengthen research and development for neglected diseases (WHO, 2014, 2015b). Various pooled funds have been proposed for addressing GPGHs. One is a global biomedical R&D fund for concurrently addressing emerging infectious diseases, antimicrobial resistance and neglected diseases (Balasegaram *et al.*, 2015). Another is a fund for development of vaccines or biomedical counter-measures to epidemics more generally (Plotkin *et al.*, 2015; CHRF Commission, 2016; High-Level Panel on the Global Response to Health Crises, 2016), and in 2016 the Coalition for Epidemic Preparedness Innovations (CEPI) was established to help finance and coordinate the development of new vaccines to prevent and contain infectious disease epidemics (CEPI, 2016). These and other systems to handle transnational health threats or ensure development of essential technologies need to be considered global goods (Moon *et al.*, 2017).

Another, broad set of GPGHs comprise the factors helping create an enabling environment for health financing. The 2030 Agenda for Sustainable Development highlights tax collaboration, macroeconomic stability and equitable trade rules, and one target is to significantly reduce illicit financial flows (UN, 2015b). The recent Panama Papers have demonstrated how today’s environment is far from an enabling one and underscored the importance of targeting financial secrecy (The International Consortium of Investigative Journalists, 2016).

### *External financing for national health systems*

While the spotlight is increasingly being put on domestic financing and global public goods, external financing will remain critical for many years ahead. Low-income countries in particular will be unable to achieve the SDGs through domestic means alone. One estimate indicates a gap of \$152–\$163 billion per year in these countries (Schmidt-Traub, 2015). This intensifies existing challenges in resource mobilisation as well as use. Both the Addis Ababa Action Agenda and the 2030 Agenda for Sustainable Development highlight the 0.7% official development assistance (ODA)/GNI target, but in 2015 only six countries reached this target (OECD, 2016a), and few additional countries are on track to reach this target anytime soon. While the Addis Ababa Action Agenda reaffirmed the European Union's commitment to achieve the target, this was done within the timeframe of 2030 (UN, 2015a).

With respect to the allocation of external funds, the Addis Ababa Action Agenda and the 2030 Agenda for Sustainable Development call for priority to the countries in greatest need and to the least developed countries (LDCs) (UN, 2015a, 2015b). However, while total ODA increased in 2014, the amount going to LDCs fell (OECD, 2016b). To get a better understanding of country needs and the allocation of external financing for health, the Global Fund and eight other co-conveners recently ran the Equitable Access Initiative (Global Fund, 2016). This initiative demonstrated the impact of going beyond gross national product GNI per capita and considering countries' health needs and governments' fiscal capacity, and it recommended donors to take these factors into account when allocating funds. The need for a multi-dimensional set of allocation criteria has also recently been stressed by many others (Burgett *et al.*, 2016), and is thoroughly discussed in this special issue (Moon & Omole, 2017 and three papers by Ottersen *et al.* in this series).

The SDGs and other recent developments have also intensified questions about the allocation of funds across thematic areas. This is the case, for example, for priorities across the three health areas of the Millennium Development Goals (MDGs): maternal health, child health and the 'big three' infectious diseases (HIV/AIDS, malaria and tuberculosis). While the Global Fund has attracted funding towards the latter, the new Global Financing Facility (World Bank, 2015) may tilt the balance towards maternal and child health.

At the same time, the broader SDG agenda asks whether higher priority should be assigned to areas beyond the MDGs, including non-communicable diseases (NCDs). The SDGs also intensifies the question about the role of general health system strengthening and the pursuit of UHC in all this. Similarly, there is a question about to what extent, if any, external funds should be shifted towards GPGHs. Several donors have increased their attention to NCDs, health systems or both, and some donors have recently turned towards research for neglected diseases and antimicrobial resistance (HM Treasury, 2015). Moreover, Ebola has exposed the great need for

support of national capacities to prevent, detect and respond to outbreaks (CHRF Commission, 2016). In this complex landscape, donors need to develop clear and well-founded criteria to guide the allocation of resources, and the criteria should be made publicly available to a greater extent than is the case today.

### *Way forward*

The many recent developments underscore the Working Group's recommendations, the need to revise today's approach to domestic financing, the financing of GPGHs, and external financing, and the need to consider these areas holistically and seek a coherent global framework. Fortunately, the same developments offer valuable starting points for revision. Supplemented with clearer responsibilities and robust accountability mechanisms, the Addis Ababa Action Agenda and the 2030 Agenda for Sustainable Development can help facilitate a new global framework for health financing. The momentum of UHC draws attention towards the financing side of health systems and towards a systems perspective over a focus on single diseases. At the same time, Ebola and Zika may create a policy window where the neglected area of GPGHs can be better addressed. The Addis Ababa Action Agenda and the 2030 Agenda for Sustainable Development also highlight how the health sector can catalyse progress in other sectors and how external financing can catalyse domestic financing and the financing of GPGHs.

Overall, the need for a coherent global framework for health financing has become even clearer, and new stepping stones have emerged. These comes with opportunities not to be missed.

### **Acknowledgements**

The authors are grateful to all members of the Working Group on Health Financing at Chatham House Centre on Global Health Security for their contributions to the final report discussed in this article and to Joseph Dieleman for his comments on an earlier draft of this article.

### **References**

- Årdal, C., K. Outtersen, S. J. Hoffman, A. Ghafur, M. Sharland, N. Ranganathan, R. Smith, A. Zorzet, J. Cohn, D. Pittet, N. Daulaire, C. Morel, Z. Rizvi, M. Balasegaram, O. A. Dar, D. L. Heymann, A. H. Holmes, L. S. P. Moore, R. Laxminarayan, M. Mendelson and J.-A. Røttingen (2016), 'International cooperation to improve access to and sustain effectiveness of antimicrobials', *Lancet*, 387(10015): 296–307.
- Balasegaram, M., C. Bréchet, J. Farrar, D. Heymann, N. Ganguly, M. Khor, Y. Lévy, P. Matsoso, R. Minghui, B. Pécoul, L. Peilong, M. Tanner and J.-A. Røttingen (2015), 'A global biomedical R&D fund and mechanism for innovations of public health importance', *PLoS Medicine*, 12(5): e1001831.



- Burgett, A., S. Orzell and R. Salvado (2016), 'Running From Behind: Global Aid Allocation and the New Geography of Poverty', DPAF Working Paper Series, Seattle: Bill & Melinda Gates Foundation.
- Coalition for Epidemic Preparedness Innovations (2016), 'New vaccines for a safer world', CEPI, [http://cepi.net/sites/default/files/CEPI\\_2\\_pager\\_23092016.pdf](http://cepi.net/sites/default/files/CEPI_2_pager_23092016.pdf) [25 September 2016].
- CHRF Commission (2016), *The Neglected Dimension of Global Security: A Framework to Counter Infectious Disease Crises*, Washington, DC: National Academies Press.
- Dieleman, J. L., T. Templin, N. Sadat, P. Reidy, A. Chapin, K. Foreman, A. Haakenstad, T. Evans, C. J. L. Murray and C. Kurowski (2016), 'National spending on health by source for 184 countries between 2013 and 2040', *Lancet*, 387(10037): 2521–2535.
- Elovainio, R. and D. B. Evans (2017), 'Raising more domestic money for health: prospects for low and middle income countries', *Health Economics, Policy and Law*, 12(2): 139–157.
- Global Fund (GF) (2016), 'Equitable access initiative', Global Fund to Fight AIDS, Tuberculosis and Malaria, <http://www.theglobalfund.org/en/equitableaccessinitiative/> [25 September 2016].
- Global Health Security Agenda (2016), Global Health Security Agenda, <https://ghsagenda.org/> [7 March 2016].
- High-Level Panel on the Global Response to Health Crises (2016), 'Protecting Humanity From Future Health Crises', [http://www.un.org/News/dh/infocus/HLP/2016-02-05\\_Final\\_Report\\_Global\\_Response\\_to\\_Health\\_Crises.pdf](http://www.un.org/News/dh/infocus/HLP/2016-02-05_Final_Report_Global_Response_to_Health_Crises.pdf) [29 April 2016].
- HM Treasury (2015), *UK Aid: Tackling Global Challenges in the National Interest*, London: HM Treasury.
- The International Consortium of Investigative Journalists (2016), 'The Panama Papers', ICIJ, <https://panamapapers.icij.org/> [17 June 2016].
- Jamison, D. T., L. H. Summers, G. Alleyne, K. J. Arrow, S. Berkley, A. Binagwaho, F. Bustreo, D. Evans, R. G. A. Feachem, J. Frenk, G. Ghosh, S. J. Goldie, Y. Guo, S. Gupta, R. Horton, M. E. Kruk, A. Mahmoud, L. K. Mohohlo, M. Ncube, A. Pablos-Mendez, K. Srinath Reddy, H. Saxenian, A. Soucat, K. H. Ulltveit-Moe and G. Yamey (2013), 'Global health 2035: a world converging within a generation', *Lancet*, 382: 1898–1955.
- McCoy, D., S. Chigudu and T. Tillmann (2017), 'Framing the tax and health nexus: a neglected aspect of public health concern', *Health Economics, Policy and Law*, 12(2): 179–194.
- McIntyre, D., F. Meheus and J.-A. Røttingen (2017), 'What level of domestic government health expenditure should we aspire to for universal health coverage?', *Health Economics, Policy and Law*, 12(2): 125–137.
- Meheus, F. and D. McIntyre (2017), 'Fiscal space for domestic funding of health and other social services', *Health Economics, Policy and Law*, 12(2): 159–177.
- Moon, S. and O. Omole (2017), 'Development assistance for health: critiques, proposals and prospects for change', *Health Economics, Policy and Law*, 12(2): 207–221.
- Moon, S., J.-A. Røttingen and J. Frenk (2017), 'Global public goods for health: weaknesses and opportunities in the global health system', *Health Economics, Policy and Law*, 12(2): 195–205.
- Moon, S., D. Sridhar, M. A. Pate, A. K. Jha, C. Clinton, S. Delaunay, V. Edwin, M. Fallah, D. P. Fidler, L. Garrett, E. Goosby, L. O. Gostin, D. L. Heymann, K. Lee, G. M. Leung, J. S. Morrison, J. Saavedra, M. Tanner, J. A. Leigh, B. Hawkins, L. R. Woskie and P. Piot (2015), 'Will Ebola change the game? Ten essential reforms before the next pandemic.

- The report of the Harvard-LSHTM independent panel on the global response to ebola', *Lancet*, 386(10009): 2204–2221.
- Organisation for Economic Co-operation and Development (2016a), 'Development aid rises again in 2015, spending on refugees doubles', OECD, <http://www.oecd.org/newsroom/development-aid-rises-again-in-2015-spending-on-refugees-doubles.htm> [17 June 2016].
- Organisation for Economic Co-operation and Development (2016b), 'Final Official Development Assistance Figures in 2014', OECD. <http://www.oecd.org/dac/stats/final-oda-2014.htm> [7 March 2016].
- Plotkin, S. A., A. A. Mahmoud and J. Farrar (2015), 'Establishing a global vaccine-development fund', *The New England Journal Medicine*, 373(4): 297–300.
- Prince Mahidol Award Conference (2016), 'Priority setting', PMAC, [http://pmaconference.mahidol.ac.th/index.php?option=com\\_content&view=article&id=743&Itemid=213](http://pmaconference.mahidol.ac.th/index.php?option=com_content&view=article&id=743&Itemid=213) [6 March 2016].
- Røttingen, J.-A., T. Ottersen, A. Ablo, D. Arhin-Tenkorang, C. Benn, R. Elovainio, D. B. Evans, L. E. Fonseca, J. Frenk, D. McCoy, D. McIntyre, S. Moon, G. Ooms, T. Palu, S. Rao, D. Sridhar, J. Vega, S. Wibulpolprasert, S. Wright and B. M. Yang (2014), *Shared Responsibilities for Health: A Coherent Global Framework for Health Financing*, London: Chatham House.
- Schmidt-Traub, G. (2015), 'Investment needs to achieve the Sustainable Development Goals: understanding the billions and trillions', SDSN Working Paper, Version 2, Paris and New York: Sustainable Development Solutions Network.
- United Nations (UN) (2015a), *Addis Ababa Action Agenda of the Third International Conference on Financing for Development*, New York: UN.
- United Nations (UN) (2015b), 'Transforming our world: the 2030 agenda for sustainable development', resolution adopted by the General Assembly on 25 September 2015, UN, New York.
- World Bank (2015), 'Global financing facility in support of every woman every child', <http://www.worldbank.org/en/topic/health/brief/global-financing-facility-in-support-of-every-woman-every-child> [7 March 2016].
- World Health Organization (WHO) (2014), *Sixty-Seventh World Health Assembly. Resolutions and Decisions*, Geneva: WHO.
- World Health Organization (WHO) (2015a), 'Global action plan on antimicrobial resistance', Sixty-Eighth World Health Assembly, Agenda item 15.1, WHO, Geneva.
- World Health Organization (WHO) (2015b), 'Follow-up of the report of the consultative expert working group on research and development: financing and coordination', sixty-eight world health assembly, provisional agenda item 17.4, WHO, Geneva.