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The road to 25x25: how can the five-target strategy reach its goal?



In September, 2011, at the UN high-level meeting on non-communicable diseases (NCDs), the world's leaders committed to tackling this emerging global epidemic.¹ The need was urgent, in view of how NCD risk factors are increasing in most low-income and middle-income countries (LMICs).^{2,3} 8 months later, the World Health Assembly set a target of a 25% relative reduction in NCD mortality by 2025.⁴ Known as the 25x25 strategy,⁵ this goal is now incorporated into WHO's Global NCD Action Plan 2013–2020.⁶ This Plan lists nine voluntary national targets. Two are overarching: to reduce mortality from NCDs, and to halt the rise in diabetes and obesity. The remaining seven are specific, including reduced alcohol consumption, increased physical activity, reduced dietary salt, reduced smoking, improved blood pressure control, and enhanced treatment of those at risk from the major NCDs.⁷ The Plan takes a broad view, acknowledging the social, economic, and political determinants of disease.⁸ However, that these statements of intent can be translated into policy is less clear, because of the limited scope for action from within the health services.⁹ Indeed, some of the more ambitious calls to action have fallen on deaf ears.¹⁰ We propose that a more comprehensive approach to NCDs is taken (figure).

Margaret Chan, Director General of WHO, argued that "it is not just Big Tobacco anymore. Public health must also contend with Big Food, Big Soda, and Big Alcohol. All of these industries fear regulation, and protect themselves by using the same tactics".¹¹ This statement shows a growing recognition of the role of these industries in global health, with trade liberalisation driving combined epidemics of diseases associated with tobacco, alcohol, and fast food in many LMICs.¹² These industries have been compared with the insect vectors of some communicable diseases, continually adapting to exploit emerging ecological niches.¹³ This adaptation is most apparent in tobacco control. High-income countries (HICs) have seen substantial reductions in tobacco sales¹⁴ as a result of increased tobacco taxes, restrictions on advertising of tobacco and of smoking in public places, and especially by denormalisation of smoking. However, industry has exploited electronic cigarettes to circumvent advertising restrictions, and to renormalise the appearance of smoking while using flavours such as bubblegum to recruit a new generation of smokers.¹⁵ As tobacco consumption decreased in HICs, the tobacco industry shifted its promotional activities to LMICs, exploiting their weaker regulatory environment. A similar situation applies to the food and alcohol industries.

These global industry developments are not matched by similarly globalised preventive measures. Instead, powerful corporate interests have deflected attention to the individual. They promote programmes aimed at changing of individual behaviour, although little evidence shows that these programmes actually work, particularly in LMICs.¹⁶ Measures that have worked have involved direct intervention in the market, such as reductions in smoking prevalence in China and Papua New Guinea associated with price increases,¹⁷ and a substantial decrease in blood cholesterol concentrations in Mauritius achieved by trade agreements that enable a switch from largely palm oil (high in saturated fatty acids) to predominantly soya bean oil for cooking.¹⁶

The 25x25 strategy seeks to reduce preventable mortality. This emphasis leads to the selection of the four disorders specified in the strategy (cardiovascular disease, diabetes, cancer, and chronic respiratory disease), which account for 87% of all deaths from NCDs (appendix).¹⁸ However, when the burden of disease is measured as disability-adjusted life-years (DALYs), which incorporates information on both mortality and morbidity, a rather different picture appears.¹⁹ The big four NCDs now account for only 54% of NCD DALYs. The so-called missing NCDs include neurological disease, mental health disorders, musculoskeletal disease, and hearing and vision loss (appendix). Other NCDs are also included in the 25x25 strategy (eg, asthma is included under respiratory disease), but receive little emphasis because they are rarely fatal, even though they account for a non-trivial proportion of DALYs. For some of these missing NCDs (eg, neurological disease, asthma), the major causes are unknown, so ongoing research is needed, alongside global action on known causes of

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See Online for appendix

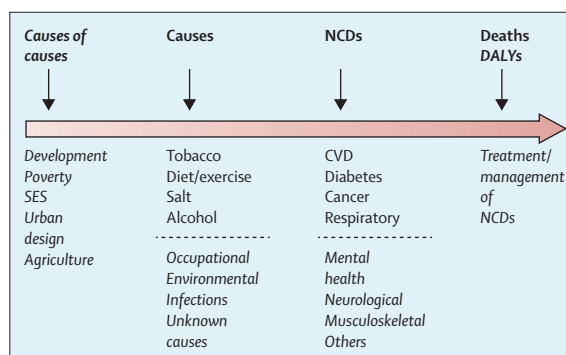


Figure: Models for prevention of non-communicable diseases
The elements covered by the standard model are in standard type. The missing elements are in italics. SES=socioeconomic status. NCDs=non-communicable diseases. CVD=cardiovascular disease. DALYs=disability-adjusted life-years.

NCDs. Mental-health issues have been included in the WHO Global NCD Action Plan 2013–2020,⁶ but the other missing NCDs have not.

Most cases of these missing NCDs are not caused by the risk factors targeted by the 25×25 strategy (ie, tobacco, diet, physical activity, and alcohol). The missing causes include infections, occupational exposures, and environmental exposures. Consideration of the structural (distal) determinants—ie, causes of the causes—is also essential.²⁰ Key environmental causes of the causes include urban design; poverty and development; and air pollution, lifestyle, and climate change. More than 6 million people die each year because of air pollution (about half from ambient and half from household air pollution).²¹ Programmes that promote physical activity tend to focus on leisure-time physical activity,⁹ but they show a failure to understand that most poor people do not have leisure time.²² In recent decades, energy expenditure has decreased markedly because of changes in the urban environment, including urban design, safety concerns, the rise of the car, and the near demise of public transport. What is required is environmental change so that physical exercise becomes part of daily life again, rather than being a lifestyle choice.⁹ Furthermore, individualised interventions need to be undertaken, and paid for, in each generation. Upstream interventions are also potentially longer lasting than is individual behavioural change and have effects across the entire life-course.⁹

Finally, we need to supplement the 25×25 strategy by strengthening existing health systems in LMICs, particularly in primary care.²³ Some LMICs—such as India, China, Brazil, Laos, Indonesia, and the Philippines—are substantially increasing health expenditures. There is therefore a major opportunity to guide this massive investment, but the 25×25 strategy risks missing it because of its neglect of health care for NCDs. Atun and colleagues²³ note how the successful HIV/AIDS response has shown the need for broad-based governance mechanisms that include civil society, affected communities, and the public and private health sectors. Crucially, the experience with HIV/AIDS has shown the importance of the positive interplay of health care and prevention.

We can see why, for policy makers, the simplified 25×25 approach, with just a few bullet points, might be preferable, particularly for international agencies such as WHO. However, the desire to keep it simple is counterproductive when it leads to complexity denial. Prevention activities gain more traction if they are embedded in health services and in society—ie, health must be involved in all policies. Prevention strategies also need to adapt as the food, tobacco, alcohol, and

drug industry tactics evolve; otherwise, even the small goals of 25×25 will be difficult to attain. Health promotion focused on individuals will be insufficient, particularly in LMICs, without structural changes at the societal level—for example, the ban of trans fatty acids in New York, together with a policy aiming to prevent obesity, has been more effective than individualised health promotion.²⁴ Active travel—ie, walking and cycling—has major benefits both for individual health and for the health services. The core elements of an antismoking strategy are now recognised as bans on smoking in public places, restrictions on marketing, and increased taxes, with individualised approaches such as nicotine replacement playing a subsidiary role.²⁷

The increasing burden of NCDs poses an enormous threat to populations and health systems across the globe.²⁵ The Sustainable Development Goals²⁶ represent an important opportunity to integrate efforts to reduce the burden of NCDs and promote sustainable development. The recent identification of NCDs as a major threat to the global economy²⁷ provides a lever for moving NCDs from a peripheral to a central concern for global development.

The comprehensive approach we propose aims to tackle deficiencies in the standard approach by broadening it to include morbidity, other major NCDs (eg, mental health, neurological disease, musculoskeletal disease), and other important causes of NCDs (eg, infections and occupational and environmental exposures), including the causes of the causes (eg, urban design, development, agribusiness inequality, and poverty), and by developing innovative, affordable, and sustainable health-care-system responses. This approach would address NCDs in broader social, economic, and health-care contexts, adaptable to local circumstances. The underlying principles include a distinction between protection of health at the individual level and health of the society in general as a common good; evidence-based approaches tailored for LMICs; primary care as a universal framework; reacting in real time to the adaptive behaviours of the global food, tobacco, alcohol, and transport industries; evidence-based, cost-effective, and affordable approaches integrated within the post-2015 sustainable development agenda; priorities based on the NCD burden and available resources for each country; and progression from relatively simple, public-health-oriented, and affordable approaches to more complex, multisectoral, and development-oriented approaches.

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- 1 High level meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases. New York. http://www.who.int/nmh/events/un_ncd_summit2011/speeches/en/index.html (accessed Jan 28, 2014).
- 2 WHO. Global status report on non-communicable diseases 2010. Geneva 2010 http://www.who.int/nmh/publications/ncd_report2010/en/ (accessed Jan 28, 2014).
- 3 WHO. Non-communicable diseases country profiles 2011. Geneva 2011 http://www.who.int/nmh/publications/ncd_profiles2011/en/ (accessed Jan 28, 2014).
- 4 66th World Health Assembly: Second Report of Committee A. Geneva 2013 http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_65-en.pdf (accessed Jan 28, 2014).
- 5 Beaglehole R, Bonita R, Horton R, et al. Measuring progress on NCDs: one goal and five targets. *Lancet* 2012; **380**: 1283–85.
- 6 WHO. WHO Global NCD Action Plan 2013–2020. Geneva 2013 http://www.who.int/nmh/events/ncd_action_plan/en/ (accessed Jan 28, 2014).
- 7 WHO. Follow-up to the Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases. Sixty sixth World Health Assembly Agenda item 13.1 Geneva: WHO; 2013 http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_R10-en.pdf (accessed Jan 28, 2014).
- 8 WHO. Vienna Declaration on Nutrition and Non-communicable Diseases in the Context of Health 2020. WHO Ministerial Conference on Nutrition and Noncommunicable Diseases in the Context of Health. Vienna 2013 <http://www.euro.who.int/en/media-centre/events/events/2013/07/vienna-conference-on-nutrition-and-noncommunicable-diseases/documentation/vienna-declaration-on-nutrition-and-noncommunicable-diseases-in-the-context-of-health-2020> (accessed Jan 28, 2014).
- 9 Lawlor DA, Pearce N. The Vienna declaration on nutrition and non-communicable diseases: time to look upstream. *BMJ* 2013; published online July 15. <http://dx.doi.org/10.1136/bmj.f4417>.
- 10 Ebrahim S. Chronic diseases and calls to action. *Int J Epidemiol* 2008; **37**: 225–30.
- 11 Chan M. Opening address at the 8th Global Conference on Health Promotion. Helsinki: WHO; 2013 http://www.who.int/dg/speeches/2013/health_promotion_20130610/en/ (accessed Jan 28, 2014).
- 12 Stuckler D, McKee M, Ebrahim S, Basu S. Manufacturing epidemics: the role of global producers in increased consumption of unhealthy commodities including processed foods, alcohol, and tobacco. *PLoS Med* 2012; **9**: e1001235.
- 13 Gilmore AB. Understanding the vector in order to plan effective tobacco control policies: an analysis of contemporary tobacco industry materials. *Tob Control* 2012; **21**: 119–26.
- 14 Editorial. Tobacco control—political will needed. *Lancet* 2013; **381**: 1511.
- 15 McKee M. E-cigarettes and the marketing push that surprised everyone. *BMJ* 2013; **347**: f5780j.
- 16 Ebrahim S, Smith GD. Exporting failure? Coronary heart disease and stroke in developing countries. *Int J Epidemiol* 2001; **30**: 201–05.
- 17 Chapman S, Richardson J. Tobacco excise and declining tobacco consumption - the case of Papua New Guinea. *Am J Pub Health* 1990; **80**: 537–40.
- 18 Lozano R, Naghavi M, Foreman K, et al. Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet* 2012; **380**: 2095–128.
- 19 Murray CJL, Vos T, Lozano R, et al. Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet* 2012; **380**: 2197–223.
- 20 Commission on Social Determinants of Health. Closing the gap in a generation: Health equity through action on the social determinants of health. Geneva: WHO; 2008 http://www.who.int/social_determinants/thecommission/finalreport/en/index.html (accessed Jan 28, 2014).
- 21 Lim SS, Vos T, Flaxman AD, et al. A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet* 2012; **380**: 2224–60.
- 22 Hu FB. Obesity epidemiology. New York, NY: Oxford University Press, 2008.
- 23 Atun R, Jaffar S, Nishtar S, et al. Improving responsiveness of health systems to non-communicable diseases. *Lancet* 2013; **381**: 690–97.
- 24 Angell SY, Cobb LK, Curtis CJ, Konty KJ, Silver LD. Change in trans fatty acid content of fast-food purchases associated with New York City's restaurant regulation: a pre-post study. *Ann Intern Med* 2012; **157**: 81–86.
- 25 Alleyne G, Binagwaho A, Haines A, et al. Embedding non-communicable diseases in the post-2015 development agenda. *Lancet* 2013; **381**: 566–74.
- 26 Haines A, Alleyne G, Kickbusch I, Dora C. From the Earth Summit to Rio+20: integration of health and sustainable development. *Lancet* 2012; **378**: 2189–97.
- 27 Howell L. Global risks 2013. 8th ed. Geneva: World Economic Forum 2013 http://www3.weforum.org/docs/WEF_GlobalRisks_Report_2013.pdf (accessed Jan 28, 2014).