

Noncommunicable disease research

Luke Allen

Nuffield Department of Population Health, University of Oxford, Oxford, UK

ABSTRACT

Research is an essential component of the fight against noncommunicable disease (NCD) as it provides the evidence for effective prevention and control interventions. While the biological causes and manifestations of NCDs have been studied in depth, we are still trying to understand the best ways of implementing effective control policies. Exploring which interventions work in different settings is fundamental to the attainment of international targets set out in the Global Action Plan and the Sustainable Development Goals. The vast majority of NCD research comes from high-income countries and interventions that work in these settings are not necessarily effective in the Global South. Translational research is needed alongside wider engagement with social scientists: the most significant drivers of NCD epidemics are political, social, economic, and behavioral. Collaborative research spanning these domains is required for the development of effective, evidence-based NCD prevention, and control policies. This short article provides an overview of the role research has to play in the global NCD response and highlights areas in need of investment.

Key Words: Noncommunicable disease, research, policy

Introduction

The summer of 2016 marked the half-way point for the 2013–2020 WHO Global Action Plan for the Prevention and Control of noncommunicable diseases (NCDs).^[1] The plan includes nine voluntary targets and six objectives. The “25 × 25” target (achieving 25% reduction in premature NCD mortality by 2025) was readily adopted by the global public health community, and we have seen committed efforts to make and quantify progress in this area. In stark contrast, little noise has been made about objective 5 from the Global Action Plan; promoting NCD research capacity. This is unfortunate because NCD research is the means by which all other targets are met.

Research-policy Feedback Loop

NCD research provides the evidence-base for therapies, interventions, and broader practices to fight the pandemic. Research is the means by which we can discriminate between what works and what does not, as well as

quantifying cost-effectiveness, and testing and developing new ideas. The “best buys” were a good example of the way that research directly underpins policy interventions.^[2] In turn policy implementation raises new questions, for example, what is the most effective means of eliminating trans fats from the human food supply?

A resourced NCD research community that asks implementation-oriented questions can foster a positive feedback loop that continuously hones the policies at our disposal to prevent and control NCDs [Figure 1].

The Global Action Plan call for investment in national research capacity was a repeat of objective 4 from the 2008 Global Action Plan.^[3] Both calls lacked any form of quantitative justification. To date, there has never been a research capacity benchmarking exercise, despite a panoply of indicators for every other NCD-related target.^[4]

Address for correspondence: Dr. Luke Allen,
Nuffield Department of Population Health, University of Oxford,
Old Road Campus, Oxford, UK.
E-mail: drlukeallen@gmail.com

Access this article online

Website:
www.ijncd.org

DOI:
10.4103/2468-8827.198586

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How to cite this article: Allen L. Noncommunicable disease research. *Int J Non-Commun Dis* 2016;1:131-3.

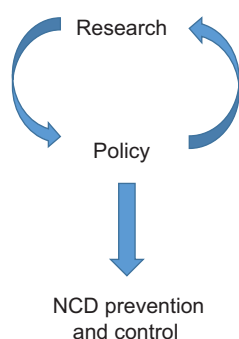


Figure 1: The research-policy feedback loop

Without knowing the current state of play, it is difficult to know where research capacity needs boosting. In other words, we lack research on NCD research.

Research Gaps

Calls for investment in NCD research stem from frustration at the ostensible lack of evidence for effective NCD policies. The 2011 WHO Global Strategy and Plan of Action on Public Health, Innovation, and Intellectual Property noted the lack of “comparative, applied, and operational research needed to scale up effective interventions.”^[5] The report also lamented a paucity of “needs-driven” research.

This issue was taken up in the WHO 2011 Prioritized Research Agenda for NCDs.^[6] The underlying philosophy of the Prioritized Agenda was that research is absolutely fundamental for developing effective policies. Priority areas were identified by asking where the NCD response was weakest, rather than where research capacity (funding, institutions, human resources, etc.) were lacking. This needs-based approach highlighted three main areas:

- Intersectoral and multidisciplinary research to understand and influence the macroeconomic and social determinants of NCDs and exposure to NCD risk factors
- Translation research and health system research for global application of proven cost-effective strategies
- Research to enable expensive but effective interventions to become accessible and used appropriately in resource-constrained settings.

These recommendations are based on the fact that we have excellent biomedical evidence for NCDs, but there is a persisting paucity of implementation research and engagement from the social sciences. The growing recognition that NCDs are primarily caused by essentially nonmedical phenomena has not been accompanied by a reciprocal rise in interdisciplinary NCD research.

Complex drivers such as globalization, population aging, urbanization, and poverty^[7] require policy responses that are grounded in anthropology, sociology, economics, and political science. NCDs do not respect academic silos, and our research efforts should reflect this fact.

The common perception of health researchers as biomedical scientists in white laboratory coats is also hindering the necessary pivot toward implementation science. We need to focus on exploring how we can scale up efforts to prevent and treat NCDs, especially in low- and middle-income countries (LMICs) where the burden is highest. Traditionally, the lion’s share of research has been conducted in the Global North and translated into resource-poor settings without accounting for important contextual differences. Even the robust “best buys” have very little evidence for effectiveness in LMICs,^[8] let alone implementation studies.

Some efforts are currently being made to quantify the mismatch between NCD burden and research output. An upcoming bibliometric review by Allen *et al.* has found that 83% of low- and lower-middle income countries (LLMICs) have not produced a single paper on poverty and NCDs. Furthermore, papers from LLMICs that have produced work tend to end up in journals with an impact factor 2.6 times lower than papers from high-income countries.^[9] In another upcoming WHO report, Allen and colleagues found that 89% of LLMICs have not evaluated whether any of the ‘best buy’ interventions work in their local context.^[10] As a result of these nascent (and as yet non-peer reviewed) findings, a rapid capacity assessment tool is being developed by the WHO based on the nine prerequisites for health research systems presented in the Prioritized Research Agenda^[6] (from Nchinda’s cardiovascular disease research paper):^[11]

- A national research policy
- Leadership
- A competent research workforce
- Adequate financing
- Priority-setting mechanisms
- Regulatory frameworks
- Ethical oversight mechanisms
- Adequately equipped research institutions
- Effective information and dissemination systems.

The Agenda also highlighted five areas in specific relation to NCDs:

- Inadequate training of professionals and poor infrastructure for research
- Lack of funds for research

- Absence of effective leadership and peer support in research
- Absence of a tradition of research in many LMICs
- Donor-driven research priorities in low-income settings.

It is important to quantify research capacity and mainstream these assessments as part of United Nations Interagency Taskforce work, and the WHO Country Capacity Surveys.

Conclusion

In summary, NCD research is the means by which effective interventions are identified, scaled up, and translated to settings where the burden of disease is highest. A greater emphasis on policy-oriented NCD research, wider engagement with social scientists, and efforts to quantify current research capacity so that investments can be targeted would boost NCD research. In turn, this will boost global efforts to prevent and control what is being called the NCD pandemic,^[12] especially in disadvantaged regions.

Financial support and sponsorship
Nil.

Conflicts of interest

There are no conflicts of interest.

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