



Chronic Diseases 2

Preventing chronic diseases: taking stepwise action

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The scientific knowledge to achieve a new global goal for the prevention of chronic diseases—a 2% yearly reduction in rates of death from chronic disease over and above projected declines during the next 10 years—already exists. However, many low-income and middle-income countries must deal with the practical realities of limited resources and a double burden of infectious and chronic diseases. This paper presents a novel planning framework that can be used in these contexts: the stepwise framework for preventing chronic diseases. The framework offers a flexible and practical public health approach to assist ministries of health in balancing diverse needs and priorities while implementing evidence-based interventions such as those recommended by the WHO Framework Convention on Tobacco Control and the WHO Global Strategy on Diet, Physical Activity and Health. Countries such as Indonesia, the Philippines, Tonga, and Vietnam have applied the stepwise planning framework: their experiences illustrate how the stepwise approach has general applicability to solving chronic disease problems without sacrificing specificity for any particular country.

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Introduction

As described in the first paper of this series,¹ from an estimated total of 58 million deaths worldwide this year, heart disease, stroke, cancer, and other chronic diseases will account for 35 million, more than 15 million of which will occur in people younger than 70 years. Approximately four out of five of all deaths from chronic disease now occur in low-income and middle-income countries, and the death rates are highest in middle-aged people in these countries (panel 1).

While the age-specific rates of death from chronic diseases are declining in many high-income countries, the burden of these epidemics is accelerating in low-income and middle-income countries, driven by both population ageing and rapid social and environmental changes that are increasing the prevalence of common risk factors in these countries. This acceleration is alarming considering that chronic diseases are highly preventable. At least 80% of heart disease, stroke, and type 2 diabetes, and 40% of cancer could be avoided through healthy diet, regular physical activity, and avoidance of tobacco use.^{2,3} Cost-effective interventions to reduce chronic disease risks exist, and have worked in many countries (panel 2); the most successful strategies have used a range of population-wide and individual approaches. Yet the upsurge of chronic disease risks in many low-income and middle-income countries exposes the paucity of successfully implemented preventive population-based interventions. For those at high risk or with established disease, many medications and other treatments are at best intermittently available in these countries. The stark consequence is that people are suffering needlessly for lack of inexpensive and off-patent treatments (panel 3).

To address the divergence between escalating numbers of deaths from chronic disease on one hand, and the existence of effective interventions on the other hand, a global goal for preventing chronic diseases has been proposed.¹ The target is a 2% annual reduction in chronic disease death rates over and above projected declines

during the next 10 years. This reduction would result in 36 million deaths averted over this period, of which 28 million would be averted in low-income and middle-income countries. The target is based on the achievements of several countries over the past three decades in which comprehensive chronic disease prevention programmes have been introduced.¹⁰⁻¹⁴ Subsequently, a vast amount of published work has accumulated to show that health gains can be obtained over a relatively short period of time, especially in the area of tobacco control, in which benefits accrue almost immediately.

Although the scientific knowledge to achieve the global goal exists now, many low-income and middle-income countries must deal with the practical realities of limited resources and a double burden of infectious and chronic diseases. The WHO Global Strategy on Diet, Physical Activity and Health¹⁵ and the WHO Framework Convention on Tobacco Control¹⁶ describe the actions needed to reduce tobacco use and support the adoption of healthy diets and regular physical activity. Yet policies to encourage these actions might seem out of reach for some ministries of health, who are charged with the task of putting such approaches into practice in the face of pressing, competing priorities. Here, we propose a novel planning framework that can be used in these contexts: the stepwise framework for preventing chronic diseases.

Taking action

Creative solutions are necessary to address the escalating demands of chronic diseases and their common risk

Panel 1: Key messages

Many chronic disease interventions are effective and suitable for resource-constrained settings. Stepwise implementation of evidence-based interventions will make a major contribution to the prevention and control of chronic disease.

Comprehensive and integrated action at country level, led by governments, is the means to achieve success.

Panel 2: Common myths surrounding chronic diseases

Myth: "Chronic diseases are diseases of affluence"

Fact: four out of five deaths from chronic disease are in low-income and middle-income countries. Recent evidence points to the fact that chronic disease risks become widespread much earlier in a country's economic development than is usually realised. For example, population body-mass index and total cholesterol increase rapidly as the national income of poor countries rises. They remain steady once a certain level of national income is reached, before eventually declining.⁴

Myth: "People must die of something"

Fact: Certainly everyone has to die of something, but death does not need to be slow, painful, or premature. Most chronic diseases do not result in sudden death. Rather, they are likely to cause people to become progressively ill and debilitated, especially if their diseases are not managed correctly. This is especially true in low-income and middle-income countries, where people tend to develop disease at younger ages, suffer longer—often with preventable complications—and die sooner than those in high-income countries. Death is inevitable, but a life of protracted ill health is not.

Myth: "Chronic diseases develop over a lifetime of exposure to risk and hence effective prevention will take generations, far beyond political attention spans"

Fact: It is not necessary to wait decades to reap the benefits of prevention and control activities. Risk factor reduction can lead to surprisingly rapid health gains, at both population and individual levels. In the case of tobacco control, the effect of proactive policies and programmes is almost immediate. The implementation of tobacco-free policies leads to quick decreases in tobacco use, rates of cardiovascular disease, and hospital admissions due to myocardial infarction.^{5,6}

Myth: "Interventions for chronic disease prevention and control are necessarily less cost-effective than those for acute and infectious diseases"

Fact: A full range of chronic disease interventions has been judged to be very cost-effective for all regions of the world, including sub-Saharan Africa. Many of these solutions are not only very cost-effective, they are also inexpensive to implement.⁷ Examples of very cost-effective interventions are: salt reduction through voluntary agreements with the food industry; taxation of tobacco products, which is not only cost effective but also raises revenues for governments; comprehensive bans on advertising of tobacco products; and combination drug therapy based on an overall risk approach to identifying individuals at high risk.⁸ The ideal components of a medication to prevent complications in people with heart disease are no longer covered by patent restrictions and could be produced for little more than a dollar a month.⁹

factors in countries with limited or stressed health systems, such as Vietnam, where annual health expenditures amount to Int\$148 per person (Int\$1 has the same purchasing power as US\$1 has in the USA). With this limited funding, the country must contend with a high prevalence of chronic malnutrition of children, relatively high maternal and neonatal mortality, an unfinished agenda around infectious diseases, and a steady increase in cardiovascular diseases, cancer, and other chronic diseases.¹⁷ In urban areas near Hanoi, 15% of adults are overweight (body-mass index >25);¹⁸ in Ho Chi Minh City, 7% of adults have diabetes.¹⁹

Within contexts such as these, ministries of health are faced with a seemingly daunting task: to rally support for chronic disease prevention and control; to provide a unifying vision and action plan to ensure that intersectoral

action is emphasised at all stages of policy formulation and implementation; and to make certain that actions at all levels and by all sectors are mutually supportive. Additionally, actions need to be prioritised in keeping with the specific population needs for chronic disease prevention and control, range of possible interventions, and availability of human and financial resources to implement them.

Stepwise framework for preventing chronic diseases

The stepwise framework offers a flexible and practical approach to assist ministries of health in balancing diverse needs and priorities while implementing evidence-based interventions. The framework is guided by a set of principles based on a public health approach to chronic disease prevention and control:

- The national level of government provides the unifying framework for chronic disease prevention and control, so that actions at all levels and by all stakeholders are mutually supportive.
- Intersectoral action is necessary at all stages of policy formulation and implementation because major determinants of the chronic disease burden lie outside the health sector.
- Policies and plans focus on the common risk factors and cut across specific diseases.
- As part of comprehensive public-health action, population-wide and individual interventions are combined.
- In recognition that most countries will not have the resources to immediately do everything implied by the overall policy, activities that are immediately feasible and likely to have the greatest impact for the investment are selected first for implementation. This principle is the heart of the stepwise approach.
- Locally relevant and explicit milestones are set for each step and at each level of intervention with a particular focus on reducing health inequalities.

Detail of the stepwise framework

The figure outlines the key steps of the stepwise framework, which includes three main planning steps and three main implementation steps.

The first planning step is to assess the current risk factor profile and burden of chronic diseases of a country or sub-population. The distribution of risk factors among the population is the key information required by countries in their planning of prevention and control programmes, and can be assessed using WHO's stepwise surveillance approach.²⁰ This information must then be synthesised and disseminated in a way that successfully argues the case for the adoption of relevant policies. This is a key aspect of making the case for action.

Indonesia's experience illustrates the importance of this first step. For many years the scale of the chronic disease problem in Indonesia went unrecognised because of a shortage of reliable information. Prevention and control

activities were scattered, fragmented, and lacked coordination. Periodic household surveys later revealed that the proportion of deaths from chronic diseases doubled between 1980 and 2001 (from 25% to 49%). The economic implications and the pressing need to establish an integrated prevention platform at national, district, and community level became clear. In 2001, Indonesia's Ministry of Health initiated a broad consultative process that resulted in a national consensus on chronic disease policy and strategy. A collaborative network for chronic disease prevention and control was established, involving health programmes, professional organisations, non-governmental organisations, educational institutions, and other partners from both the public and private sectors (including those not directly concerned with health). This enterprise was followed by further action that ultimately led to a national policy and strategy document in 2004.

The second planning step is to formulate and adopt a chronic disease policy that sets out the vision for prevention and control of the major chronic diseases and provides the basis for action in the next 5–10 years. In all countries, a national policy is essential to give chronic diseases appropriate priority and to organise resources efficiently. For example, China's Ministry of Health, with the support of WHO and the cooperation of relevant sectors, has been developing a national plan for chronic disease prevention and control that focuses on cardiovascular diseases, stroke, cancer, chronic obstructive pulmonary disease, and diabetes. It will include an action plan for 3–5 years.²¹ Depending on the configuration of each country's governance, complementary policies also can be developed at the state, province, district, or municipal levels. In these cases, it is vital that subnational policies are fully integrated and aligned with national policies.

The third planning step is to identify the most effective means of implementing the adopted policies. The

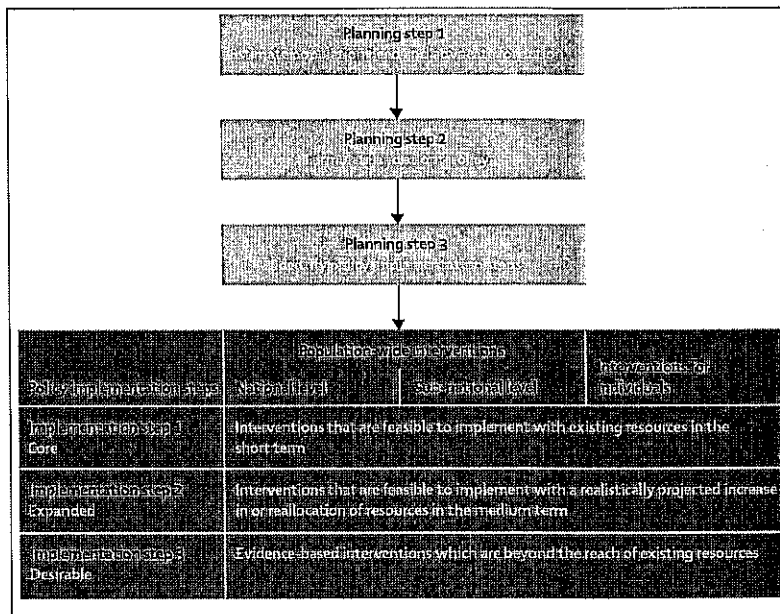


Figure: WHO stepwise framework for preventing chronic diseases

comprehensive approach requires a range of interventions to be implemented in a stepwise manner, depending on their feasibility and likely impact in the local conditions, and taking into account potential constraints and barriers to action. Some of the selected interventions might be primarily under the control of the health ministry, such as realigning health systems for chronic disease prevention and control. Others might be primarily the responsibility of other government sectors or the legislative branch, such as health financing, laws and regulations, and improving the built environment. In these cases, the ministry of health must ensure

Panel 3: Face to face with chronic diseases

Roberto Severino Campos lives in a shanty town in the outskirts of São Paulo with his seven children and 16 grandchildren. Roberto never paid attention to his high blood pressure, nor to his drinking and smoking habits. "He was so stubborn", his 31-year-old daughter Noemia recalls, "that we couldn't talk about his health". Roberto had his first stroke 6 years ago at the age of 46—it paralysed his legs. He then lost his ability to speak after two consecutive strokes 4 years later. Roberto used to work as a public transport agent, but now depends entirely on his family to survive.

Since Roberto's first stroke, his wife has been working long hours as a cleaner to earn money for the family. Their eldest son is also helping with expenses as much of the family's income is used to buy the special diapers that Roberto needs. "Fortunately his medication and check-ups are free of charge but sometimes we just don't have the money for the bus to take us to the local medical centre", Noemia continues.

But the burden is even greater: this family not only lost its breadwinner, but also a devoted father and grandfather. Roberto is now trapped in his own body and always needs someone to feed him and see to his most basic needs. Noemia carries him in and out of the house so he can take a breath of air from time to time. "We all wish we could get him a wheelchair", she says.

Noemia and four of her brothers and sisters also suffer from high blood pressure.

Excerpted with permission from WHO. *Preventing Chronic Diseases: A Vital Investment?*



WHO/Cris De Bode

Panel 4: Vietnam and Tonga

Vietnam and Tonga could not be less alike, yet both are early adopters of the stepwise approach to planning in their region. The former is a large Asian country of 80 million people, with a double burden of infectious and chronic disease, and a rapidly growing economy. The latter is a Pacific country of 100 000 people, with a fully established chronic disease epidemic and an economy strongly dependent on remittances and foreign aid.

When the stepwise approach to planning was first introduced, Vietnam and Tonga faced very different challenges. Tonga had no national chronic disease plan but was committed to developing one,²² whereas Vietnam had an ambitious national programme²³ but no means to monitor its implementation.

In both countries, resource scarcity was a major impediment. In Tonga, the scarcity, especially of human resources, is absolute, with a very small number of professionals available to work in the field of chronic disease. In Vietnam that scarcity is compounded by specialisation into a series of vertical institutes and some degree of fragmentation.

The consequence for both countries was similar. In Tonga, there was a need to reach consensus on a prioritised list of possible actions, making most effective use of its scarce human resources. In Vietnam, there was a need to agree on a common set of measures and indicators that would be used to monitor the effect of the work of several diverse institutes.

An ineffective planning model could have distorted the outcome for both countries. In Tonga, improper planning might have resulted in a national programme peppered with the pet projects of influential proponents. In Vietnam, the danger would have been of producing a surveillance system overburdened with the research projects of specialist interests.

A series of consultations were held in both countries, in 2003 in Tonga, and in 2004 in Vietnam—large formal meetings involving multiple partners, including international development agencies, and smaller, more direct, negotiations between parties. In all these meetings, the stepwise approach was explicitly used as a planning and recording tool.

In both countries, the planning model led to results that went beyond the production of a consensus document. In Tonga, the action plan²⁴ that was produced by the end of 2003 was rapidly adopted by government and became an instrument for coordinating the work of different sectors as well as for channeling the disparate inputs of development agencies. In Vietnam, the model²⁵ produced by the stepwise process has been endorsed by the Ministry of Health and is now being tested in pilot provinces.

These examples show that the stepwise approach can rapidly translate evidence-based standards on the prevention and control of chronic disease into coherent action programmes that are relevant to the resource constraints and political realities of developing countries.

coordination and cooperation with all government partners, civil society, and the private sector.

Planning is followed by a series of implementation steps: core, expanded, and desirable. The chosen combination of interventions for core implementation forms the starting point and the foundation for further action. Each country must consider a range of factors in deciding the package of interventions that constitute the first, core implementation step, including capacity for implementation, likely impact, acceptability, and political support. Selecting a smaller number of activities and doing them well is likely to have more effect than tackling a large number haphazardly. Countries should also try to ensure that any new activities complement those already underway locally, provincially, or nationally.

Putting the framework into action

A number of countries, such as Vietnam and Tonga (panel 4) have successfully used the stepwise framework for policy formulation and implementation. They show how the stepwise approach has general applicability to solving chronic disease problems without sacrificing specificity for any given country.

Across these and other countries, the following factors have been associated with successful implementation:

- A high-level political mandate to develop a national policy framework.
- A committed group of advocates who are often involved with estimating need, advocating for action, and developing the national policy and plan.
- International collaboration providing political and technical support.
- Wide consultation in the process of drafting, consulting, reviewing, and re-drafting the policy until endorsement is achieved.
- Development and implementation of a consistent and compelling communication strategy for all stages of the process.
- Clarity of vision on a small set of outcome-oriented objectives.

Civil society and the private sector

Any single organisation or group is unlikely to have enough resources to address the complex public health issues related to the prevention and management of chronic diseases. The stepwise framework initiated by governments allows all health and non-health sectors to see how their role is an integral part of an overall framework. It becomes quickly apparent that it can be best implemented by working with the private sector, civil society, and international organisations. In the Philippines, for example, the Department of Health has assumed a coordination and advocacy role in the development of a response to chronic disease, marshalling the multiple inputs of local governments, non-governmental associations, and the Philippine Health Insurance Corporation. Using the stepwise framework as a basis for planning, a Philippine Coalition for the Prevention of Noncommunicable Diseases has been formed and a Memorandum of Understanding for action between these parties was signed in 2004.²⁶ The relations between government, civil society, and the private sector also apply at the international level, where WHO collaborates with a range of partners on chronic disease prevention and control.

Conclusion

Every country, regardless of the level of its resources, has the potential to make substantial improvements in chronic disease prevention and control, and to take steps towards contributing towards the global goal for preventing chronic diseases by 2015. A 2% annual reduction in chronic disease death rates, above and

beyond currently projected declines, will result in 36 million fewer deaths by 2015, half of which will be in people younger than 70 years.¹

A range of effective interventions for chronic disease prevention and control exist, and many countries—mostly those with high income—have already made major reductions in chronic disease deaths through their implementation. Yet more focused action and political commitment is needed in many parts of the world, especially low-income and middle-income countries.

In low-income countries, it is vital that supportive policies are in place now to reduce risks and curb epidemics before they take hold. In countries with established chronic disease problems, additional measures will be useful not only to prevent diseases through risk reduction but also to manage illness and prevent complications. Everyone has a role to play in advancing the agenda. As a starting point, the full WHO publication, *Preventing Chronic Diseases: A Vital Investment*, supplementary information, and an online advocacy toolkit, can be downloaded from WHO's website.⁹

This publication describes a comprehensive public health approach for implementing chronic disease policies and programmes in an integrated and stepwise manner. As there cannot be a universal prescription for implementation, the feasibility of the stepwise approach is that it allows each country to consider a range of factors in priority setting. Stepwise implementation of evidence-based interventions will make a major contribution to prevention and control of chronic disease, and will assist countries to contribute towards achieving the global goal by 2015.

Taking up the challenge for chronic disease prevention and control, especially in the context of competing priorities, requires a certain amount of courage and ambition. On the other hand, the failure to use available knowledge about chronic disease prevention and control is unjustified, and recklessly endangers future generations. There is simply no excuse for chronic disease to continue taking millions of lives each year when the scientific understanding for how to prevent these deaths is available now. The agenda is broad and bold, but the way forward is clear.

Conflict of interest statement

We declare that we have no conflict of interest.

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