Chapter 6
Tackling NCDs: the capacity of countries to respond

In the past decade, countries have expanded their capacities to respond to the epidemic of noncommunicable diseases. Real progress, though uneven, has been made. Many countries have developed NCD strategies, plans and guidelines, although a substantial proportion of them are not yet operational. Some countries have created components of the health infrastructure that is essential to containing the spread of NCDs, but have not effectively funded or implemented them. However, the existence of initiatives to combat the NCD epidemic in a growing number of countries provides a strong foundation to extend progress in the coming years through increasingly robust efforts.

This chapter presents an assessment of the capacity of Member States to prevent and control NCDs based on surveys completed by WHO in 2000 and 2010. It reviews some specific gaps and challenges in the response of health systems in Member States and concludes with recommendations on actions to respond to the challenges and build country capacity.

In 2000, WHO conducted a global survey to assess national capacity for NCD prevention and control. About 88% of Member States (167 countries) completed the survey. The results showed that a key gap in taking action on NCDs was the lack of capacity of health systems (1).

In 2009 and 2010, WHO conducted a further assessment of national capacity to undertake NCD prevention and control. All WHO Member States were invited to take part and the full list of Member States that completed the survey is available on the Global Status Report website.[13]

An electronic questionnaire covering health system infrastructure; funding; policies, plans and strategies; surveillance; primary health care; and partnerships and multilateral collaboration was sent to NCD focal points, or designated colleagues within the ministry of health or a national institute/agency. The questionnaire was distributed in 2009 with a deadline for responses of March 2010. The final completion rate was 95% (184 countries). The questionnaire was designed to reflect both the recommendations of *The World Health Report 2008* on primary health care (2), which set out reforms for universal coverage, service delivery, public policy and leadership, and the six WHO building blocks for health system strengthening: governance, health financing, health workforce, information systems, medical products and technology, and service delivery (3).

A similar approach was used in the 2000 survey, when only 167 Member States responded. Although all 184 responses were included in the 2010 analysis, only the 157 that completed both the 2000 and 2010 surveys were used when assessing progress made between 2000 and 2010. In the following sections of this chapter, general descriptions of survey results refer to 2010 data unless specifically stated otherwise.

Health system infrastructure

In 2010, most countries reported that they had a ministry of health unit, branch or department with responsibility for NCDs (Table 1:[14] Percentage of countries with NCD units within the ministry of health and supporting units). In 2000, only 61% of countries reported having such units.

This trend suggests that in most countries, ministries of health recognize that NCDs pose a significant public health problem and require specific attention, although there is no accurate information on the level of political commitment to address NCDs or the capacity of such units to implement prevention and control initiatives.

[13] http://www.who.int/chp/ncd_global_status_report/en/

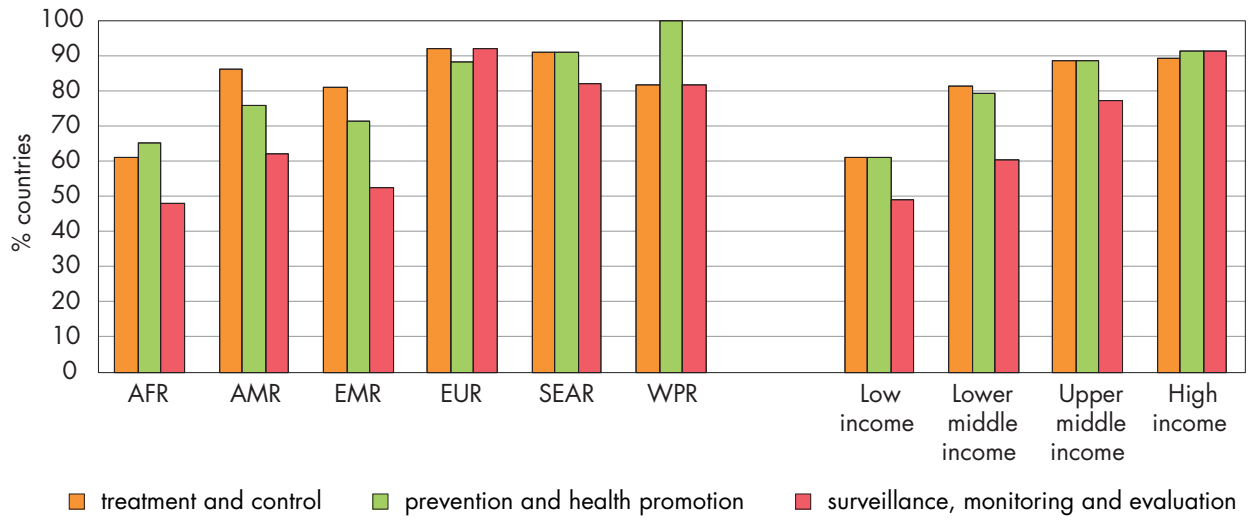
[14] Table 1 is available as a web-based annex at: http://www.who.int/chp/ncd_global_status_report/en/

The majority of countries also had at least one national agency or institute that helps prevent and/or control NCDs. These agencies and institutes may conduct a wide range of functions, including scientific research, policy research, coordination and development of policy, NCD and risk factor surveillance, information management, development of treatment guidelines, as well as training and health promotion.

Funding

Almost 90% of countries reported that some funding was available for NCD prevention and control. Funding was greatest in the WHO Western Pacific Region, the South-East Asia Region, and European Region (Figure 1). Not surprisingly, funding was also more likely to exist in higher-income countries.

Figure 1. Proportion of countries with funding for NCD activities, by function, WHO Region and World Bank income group, 2010



When assessed according to funding targets, 80% of countries had funding for NCD treatment, and the same percentage report funding for NCD prevention and health promotion. In most cases, the major source of funding was the national government (85%), but health insurance, earmarked taxes and international donors are also important sources of NCD funding (Table 2:[15] Major funding sources for NCDs). International donors were reported as a source of some funding for NCD activities in low- and lower-middle-income countries, despite the generally limited funding provided to this area of work by international development agencies.

Twenty countries had no NCD funding stream, and there was a lower level of funding in low-income countries: one third of low-income countries have no funding at all for NCD prevention and control. This is a particular problem in the African Region.

Proportionately fewer low-income countries receive funding from government sources. Around 65% of low-income countries receive government revenues for NCDs compared to about 90% of middle- and high-income countries; 12% of low-income-countries receive funds from health insurance compared to 40–50% of other countries; and 7% of low-income countries receive earmarked taxes compared to about 20–25% for other countries. Also, a smaller percentage of low-income countries receive donations compared to lower-middle income countries (59% compared with 83%).

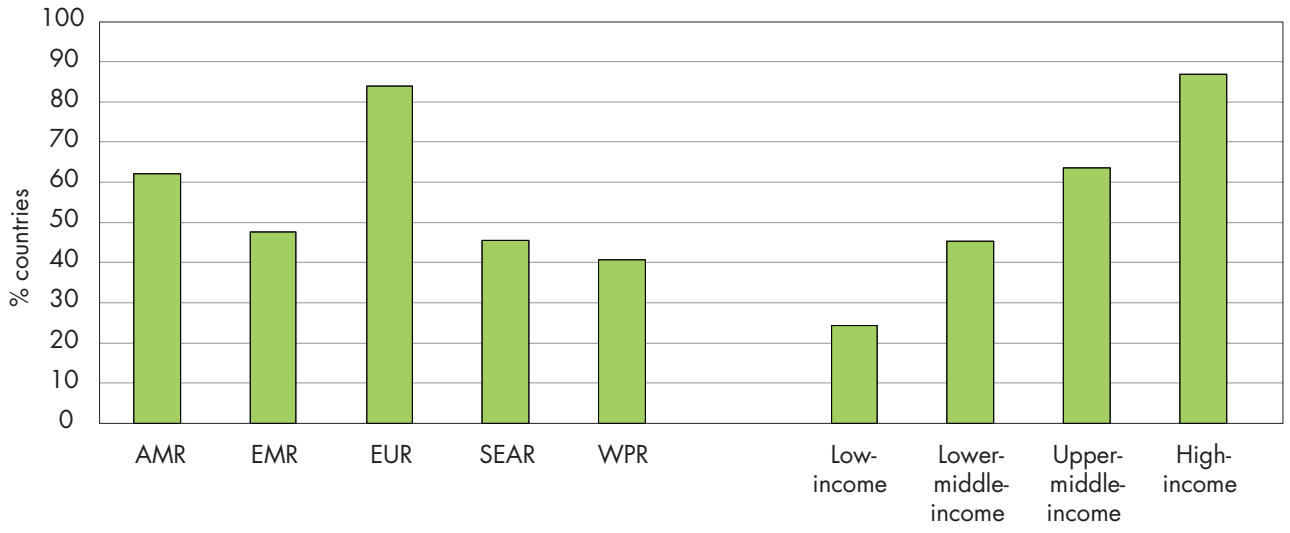
[15] Table 2 is available as a web-based annex at: http://www.who.int/chp/ncd_global_status_report/en/

High-income countries were nearly four times more likely to have NCD services and treatments covered by health insurance than low-income countries

Among all countries there is little earmarking of tobacco and alcohol taxes for NCD programmes. Only 20% of countries reported that they use earmarked taxes to fund NCD prevention and control, and this was lower in low- and lower-middle-income countries. Tobacco taxes are widely collected across all regions and all national income groups and provide a potential opportunity for earmarking for health budgets in general, or specifically for NCD prevention and control.

Many countries also provide health insurance, either social or private, to cover NCD-related services and treatment (Figure 2). The proportion of countries with such insurance schemes rose with increasing national income level: high-income countries were nearly four times as likely to have NCD services and treatments covered by health insurance than low-income countries. Countries with inadequate health insurance coverage are unlikely to provide universal access to individual health-care interventions for NCDs. Consequently, high out-of-pocket expenditures are incurred for routine services, with a greater likelihood of catastrophic spending by individuals and families in the event of life-threatening NCDs.

Figure 2. Proportion of countries where NCD-related services and treatments are generally covered by health insurance, by WHO Region and World Bank income group, 2010



Policies, plans and strategies

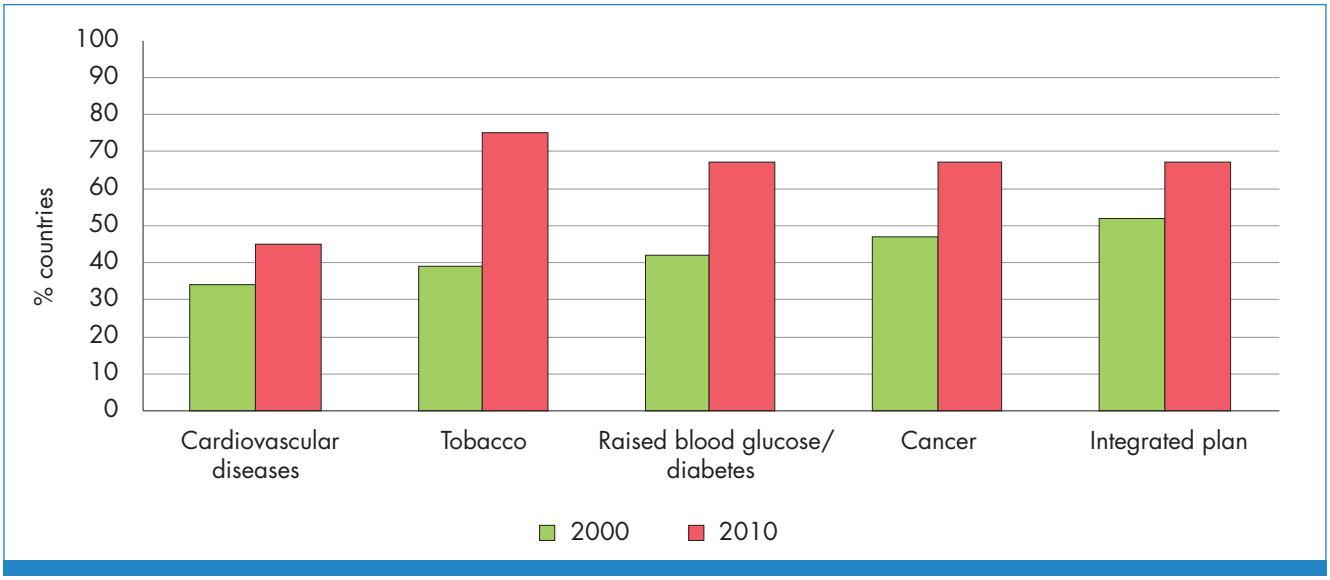
Globally, the number of NCD policies, plans and strategies has increased substantially. About 92% of countries have developed at least one policy, plan or strategy to address NCDs and/or their risk factors. Moreover, the percentage of countries with policies, plans and/or strategies has risen significantly since 2000 (Figure 3). Taking integrated[16] NCD plans as an example, from 2000 to 2010 the percentage of countries rose from 52% to 67%.

The widespread presence of a policy, plan or strategy is a positive finding since they are the cornerstones of NCD prevention and control. They show that countries have national frameworks to guide the development and implementation of interventions – and suggest there is widespread recognition of the need to deal with NCDs.

Despite this positive trend, there are significant variations between diseases and risk factors. Figure 4 shows that fewest plans for tackling NCDs had been developed for chronic respiratory disease. For risk factors, tobacco control policies and plans are available in more than 80% of countries, for

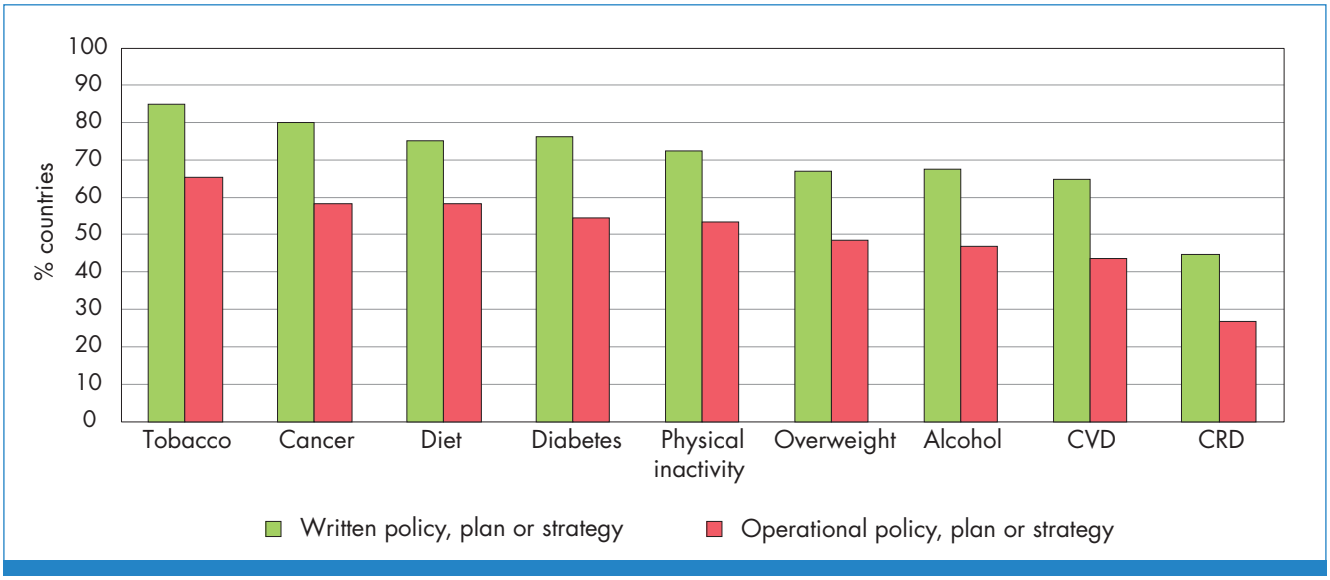
[16] 'Integrated' in this context refers to policies/plans/strategies that focus on more than one of the major chronic diseases and/or more than one of the key risk factors for NCDs.

Figure 3. Percentage of countries with specific policies, plans or strategies, 2000–2010



addressing diet and physical inactivity in around 75%, and the fewest plans have been developed for tackling harmful alcohol consumption. Although the priorities for establishing policies and plans should be based on the burden of diseases and prevalence of the risk factor as well as the availability of cost-effective interventions, the pattern in Figure 4 indicates that this is not always the case.

Figure 4. Percentage of countries with policies, plans or strategies, either integrated or disease/risk-factor specific, according to different diseases and risk factors, 2010



It is important to note that having a policy, plan or strategy on paper does not necessarily mean that it is implemented or funded. As seen in Figure 4, a considerable proportion of policies and plans were not described by respondents as being operational. In addition, on average, countries reported that only 50% of NCDs policies, plans and strategies were being adequately funded.

Finally, many countries did not have measurable outcome targets in their policies, plans and strategies, nor did they include monitoring or evaluation components. Overall, while policies, plans and strategies exist, many are not implemented or are of insufficient quality.

Surveillance

Surveillance for NCDs should cover monitoring of risk factors, health outcomes (mortality and morbidity) and system capacity. Based on the survey, more than 80% of countries reported NCD mortality as part of their national health information systems. A similar percentage reported that morbidity related to NCDs is included, but only 21% of countries reported that such data were population-based. Although the data reported suggest improvements over the past decade, they do not provide information on completeness and quality of mortality data, since fewer countries currently report reliable cause-specific mortality data on regular basis to WHO. Regardless of the completeness and reliability of data, 16% of countries still have no mortality or morbidity surveillance at all. Significantly, far fewer countries reported that they had population-based mortality data for NCDs.

Written reporting on NCD mortality in national health information systems is another specific challenge: only 61% of countries said they had produced a report on these data in the last three years (2007 or later). Overall, the gaps were much greater in lower-income countries (Figure 5:[17] Prevalence of WHO Member States with NCD-related mortality data included in their national health information system, by income group). High-income countries were 16 times more likely to have population-based NCD mortality data in their national health information system than low-income countries. The same pattern was observed for population-based morbidity monitoring, with high-income countries three times more likely to have morbidity data in their reporting system.

Significant progress has been made over the past 10 years on risk factor surveillance, including surrounding population-based data and in lower-income countries. Tobacco use surveillance in Member States has increased from 61% to 92%; physical inactivity from 38% to 73%; blood glucose from 53% to 76%, diet from 59 to78%; blood pressure from 49% to 81%, and overweight/obesity from 62% to 80%. Analysis suggested that lower-income countries are catching up with higher income groups in risk factor surveillance – and in some cases surpassing high-income countries. Nevertheless, despite this progress, data on NCD risk factors are still less likely to be included in a country's national health information system than mortality and morbidity data.

Because of the constraints on surveillance, as described in Chapter 3, many countries have not implemented standardized data collection, essential to tracking NCDs and their risk factors over time. Implementing the framework on national surveillance systems presented in Chapter 3 and adopting a set of core indicators under each of its three core components provides a way forward for many countries to strengthen monitoring of trends and assessing the progress they are making to address the NCD epidemic.

The availability of NCD treatments in low-income countries is one quarter that of high-income countries. Even in hospital settings in low-income countries, there is limited availability of basic technologies required for NCD care

Primary health care

About 80% of countries report having primary prevention, health promotion, risk factor detection, and risk factor and disease management built into their health-care systems (Figures 6 and 7). However, less than 60% of countries have systems to support self-help and self-care, and less than 50% have home-based care services. An even greater challenge is the very low percentage of countries with government-approved, evidence-based national guidelines, protocols or standards for managing NCDs: just over half (53%) of countries have such guidelines, and only 17% of countries are implementing them.

The availability of NCD treatments in low-income countries is one quarter that of high-income countries. Even in hospital settings in low-income countries, there is limited availability of basic technologies required for NCD care and rehabilitation. Results of the survey show the poor availability of basic technologies and treatment, particularly for cancer and diabetes in primary care in many low-income and lower-middle-income countries, but basic services were not available in about 10% of high-income countries either. This underscores the need to continue to advocate for universal coverage for the management and health care of people with NCDs. As can be seen

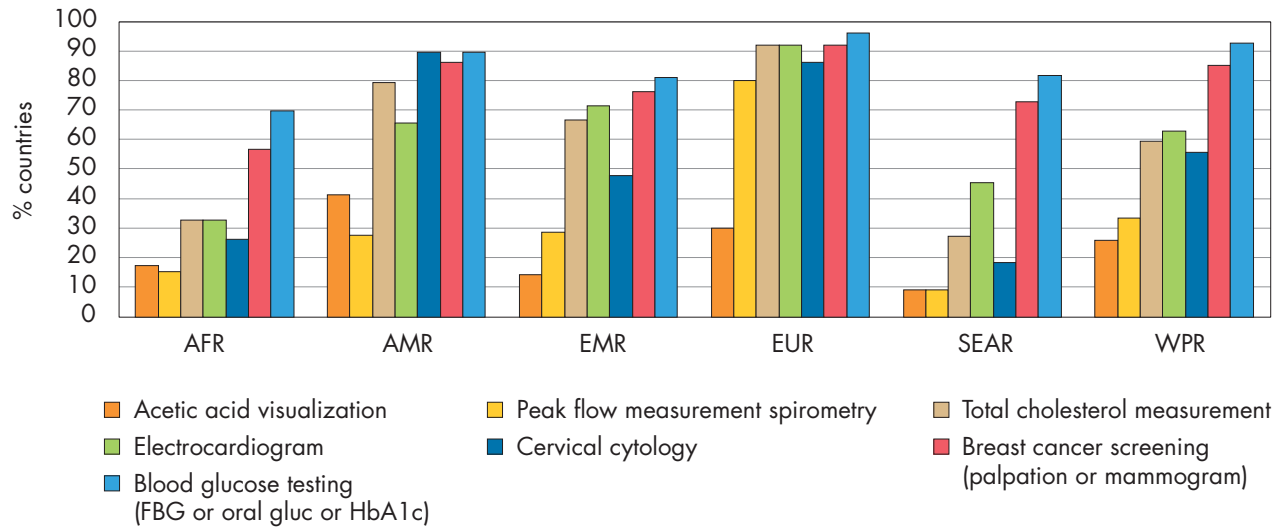
[17] Figure 5 is available as a web-based annex at: http://www.who.int/chp/ncd_global_status_report/en/

in Figure 7, there is no access to basic management of end-stage renal disease, chemotherapy and radiotherapy for cancer and photocoagulation services to prevent blindness in the public health systems of nearly two thirds of countries in some regions. Although universal coverage should be the long-term objective, a short- and medium-term measure in many low- and middle-income countries could be to expand the package of interventions available at the primary health-care level to include the essential package of interventions for the management of cardiovascular diseases, diabetes, cancer and chronic lung disease.

The above also highlights the importance of preventing diabetic and cardiovascular complications through early diagnosis and effective treatment in countries where the facilities and experienced human resources for managing these complications are not widely available.

Figure 6. Availability of laboratory tests and basic technologies in primary care

6a) By WHO Regions, 2010



6b) By World Bank income group, 2010

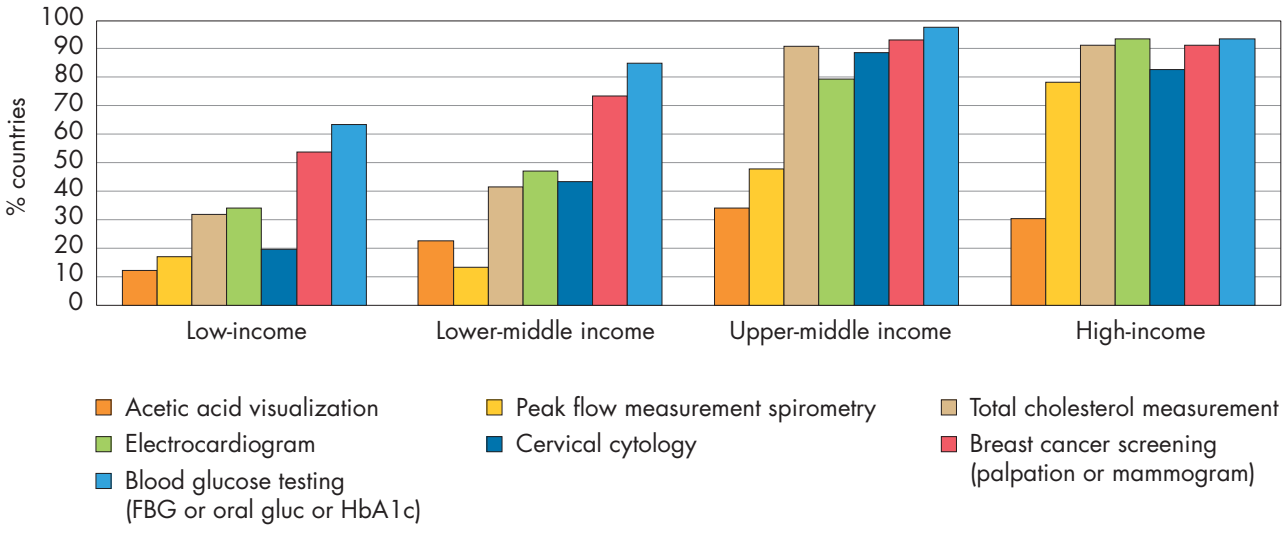
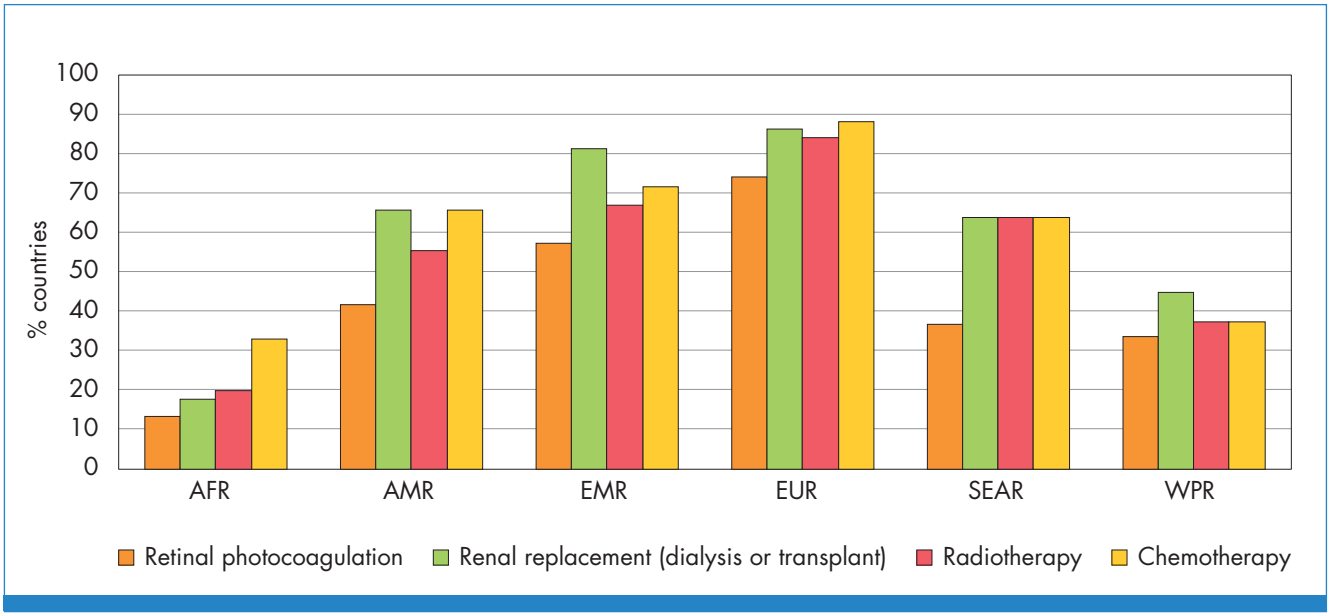
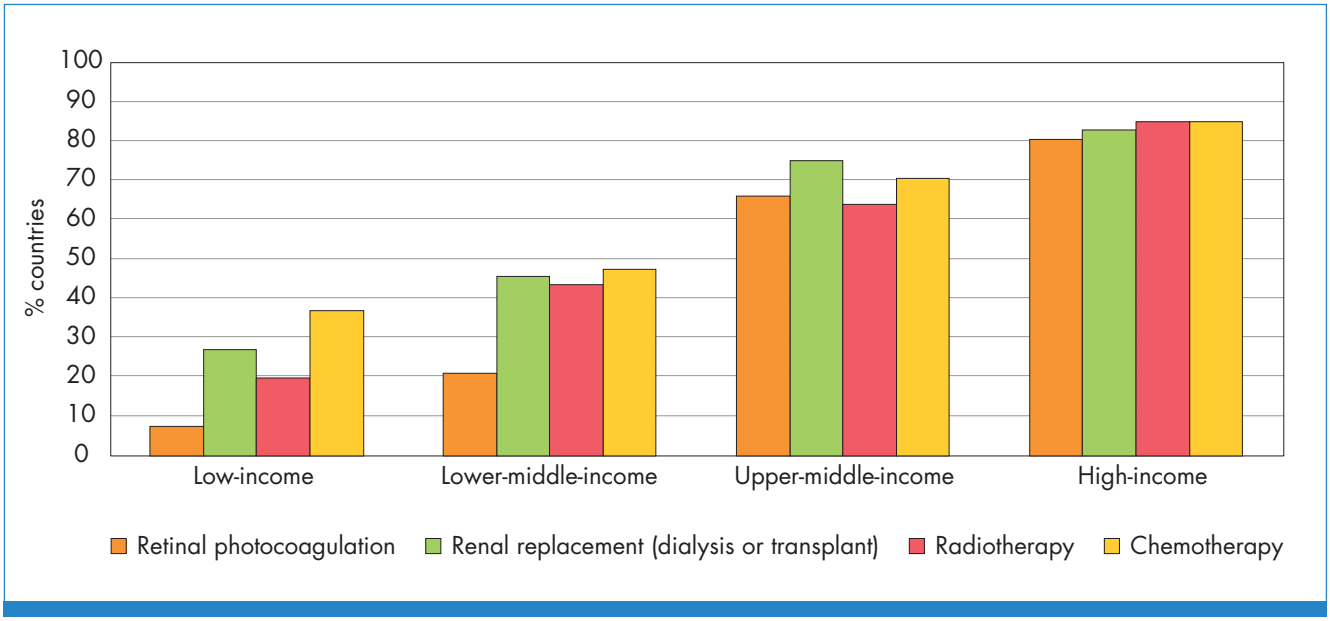


Figure 7. Availability of selected procedures to treat NCDs in public health systems

7a) By WHO Regions, 2010



7b) By World Bank income group, 2010



The survey provided information on the availability of basic medicines required for treatment of NCDs. Essential medicines for the management of diabetes and cardiovascular diseases were reported as available in primary care in more than three quarters of countries; however, these results were based on responses to a questionnaire which are inconsistent with available evidence that shows a much lower availability of essential medicines for NCD (4, 5). Yet this questionnaire survey revealed particularly striking findings of low availability of statins, oral morphine and steroid inhalers in primary care in low- and lower-middle-income countries and lack of nicotine replacement therapy in nearly 20% of the primary care facilities in high-income countries.

Partnerships and multisectoral collaboration

Partnerships, inside and outside of health systems, play a key role in the success of NCD prevention and control. Such partnerships include collaboration among health-care teams, patients, families,

communities and other relevant partners. Nearly 90% of countries reported the existence of partnerships or collaborations for implementing key NCD activities. Tobacco use and diabetes (84% and 81% respectively) were the areas most often covered by such partnerships.

Some of the mechanisms in operation for multisectoral collaboration were inter-departmental committees, ministerial committees, task forces, academia and nongovernmental/civil society bodies. However, the study was not able to determine the effectiveness and impact of partnerships on accelerating progress towards NCD prevention.

Limitations of the 2010 survey

Inevitably, the most recent survey has some limitations. The information was provided by the NCD focal points in each country and may be subject to responder bias. For example, studies in selected low-income countries have revealed major gaps and considerably lower levels of availability for essential medicines than were reported in this study (4, 5). In these studies, up to two thirds of generic medicines were not freely available in the public sector and almost 50% were not available in the private sector. It was helpful, however, that two regions added a validation step where responses were checked by senior health officials. In addition, independent validation was completed for a number of specific survey responses. Where discrepancies were found, clarification was requested from the country.

A second limitation is that a global survey cannot possibly take into account the specific situation and variation in every country. This may be particularly true for countries with a federated system or a highly decentralized NCD system. A further limitation is that although the questionnaire and instructions were translated from English into a number of the WHO official languages (e.g. French, Russian and Spanish), there may have been language constraints regarding interpretation of the questionnaire.

A final limitation was that neither the 2000 nor 2010 surveys provided significant information on the engagement of non-health sectors, which are so crucial in the response to NCDs. This is an area for future WHO activity.

Meeting the challenges: actions to expand country capacity and address health systems gaps

The delivery of effective NCD interventions is largely determined by the capacity of health-care systems. Available data, including the surveys conducted by WHO in 2000 and 2010, reveal major gaps in health-system capacity in many low- and middle-income countries. Low- and middle-income countries were much less likely to provide adequate health care for people with NCDs within their primary health-care systems.

The gaps in the provision of essential services for NCDs often result in complications such as heart attacks, strokes, renal disease, blindness, and peripheral vascular diseases and the late presentation of cancers. This can also mean catastrophic spending on health care for low-income families and consequent poverty.

Health systems that deliver care for NCDs

In any health system, good health services are those that deliver effective, safe, high quality, personal and non-personal care to those who need it, when needed, with minimum waste. Prevention, treatment or rehabilitation services can be delivered in the home, the community, the workplace or in health facilities. The section below explores crucial health system components (or building blocks) in more detail.

Governance: policies and plans

The widespread presence of NCD policies or plans at the country level shows that health ministries are increasingly recognizing the importance of addressing NCDs. However, the 2010 survey showed that a substantial proportion of policies and plans are not operational. A recent review of national health strategies and plans revealed that NCDs are not included as priorities in a large number of plans. Effective implementation of the policies and plans has to be intensified. To this end, in addition to increasing funding and personnel, measures must be undertaken (6) to ensure that:

- National policies and plans are developed based on accurate situation analysis and priority-setting, with specific and measurable outcome indicators.
- A strategy is in place for translating these policies into implications for financing, human resources, pharmaceuticals, technology, infrastructure and service delivery, along with relevant plans and monitoring and evaluation targets.
- Coalitions and alliances are built in multiple sectors through shared vision, pooled resources and greater harmonization of action among key stakeholders.
- Best practices in policy and plan development, and implementation, become better understood, documented and disseminated.

Financing and funding

Limited funding for essential NCD interventions, and the health sector in general, is at the root of many country capacity challenges. Health financing is key to improving health and reducing health inequities. *The World Health Report 2010* on health system financing (7) recommends several critical actions to improve support for interventions:

- Increasing efficiency of revenue collection and give priority to NCD prevention and control, when allocating government budgets.
- Improving access to social health insurance and include NCD prevention and control in health insurance.
- Introducing innovative financing for NCD prevention and control, such as increased tobacco and alcohol taxes, or levies on air travel tickets or foreign exchange transactions.
- Including NCD prevention and control as a priority for official development assistance, particularly to lower-income countries.

Health information systems

The gaps in national health information systems, the scarcity of standardized data on NCDs and their determinants, as well as the absence of global and national monitoring schemes, are key issues that require urgent attention. Chapter 3 addresses these gaps and provides a framework for national NCD surveillance schemes that can be feasibly implemented in all countries and a set of core indicators to monitor trends at global and national levels.

Health workforce

A sufficient, well-distributed, adequately trained, organized and motivated health workforce is at the heart of an effective response to NCDs. Health workers, particularly those in remote and rural areas, must have appropriate skills and competencies through pre-service education and in-service training. They must also have access to infrastructure and essential tools, as well as improvements in working conditions such as financial incentives, career development opportunities, and easy access to information technology. Moreover, NCD prevention and control also require collaboration and coordination across sectors. To these ends, health workforce policies and plans need to be developed and be firmly integrated with wider national health strategies. Strong leadership is essential to influencing others within the workforce and creating an environment in which effective policies can be developed and implemented. Lastly, investment needs to be made in information technology to

improve patient data and record management and communication between health workers, as well as between workers and their service recipients. Recommendations on health workforce development have been set out by WHO and in reviews on prevention and management of chronic diseases (7–15). In short, the key recommendations are:

- Establishing strong leadership nationwide and integrating NCD in all phases of health workforce development and management, and health workforce policies in national health strategies.
- Reviewing pre-service educational curricula to ensure that knowledge and skills required for essential NCD health care are included.
- Strengthening training and continuing education programmes provided to health workers, particularly in remote and rural areas.
- Establishing multi-disciplinary teams to implement continuing and coordinated care for NCD prevention and control.
- Creating positive work environments, for example, ensuring availability of essential supplies, referral services and supportive management.

Essential medicines and technology

Appropriate use of essential medicines and technologies can significantly reduce morbidity and mortality from NCDs (16, 17). However, in many low- and middle-income countries, access is limited and prices are high (4, 5). Many measures have been identified to facilitate access to quality medicines and technologies in low-resource settings (6, 7, 17).

Policy options to improve the quality and availability of medicine and technology (18) include:

- Rational selection of a limited range of essential medicines and technologies.
- Development, promotion and dissemination of independent, evidence-based clinical guidelines.
- Prioritization on the basis of proper health technology assessment, which includes clinical effectiveness, as well as economical, social and ethical impacts of the use of the medicines and medical devices.
- Monitoring of quality and safety of medicines and medical devices for NCDs require functional national regulatory authorities that are adequately resourced and staffed to inspect facilities and products and to enforce the regulations.
- Promotion of quality use of medicines and medical devices by health professionals and consumers. This can be done through a dedicated national body to monitor and promote quality medicine and technology use; national essential technologies and medicines lists; drugs and therapeutic committees in all major hospitals and districts; and, financial (reimbursement or pricing) incentives.

Policy options to promote affordable prices of medicines (7, 18, 19) include:

- Generic policies and social marketing of generic essential medicines through the private sector.
- National clinical guidelines that recommend essential medicines for which generic products are available.
- Improved public procurement; separating the prescribing and dispensing; controlling the wholesale and retail mark-ups through regressive mark-up schemes.
- Exempting essential medicines from import tax and value-added tax and using the flexibilities of international trade agreements to introduce generics while a patent is in force.

Medicines and technology will always account for a substantial proportion of direct costs of NCD programmes. Thus, increasing public funding for essential NCD medicines and technology remains critically important for countries and global partners. To avoid catastrophic spending by patients, the expansion of drugs and technology benefits as part of health insurance schemes are necessary.

Indicators for reporting progress

Determining progress in building capacity requires development of a uniform set of country capacity indicators for NCD prevention and control that can be measured in the future. The framework for NCD surveillance presented in Chapter 3 can be used to assess the progress in scaling up capacity to address NCDs. A core set of indicators, available in Annex 5, can be used for this purpose.

Key messages

- Country capacity for the prevention and control of NCDs have seen significant improvements in the past decade.
- While many countries have components of the necessary health infrastructure in place, they are often not adequately funded or operational.
- Strengthening political commitment and according a higher priority to NCD programmes are key to expanding health system capacity to tackle NCDs.
- NCD programmes and policies need to be aligned with strong national plans that strive to achieve people-centred care, delivered through strong integrated health systems.
- Guidance on effective policies and strategies to address health systems gaps now exists and needs to be used.
- Growing country capacity for combating the NCD epidemic indicates that there is a significant opportunity for progress over the coming years.

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