Noncommunicable disease surveillance in the WHO Eastern Mediterranean Region

World Health Organization
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Introduction

Introduction

Noncommunicable diseases (NCDs) – chronic or lifestyle-related diseases – constitute a global pandemic which kills 38 million people each year. Sixteen million NCD deaths occur before the age of 70. Four groups of diseases – heart diseases, cancers, chronic lung diseases and diabetes – are responsible for 82% of all NCD deaths *(1)*. NCDs are strongly influenced by four risk factors, namely tobacco use, insufficient physical activity, harmful use of alcohol and unhealthy diet, which lead to elevated blood pressure, raised blood glucose and cholesterol levels and excess body weight.

In 2012, NCDs claimed over 2.2 million lives and were the cause of 57% of mortality in the World Health Organization (WHO) Eastern Mediterranean Region. The Region has some of the highest NCD prevalence rates globally and future projections indicate an alarming increase. Unless serious action is taken the four main NCDs will cause 2.4 million deaths in 2025, representing a major burden, especially for the countries in the Region which are low- and middle-income countries *(2)*. NCDs increase health care costs and out-of-pocket expenditure, undermine economic progress and ultimately stifle growth. The global economic costs of action versus inaction were highlighted in a 2011 study by the World Economic Forum and the Harvard School of Public Health which estimated total lost output from the burden of the four main NCDs and mental health at nearly US$ 47 trillion over 20 years, a figure equivalent to 75% of global GDP in 2010 *(3)*.

In 2013, the 66th World Health Assembly, the decision-making body of the WHO, adopted a global monitoring framework for NCDs with 25 key indicators to track progress in the prevention and control of NCDs. A set of voluntary targets to prevent and control NCDs by 2025 was agreed by the Assembly: linked to the global monitoring framework, they include a target to reduce premature mortality from the four main NCDs by 25% *(4)*.

The 66th World Health Assembly also endorsed the WHO global action plan for the prevention and control of NCDs 2013–2020 (resolution WHA66.10) which, implemented collectively by Member States, international partners and WHO, will help to achieve the commitments made by world leaders in the September 2011 United Nations (UN) Political Declaration on the Prevention and Control of NCDs (resolution A/RES/66/2). Actions are organized around six objectives, one of which is to monitor NCD trends and determinants and evaluate progress in their prevention and control through surveillance *(5)*. In 2015, the 2030 Agenda for Sustainable Development recognized the importance of addressing NCDs by including a target to reduce the number of premature deaths by one third by 2030 *(6)*.

Within the Eastern Mediterranean Region, a regional framework for action to implement the UN Political Declaration on NCDs was developed in 2012 as a road map for countries, and updated in 2019, and provides strategic interventions and a set of indicators to assess country progress by 2030. One key area of the framework is surveillance to capture the magnitude and risk factors of NCDs *(7)*.

This publication provides a brief guide on how to implement surveillance for NCDs. It outlines what NCD surveillance is and why it is crucial to invest in it. The document also highlights ways to implement NCD surveillance, especially in low-resource settings, and how to strengthen national NCD surveillance efforts. It shows how implementing surveillance serves two purposes: providing data for use on a national level and at the same time fulfilling regional and global NCD control and prevention commitments.

Section 1

Fundamentals of NCD surveillance

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Section 1. Fundamentals of NCD surveillance

NCD surveillance is the ongoing systematic collection and analysis of data to provide appropriate information regarding a country's NCD burden, the population groups at risk, estimates of NCD mortality, morbidity, risk factors and determinants, coupled with the ability to track health outcomes and risk factor trends over time *(8)*.

1.1. NCD surveillance goals

Surveillance provides the information needed for policy and programme development and appropriate legislation for NCD prevention and control and supports the monitoring and evaluation of progress made in implementing policies and programmes. Specific goals include: establishing baseline data for the four main NCDs and their risk factors to ensure the magnitude of the NCD burden can be estimated at national, regional and global levels; monitoring trends and collecting consistent data across and within countries to determine the geographical distribution of NCDs; generating hypotheses and stimulating research by developing standardized tools to enable comparisons over time and across countries/sites; and contributing to planning and the prevention of NCD pandemics before they occur by predicting future caseloads of NCDs and identifying discrepancies and changes in health behaviours and practices.

NCD surveillance goals – Recap

1. Establishing baseline data for the four main NCDs and their risk factors
2. Monitoring trends and collecting consistent data across and within countries
3. Generating hypotheses and stimulating research
4. Contributing to planning and the prevention of NCDs pandemics

1.2. Framework for national NCD surveillance

Table 1 provides a framework for national NCD surveillance (Table 1), comprising three essential components (pillars) that all countries should establish and strengthen: monitoring exposures (risk factors); monitoring outcomes (morbidity and disease-specific mortality); and assessing health system capacity and response, including national capacity to prevent NCDs (in terms of policies and plans, infrastructure, human resources and access to essential health care including medicines) *(8)*.

A list of core indicators to be used with the framework is provided in Annex 1.

Table 1. Framework for national NCD surveillance

Pillar 1. Monitoring exposures	• Behavioural risk factors: tobacco use, physical inactivity, the harmful use of alcohol and unhealthy diet • Physical and metabolic risk factors: raised blood pressure, overweight/obesity, raised blood glucose and raised cholesterol • Social determinants: educational level, household income and access to health care
Pillar 2. Monitoring outcomes	• Mortality: NCD-specific mortality • Morbidity: cancer incidence and type (as core)
Pillar 3. Assessing health system capacity and response	Interventions and health system capacity: infrastructure, policies and plans, access to key health care interventions and treatments and partnerships

Pillar 1. Monitoring exposures: risk factor surveillance

Monitoring risk factors at population level or in a subset of the population is the mainstay of national NCD surveillance in most countries. Taking an incremental approach, the first phase of surveillance in many low- and middle-income countries should be based on priority information needs for policy and programme development, implementation and evaluation.

Pillar 2. Monitoring outcomes: mortality and morbidity

An accurate measure of adult mortality is one of the most informative ways to measure the extent of the NCD pandemic and to effectively plan and target NCD control programmes. All-cause and cause-specific death rates, particularly premature deaths before age 60 or 70, are key NCD indicators.

Pillar 3. Assessing health system capacity and response

Assessing a country's health system capacity and response for NCD prevention and control involves: reviewing the status of NCD-relevant policies, strategies, action plans and programmes; the existence of health information systems, surveillance activities and surveys; access to essential health care services, including early detection and treatment; and the existence of partnerships and collaborations related to NCD prevention and control *(8)*.

Where resources are limited it is important that NCD surveillance systems are integrated into existing national health information systems. This is crucial for the majority of countries in the Eastern Mediterranean Region, which are low- and middle-income countries where resources and capacities are overstretched and subject to competing demands.

1.3. Global and regional NCD surveillance governance

On 25 September 2015, the UN General Assembly formally adopted the 2030 Agenda for Sustainable Development along with a set of 17 Sustainable Development Goals (SDGs) and 169 associated targets. The third SDG, on good health and well-being, has a broad focus on health. One of its associated targets (target 3.4) is to, by 2030, reduce by one third premature mortality from NCDs through prevention and treatment and promote mental health and well-being *(6)*.

The global monitoring framework on NCDs developed in May 2013 enables global tracking of progress in preventing and controlling major NCDs and their key risk factors (see Annex 2). It provides a foundation for advocacy, raising awareness, reinforcing political commitment and promoting global action to tackle NCDs and helps advance the three planks of sustainable development – economic development, environmental sustainability and social inclusion. The framework is divided into three areas: mortality and morbidity (outcomes); risk factors (exposures); and national systems response (Fig. 1). NCD surveillance helps assess progress towards SDG target 3.4 and the interim global target of a 25% relative reduction in premature mortality from NCDs by 2025 *(4)*.

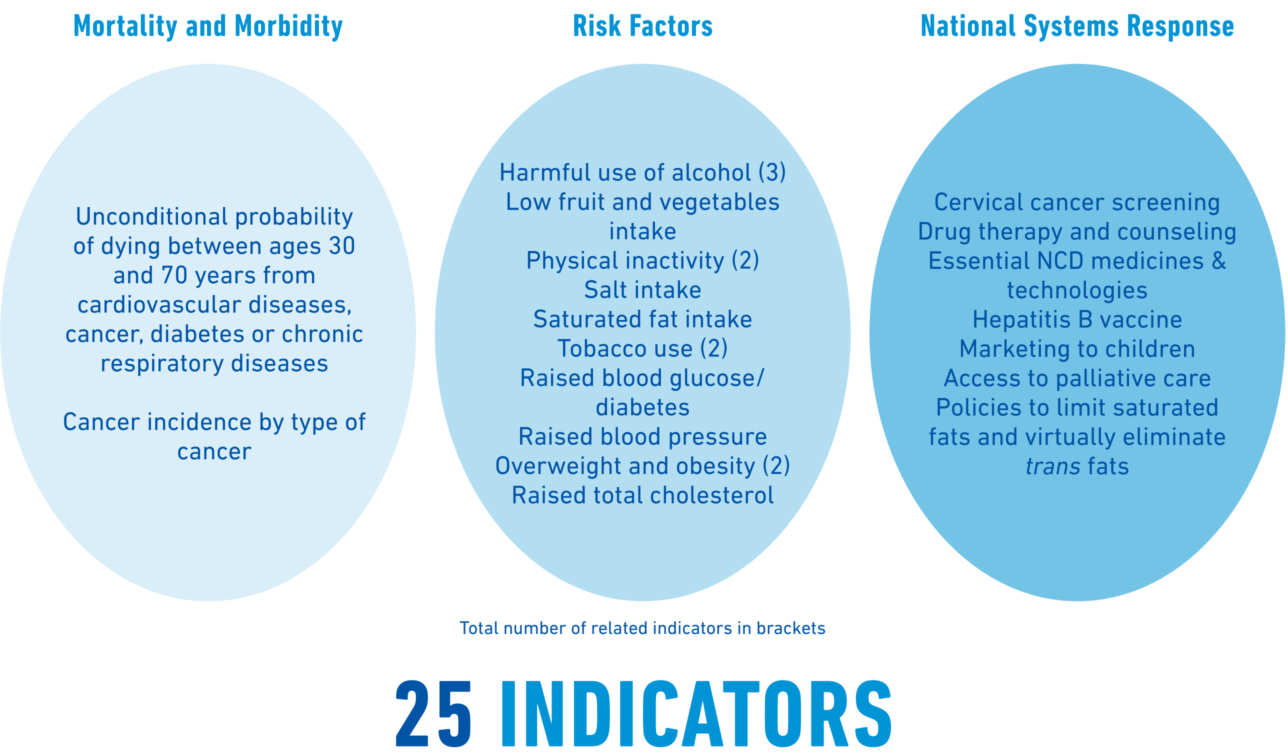

Fig. 1. Global monitoring framework

The regional framework for action to implement the UN Political Declaration on NCDs is the main tool enabling countries in the Region to implement the United Nations Political Declaration on NCDs (Table 2, pages 14–15) *(7)*. Implementing the framework will help achieve the nine global NCD targets set for 2025, including a 25% relative reduction in premature mortality from NCDs.

The regional framework for action expects countries to:

- implement/strengthen the WHO global monitoring framework, which monitors exposures (risk factors), outcomes (morbidity and mortality), and health system capacity and response (interventions);
- integrate the three components of the NCD surveillance framework into the national health information system; and
- strengthen human resources and institutional capacities for surveillance monitoring and evaluation *(7)*.

1.4. The rationale behind investing in surveillance

NCD surveillance helps inform public health efforts in a number of ways. It ensures there is a baseline of information from which to move forward, guarantees reliable information showing trends over time, and helps countries understand the magnitude of the NCD burden and associated risk factors and to evaluate the impact of interventions and efforts on the ground. NCD surveillance has enormous value in low-resource settings. It permits early identification of people at high risk and of those NCDs that can be more easily managed with low-cost treatments and other interventions when detected early. Treatment of NCDs is costly and prevention is a key strategy: investing in NCD surveillance is more cost-effective than sustaining the costly impact of NCDs.

Information from NCD surveillance helps countries formulate strategies and national plans and to focus efforts on the areas requiring most attention. Surveillance ensures a sufficient supply of information from which to make evidence-based decisions and enables the effective use of resources, targeting identified problems with effective solutions. Recent WHO reports estimate that population-based measures to reduce tobacco and harmful alcohol use and tackle unhealthy diets and physical inactivity cost US$ 2 billion per year for all low- and middle-income countries, the equivalent of less than US$ 0.40 per person *(9,10)*.

To conclude, tackling risk factors will not only save lives but provides a huge boost to economic development. Ultimately, NCD surveillance helps countries improve the health and prosperity of their citizens.

Table 2. Regional framework for action

Framework for action to implement the United Nations Political Declaration on Noncommunicable Diseases (NCDs), including indicators to assess country progress by 2030

Updated October 2019

World Health Organization
Regional Office for the Eastern Mediterranean

Indicators	Strategic interventions	Progress indicators
In the area of **governance**	**Each country is expected to:** • Integrate the prevention and control of NCDs into national policies and development plans • Establish a multisectoral strategy/plan and a set of national targets and indicators for 2025 based on the national situation and WHO guidance • Increase budgetary allocations for NCD prevention and control including through innovative financing mechanisms such as taxation of tobacco, alcohol and other unhealthy products • Develop a national investment case on the prevention and control of NCDs • Periodically assess national capacity for the prevention and control of NCDs using WHO tools	**Country has:** • An operational multisectoral national strategy/action plan that integrates the major NCDs and their shared risk factors • Set time-bound national targets and indicators based on WHO guidance • A high-level national multisectoral commission, agency or mechanism to oversee the engagement, policy coherence and accountability of sectors beyond health
Indicators	**Strategic interventions**	**Progress indicators**
In the area of **prevention and reduction of risk factors**	**Each country is expected to:** • Accelerate implementation of the WHO Framework Convention on Tobacco Control (WHO FCTC) and ratify the Protocol to Eliminate Illicit Trade in Tobacco Products • Ensure healthy nutrition in early life and childhood, including promoting breastfeeding and regulating the marketing of foods and non-alcoholic beverages to children • Reduce average population salt intake in line with WHO recommendations • Virtually eliminate transfat intake and reduce intake of saturated fatty acids • Promote physical activity through a life-course approach • Implement the best buys to reduce the harmful use of alcohol • Implement WHO guidelines and recommended interventions to reduce exposure to air pollution[1] (e.g. developing healthy transport options, regulating industrial emission controls, preventing agricultural and solid waste burning, and providing access to clean fuels and technologies for all household usages)	**Country is implementing:** • Four demand-reduction measures of the WHO FCTC at the highest level of achievement • Four measures to reduce unhealthy diet • At least one recent national public awareness programme on diet and/or physical activity • As appropriate according to national circumstances, three measures to reduce the harmful use of alcohol, in line with the WHO global strategy to reduce the harmful use of alcohol • A system to monitor and communicate ambient and household air pollution (especially $PM_{2.5}$) to policy-makers, the public and vulnerable groups • Estimations of the health impacts of air pollution that are communicated to related sectors

[1] See the WHO global strategy on health, environment and climate change: the transformation needed to improve lives and well-being sustainably through healthy environments, 2019.

(continued)

Framework for action to implement the United Nations Political Declaration on Noncommunicable Diseases (NCDs), including indicators to assess country progress by 2030 *(continued)*

Indicators	Strategic interventions	Progress indicators
In the area of **surveillance, monitoring and evaluation**	**Each country is expected to:** • Implement/strengthen the WHO global monitoring framework, which monitors mortality and morbidity, risk factors and determinants, and health system capacity and response • Integrate the three components of the surveillance framework into the national health information system • Strengthen human resources and institutional capacity for surveillance, monitoring and evaluation	**Country has:** • A functioning system for generating reliable cause-specific mortality data on a routine basis • A STEPS survey or a comprehensive health examination survey every five years • An operational population-based cancer registry
Indicators	**Strategic interventions**	**Progress indicators**
In the area of **health care**	**Each country is expected to:** • Implement the best buys in health care for NCDs • Improve access to early detection and management of major NCDs and related risk factors by including them in the essential primary health care package in stable and emergency settings • Improve access to safe, affordable and quality essential medicines and technologies for major NCDs • Improve access to essential cancer care services across the continuum of care, in alignment with the regional framework for action on cancer prevention and control	**Country has:** • Evidence-based national guidelines/protocols/standards for early detection and management of major NCDs through a primary care approach, recognized/approved by the government or competent authority • Provision of drug therapy, including glycaemic control, and counselling for eligible persons at high risk to prevent heart attacks and strokes, with an emphasis on the primary care level

Section 2

NCD surveillance in the Eastern Mediterranean Region

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Section 2.
NCD surveillance in the Eastern Mediterranean Region

2.1. The magnitude of the NCD pandemic

The NCD pandemic is progressively increasing in the Eastern Mediterranean Region. It is estimated that 52% of deaths from NCDs in the Region are due to heart diseases, and that deaths attributed to heart diseases comprise 32% of total deaths *(11)*. An estimated 16% of deaths from NCDs in the Region are due to cancer, making up 10% of total deaths *(11)*, and 6.5% are from chronic lung disease, comprising 4% of total deaths *(11)*. The Region has one of the highest prevalence rates of diabetes globally: 14% of the population suffer from diabetes *(1)*, with the estimated 5% of deaths from NCDs due to diabetes accounting for 3% of total deaths *(11)*. Within the Region, the impact of NCDs is amplified by prolonged humanitarian and emergency crises.

Deaths from NCDs in the Eastern Mediterranean Region – Recap

52%	Heart diseases (comprising 32% of total deaths)
16%	Cancer (comprising 10% of total deaths)
6.5%	Chronic lung disease (comprising 4% of total deaths)

2.2. Challenges and gaps in NCD surveillance in the Eastern Mediterranean Region

Existing NCD surveillance efforts in the Region are patchy and inconsistent. While some countries have taken significant steps in NCD surveillance, the majority are struggling and need to strengthen their surveillance efforts. In most countries, NCD surveillance is perceived as a burden and is not prioritized. The situation is often exacerbated by a lack of resources, capacity and infrastructure, and in the absence of political will surveillance is low on the list of many countries' health priorities.

While 68% of countries in the Region report funding for NCD surveillance *(11)*, there is an absence of legal and regulatory frameworks to support NCD surveillance functions and ensure that data is collected, shared and reported. Moreover, the data that is collected through surveillance, often does not feed into policy or action plan development.

"In many cases, information is fragmented and seldom reported in a timely manner"

When information, including risk factor data, is available it is not integrated into existing national health information systems. In many cases, information is fragmented and seldom reported in a timely manner. The absence of comprehensive electronic systems for data collection and storage results in gaps and incompleteness in the data that is collected *(11)*. Cross-verification of data is weak and there is a lack of trend analysis, making it difficult to use data for advocacy purposes and policy development, or to develop effective action plans and interventions.

Human resources to undertake surveillance activities are in short supply. There is a high turnover of staff working in NCD surveillance and staff are often directed to respond to more pressing national needs.

Given these challenges and gaps, there is a pressing need to strengthen NCD surveillance efforts across the Region with the support of WHO.

Section 3

Implementation of NCD surveillance

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Section 3. Implementation of NCD surveillance

3.1. Setting national targets

Countries are strongly encouraged to submit data to WHO on a regular basis. WHO is mandated to prepare regular updates on progress towards achieving the nine global NCD targets and the global status of the 25 indicators included in the global monitoring framework (see Annex 2).

WHO encourages countries to consider developing a functioning system for generating reliable cause-specific mortality data. Countries have the flexibility to choose all or some of the 25 indicators outlined in the global monitoring framework and this can be complemented by developing a set of national process indicators to address specific national challenges. When registration of deaths becomes more systematic and death certification more complete it will provide data for use both at the national level and for assessing progress in meeting the global NCD voluntary target of a 25% relative reduction in premature mortality from NCDs by 2025.

"Setting targets draws attention to NCDs and helps mobilize resources to address NCD priorities"

Setting targets draws attention to NCDs and helps mobilize resources to address NCD priorities. National targets may need to be adapted from global targets if a country has already achieved a target or if the global target is too low given the progress already made within the country. In setting national targets and choosing which indicators to select, all sectors of society need to work together. National targets help ensure that there is the political will to focus on action to achieve specific outcomes in NCD prevention and control. Emphasis should be placed on targets that work in a national context and are attainable and realistic, and a baseline needs to be set from which to monitor, and over time identify, trends across populations.

3.2. Tools and data sources

NCD surveillance depends on several tools and data sources. They include: civil registration and vital statistics; disease registries, primarily cancer registration; health surveys, primarily the WHO STEPwise approach to NCD risk factor surveillance (STEPS) survey; sentinel surveillance systems; and administrative data.

Pillar 1. Monitoring exposures: risk factor surveillance

Data on risk factors are typically obtained from national health interview or health examination surveys and can address either a specific topic (e.g. tobacco) or multiple factors. Data on social determinants, which can be used to further understand risk factor patterns, are typically obtained from these sources. The Global Adult Tobacco Survey (GATS) is an example of a topic-specific risk factor survey: it captures information on knowledge, attitudes and perceptions surrounding the health effects of tobacco use and exposure, the advertising, promoting and economics of tobacco use, and information on cessation activities *(12)*. The WHO STEPS approach to NCD risk factor surveillance is an integrated and phased approach that has been used and tested by many countries *(13)*. It allows countries to develop a comprehensive risk profile of their populations.

Pillar 2. Monitoring outcomes: mortality and morbidity

An accurate measure of adult mortality is one of the most informative ways to measure the extent of the NCD pandemic and to plan and target effective programmes for NCD control. All-cause and cause-specific death rates, particularly premature deaths before age 60 or 70, are key NCD indicators. High-quality mortality data can only be generated by long-term investment in civil registration systems *(14)*.

Pillar 3. Assessing health system capacity and response

To monitor country capacity to respond to NCDs, WHO conducts capacity assessments which examine: the public health infrastructure available to deal with NCDs; the status of NCD-relevant policies, strategies, action plans and programmes; the existence of health information systems, surveillance activities and surveys; access to essential health care services, including early detection and treatment for NCDs; and the existence of partnerships and collaborations related to NCD prevention and control.

3.3. Approaches to strengthening NCD surveillance

Overall, WHO encourages countries to take a gradual approach, building up their NCD surveillance efforts through incremental steps.

The following approaches can be adopted by countries to strengthen their NCD surveillance efforts.

- **Build** a clear case for the importance of NCD surveillance by explaining to key policy- and decision-makers the NCD burden and trends, and the policies that need to be implemented for the control and prevention of NCDs.
- **Align and integrate** NCD surveillance with existing national health information systems, especially where resources are limited, to avoid fragmentation and ensure systems are not working in silos.
- **Establish and/or strengthen** the three pillars of the NCD surveillance framework (exposure, outcomes and health system capacity and response). Standardized core indicators for each of the three pillars should be adopted and used for monitoring.
- **Build** on every opportunity to integrate existing surveillance efforts into the national framework. For example, by adding NCD-related questions to surveys being conducted on other topics.
- **Invest** in financial resources for NCD surveillance. Countries can use earmarked amounts from increased tax revenue to fund NCD surveillance-related activities. A common example is the use of tobacco taxes to fund NCD surveillance activities.
- **Develop** technical capacity for surveillance. A well-trained technical workforce is needed to work alongside local and regional experts in the effective implementation of NCD surveillance.
- **Ensure** ongoing and systematic data collection from relevant sources and regular analysis of health-related events and behaviours at the population level.
- **Keep** measures **simple:** start with the surveillance of key behaviours such as tobacco use, physical activity and diet, and then move onto other areas.
- **Keep** measures **standardized** over time to identify trends and between-country comparisons.
- **Monitor** programmes, environments and policies that may have an impact on NCD surveillance efforts.

3.4. Data use into action

Given the goal of NCD surveillance is to provide essential information for programme and policy development to prevent and control NCDs, understanding the link between the data collected and key policy issues is essential.

NCD surveillance helps policy-makers generate data for advocacy and policy development purposes and to base decisions on evidence. It helps them evaluate the effectiveness and impact of interventions, design programmes and initiatives to reach those in need, and assess progress and look at trends over time. It also provides a basis for stakeholder accountability, including on governments' commitments to their populations.

> **"A communication strategy needs to be developed"**

To ensure that this happens, a communications strategy needs to be developed. This should include identifying key target audiences and partners in NCD surveillance, agreeing key messages, presenting data in a meaningful way, and establishing mechanisms to ensure feedback is collected and acted upon.

Conclusion

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Conclusion

NCDs are the leading cause of death globally, and age-specific death rates due to NCDs are generally higher in low-income countries. Moreover, almost half of deaths caused by NCDs in low- and middle-income countries occur before the age of 70, and 30% below the age of 60. This has serious consequences for productivity and socioeconomic development.

NCD surveillance helps countries monitor and evaluate emerging patterns and disease trends and is crucial for the better prevention and management of NCDs. Through collected data countries are able to set priorities and develop targeted interventions to reverse the NCD pandemic. Strengthening NCD surveillance will enable countries to scale up their efforts to control and prevent NCDs. There is an urgent need for concerted efforts to improve the coverage and quality of mortality data, conduct regular risk factor surveys on a national scale with standardized methods, and regularly assess national capacity to prevent and control NCDs. Countries are encouraged to capitalize on existing data collection efforts.

In the Eastern Mediterranean Region, countries have committed to surveillance, monitoring and evaluation through the regional framework for action. WHO will continue to support countries as they strengthen their NCD surveillance efforts and take a step-by-step approach to building their capabilities and systems.

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Annex 1

Core indicators for consideration as part of a national framework for NCD surveillance

Exposures

Behavioural risk factors

- Prevalence of current daily tobacco smoking among adults (%).
- Prevalence of insufficiently active adults (defined as less than five times 30 minutes of moderate activity per week, or less than three times 20 minutes of vigorous activity per week, or equivalent) (%).
- Prevalence of adult population consuming more than 5 g of dietary sodium chloride per day (%).
- Prevalence of population consuming less than five total servings (400 g) of fruit and vegetables per day (%).
- Adult per capita consumption in litres of pure alcohol (recorded and unrecorded).

Physiological and metabolic risk factors

- Prevalence of raised blood glucose among adults (defined as fasting plasma glucose value ≥ 7.0 mmol/L (126 mg/ dl) or on medication for raised blood glucose) (%).
- Prevalence of raised blood pressure among adults (defined as systolic blood pressure ≥ 140 mmHg and/or diastolic blood pressure ≥ 90 mmHg or on medication for raised blood pressure (%).
- Prevalence of overweight and obesity in adults and adolescents (defined as body mass index greater than 25 kg/m2 for overweight or 30kg/m2 for obesity or for adolescents according to the WHO Growth Reference) (%).
- Prevalence of low weight at birth (< 2.5 kg) (%).
- Prevalence of raised total cholesterol among adults (defined as total cholesterol ≥ 5.0 mmol/l or 190mg/dl) (%).

Outcomes

Mortality

- All-cause mortality by age, sex and region (urban and rural, or other administrative areas, as available).
- Cause-specific mortality data (urban and rural, or other administrative areas, as available).
- Unconditional probability of death between ages 30 and 70 years from cardiovascular diseases, cancer, diabetes, and chronic respiratory diseases.

Morbidity

- Cancer incidence data from cancer registries, by type of cancer.

Annex 2

The Global Monitoring Framework

Framework element	Target	Indicator
Mortality and morbidity		
Premature mortality from noncommunicable disease	1. A 25% relative reduction in the overall mortality from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases	1. Unconditional probability of dying between ages of 30 and 70 from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases
Additional indicator		2. Cancer incidence, by type of cancer, per 100 000 population
Behavioural risks factors		
Harmful use of alcohol	2. At least 10% relative reduction in the harmful use of alcohol, as appropriate, within the national context	3. Total (recorded and unrecorded) alcohol per capita (aged 15+ years old) consumption within a calendar year in litres of pure alcohol, as appropriate, within the national context 4. Age-standardized prevalence of heavy episodic drinking among adolescents and adults, as appropriate, within the national context 5. Alcohol-related morbidity and mortality among adolescents and adults, as appropriate, within the national context
Physical inactivity	3. A 10% relative reduction in prevalence of insufficient physical activity	6. Prevalence of insufficiently physically active adolescents, defined as less than 60 minutes of moderate to vigorous intensity activity daily 7. Age-standardized prevalence of insufficiently physically active persons aged 18+ years (defined as less than 150 minutes of moderate-intensity activity per week, or equivalent)
Salt/sodium intake	4. A 30% relative reduction in mean population intake of salt/sodium	8. Age-standardized mean population intake of salt (sodium chloride) per day in grams in persons aged 18+ years
Tobacco use	5. A 30% relative reduction in prevalence of current tobacco use in persons aged 15+ years	9. Prevalence of current tobacco use among adolescents 10. Age-standardized prevalence of current tobacco use among persons aged 18+ years

Framework element	Target	Indicator
Biological risk factors		
Raised blood pressure	6. A 25% relative reduction in the prevalence of raised blood pressure or contain the prevalence of raised blood pressure, according to national circumstances	11. Age-standardized prevalence of raised blood pressure among persons aged 18+ years (defined as systolic blood pressure ≥140 mmHg and/or diastolic blood pressure ≥90 mmHg) and mean systolic blood pressure
Diabete and obesity	7. Halt the rise in diabetes & obesity	12. Age-standardized prevalence of raised blood glucose/ diabetes among persons aged 18+ years (defined as fasting plasma glucose concentration ≥ 7.0 mmol/l (126 mg/dl) or on medication for raised blood glucose) 13. Prevalence of overweight and obesity in adolescents (defined according to the WHO growth reference for school-aged children and adolescents, overweight – one standard deviation body mass index for age and sex, and obese – two standard deviations body mass index for age and sex) 14. Age-standardized prevalence of overweight and obesity in persons aged 18+ years (defined as body mass index ≥ 25 kg/ m^2 for overweight and body mass index ≥ 30 kg/ m^2 for obesity)
Additional indicators		15. Age-standardized mean proportion of total energy intake from saturated fatty acids in persons aged 18+ years 16. Age-standardized prevalence of persons (aged 18+ years) consuming less than five total servings (400 grams) of fruit and vegetables per day 17. Age-standardized prevalence of raised total cholesterol among persons aged 18+ years (defined as total cholesterol ≥5.0 mmol/l or 190 mg/dl); and mean total cholesterol concentration

continued >>>

Framework element	Target	Indicator
National systems response		
Drug therapy to prevent heart attacks and strokes	8. At least 50% of eligible people receive drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes	18. Proportion of eligible persons (defined as aged 40 years and older with a 10-year cardiovascular risk ≥30%, including those with existing cardiovascular disease) receiving drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes
Essential noncommunicable disease medicines and basic technologies to treat major noncommunicable diseases	9. An 80% availability of the affordable basic technologies and essential medicines, including generics, required to treat major noncommunicable diseases in both public and private facilities	19. Availability and affordability of quality, safe and efficacious essential noncommunicable disease medicines, including generics, and basic technologies in both public and private facilities
Additional indicators		20. Access to palliative care assessed by morphine-equivalent consumption of strong opioid analgesics (excluding methadone) per death from cancer 21. Adoption of national policies that limit saturated fatty acids and virtually eliminate partially hydrogenated vegetable oils in the food supply, as appropriate, within the national context and national programmes 22. Availability, as appropriate, if cost-effective and affordable, of vaccines against human papillomavirus, according to national programmes and policies 23. Policies to reduce the impact on children of marketing of foods and non-alcoholic beverages high in saturated fats, trans fatty acids, free sugars, or salt 24. Vaccination coverage against hepatitis B virus monitored by number of third doses of Hep-B vaccine (HepB3) administered to infants 25. Proportion of women between the ages of 30–49 screened for cervical cancer at least once, or more often, and for lower or higher age groups according to national programmes or policies

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