

REPORT

Towards implementation of the first United Nations time-bound commitment: strengthening noncommunicable disease surveillance in the European Region

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ABSTRACT

Population health in Europe is increasingly threatened by the high burden of noncommunicable diseases (NCDs). This paper reports on the status achieved by WHO European Member States in the implementation of the first of the four time-bound commitments included in the 2014 United Nations Outcome Document on NCDs. Using data from the Global NCD Country Capacity Survey (CCS) and the WHO criteria for achievement of Progress Monitor (PM) indicators, 30% of countries have set both time-bound national NCD targets and indicators in 2017. Coverage of death registration is high, with 81% of countries having fully achieved the PM indicator based on the existence of mortality registration systems for generating reliable cause-specific

mortality data on a routine basis. The majority of countries have recently conducted national surveys of adults or adolescents on exposure to key NCD risk factors. However, less than half (40%) have fully achieved the PM indicator that measures whether countries have conducted national surveys of adults of seven NCD risk factors (i.e. tobacco use, alcohol consumption, physical inactivity, overweight/obesity, diabetes, hypertension, salt/sodium intake) in the last five years. Despite progress towards strengthening NCD surveillance in Europe, further efforts to enhance NCD monitoring are needed to better inform public health actions aimed at reducing the NCD burden.

Keywords: NONCOMMUNICABLE DISEASE PREVENTION, SURVEILLANCE, RISK FACTORS, SURVEYS, UNITED NATIONS COMMITMENTS

INTRODUCTION

Population health in Europe is increasingly threatened by the high burden of noncommunicable diseases (NCDs), including cardiovascular diseases, cancer, diabetes and chronic respiratory diseases. NCDs account for 89% of all deaths and 85% of years lived with disability in year 2015 (1), which places an increasing strain on health systems, human and economic development, and the well-being of large parts of the population. NCDs also affect people during the most productive ages of life, causing 84% of all deaths between ages 30 and 69 in Europe (2). Despite important declines in premature NCD mortality in the last decade in the WHO European Region (3), the share of NCDs in the overall disease burden is increasing over time (1).

The public health importance of reducing the NCD burden has been recognized in Health 2020, the overarching health policy framework in the WHO European Region, as one of the key priority action areas (4). Heads of State and Government made commitments to NCD prevention and control in 2011 and 2014 (5, 6), and more recently, as part of the 2030 Agenda for Sustainable Development (7) and Sustainable Development Goals (8). Global and European action plans (9–11) have been endorsed and aligned to a set of targets and indicators to accelerate action and monitor progress (12, 13).

Building on global and regional targets and indicators, the development of national targets on the basis of countries' own situations and contexts is considered essential to identifying national NCD priorities and directing national efforts

towards prevention and control of NCDs (14, 15). This process recognizes the need to adapt the global targets and indicators to local needs, priorities and resources to make them more ambitious if needed or more realistic to attain, and to consider additional targets and indicators.

Robust surveillance and monitoring systems that provide relevant and timely information on the main NCDs and their risk factors are essential for policy-making, including planning, target setting, monitoring and assessing the impact of interventions and policies on reducing the NCD burden (14, 15). Strengthening surveillance and monitoring of NCDs and their risk factors is the cornerstone of global and regional strategies (9–11).

This paper reports on the status achieved by WHO European Member States as of 2017 in the implementation of the first of the four time-bound commitments included in the 2014 United Nations Outcome Document on NCDs (6). For several subregions (European Union (EU), Newly Independent States (NIS), South-eastern Europe Health Network (SEEHN)) and the Region as a whole, we assess the extent to which countries have implemented the following Progress Monitor (PM) indicators: 1) have set time-bound national NCD targets and indicators; 2) have mortality registration systems for generating reliable cause-specific mortality data on a routine basis (and additionally, cancer incidence by type of cancer); and 3) conduct NCD risk factor surveys at least every five years (16, 17).

METHODS

Data were drawn from the Global NCD Country Capacity Survey (CCS), which collects, since 2001, information on individual country capacity to respond to NCD prevention and control. A detailed description of the survey instrument, data collection and validation procedures has been published elsewhere (18, 19). Briefly, the CCS questionnaire comprises four modules: (i) public health infrastructure, partnerships and multisectoral collaboration; (ii) policies, strategies and action plans; (iii) health information systems and surveillance; (iv) health system capacity for detection, treatment and care. The NCD CCS questionnaire is developed through an iterative consultation process between the WHO, a commissioned survey methodologist and NCD focal points, and designed to elicit objective information rather than opinions about adequacy of capacity. The questionnaire is translated into Spanish, French and Russian, and includes a set of detailed instructions and a glossary of terms used. The questionnaire is sent to NCD focal points or responsible staff within the ministry of health

or national institute or agency responsible for NCDs in each country. The NCD focal points are requested to work with a team of topic-specific experts to ensure that a comprehensive response is compiled and to formally clear the responses with authorities within the health ministry before submission. To aid validation and verification of responses, countries are also asked to submit supporting documentation. The submissions are then reviewed by the WHO for completeness and validated against existing data sources and supporting documentation submitted by countries. Incomplete questions, missing documentation and discrepancies between the country responses and other sources are clarified through the NCD focal point. Data are collected through a web-based password-protected questionnaire hosted on the WHO website. Using a subset of relevant NCD CCS indicators, we assessed achievement of PM indicators 1–3 in 2015 and 2017 on the basis of the WHO criteria (Annex Table 1) (16, 17). Analyses were based on data from 53 European Member States that provided responses to the relevant indicators (i.e. there were no missing data). Analyses were conducted using Stata Version 13 (Stata Corp, College Station, TX).

RESULTS

All European Member States responded to the CCS in 2015 and 2017, except for Luxembourg in 2015. The first United Nations time-bound commitment highlights the importance of setting targets and adjusting to the local needs, priorities and resources. Specifically, it emphasizes having set both time-bound national targets and indicators based on WHO guidance (PM indicator 1). In 2017, 30% of countries fully achieved and 19% partially achieved this indicator (Fig. 1), showing a modest increase since 2015 (23% and 20%, respectively). The improvement in the full achievement was most evident in the NIS (33% vs 58%) and SEEHN (22% vs 33%) countries.

In addition to setting targets and indicators, the first United Nations time-bound commitment also emphasizes the existence of health information systems capable of generating on a routine basis reliable cause-specific mortality data that are also disaggregated by age, gender and other sociodemographic factors. In general, coverage of death registration is high among European countries. A system for collecting mortality data by cause of death exists in all countries, and it is a civil or vital registration system in 98% of countries (Table 1). In addition to a civil registration system, 17% of countries also have a sample registration system, which allows estimation of national and/or regional patterns of mortality statistics from population samples at a reduced cost. While the capability to disaggregate mortality data by age and gender is also high (Table 1), other

sociodemographic factors are included in about two-thirds (70%) of countries. Except for NIS, all countries reported having a cancer registry in 2017. Population-based cancer registries were available in 72% of countries and are most prevalent in the EU (79%) and SEEHN (78%) countries and least prevalent in the NIS countries (50%). In 2017, 81% of countries have fully achieved PM indicator 2 (Figure 1), which represents an increase of four percentage points since 2015 (77%).

The majority of countries reported having conducted national surveys of adults or adolescents on exposure to key NCD risk factors in the last five years (Table 2). In 2017, tobacco use is most frequently included in national surveys of adults and youth (91% and 94%, respectively), while salt intake and blood lipids are least commonly included in national surveys (53% and 62%, respectively). National surveys of adolescents covering alcohol consumption, dietary factors, physical inactivity, and overweight and obesity are low in NIS countries. The frequency of NCD risk factor monitoring is higher in EU countries, where surveys are conducted more often, every 1-2 years, compared to other subregions (Appendix Table 2). Although blood lipids, blood glucose, blood pressure, salt intake, and overweight and obesity are still monitored using self-reported data, risk factor surveys or studies include measurements of these factors in at least half of the countries (Table 3). Particularly notable are the efforts of the NIS countries that demonstrate the greatest risk factor surveillance using physical measurements. PM indicator 3 measures whether countries have conducted national surveys of adults of seven behavioural and biological NCD risk factors (i.e. tobacco use, alcohol consumption, physical inactivity, overweight/obesity, diabetes, hypertension and salt/sodium intake) in the last five years (Appendix Table 1). In 2015, 40% of countries fully achieved and 49% partially achieved this indicator (Figure 1). Full achievement was highest among EU countries (50%). Comparison between 2015 and 2017 is not possible for this indicator as the achievement criteria changed in 2017, and now require physical measurements for blood glucose, blood pressure and overweight (17).

DISCUSSION

The NCD surveillance data help policy-makers and health professionals to determine national patterns in premature NCD mortality, cancer incidence, and prevalence of behavioural and biological risk factors, which allows them to define and refine national priorities with regard to the development of NCD policies and programmes. As countries are implementing national programmes and policies for the prevention and control of NCDs, it becomes increasingly important to establish

comprehensive monitoring and evaluation frameworks to guide their assessment and support policy change.

Results show that setting national targets and establishing national indicators is lagging, which may suggest that additional strengthening is required at the country level to fully meet this commitment. Indeed, it remains a challenge to intensify target-setting practices in countries and ensure consistency of national, regional and global targets. Assistance to countries may be needed through policy dialogue and expert advice to support regional and country localization and adaptation of global targets and indicators, alignment with national NCD and general health plans, which could be important tools in this process.

Although coverage of mortality registration is high among European countries, concerns about vital statistics systems today are related to quality of registries, including reliability of cause of death and timeliness of data availability. Given the persistent inequality gradient in premature NCD mortality (2), it is important to monitor health disparities in mortality and risk factor prevalence. The NCD CCS data show that almost all countries have in place a vital statistics system that allows monitoring inequalities in premature deaths due to major NCDs according to age and sex. However, the ability to disaggregate mortality data by another sociodemographic factor is lower. For monitoring health disparities in risk factor prevalence, STEPS or other health examination surveys conducted every 5 years facilitate disaggregation by sociodemographic factors. With regard to cancer registries, further strengthening is required to improve the quality and reliability of cancer registries and information systems, and to enhance the capacity of staff. While the NCD CCS provides information on the existence of cancer registries, which is key for incidence monitoring, their level of functionality varies considerably, from recording cases with limited information on histological stages of progression and morphology to full monitoring and follow-up (20).

Almost all countries have conducted a national survey of NCD risk factors in the last five years. The eastern part of the European Region is catching up with the EU countries in terms of surveillance of risk factors, particularly the NIS countries, where physical measurements are used more often. However, the number of countries that conducted recent national studies or surveys of all behavioural and biological NCD risk factors as required by PM indicator 3 remains low. Risk factor surveys serve as an important source of information to report on progress for many NCD Global Monitoring Framework indicators (12) and help assess whether public health

programmes, practices, policies and interventions aimed at NCD prevention and control are making progress in reducing the NCD burden. To address the demands for NCD risk factor surveillance, new tools have been implemented in the European Region over the past decade, including those that focus on specific NCD risk factors (for example, Global Adult Tobacco Survey (GATS); European Information System on Alcohol and Health (EISAH); European Database on Nutrition, Obesity and Physical Activity (NOPA)) or on specific population groups, such as children and youth (for example, the WHO European Childhood Obesity Surveillance Initiative (COSI); the Health Behaviour in School-aged Children (HBSC) study; the Global School-based Student Health Survey (GSHS); or the Global Youth Tobacco Survey (GYTS)). The WHO integrated risk factor survey (STEPwise approach to chronic disease risk factor Surveillance) is a simple, internationally comparable, standardized and integrated tool for collecting surveillance data on NCD risk factors (21), and has now been implemented in 11 Eastern European and Central Asian countries (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkey, Turkmenistan and Uzbekistan). Except for Kazakhstan, where the survey has been conducted only at the regional level in two oblasts, countries carried out nationally representative household-based surveys. Results of these surveys have revealed high levels of behavioural and biological NCD risk factors that are particularly high among men and are increasing rapidly with age (22), which underscores the need for accelerating preventive policies and measures to reduce NCD risk factors at the population level.

While there are established surveys to track progress for specific risk factors, such as tobacco use or alcohol consumption, comprehensive monitoring systems for other risk factors, particularly salt, are lacking (23–24). Several internationally recognized surveys that provide an integrated approach to NCD risk factor monitoring are being used in Europe (for example, the European Health Interview Survey (EHIS) and the European Health Examination Survey (EHES)) (25–26). The cost, simplicity and yield of the STEPS survey compete favourably with other surveys by including information on 13 of the 25 NCD Global Monitoring Framework indicators (27). Implementing risk factor surveys and repeating them at regular and frequent intervals helps countries to develop internal capacity for NCD surveillance and monitoring in order to meet the first of the four United Nations time-bound commitments.

Although the STEPS and similar surveys integrating NCD risk factors are now being used in many European countries, existing NCD surveillance systems are often limited by incomplete reporting, which leads to lower response rates,

insufficient coverage resulting in small or non-representative sample sizes, considerable time lag, measurement error in self-reported data, and the absence of geographically linked or comparable data. Lack of comparability of data is one of the major difficulties faced by global surveillance and monitoring. The NCD Global Monitoring Framework provides a common core set of indicators (for example, tobacco, body mass index and mortality) designed to enhance the comparability of information across countries and regions. It is crucial that the core indicators should be consistently measured in all resource settings. However, differences in the interpretation of questions regarding individual behaviours (for example, smoking, alcohol, physical activity and diet) across cultural settings and economic circumstances present major challenges for behavioural risk factor surveillance that is predominantly collected through self-report. Overall, these limitations result in knowledge and monitoring gaps, thus delaying the availability of data for use in decision-making and policy development.

Another important challenge of NCD monitoring is the multiplicity of behavioural and biological risk factors involved (for example, tobacco use, alcohol consumption, unhealthy diet, physical inactivity, overweight and obesity, high blood pressure, raised blood sugar and serum lipids), which presents difficulties for their data collection by traditional passive surveillance systems that rely on routinely collected administrative data submitted to the relevant public health authority by various health care providers (28). The use of population-based surveys is an option for addressing some of those limitations. Common NCD surveys on single or specific risk factors (for example, tobacco use, alcohol consumption, or diet) tend to be more in-depth but less efficient, which includes an inability to assess neither the frequency and patterns of multi-risk factors in individuals and populations, nor the relation between those factors and the performance of the health care system. Other less traditional but promising formats based on “big data” approaches are currently being explored (for example, electronic health records, social media, digital trails and mobile information technologies and devices) and may provide complementary tools for NCD surveillance (28).

Despite increased awareness of the importance of NCD surveillance and the considerable progress made towards strengthening NCD risk factor monitoring, the information gap remains substantial and requires further efforts to facilitate more timely and responsive data collection, adopting innovative ways of collecting data and linkages between databases, and improving capacity to analyze data to evaluate what works in order to better inform public health actions, and establishing more in-depth surveys in specific areas, such as salt

or sodium (3, 24, 28). Promoting the availability of digitalized, high-quality NCD surveillance data at national, subnational and regional levels, highlighted in the Global NCD Action Plan (9), would improve capacity to provide a more complete picture of trends in NCD burden in relation to national NCD prevention and control efforts, which in turn would contribute to building comprehensive NCD surveillance systems to monitor progress towards achieving national and global time-bound targets to reduce the NCD burden (29, 30).

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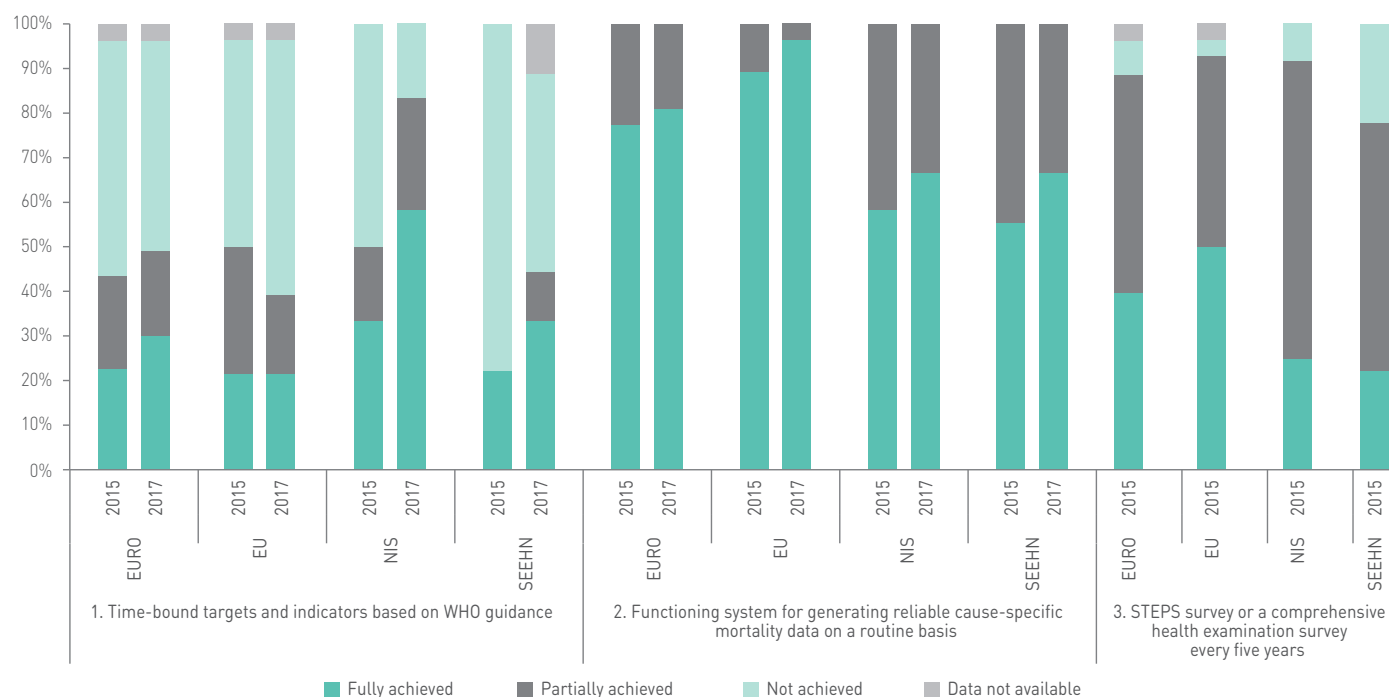
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FIG. 1: PERCENTAGE OF EUROPEAN COUNTRIES HAVING ACHIEVED, PARTIALLY ACHIEVED OR NOT ACHIEVED THE PROGRESS MONITOR INDICATORS, BY COUNTRY GROUP, 2015 AND 2017



Abbreviations: EURO, European Region; EU, European Union; NIS, Newly Independent States, comprising Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan; SEEHN, South-eastern Europe Health Network, comprising Albania, Bosnia and Herzegovina, Bulgaria, Israel, Montenegro, Republic of Moldova, Romania, Serbia, the former Yugoslav Republic of Macedonia

TABLE 1: PERCENTAGE OF EUROPEAN COUNTRIES HAVING A SYSTEM FOR COLLECTING RELIABLE CAUSE-SPECIFIC MORTALITY DATA ON A ROUTINE BASIS AND A CANCER REGISTRY BY COUNTRY GROUP, 2017

| | European Region | EU | NIS | SEEHN |
|---|-----------------|------|------|-------|
| | n=53 | n=28 | n=12 | n=9 |
| Mortality registration system exists | 100 | 100 | 100 | 100 |
| Mortality registration system is: | | | | |
| A civil or vital registration system | 98 | 96 | 100 | 100 |
| A sample registration system | 17 | 4 | 50 | 22 |
| Mortality registration system allows disaggregation by: | | | | |
| Age | 100 | 100 | 100 | 100 |
| Gender | 98 | 100 | 100 | 100 |
| Other sociodemographic factor | 70 | 75 | 67 | 56 |
| Cancer registry exists | 98 | 100 | 92 | 100 |
| Cancer incidence data are: | | | | |
| Population-based | 72 | 79 | 50 | 78 |
| Hospital-based | 25 | 21 | 33 | 22 |
| Cancer registry is: | | | | |
| National | 66 | 71 | 58 | 56 |
| Subnational | 25 | 21 | 33 | 22 |

Abbreviations: EU, European Union; NIS, Newly Independent States, comprising Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan; SEEHN, South-eastern Europe Health Network, comprising Albania, Bosnia and Herzegovina, Bulgaria, Israel, Montenegro, Republic of Moldova, Romania, Serbia, the former Yugoslav Republic of Macedonia

TABLE 2: PERCENTAGE OF EUROPEAN COUNTRIES HAVING CONDUCTED NATIONAL* STUDIES OR SURVEYS OF BEHAVIOURAL AND BIOLOGICAL NCD RISK FACTORS IN THE LAST 5 YEARS, BY COUNTRY GROUP, 2017

| | European Region | EU | NIS | SEEHN |
|---|-----------------|------|------|-------|
| | n=53 | n=28 | n=12 | n=9 |
| Tobacco use | | | | |
| Adults | 91 | 100 | 100 | 78 |
| Adolescents | 94 | 93 | 100 | 100 |
| Alcohol consumption | | | | |
| Adults | 85 | 89 | 100 | 78 |
| Adolescents | 79 | 89 | 58 | 89 |
| Diet or low fruit and vegetable consumption | | | | |
| Adults | 75 | 86 | 83 | 78 |
| Adolescents | 66 | 79 | 42 | 78 |
| Physical inactivity | | | | |
| Adults | 79 | 89 | 83 | 78 |
| Adolescents | 74 | 93 | 42 | 89 |
| Overweight and obesity | | | | |
| Adults | 77 | 86 | 83 | 78 |
| Adolescents | 72 | 89 | 42 | 78 |
| Abnormal blood lipids | 62 | 68 | 75 | 56 |
| Diabetes or elevated blood glucose | 75 | 79 | 83 | 56 |
| Hypertension or elevated blood pressure | 74 | 82 | 83 | 67 |
| Salt or sodium intake | 53 | 61 | 67 | 56 |

* includes countries that indicated having conducted national studies or surveys as well as those that indicated conducting both subnational and national studies or surveys.

Abbreviations: EU, European Union; NIS, Newly Independent States, comprising Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan; SEEHN, South-eastern Europe Health Network, comprising Albania, Bosnia and Herzegovina, Bulgaria, Israel, Montenegro, Republic of Moldova, Romania, Serbia, the former Yugoslav Republic of Macedonia

TABLE 3: PERCENTAGE OF EUROPEAN COUNTRIES HAVING STUDIES OR SURVEYS WITH MEASURED RISK FACTORS, BY COUNTRY GROUP, 2017

| | European Region | EU | NIS | SEEHN |
|---|-----------------|------|------|-------|
| | n=53 | n=28 | n=12 | n=9 |
| Abnormal blood lipids | | | | |
| Measured | 47 | 39 | 75 | 56 |
| Self-reported | 26 | 39 | 0 | 22 |
| Diabetes or elevated blood glucose | | | | |
| Measured | 51 | 36 | 83 | 56 |
| Self-reported | 36 | 54 | 0 | 22 |
| Hypertension or elevated blood pressure | | | | |
| Measured | 55 | 46 | 83 | 78 |
| Self-reported | 30 | 46 | 0 | 11 |
| Salt or sodium intake | | | | |
| Measured by 24-hour urine collection | 28 | 29 | 17 | 33 |
| Measured by 12-hour urine collection | 6 | 4 | 17 | 0 |
| Measured by spot urine collection | 11 | 14 | 17 | 11 |
| Measured by combination of methods | 4 | 7 | 0 | 0 |
| Self-reported | 25 | 29 | 25 | 22 |
| Physical inactivity - adults | | | | |
| Measured | 19 | 4 | 58 | 11 |
| Self-reported | 68 | 89 | 25 | 78 |
| Physical inactivity - adolescents | | | | |
| Measured | 15 | 7 | 25 | 0 |
| Self-reported | 68 | 89 | 25 | 89 |
| Overweight and obesity - adults | | | | |
| Measured | 57 | 50 | 83 | 67 |
| Self-reported | 34 | 46 | 0 | 33 |
| Overweight and obesity - adolescents | | | | |
| Measured | 49 | 39 | 50 | 67 |
| Self-reported | 38 | 61 | 8 | 22 |

Abbreviations: EU, European Union; NIS, Newly Independent States, comprising Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan; SEEHN, South-eastern Europe Health Network, comprising Albania, Bosnia and Herzegovina, Bulgaria, Israel, Montenegro, Republic of Moldova, Romania, Serbia, the former Yugoslav Republic of Macedonia

APPENDIX TABLE 1: CRITERIA FOR ACHIEVEMENT OF PROGRESS MONITOR INDICATORS

| Indicator | Criteria |
|-----------|---|
| 1 | <p>Source of data: Global NCD Country Capacity Survey</p> <p>This indicator is considered fully achieved if a country responded "Yes" to the question: <i>Is there a set of time-bound national targets for NCDs based on the 9 voluntary global targets from the WHO Global Monitoring Framework for NCDs?</i> Supporting documentation is used to verify that targets are time-bound, based on the 9 global targets, and address NCD mortality, as well as key risk factors in the country and/or health systems.</p> <p>This indicator is considered partially achieved if a country responded "Yes" to the question: <i>Is there a set of time-bound national targets for NCDs based on the 9 voluntary global targets from the WHO Global Monitoring Framework for NCDs?</i>, but the targets do not cover two of the three areas addressed in the 9 global targets (including mortality) or they are not time-bound.</p> |
| 2 | <p>Source of data: annual cause of death data collection by WHO</p> <p>The WHO collects mortality data, including cause of death, from civil registration systems in the WHO mortality database through a routine annual call for data. Data are considered to generate reliable cause-specific mortality data on a routine basis if:</p> <ul style="list-style-type: none"> · Data from the five most recent reporting years are, on average, at least 70% usable. Usability is calculated as: (Completeness (%))*(1-Proportion Garbage). · At least five years of cause-of-death data have been reported to the WHO in the last 10 years. · The most recent year of data reported to the WHO is no more than five years old. <p>This indicator is considered fully achieved if a country meets all of the above criteria.</p> |
| 3 | <p>Source of data: Global NCD Country Capacity Survey</p> <p>This indicator is considered fully achieved if a country responded "Yes" to each of the following questions for adults: Have surveys of risk factors (may be a single risk factor or multiple) been conducted in your country for all of the following: Tobacco use; Harmful alcohol use (optional for the 10 Member States where there is a total ban on alcohol); Physical inactivity; Overweight and obesity; Raised blood glucose/diabetes; Raised blood pressure/hypertension; Salt / Sodium intake.</p> <p>For each risk factor, the country must indicate that the last survey was conducted in the past 5 years (i.e., 2012 or later for the 2017 CCS survey responses) and provide supporting documentation.</p> <p>This indicator is considered partially achieved if a country responded that at least 3, but not all, of the above risk factors are covered, or the surveys were conducted more than 5 years ago but less than 10 years ago.</p> |

APPENDIX TABLE 2: PERCENTAGE OF EUROPEAN COUNTRIES HAVING CONDUCTED STUDIES OR SURVEYS OF BEHAVIOURAL AND BIOLOGICAL NCD RISK FACTORS WITH THE FOLLOWING FREQUENCY, BY COUNTRY GROUP, 2017

| | European Region | EU | NIS | SEEHN |
|-----------------------------------|-----------------|------|------|-------|
| | n=53 | n=28 | n=12 | n=9 |
| Tobacco use - adults | | | | |
| Every 1-2 years | 28 | 46 | 0 | 0 |
| Every 3-5 years | 49 | 46 | 75 | 56 |
| Tobacco use - youth | | | | |
| Every 1-2 years | 17 | 25 | 0 | 0 |
| Every 3-5 years | 72 | 71 | 75 | 89 |
| Alcohol consumption - adults | | | | |
| Every 1-2 years | 25 | 36 | 8 | 0 |
| Every 3-5 years | 51 | 50 | 75 | 56 |
| Alcohol consumption - adolescents | | | | |
| Every 1-2 years | 15 | 21 | 0 | 0 |
| Every 3-5 years | 72 | 75 | 75 | 78 |

APPENDIX TABLE 2: PERCENTAGE OF EUROPEAN COUNTRIES HAVING CONDUCTED STUDIES OR SURVEYS OF BEHAVIOURAL AND BIOLOGICAL NCD RISK FACTORS WITH THE FOLLOWING FREQUENCY, BY COUNTRY GROUP, 2017

| | European Region | EU | NIS | SEEHN |
|--|-----------------|----|-----|-------|
| Diet or low fruit and vegetable consumption - adults | | | | |
| Every 1-2 years | 11 | 18 | 0 | 0 |
| Every 3-5 years | 60 | 71 | 67 | 56 |
| Diet or low fruit and vegetable consumption - adolescents | | | | |
| Every 1-2 years | 9 | 14 | 0 | 0 |
| Every 3-5 years | 60 | 71 | 50 | 67 |
| Physical inactivity - adults | | | | |
| Every 1-2 years | 15 | 25 | 0 | 0 |
| Every 3-5 years | 60 | 68 | 67 | 56 |
| Physical inactivity - adolescents | | | | |
| Every 1-2 years | 9 | 14 | 0 | 0 |
| Every 3-5 years | 64 | 75 | 50 | 67 |
| Overweight and obesity - adults | | | | |
| Every 1-2 years | 15 | 29 | 0 | 0 |
| Every 3-5 years | 57 | 61 | 67 | 56 |
| Overweight and obesity - adolescents | | | | |
| Every 1-2 years | 17 | 25 | 0 | 0 |
| Every 3-5 years | 53 | 64 | 50 | 44 |
| Abnormal blood lipids | | | | |
| Every 1-2 years | 6 | 11 | 0 | 0 |
| Every 3-5 years | 45 | 46 | 58 | 33 |
| Diabetes or elevated blood glucose | | | | |
| Every 1-2 years | 15 | 21 | 0 | 0 |
| Every 3-5 years | 51 | 50 | 67 | 33 |
| Hypertension or elevated blood pressure | | | | |
| Every 1-2 years | 9 | 18 | 0 | 0 |
| Every 3-5 years | 53 | 54 | 67 | 44 |
| Salt or sodium intake | | | | |
| Every 1-2 years | 2 | 4 | 0 | 0 |
| Every 3-5 years | 42 | 54 | 42 | 33 |
| Abbreviations: EU, European Union; NIS, Newly Independent States, comprising Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan; SEEHN, South-eastern Europe Health Network, comprising Albania, Bosnia and Herzegovina, Bulgaria, Israel, Montenegro, Republic of Moldova, Romania, Serbia, the former Yugoslav Republic of Macedonia | | | | |