World Health Organization
REGIONAL OFFICE FOR Europe

Targets and indicators for Health 2020

Version 4

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ABSTRACT

Health 2020, the new European health policy, aims to improve the health and well-being of populations, reduce health inequities and ensure people-centred health systems. This document describes the steps taken to develop the Health 2020 targets and indicators through the work of two international expert groups and country consultation with Member States. Specifically, it gives an overview of the 20 core and 17 additional indicators adopted by the 53 Member States of the WHO European Region in September 2013 to measure progress with the six targets identified for Health 2020. The indicators are further specified in detailed technical notes. This publication also describes the monitoring framework and platform that will be used to track progress with the implementation of Health 2020 across the Region.

Keywords

EUROPE
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Background

1. In 2012 the WHO Regional Office for Europe established two expert groups (following nominations from Member States) to advise on the development of indicators for the six Health 2020 targets adopted at the sixty-second session of the WHO Regional Committee for Europe. The first expert group advised on the measurement of and target-setting for well-being, the second on indicators for the remainder of the Health 2020 targets. These groups met several times, including at a joint meeting in February 2013, and proposed a core set and an additional set of indicators.

2. The indicators were subject to a web-based consultation with Member States following the third session of the twentieth Standing Committee of the Regional Committee (SCRC) in March 2013. Inputs were received from 30 Member States. A preliminary analysis was presented in May 2013 to the fourth session of the SCRC, which recommended submission to the sixty-third session of the Regional Committee. During June and July 2013, the list of indicators underwent detailed revision based on the comments received during the country consultation and the SCRC in May.

3. In September 2013 the 53 Member States of the WHO European Region approved a list of 20 core and 17 additional indicators to measure progress with the six targets (see Annex 1) and requested WHO to propose core and additional indicators for 'objective well-being' to complete the indicators set. This was finalized in April 2014 through the expert groups on well-being and Health 2020 indicators.

4. This publication describes the development of the targets and indicators, provides technical notes for each indicator and outlines the monitoring framework that will be used to track progress with the implementation of Health 2020 across the Region. To facilitate understanding, revised technical notes were created for the core and additional indicator sets (see Annex 2). A full analysis and detailed justification for all revisions are outlined in the report of the results of the regional consultation.[1]

Target quantification and indicators

5. Except in the case of target 1 on reducing premature mortality, where the target and indicators are fully aligned with the comprehensive global monitoring framework for noncommunicable diseases, the experts felt that current evidence did not support the quantification of targets. The targets are therefore mostly qualitative and directional in nature.

6. A number of criteria and principles, agreed at the expert meetings,[2] were used to select the final list of indicators.

- As far as possible, the proposed indicators should be selected on the basis of their routine availability for most countries.

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[1] Regional consultation on targets and indicators for Health 2020 monitoring: report of results. Copenhagen: WHO Regional Office for Europe; 2013 (http://www.euro.who.int/en/data-and-evidence/equity-in-health-project/inequalities-in-health-system-performance-and-their-social-determinants-in-europe/regional-consultation-on-targets-and-indicators-for-health-2020-monitoring-report-of-results, accessed 5 March 2014).).

[2] Developing indicators for the Health 2020 targets: first meeting of the expert group Utrecht, the Netherlands, 18–19 June 2012. Copenhagen: WHO Regional Office for Europe; 2012 (http://www.euro.who.int/__data/assets/pdf_file/0006/172509/Developing-indicators-for-the-Health-2020-targets-Eng.pdf, accessed 5 March 2014).

- The final number of indicators should be kept to a minimum.
- While the importance of indicators and targets already the subject of other collections (such as the Millennium Development Goals or Parma Declaration) was recognized, they should not be repeated, in order to keep the list short.
- Some indicators will serve several targets.
- Because of availability and comparability issues (including, for example, mental health, healthy ageing and health system performance), the list of indicators is not able to reflect all relevant policy areas in a balanced way.
- Even if rates at the national level for certain indicators are already favourable, indicators should be used for monitoring (and accountability) where possible.
- Basic demographic information, including age distribution of populations, should be included in addition to the indicator set.
- All rates reported by indicators should be age-standardized.
- Where possible and available, indicator data should be reported disaggregated by age, sex and ethnicity and by socioeconomic, vulnerable and subnational groups; this will be subject to data availability and may vary according to the specific indicator.
- There is a need for a set of core (level 1) indicators that all Member States should be monitoring, but Member States should also consider additional (level 2) indicators. The core data would be a basic minimum to facilitate regional assessments. Voluntary reporting on the additional indicators should be encouraged, as they are useful for informing national target area evaluations.
- Core indicators need to be comparable across the Region, as they will be used for regional target monitoring. Other indicators used at the national level require only "internal" comparability.
- Where quantitative information is not available, countries may report indicators in a qualitative way.

7. The indicators for target 4 (enhancement of well-being) include one subjective and several objective measures.

8. The subjective well-being indicator (life satisfaction) was selected as the most commonly available indicator of subjective well-being through surveys in many Member States (for example, it is reported by the Organisation for Economic Co-operation and Development (OECD) and used in the European Union Statistics on Income and Living Conditions (EU-SILC) 2013). It is not, however, available in all countries of the Region. The Regional Office has therefore been in discussion with survey providers to negotiate the collection of this information in all European Region Member States. One survey provider would be prepared to share this information, which it collates annually through its global polls, with WHO at very competitive costs.

9. The expert group recommended that four domains of objective well-being be covered: social connections, economic security and income, natural and built environment, and education. Of these, economic security and education were domains for which core indicators relevant to this area (and used for other targets) had already been adopted in 2013 ("GINI coefficient", "unemployment rate" and "percentage of primary school-age children not enrolled"). For social connections and natural and built environment, the experts proposed two new core indicators – namely "availability of social support" and "percentage of population with improved sanitation facilities"; these indicators are routinely collected by Gallup World Poll and WHO, respectively, and therefore pose no additional reporting burden on Member States. As additional optional indicators, the experts proposed the "percentage of people aged 65

and over living alone" (available for 28 countries), "total household consumption" (48 countries) and "educational attainment: at least completed secondary education" (32 countries).

10. WHO will continue to work with expert groups and Member States in developing further innovative indicators in other areas relevant to Health 2020, including governance, the whole-of-society and whole-of-government approaches, cultural and other determinants of health and well-being and resilient communities. This will ensure adequate coverage of all Health 2020 areas over time.

Monitoring and reporting

11. WHO has proposed a monitoring framework for targets and indicators that capitalizes on existing reporting mechanisms and puts the onus on WHO to ensure regional reporting through its own mechanisms.

12. The Regional Office will report the European regional averages for the indicators, weighted for population size where appropriate. For many of the indicators proposed, however, Member States already report individually to the Regional Office and permit the publication of national data through its European Health for All database collection; this procedure will therefore continue.

13. Existing reporting mechanisms will be used as much as possible. This includes annual or biannual reporting to the Health for All or other databases held at the Regional Office, including joint data collection with Eurostat and OECD. It will be incumbent on the Regional Office to monitor and harvest the information from the databases and ensure that they are appropriately synthesized, analysed and presented to Member States.

14. Member States should not have to provide additional information except where non-routine data are required (potentially for targets 4 and 6). Where indicators are not routinely collected (either through the national reporting system or regular surveys) and already reported to WHO, estimates from WHO headquarters or joint United Nations (UN) efforts that are accepted by Member States could be used. Moreover, the Regional Office will consult with Member States to determine which options may be pursued to achieve this.

15. Existing platforms, particularly annual data collection for the Health for All database, should be used until a single, Regional Office-wide platform has been established by the Division of Information, Evidence, Research and Innovation to merge all existing databases at the Regional Office. The establishment of this platform is envisaged for the coming years. Joint data collection with Eurostat and OECD feeds into these platforms, so additional reporting will not be required.

16. Over the course of the coming years, the process of reporting to multiple platforms will be replaced by a single, integrated European health information system, which is being established in collaboration with the European Commission and OECD. The Regional Office's vision for this system is to launch it initially with the core indicators required for Health 2020 monitoring and reporting, which will have been accepted by all Member States. Further discussions on this important issue will take place with the European Commission and OECD to agree on a common way forward; in due course the scope may be expanded to reflect opportunities, options and eventual agreements. The Regional Office is currently analysing how existing platforms can be transferred to an electronic infrastructure and will report regularly to Member States on developments in that regard.

17. For indicators that are currently not routinely collected (such as national target-setting and well-being), the following points were agreed.

- The Regional Office may collect qualitative indicators from Member States through minimal questionnaires, largely requiring a 'yes/no' response; a narrative can be provided, if desired.
- During and following the SCRC Health 2020 subgroup meeting in March 2014, the members recommended that information for the three qualitative indicators of Health 2020 be collated under "policies addressing health inequalities", "establishment of national processes for target-setting" and "establishment of national policies aligned with Health 2020". Members were given the option of a shorter or a longer version of an electronic questionnaire; they proposed use of the longer version, which was sent to national counterparts in Member States during April 2014. The responses are awaited.
- The Regional Office will consult regularly with Member States and governing bodies on the approach to data collection. The Regional Office has explored the possibility of using existing mechanisms (such as surveys by Gallup International or other groups conducting surveys annually in all European countries, which should not place any further burden – financial or otherwise – on countries) for this purpose. The provider(s) would report information to the Regional Office, which in turn will consult with Member States. This consultation could be conducted in the context of existing annual health for all efforts. The Regional Office will ensure that Member States and governing bodies are consulted in detail and on a regular basis on the various provider options. This year's European health report also provides a roadmap on this process with technical partners.

18. The Regional Office will provide a synthesis of all data received through existing mechanisms every two to three years via a special section in the planned new publication, provisionally entitled 'European health statistics'. Prior to publication, the Regional Office will engage in an extensive written consultation with Member States. The reporting may take the following forms:

- detailed analysis of the data and presentation in tables and graphs, which would be displayed as:
  - regional averages;
  - subregional averages (for EU-15, EU-12, CIS[3] or other potential subgroupings); and
  - ranges giving highest and lowest values;
- detailed interpretative text and executive summaries.

19. This will be complemented by an abridged annual report on the Health 2020 indicators to Member States at the Regional Committee through the Regional Director's report, thus providing a further platform for direct consultation and feedback. The analysis outlined above is proposed. Every two to three years the Regional Director releases express statements on progress towards the quantified targets for the European Region. The SCRC held in May of each year could function as a further consultation platform on the results in preparation for the Regional Director's report to the Regional Committee.

20. It is envisaged that major milestone reporting on Health 2020 targets and indicators will be done in the context of the European health report, which is published every three years. This will also facilitate more detailed analysis and discussion. The 2012 report provided the baseline reflecting data from 2010; the first milestone report was published in 2015, followed by a second in 2018 and a final report in 2020.

[3] EU-15: the 15 countries belonging to the European Union (EU) before 1 May 2004; EU-12: the 12 countries that have joined the EU since then; CIS: Commonwealth of Independent States.

21. The Regional Office is revitalizing the Highlights on Health series, which outlines country profiles and through which progress is immediately visible. Furthermore, it has also brought back the brief annual publication on core health indicators for all European countries, with a different theme each year. It will publish the information in all these reports through a variety of media, including the WHO website.

22. The Secretariat of the Regional Office is working to define the actions to be taken if Member States do not regularly report on all indicators or if the targets as proposed do not appear to be on track to be achieved.

How to use the annexes

23. Annex 1 provides a table overview of all core and additional indicators sorted by area and target. The technical notes (Annex 2) include all the core and additional indicators for monitoring Health 2020 policy targets that are currently routinely collected by Member States and reported to WHO or used within the comprehensive global monitoring framework for noncommunicable diseases.

24. Further technical notes sheets are still being developed. The technical notes appear in the order displayed and numbered in the table overview (Annex 1), beginning with core indicators and followed by additional indicators.

Annex 1

CORE AND ADDITIONAL INDICATORS FOR MONITORING HEALTH 2020 POLICY TARGETS

Area/target	Quantification	Core indicators	Data source *(No. of Member States for which the source holds data)*	Additional indicators	Data source *(No. of Member States for which the source holds data)*
Health 2020 area 1. Burden of disease and risk factors **Overarching or headline target 1. Reduce premature mortality in the Europe by 2020**	1.1. A 1.5% relative annual reduction in overall (4 causes combined) premature mortality from cardiovascular diseases, cancer, diabetes and chronic respiratory diseases until 2020	(1) 1.1.a. Age-standardized overall premature mortality rate (from 30 to under 70 years) for 4 major noncommunicable diseases (cardiovascular diseases (ICD-10[a] codes I00–I99), cancer (ICD-10 codes C00–C97), diabetes mellitus (ICD-10 codes E10–E14) and chronic respiratory diseases (ICD-10 codes J40–47)) disaggregated by sex; diseases of the digestive system (ICD-10 codes K00–K93) also suggested but to be reported separately	HFA[b] *(42)*	(1) 1.1.a. Standardized mortality rate from all causes, disaggregated by age and sex	HFA *(42)*
		(2) 1.1.b. Age-standardized prevalence of current (includes both daily and non-daily or occasional) tobacco use among people aged 18 years and over	Source used by the comprehensive global monitoring framework for noncommunicable diseases (HFA) *(50)*	(2) 1.1.b. Prevalence of weekly tobacco use among adolescents	HBSC[c] study *(38)*
		(3) 1.1.c. Total (recorded and unrecorded) per capita alcohol consumption among people aged 15 years and over within a calendar year	Source used by the comprehensive global monitoring framework for noncommunicable	(3) 1.1.c. Heavy episodic drinking (60 g of pure alcohol or around 6 standard	ESPAD[d] *(34)*

[a] International Classification of Diseases, tenth revision
[b] European Health for All database
[c] Health Behaviour in School-aged Children
[d] European School Survey Project on Alcohol and Other Drugs

Area/target	Quantification	Core indicators	Data source *(No. of Member States for which the source holds data)*	Additional indicators	Data source *(No. of Member States for which the source holds data)*
		(litres of pure alcohol), reporting recorded and unrecorded consumption separately, if possible	diseases (Global Health Observatory) *(50)*	alcoholic drinks on at least 1 occasion weekly) among adolescents	
		(4) 1.1.d. Age-standardized prevalence of overweight and obesity in people aged 18 years and over (defined as a body mass index (BMI) ≥25 kg/m² for overweight and ≥30 kg/m² for obesity), where possible disaggregated by age and sex, reporting measured and self-reported data separately	Source used by the comprehensive global monitoring framework for noncommunicable diseases (HFA) *(46)*	(4) 1.1.d. Prevalence of overweight and obesity among adolescents (defined as BMI-for-age value above +1 Z-score[e] and +2 Z-score relative to the 2007 WHO growth reference median,[f] respectively)	HBSC study *(38)*
	1.2. Achieved and sustained elimination of selected vaccine-preventable diseases (poliomyelitis (polio), measles and rubella) and prevention of congenital rubella syndrome	(5) 1.2.a. Percentage of children vaccinated against measles (1 dose by second birthday), polio (3 doses by first birthday) and rubella (1 dose by second birthday)	HFA *(51)*		
	1.3. Reduction of mortality from external causes	(6) 1.3.a. Age-standardized mortality rates from all external causes and injuries, disaggregated by sex (ICD-10 codes V01–V99, W00–W99, X00–X99	HFA and HFA-MDB[g] *(42)*	(5) 1.3.a. Age-standardized mortality rates from motor vehicle traffic accidents	HFA and HFA-MDB *(36)*

[e] The Z-score indicates how many units (of the standard deviation) a person's BMI is above or below the average BMI value for their age group and sex.
[f] de Onis M, Onyango AW, Borghi E, Siyam A, Nishuda C, Siekmann J. Development of a WHO growth reference for school-aged children and adolescents. Bulletin of the World Health Organization 2007;85(9):660–7 (http://www.who.int/growthref/growthref_who_bull.pdf, accessed 12 March 2014).
[g] Mortality indicator database of the WHO Regional Office for Europe

Area/target	Quantification	Core indicators	Data source *(No. of Member States for which the source holds data)*	Additional indicators	Data source *(No. of Member States for which the source holds data)*
		and Y00–Y98)		(ICD-10 codes V02–V04, V09, V12–V14, V19–V79, V82–V87 and V89)	
				(6) 1.3.b. Age-standardized mortality rates from accidental poisoning (ICD-10 codes X40–X49)	HFA-MDB *(42)*
				(7) 1.3.c. Age-standardized mortality rates from alcohol poisoning (ICD-10 code X45)	HFA-MDB *(35)*
				(8) 1.3.d. Age-standardized mortality rates from suicides (ICD-10 codes X60–X84)	HFA and HFA-MDB *(42)*
				(9) 1.3.e. Age-standardized mortality rates from accidental falls (ICD-10 codes W00–W19)	HFA-MDB *(42)*
				(10) 1.3.f. Age-standardized mortality rates from homicides and assaults (ICD-10 codes X85–Y09)	HFA and HFA-MDB *(41)*

Area/target	Quantification	Core indicators	Data source *(No. of Member States for which the source holds data)*	Additional indicators	Data source *(No. of Member States for which the source holds data)*
Health 2020 area 2. Healthy people, well-being and determinants **Overarching or headline target 2. Increase life expectancy in Europe**	2.1. Continued increase in life expectancy at current rate (the annual rate during 2006–2010), coupled with reducing differences in life expectancy in Europe	(7) 2.1. Life expectancy at birth, disaggregated by sex	HFA *(42)*	(11) 2.1.a. Life expectancy at ages 1, 15, 45 and 65 years, disaggregated by sex	HFA *(41)*
				(12) 2.1.b. Healthy life years at age 65, disaggregated by sex	Eurostat *(31)*
Health 2020 area 2. Healthy people, well-being and determinants **Overarching or headline target 3. Reduce inequities in health in Europe (social determinants target)**	3.1. Reduction in the gaps in health status associated with social determinants in Europe	(8) 3.1.a. Infant mortality per 1000 live births, disaggregated by sex	HFA *(42)*		
		(7) 3.1.b. Life expectancy at birth, disaggregated by sex	HFA *(42)*		
		(9) 3.1.c. Proportion of children of official primary school age not enrolled, disaggregated by sex	HFA *(46)*		
		(10) 3.1.d. Unemployment rate, disaggregated by age and sex	ILOSTAT[h] and Eurostat *(ILO 38; EU-SILC[i] 30; total 43)*		
		(11) 3.1.e. National and/or subnational policy addressing the reduction of health inequities established and documented	Direct reporting by Member States through the annual report of the WHO Regional Director for Europe		
		(12) 3.1.f. GINI coefficient (income distribution)	HFA *(40)*		

[h] Database of labour statistics of the International Labour Organization (ILO)
[i] European Union Statistics on Income and Living Conditions

Area/target	Quantification	Core indicators	Data source *(No. of Member States for which the source holds data)*	Additional indicators	Data source *(No. of Member States for which the source holds data)*
Health 2020 area 2. Healthy people, well-being and determinants **Overarching or headline target 4. Enhance the well-being of the European population**	Will be set as a result of the baseline of the core well-being indicators, with the aim of narrowing intraregional differences and levelling up	(13) 4.1.a. Life satisfaction, disaggregated by age and sex	Gallup World Poll and Eurostat (*Gallup (50); EU-SILC (32); total 50)*	4.1.a. Indicators of subjective well-being, either in different domains or by eudaimonia or by affect; to be developed	To be established
		(14) 4.1.b. Availability of social support	HFA *(50)*	(13) 4.1.b. Percentage of people aged 65 years and over living alone	UNECE[j] *(28)*
		(15) 4.1.c. Percentage of population with improved sanitation facilities	HFA *(51)*	(14) 4.1.c. Household final consumption expenditure per capita	World Bank *(48)*
		(12) 4.1.d. GINI coefficient (income distribution)	HFA *(40)*	(15) 4.1.d. Educational attainment of people aged 25 years and over who have completed at least secondary education	HFA *(32)*
		(10) 4.1.e. Unemployment rate, disaggregated by age and sex	ILOSTAT and Eurostat *(ILO 38; EU-SILC 30; total 43)*		
		(9) 4.1.f. Proportion of children of official primary school age not enrolled, disaggregated by sex	HFA *(46)*		

[j] United Nations Economic Commission for Europe

Area/target	Quantification	Core indicators	Data source *(No. of Member States for which the source holds data)*	Additional indicators	Data source *(No. of Member States for which the source holds data)*
Health 2020 area 3. Processes, governance and health systems **Overarching or headline target 5. Universal coverage and the "right to health"**	5.1. Moving towards universal coverage (according to the WHO definition)[k] by 2020	(16) 5.1.a. Private household out-of-pocket expenditure as a proportion of total health expenditure	HFA *(53)*	(16) 5.1.a. Maternal deaths per 100 000 live births (ICD-10 codes O00–O99)	HFA *(49)*
		(5) 5.1.b. Percentage of children vaccinated against measles (1 dose by second birthday), polio (3 doses by first birthday) and rubella (1 dose by second birthday)	HFA *(51)*	(17) 5.1.b. Percentage of people treated successfully among laboratory confirmed pulmonary tuberculosis (TB) cases who completed treatment	Global TB report[l] *(46)*
		(17) 5.1.c. Total expenditure on health (as a percentage of GDP[m])	HFA *(53)*	(18) 5.1.c. Government (public) expenditure on health as a percentage of GDP	HFA *(53)*
Health 2020 area 3. Processes, governance and health systems **Overarching or headline target 6. National targets/ goals set by Member States**	6.1. Establishment of processes for the purpose of setting national targets (if not already in place)	(18) 6.1.a. Establishment of process for target-setting documented (mode of documentation to be decided by individual Member States)	Direct reporting by Member States through the annual report of Regional Director		
		(19) 6.1.b. Evidence documenting: (a) establishment of national policies aligned with Health 2020; (b) implementation plan; (c) accountability mechanism (mode of documentation to be decided by individual Member States)	Direct reporting by Member States through the annual report of the Regional Director		

[k] Equitable access to effective and needed services without financial burden
[l] Global tuberculosis report 2015. Geneva: World Health Organization; 2015 (http://www.who.int/tb/publications/global_report/en, accessed 31 August 2016).
[m] Gross domestic product

Annex 2

TECHNICAL NOTES FOR CORE AND ADDITIONAL SETS OF INDICATORS

Core indicators

Data element	**Age-standardized mortality rate (per 100 000 population)**
Indicator name	(1) 1.1.a. Age-standardized overall premature mortality rate (from 30 to under 70 years) for four major noncommunicable diseases (cardiovascular diseases (ICD-10[a] codes I00–I99), cancer (ICD-10 codes C00–C97), diabetes mellitus (ICD-10 codes E10–E14) and chronic respiratory diseases (ICD-10 codes J40–47)) disaggregated by sex; diseases of the digestive system (ICD-10 codes K00–K93) also suggested but to be reported separately
Abbreviated name	SDR per 100 000 population
Data type representation	Rate
Topic	Health status
Rationale	The number of deaths per 100 000 population is influenced by the age distribution of the population. Two populations with the same age-specific mortality rates for a particular cause of death will have different overall death rates if the age distributions of their populations are different. Age-standardized mortality rates adjust for differences in the age distribution of the population by applying the observed age-specific mortality rates for each population to a standard population.
Definition	The age-standardized mortality rate is a weighted average of the age-specific mortality rates per 100 000 people, where the weights are the proportions of people in the corresponding age groups of the WHO standard European population. The age-standardized mortality rate is calculated using the direct method: it represents what the crude rate would have been if the population had the same age distribution as the standard European population. • Cardiovascular diseases: ICD-10 codes: I00–I99 • Cancer: ICD-10 codes: C00–C97 • Diabetes mellitus: ICD-10 codes: E10–E14 • Chronic respiratory diseases: ICD-10 codes: J40–J47 • Digestive diseases: ICD-10 codes: K00–K93
Associated terms	WHO standard European population
Preferred data sources	HFA
Other possible data sources	Civil registration systems Household surveys

[a] International Classification of Diseases, tenth revision.

	Population censuses Sample or sentinel registration systems Special studies Surveillance systems
Method of measurement	Data on deaths by cause, age and sex collected using national death-registration systems or sample registration systems
Method of estimation	Life tables specifying all-cause mortality rates by age and sex for WHO Member States are developed from available death-registration data, sample registration systems and data on child and adult mortality from censuses and surveys. Cause-of-death distributions are estimated from death-registration data and data from population-based epidemiological studies, disease registers and notifications systems for selected specific causes of death. Causes of death for populations without usable death-registration data are estimated using cause-of-death models combined with data from population-based epidemiological studies, disease registers and notifications systems for 21 specific causes of death.
Monitoring and evaluation framework	Impact
Method of estimation of global and regional aggregates	Aggregation of estimates of deaths by cause, age and sex enables WHO Member States to estimate regional and global age- sex- and cause-specific mortality rates.
Disaggregation	Age Cause Sex
Unit of measurement	Deaths per 100 000 population
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Continuous
Limitations	Depends on data availability and quality

Data element	**Prevalence of current tobacco use among adults aged 18 years and over**
Indicator name	(2) 1.1.b. Age-standardized prevalence of current (includes both daily and non-daily or occasional) tobacco use among people aged 18 years and over
Abbreviated name	Not applicable (NA)
Data type representation	Percentage
Topic	Risk factors
Rationale	The prevalence of current tobacco use among adults is an important measure of the health and economic burden of tobacco, and provides a baseline for evaluating the effectiveness of tobacco control programmes over time. Adjusted and age-standardized prevalence rates are constructed solely for the purpose of comparing tobacco-use prevalence estimates across multiple countries or across multiple time periods for the same country. These rates should not be used to estimate the number of smokers in the population.
Definition	Current prevalence estimates for use of any tobacco product are derived from the results of the latest adult tobacco-use survey (or a survey that asks tobacco-use questions), adjusted using the WHO regression method for standardization described in the section on method of estimation below. "Tobacco use" includes cigarettes, cigars, pipes or any other tobacco products. "Current use" includes both daily and non-daily or occasional use.
Associated terms	NA
Preferred data sources	HFA
Other possible data sources	Specific population and household surveys Surveillance systems Global Adult Tobacco Survey (GATS) and Tobacco Questions for Surveys (TQS) (joint initiatives by WHO and the Centers for Disease Control and Prevention aiming to harmonize tobacco survey tools and provide global and regional comparisons)
Method of measurement	This indicator is measured using the standard questionnaire during a health interview of a representative sample of the population aged 18 years and over. Many countries carry out such health interview surveys on a more or less regular basis, but most of the data are collected from multiple sources by the tobacco or health units at the WHO Regional Office for Europe.
Method of estimation	As part of the regular collection of data for the annual WHO report on the global tobacco epidemic, the Regional Office also requests updates on surveys and prevalence estimates from national focal points. For those countries that have not participated in GATS or TQS, data are adjusted using a regression model to allow for a degree of comparability across countries. The appropriate individual representing the country's ministry of health is asked to validate and sign off all data received and calculated for adjustment/standardization. WHO has developed a regression method that attempts to enable comparisons between countries. If data are partly missing or incomplete for a country, the regression technique uses data available for the region in which the country is located to generate estimates for that country. The regression models are run separately for males and females at United Nations (UN) subregional level 3 in

	order to obtain age-specific prevalence rates for a chosen region. These estimates are substituted for the missing indicator for the country within the subregion. Note that the technique cannot be used for countries with no data: these countries are excluded from any analysis. Information from heterogeneous sources originating from different surveys that do not employ standardized survey instruments makes it difficult to produce national-level age-standardized rates. The four main types of difference between surveys and the relevant adjustment procedures used are listed below. 1. Differences in age groups covered by the survey In order to estimate tobacco-use prevalence rates for standard age ranges (five-year groups from 15 to 79 years and a group of 80–100 years), the association between age and daily tobacco use is examined separately for males and females in each country using scatter plots. For this exercise, data from the latest nationally representative survey are chosen; in some cases more than one survey is chosen if male and female prevalence rates stem from different surveys or if the additional survey supplements data for the extreme age intervals. To obtain age-specific prevalence rates for five-year age intervals, regression models using tobacco-use prevalence estimates from a first order, second order and third order function of age are graphed against the scatter plot and the best fitting curve is chosen. For the remaining indicators, a combination of methods is applied: regression models are run at the subregional level to obtain age-specific rates for current and daily cigarette smoking, and an equivalence relationship is applied between smoking prevalence rates and cigarette smoking where cigarette smoking is dominant to obtain age-specific prevalence rates for current and daily cigarette smoking for the standard age intervals. 2. Differences in geographical coverage of the survey within the country Adjustments are made to the data by observing the prevalence relationship between urban and rural areas in countries within the relevant subregion. Results from this urban–rural regression exercise are applied to countries to allow a scaling-up of prevalence to the national level. For example, if a country has prevalence rates for daily tobacco in urban areas only, the regression results from the rural–urban tobacco-use relationship are used to obtain rural prevalence rates for daily smoking. These are combined with urban prevalence rates using urban–rural population ratios as weights to generate a national prevalence estimate, as well as national age-specific rates. 3. Differences in survey year Trend information is used to adjust for data collected in different years. For example, for the 2009 *WHO report on the global tobacco epidemic*,[b] smoking prevalence estimates were generated for 2006. Smoking prevalence data were sourced from surveys conducted in countries in different years: in some cases the latest available data came from surveys that took place either before or after 2006. To obtain smoking prevalence estimates for 2006, trend information was used either to project into the future for countries with data from before 2006 or to backtrack for those with later data. This was achieved by incorporating trend information from all available surveys for each country. For countries without historical data, trend information from the respective subregion in which they fall was used.

[b] WHO report on the global tobacco epidemic, 2009: implementing smoke-free environments. Geneva: World Health Organization; 2009 (http://www.who.int/tobacco/mpower/2009/en/, accessed 12 March 2014).

	4. Differences in age-standardized prevalence Tobacco use generally varies widely between sexes and across age groups. Although the crude prevalence rate is reasonably easy to understand for one country at one point in time, comparing crude rates between two or more countries at one point in time, or between different points in time in one country, can be misleading if the populations being compared have significantly different age distributions or differences in tobacco use by sex. The method of age standardization is commonly used to overcome this problem and allows meaningful comparison of prevalence rates between countries. The method involves applying the age-specific rates by sex in each population to one standard population. The WHO standard European population – a fictitious population whose age distribution was artificially created and is largely reflective of the population age structure of low- and middle-income countries – is used. The resulting age-standardized rate, also expressed as a percentage of the total population, refers to the number of smokers per 100 people in the WHO standard European population. As a result, the rate generated using this process is only a hypothetical number with no inherent meaning in its magnitude. It is only useful when contrasting rates obtained from one country with those obtained in another, or rates from the same country at different points in time. In order to produce an overall smoking prevalence rate for a country, the age-standardized prevalence rates for males and females must be combined to generate total prevalence. Since the WHO standard European population is the same, irrespective of sex, the age-standardized rates for males and females are combined using population weights for males and females at the global level from the UN Population Division data for the relevant year. For example, if the age-standardized prevalence rate for tobacco smoking in adults is 60% for males and 30% for females, the combined prevalence rate for tobacco smoking in all adults is calculated as $60 \times (0.51) + 30 \times (0.49) = 45\%$, with the figures in brackets representing male and female population weights. Thus, of the total smoking prevalence (45%) the proportion of smoking attributable to males is 66.7% [$= (30 \div 45) \times 100$] and to females is 33.3% [$= (15 \div 45) \times 100$].
Monitoring and evaluation framework	Outcome
Method of estimation of global and regional aggregates	Regional and global aggregates are based on population-weighted averages weighted by the total number of population aged 18 years and over. They are only presented if available data cover at least 50% of the total population aged 18 years and over in the regional or global groupings.
Disaggregation	Sex
Unit of measurement	Percentage
Expected frequency of data dissemination	Continuous
Expected frequency of data collection	Data collected every 1–4 years
Limitations	NA

Data element	**Adult (15 years and over) per capita consumption of pure alcohol**
Indicator name	(3) 1.1.c. Total (recorded and unrecorded) per capita alcohol consumption among people aged 15 years and over within a calendar year (litres of pure alcohol), reporting recorded and unrecorded consumption separately, if possible
Abbreviated name	APC
Data type representation	Rate
Topic	Risk factors
Rationale	APC is part of a core set of indicators whose purpose is to monitor the magnitude, pattern and trends of alcohol consumption in the adult population. It is an agreed indicator in the comprehensive global monitoring framework for noncommunicable diseases.
Definition	The total (sum of recorded and unrecorded) APC is the amount of alcohol consumed per adult (aged 15 years and over) within a calendar year, in litres of pure alcohol. Recorded alcohol consumption refers to official statistics (production, import, export and sales or taxation data), while unrecorded alcohol consumption refers to alcohol that is not taxed and is outside the usual system of governmental control. In circumstances in which the number of tourists per year is at least the number of inhabitants, the tourist consumption is also taken into account and is deducted from the country's recorded adult per capita consumption. Numerator: amount of recorded alcohol consumed per adult (15 years and over) during a calendar year, in litres of pure alcohol. Denominator: mid-year resident population (15 years and over) for the same calendar year, as estimated by the UN *World population prospects*,[c] medium variant.
Associated terms	Pure alcohol: 100% ethanol
Preferred data sources	Global Health Observatory
Other possible data sources	HFA Administrative reporting systems
Method of measurement	Recorded APC is calculated as the sum of beverage-specific alcohol consumption of pure alcohol (beer, wine, spirits and other) from different sources. The first priority is given to government statistics, the second to country-specific alcohol industry statistics in the public domain (such as Canadean, International Wine and Spirit Research, International Organisation of Vine and Wine, The Wine Institute and World Drink Trends) and the third to the statistical database of the Food and Agriculture Organization of the UN (FAOSTAT). For countries where the data source is FAOSTAT, unrecorded consumption may be included in the recorded consumption figures. Since the introduction of the "other" beverage-specific category, "beer" includes malt beers, "wine" includes wine made from grapes, "spirits" includes all distilled beverages, and "other" includes one or several other alcoholic beverages, such

[c] Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. World population prospects: the 2008 revision: highlights. New York: United Nations (http://www.un.org/en/development/desa/population/publications/trends/population-prospects.shtml, accessed 12 March 2014).

	as fermented beverages made from sorghum, maize, millet or rice, or cider, fruit wine, fortified wine, etc. The data source for some countries changed in the early 2000s; updates for this indicator are made on an ongoing basis as data become available.
Method of estimation	In order to make the conversion into litres of pure alcohol, the alcohol content (% alcohol by volume) is considered to be as follows: • beer (barley beer, 5%); • wine (grape wine, 12%; grape must, 9%; vermouth, 16%); • spirits (distilled spirits, 40%; spirit-like, 30%); • other (sorghum, millet, maize beers, 5%; cider, 5%; fortified wine, 17% and 18%; fermented wheat and fermented rice, 9%; other fermented beverages, 9%). Since different data sources may use different conversion factors to estimate alcohol content, the beverage-specific recorded APC may not equal the total provided, in some cases.
Monitoring and evaluation framework	Comprehensive global monitoring framework for noncommunicable diseases
Method of estimation of global and regional aggregates	APC data exist for almost all countries. Regional and global estimates are calculated as a population-weighted average of country data.
Disaggregation	Alcoholic beverage type (beer, wine, spirits and other alcoholic beverages) Recorded and estimated unrecorded consumption
Unit of measurement	Litres of pure alcohol per person per year Litres of pure alcohol per adult (15 years and over) per year
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Factors such as stockpiling, waste and spillage, as well as cross-border shopping (recorded in different jurisdictions), tax-free alcohol, surrogate alcohol and variations in beverage strength, cannot be accounted for. This may influence the accuracy of recorded consumption as an indicator for alcohol consumed. Administrative data also do not permit the disaggregation of recorded APC by sex – to this end, other data sources such as survey data are needed.

Data element	**Prevalence of overweight and obesity in people aged 18 years and over, body mass index (BMI) of ≥25 kg/m^2 and ≥30 kg/m^2, respectively**
Indicator name	(4) 1.1.d. Age-standardized prevalence of overweight and obesity in people aged 18 years and over (defined as a BMI ≥25 kg/m^2 for overweight and ≥30 kg/m^2 for obesity), where possible disaggregated by age and sex, reporting measured and self-reported data separately
Abbreviated name	Overweight & Obesity
Data type representation	Statistic
Topic	Risk factors
Rationale	Excess body weight predisposes people to various noncommunicable diseases, particularly cardiovascular diseases, diabetes and some cancers. Obesity is a growing public health problem across the WHO European Region, where more than 50% of the adult population is overweight (including obesity) in most Member States. Effective interventions exist to prevent and tackle overweight and obesity. Many of the risks diminish with weight loss. Overweight and obesity: • are defined as abnormal or excessive fat accumulation that may impair health; • have important consequences for morbidity, disability and quality of life; • entail higher risk of developing type 2 diabetes, cardiovascular diseases, several common forms of cancer, osteoarthritis and other health problems; • are serious public health challenges in the WHO European Region. Worldwide, more than 1.4 billion adults aged 20 and over were overweight in 2008. Of these, over 200 million men and nearly 300 million women were obese. In the WHO European Region the age-standardized prevalence of overweight was 58.3% among adult males and 51.2% among adult females.
Definition	The prevalence refers to the percentage of defined population aged 18 years and over with overweight or obesity (defined as a BMI ≥25 kg/m^2 for overweight and ≥30 kg/m^2 for obesity).
Associated terms	Excess body weight
Preferred data sources	HFA
Other possible data sources	Population surveys and existing surveillance mechanisms Nationally representative surveys with measured weight and height data
Method of measurement	Measured or self-reported height and weight
Method of estimation	The prevalence of overweight is defined as the proportion of the adult population aged 18 years and over with a BMI value equal to or above 25 kg/m^2. It is estimated as follows: (number of subjects with a BMI value equal to or above 25 kg/m^2 per total number of subjects measured) × 100. The prevalence of obesity is defined as the proportion of the adult population aged 18 years and over with a BMI value equal to or above 30 kg/m^2. It is

	estimated as follows: (number of subjects with a BMI value equal to or above 30 kg/m^2 per total number of subjects measured) × 100.
Monitoring and evaluation framework	Outcome
Method of estimation of global and regional aggregates	Regional and global aggregates are based on population-weighted averages weighted by the total number of population aged 18 years and over.
Disaggregation	Sex
Unit of measurement	Percentage
Expected frequency of data dissemination	Continuous through the WHO European Database on Nutrition, Obesity and Physical Activity – once a new survey is released, data are processed into it.
Expected frequency of data collection	Varies by country
Limitations	Using nationally representative prevalence estimates limits comparability across countries due to different data collection methods (measured versus self-reported weight and height), sampling designs, age ranges of the survey population and survey years.

Data elements	**Percentage of children vaccinated against measles** **Percentage of infants vaccinated against poliomyelitis (polio)** **Percentage of infants vaccinated against rubella**
Indicator name	(5) 1.2.a. Percentage of children vaccinated against measles (1 dose by second birthday), polio (3 doses by first birthday) and rubella (1 dose by second birthday)
Abbreviated name	NA
Data type representation	Statistic
Topic	Achievement and sustainability of elimination of selected vaccine-preventable diseases Health service coverage
Rationale	Information on immunization coverage is used for a variety of purposes: • to monitor the performance of immunization services at the local, national and international levels; • to guide accelerated disease-control initiatives such as polio eradication, measles control and neonatal tetanus elimination; • to identify areas of weak system performance that may require extra resources and focused attention; • as a consideration when deciding whether to introduce a new vaccine. An accurate historical representation of immunization coverage is important to assess trends in immunization system performance, to better establish the relationship between immunization service delivery and disease occurrence, and to provide a framework for setting future goals for coverage achievement.
Definition	The percentage of children vaccinated against measles is the proportion of children reaching their second birthday who have been fully vaccinated against measles (1 dose). The percentage of infants vaccinated against polio is the proportion of infants reaching their first birthday in the given calendar year who have been fully vaccinated against polio (3 doses). The percentage of infants vaccinated against rubella is the proportion of children reaching their second birthday in the given calendar year who have been fully vaccinated against rubella (1 dose). Data for all three are reported annually to and available from the Communicable Diseases Unit at the WHO Regional Office for Europe.
Associated terms	NA
Preferred data sources	HFA
Other possible data sources	WHO/United Nations Children's Fund (UNICEF) Joint Reporting Form Demographic and Health Survey (DHS) Multiple Indicator Cluster Survey (MICS)

Method of measurement	Immunization coverage levels are presented as a percentage of a target population that has been vaccinated. Coverage is usually calculated for each antigen and for the number of doses completed. For example, three-dose diphtheria–tetanus–pertussis (DTP3) immunization coverage is calculated by dividing the number of children receiving their third dose of DTP by the number of children surviving to their first birthday. The target population chosen varies depending on the country's policies, the specific vaccine and the dose for which coverage is being calculated. In most instances the target population is the number of children surviving their first year of life.
Method of estimation	In general, estimates of immunization coverage are based on two sources of empirical data: reports of vaccinations performed by service providers (administrative data) and surveys containing items on children's vaccination history (coverage surveys). For estimates based on administrative data, service providers (such as district health centres, vaccination teams and physicians) summarize the number of vaccinations given during a time period (usually monthly) and report these to the local public health authorities. The data are reviewed and, where necessary, appropriate action is taken. The data are then aggregated and reported to the next administrative level. At the national level the data are aggregated and analysed, then used to determine immunization policy and focus programme activities, and to influence resource allocation.
Monitoring and evaluation framework	NA
Method of estimation of global and regional aggregates	Estimation of global and regional vaccine coverage is based on reports from WHO Member States. When coverage figures have not been reported (i.e. the vaccine is routinely scheduled but no figure has been reported to WHO headquarters) a statistical method is used to estimate the most likely coverage; this is used in global and regional calculations. There are three types of missing data: • data missing prior to the first ever reported coverage – in these instances the coverage is assumed to be 0%; • data missing between two years where coverage was reported – in these instances the coverage estimate is a linear interpolation of the two reported coverage rates; • data missing after the last reported coverage value – if coverage has ceased to be reported it is assumed that coverage in the years following the last report will remain at the same level as was last reported. Statistical estimates of coverage are used only when the country's ministry of health has not reported coverage data. Global and regional coverage is calculated using the estimated and reported coverage figures combined with estimates of the target population taken from the UN *World population prospects*.[d]
Disaggregation	Type of vaccine
Unit of measurement	Percentage

[d] Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. World population prospects: the 2008 revision: highlights. New York: United Nations; http://www.un.org/en/development/desa/population/publications/trends/population-prospects.shtml, accessed 12 March 2014.

Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Biases may occur with incomplete reports of vaccine dose administration, exclusions of areas not reporting coverage and inaccurate denominators (size of target population).

Data element	**Age-standardized mortality rates from external causes of injury and poisoning, all ages per 100 000 population**
Indicator name	(6) 1.3.a. Age-standardized mortality rates from all external causes and injuries, disaggregated by sex
Abbreviated name	SDR, external causes of injury and poisoning, per 100 000 population
Data type representation	Rate
Topic	Health status
Rationale	The number of deaths per 100 000 population is influenced by the age distribution of the population. Two populations with the same age-specific mortality rates for a particular cause of death will have different overall death rates if the age distributions of their populations are different. Age-standardized mortality rates adjust for differences in the age distribution of the population by applying the observed age-specific mortality rates for each population to a standard population.
Definition	The age-standardized mortality rate is a weighted average of the age-specific mortality rates per 100 000 people, where the weights are the proportion of people in the corresponding age groups of the WHO standard European population. The age-standardized mortality rate is calculated using the direct method: it represents what the crude rate would have been if the population had the same age distribution as the standard European population. ICD-10 codes: V01–V99, W00–W99, X00–X99, Y00–Y98.
Associated terms	WHO standard European population
Preferred data sources	HFA and HFA-MDB
Other possible data sources	Civil registration system and medical certification of cause of death Household surveys Population censuses Sample or sentinel registration systems Special studies Surveillance systems
Method of measurement	Data on deaths by cause, age and sex collected using national death-registration systems or sample registration systems
Method of estimation	Life tables specifying all-cause mortality rates by age and sex for WHO Member States are developed from available death-registration data, sample registration systems and data on child and adult mortality from censuses and surveys. Cause-of-death distributions are estimated from death-registration data and data from population-based epidemiological studies, disease registers and notifications systems for selected specific causes of death. Causes of death for populations without usable death-registration data are estimated using cause-of-death models combined with data from population-based epidemiological studies, disease registers and notifications systems for 21 specific causes of death.

Monitoring and evaluation framework	Impact
Method of estimation of global and regional aggregates	Aggregation of estimates of deaths by cause, age and sex enables WHO Member States to estimate regional and global age- sex- and cause-specific mortality rates.
Disaggregation	Age Cause Sex
Unit of measurement	Deaths per 100 000 population
Expected frequency of data dissemination	Every 2–3 years
Expected frequency of data collection	Continuous
Limitations	NA

Data element	**Life expectancy at birth (years)**
Indicator name	(7) 2.1. Life expectancy at birth, disaggregated by sex
Abbreviated name	Life expectancy at birth
Data type representation	Statistic
Topic	Increasing life expectancy in Europe
Rationale	Life expectancy at birth reflects the overall mortality level of a population. It summarizes the mortality pattern that prevails across all age groups – children and adolescents, adults and the elderly.
Definition	Life expectancy at birth is the average number of years a newborn could expect to live if he or she were to pass through life exposed to the sex- and age-specific death rates prevailing at the time of his or her birth for a specific year, in a given country, territory or geographical area.
Associated terms	Life table
Preferred data sources	HFA
Other possible data sources	Civil registration systems Household surveys Population censuses
Method of measurement	Life expectancy at birth is derived from life tables and is based on sex- and age-specific death rates. Life expectancy at birth values from the UN correspond to mid-year estimates, consistent with the corresponding UN medium-fertility variant quinquennial population projections.
Method of estimation	Procedures used to estimate WHO life tables for Member States vary depending on the data available to assess child and adult mortality. WHO has developed a model life table using a modified logit system based on about 1800 life tables from vital registration data judged to be of good quality to project life tables and to estimate life tables using a limited number of parameters as inputs. • When mortality data from civil registration are available, their quality is assessed; they are adjusted for level of completeness of registration if necessary and are directly used to construct the life tables. • When mortality data from civil registration for the latest year are not available, the life tables are projected from available years from 1985 onwards. • When no usable data from civil registration are available, the latest life table analyses of the UN Population Division are used.
Monitoring and evaluation framework	Impact
Method of estimation of global and regional aggregates	The numbers of deaths estimated from life tables and the population by age groups are aggregated by relevant regions in order to produce regional life tables.
Disaggregation	Sex

Unit of measurement	Years
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Depends on data availability and quality

Data element	**Infant mortality rate (probability of dying between birth and the age of 1 per 1000 live births)**
Indicator name	(8) 3.1.a. Infant mortality per 1000 live births, disaggregated by sex
Abbreviated name	IMR
Data type representation	Rate
Topic	Health status
Rationale	Infant mortality represents an important component of under-5 mortality. Like under-5 mortality, infant mortality rates measure child survival. They also reflect the social, economic and environmental conditions in which children (and others in society) live, including their health care. Since data on the incidence and prevalence of diseases (morbidity data) are frequently unavailable, mortality rates are often used to identify vulnerable populations. Infant mortality rate is a Millennium Development Goal indicator.
Definition	The infant mortality rate is the probability of a child born in a specific year or period dying before reaching the age of 1, if subject to the age-specific mortality rates of that period. The infant mortality rate is strictly speaking not a rate (i.e. the number of deaths divided by the number of population at risk during a certain period of time) but a probability of death derived from a life table and expressed as rate per 1000 live births.
Associated terms	Live birth
Preferred data sources	HFA
Other possible data sources	Civil registration systems Demographic surveys
Method of measurement	The most frequently used methods using these data sources are as follows. • Civil registration: number of deaths at age 0 and population for the same age are used to calculate the mortality rate, which is then converted into age-specific probability of dying. • Censuses and surveys: an indirect method is used, based on questions to each woman of reproductive age concerning how many children she has ever born and how many are still alive. The Brass method and model life tables are then used to obtain an estimate of infant mortality. • Surveys: a direct method is used, based on birth history – a series of detailed questions on each child a woman has given birth to during her lifetime. To reduce sampling errors, the estimates are generally presented as period rates, for 5 or 10 years preceding the survey.
Method of estimation	WHO produces infant mortality rate trends using a standardized methodology for groups of countries, depending on the type and quality of source of the data available. For countries with adequate trend data from civil registration, age patterns between infant mortality and under-5 mortality from the most recent data are used as standard for the modified logit life table developed by WHO, in order

	to convert the projected under-5 mortality rate from a weighted regression into a projected infant mortality rate. For countries with survey data, since infant mortality rates from birth histories in surveys have proved to recall biases, infant mortality is derived from the projection of under-5 mortality rates converted into infant mortality rates using Coale-Demeney model life tables. The UN Inter-agency Group for Child Mortality Estimation, which includes representatives from the UNICEF, WHO, the World Bank and the UN Population Division, is actively working to harmonize and carry out joint estimations. These infant mortality rates have been estimated by applying methods to the available data from Member States in order to ensure comparability of data across countries and time; hence, they are not necessarily the same as the official national data.
Monitoring and evaluation framework	Impact
Method of estimation of global and regional aggregates	Global and regional estimates are derived from the number of estimated deaths and the population for age groups below 1 year aggregated by relevant regions.
Disaggregation	0–27 days, 28 days to <1 year
Unit of measurement	Deaths per 1000 live births
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Civil registration systems are the preferred source of data on infant mortality, but many developing countries lack fully functioning registration systems that accurately record all births and deaths. Thus, household surveys such as DHS and MICS have become the primary source of data on child mortality in developing countries, but there are some limits to their quality. Estimates obtained from household surveys have attached confidence intervals that need to be considered when comparing values over time or across countries. Similarly, these estimates are often affected by non-sampling errors. Like census data, survey data on child mortality may omit births and deaths, include stillbirths along with live births, and suffer from survivor selection bias and age truncation. Direct estimates of child mortality based on survey data may also suffer from mothers misreporting their children's birth dates, current age or age at death — perhaps more so if the child has died. The heaping of deaths at age 12 months is especially common. Age heaping may transfer deaths across the 1-year boundary and lead to underestimates of infant mortality rates. Nevertheless, it has little effect on under-5 mortality rates, making that rate a more robust estimate than the infant mortality rate if the information is drawn from household surveys.

Data element	**Proportion of children of official primary school age not enrolled**
Indicator name	(9) 3.1.c. Proportion of children of official primary school age not enrolled, disaggregated by sex
Abbreviated name	Children of official primary school age not enrolled
Data type representation	Percentage
Topic	Social determinants and inequalities
Rationale	Education and inequalities are core determinants of health. Measuring the number and percentage of out-of-school children could help to address health inequalities and lead to improvements in overall health and well-being.
Definition	The number of children of official primary school age who are not enrolled in primary or secondary school is expressed as a percentage of the population of official primary school age. Children enrolled in pre-primary education are excluded and considered out of school.
Associated terms	Children out of school
Preferred data sources	HFA
Other possible data sources	United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics (UIS) School registers School surveys or censuses for enrolment Population censuses or estimates
Method of measurement	Standard calculation of percentage using numerator and denominator. The numerator is obtained by subtracting the number of primary school-aged pupils enrolled in primary school from the total population of the official primary school age range. The denominator is the total population of the official primary school age range.
Method of estimation	Point estimate based on analysis of education data
Monitoring and evaluation framework	Outcome
Method of estimation of global and regional aggregates	Comparison of proportions across countries
Disaggregation	Sex
Unit of measurement	Percentage
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Irregular
Limitations	Discrepancies between enrolment and population data coming from different sources may compromise exact calculations of out-of-school children.

Data element	**Unemployment rate**
Indicator name	(10) 3.1.d. Unemployment rate, disaggregated by age, sex
Abbreviated name	Unemployment rate
Data type representation	Rate
Topic	Social determinants and inequalities
Rationale	Employment is a social determinant of health. Measuring and addressing unemployment could contribute to the reduction of health inequalities and lead to improvements in overall health and well-being.
Definition	The unemployed comprise all people of working age who were: a) without work during the reference period (i.e., were not in paid employment or self-employment); b) currently available for work (i.e., were available for paid employment or self-employment during the reference period); and c) seeking work (i.e., had taken specific steps in a specified recent period to seek paid employment or self-employment). For purposes of international comparability, the period of job search is often defined as the preceding four weeks; however, this varies from country to country. The specific steps taken to seek employment may include registration at a public or private employment exchange, application to employers, checking at worksites, placing or answering newspaper advertisements, seeking assistance of friends or relatives and applying for permits and licences.
Associated terms	Unemployment
Preferred data sources	International Labour Organization (ILO) statistics
Other possible data sources	Labour force surveys Population censuses Registers
Method of measurement	Standard calculation of percentage using numerators and denominators. The numerator is obtained using the number of people of the agreed age range who are unemployed during the reference period. The denominator is the total number of employed and unemployed people (i.e., the labour force) in the same reference period for the same age group.
Method of estimation	Point estimate based on analysis of survey responses
Monitoring and evaluation framework	Outcome
Method of estimation of global and regional aggregates	The total population comprises people of all ages who were living in the country during the reference period, regardless of residency status or citizenship. For statistical purposes, the working-age population comprises all people above a specified minimum age threshold for which an inquiry on economic activity is made. For purposes of international comparability, the working-age population is commonly defined as people aged 15 years and older, but this varies from country to country. In addition to using a minimum age threshold, certain countries also apply a maximum age threshold. This means that all people above the specified age are excluded from the count of the working-age population. Most countries, however, do not use a maximum age threshold. Harmonized estimates are obtained from ILO statistics.

Disaggregation	Age Sex
Unit of measurement	Percentage
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Validity of rates is dependent on accuracy and coverage of labour surveys

Data element	**Policies addressing the reduction of health inequities**
Indicator name	(11) 3.1.e. National and/or subnational policy addressing the reduction of health inequities established and documented
Abbreviated name	Policies addressing the reduction of health inequities
Data type representation	Percentage (of countries in the Region that have such policies)
Topic	Health governance
Rationale	Determining the presence or absence of national and subnational policies addressing the reduction of health inequities can lead to a better understanding of policy gaps. Taking measures to fill these gaps can lead to improvements in overall health and well-being.
Definition	Health inequities are unfair distributions of health and well-being outcomes. Social determinants of health include all political, social, economic, institutional and environmental factors which shape the conditions of daily life (employment and working conditions, family circumstances, food, housing and infrastructure planning, education, health and social care, etc.); the distribution of power, money and resources (poverty, social protection, taxation, etc.); and the empowerment of people and society (individual and social rights, networks, cohesion and capital).
Associated terms	Policies, reduction of health inequities
Preferred data sources	Member State survey
Other possible data sources	Desk review of country reports and websites
Method of measurement	Survey administered by WHO Regional Office for Europe
Method of estimation	Analysis of responses received
Monitoring and evaluation framework	Input
Method of estimation of global and regional aggregates	Analysis of survey responses
Disaggregation	NA
Unit of measurement	Categorical and dichotomous (Yes/No) indicator at the country level Percentage at the regional level
Expected frequency of data dissemination	Every three years
Expected frequency of data collection	Every three years
Limitations	Dependent on response rate and self-assessment

Data element	**GINI coefficient**
Indicator name	(12) 3.1.f. GINI coefficient (income distribution)
Abbreviated name	GINI
Data type representation	Index
Topic	Social determinants and inequalities
Rationale	Measuring GINI coefficients of income distribution can provide insight into inequalities in general and health inequalities in particular, leading to measures that help to improve overall health and well-being.
Definition	The GINI coefficient measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. The GINI coefficient measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus a GINI coefficient of 0 represents perfect equality, while a coefficient of 100 represents perfect inequality.
Associated terms	Income distribution, inequalities
Preferred data sources	HFA
Other possible data sources	World Bank database Eurostat databases Income data Household surveys
Method of measurement	Various methods of collecting household income/consumption expenditure data. Calculation is done using the concentration curve of income and population distribution.
Method of estimation	Household data are used to calculate the distribution of income within a country and therefore to measure inequality. Estimation is based on the Lorenz curve.
Monitoring and evaluation framework	Impact
Method of estimation of global and regional aggregates	NA
Disaggregation	NA
Unit of measurement	Coefficient
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Due to differences in the underlying data used to calculate the indicator, data from different countries or even within a country over multiple years may not be entirely comparable.

Data element	Targets and indicators for health and well-being in the Health 2020 policy
Indicator name	(13) 4.1.a. Life satisfaction, disaggregated by age and sex
Abbreviated name	Well-being
Data type representation	Average score in population
Topic	Population well-being
Rationale	Although well-being is a component of the WHO definition of health, to date most health assessments have been based on mortality, morbidity or disability outcomes. Efforts have been made to conceptualize well-being beyond the domain of wealth to include other aspects of life.
Definition	Well-being exists in two dimensions: subjective and objective. It comprises an individual's experience of their life as well as a comparison of life circumstances with social norms and values. Life satisfaction comprises the subjective dimension of well-being.
Associated terms	Well-being
Preferred data sources	Surveys conducted by Member States
Other possible data sources	NA
Method of measurement	Surveys (described in UN Development Programme and Gallup methodologies) are the main method. The typical World Poll survey includes at least 1000 surveys of randomly selected individuals. In some countries oversamples are collected in major cities or areas of special interest. In some large countries, such as China and the Russian Federation, sample sizes of at least 2000 are collected. Although rare, in some instances the sample size is between 500 and 1000. Quality control procedures are used to validate the selection of correct samples and ensure that the correct person is randomly selected in each household. Gallup's methodology ensures that the reported data are representative of 95% of the world's adult population (15 years and over).[e] The survey question on overall life satisfaction is as follows. "Please imagine a ladder, with steps numbered from zero at the bottom to ten at the top. Suppose we say that the top of the ladder represents the best possible life for you, and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time, assuming that the higher the step the better you feel about your life, and the lower the step the worse you feel about it? Which step comes closest to the way you feel?" The average "step" score represents the life satisfaction measurement for a population.
Method of estimation	NA

[e] World Poll methodology [website]. Washington, DC: Gallup; 2014 (http://www.gallup.com/poll/105226/world-poll-methodology.aspx, accessed 14 March 2014).

Monitoring and evaluation framework	NA
Method of estimation of global and regional aggregates	The average is adjusted according to sampling design.
Disaggregation	Sex
Unit of measurement	Average value for population in a given state
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	NA

Data element	**Social connections/relationships**
Indicator name	(14) 4.1.b. Availability of social support
Abbreviated name	Social support available
Data type representation	Percentage
Topic	Health and well-being
Rationale	This core indicator measures whether self-reported support is perceived to be available from relatives or friends. This should be distinguished from subjective "perceived support" in terms of the level of support or satisfaction with support.
Definition	The level of availability of social support is expressed as a percentage of population aged 50 years and over who responded "yes" to the survey question: "If you were in trouble, do you have relatives or friends you can count on to help you whenever you need them, or not?"
Associated terms	Social connections
Preferred data sources	HFA based on Gallup World Poll[f] data
Other possible data sources	European Union Statistics on Income and Living Conditions (EU-SILC) (includes questions on "ability to ask any relative, friend or neighbour for help" – by age group (i.e. aged 65 and over) – in the 2006 module; and "ability to get help" – by age group (i.e. aged 65 and over) – in the 2013 module) Other national surveys using same methodological and questionnaire approach
Method of measurement	This is calculated as the proportion of people who responded "yes" to the question on perceived support in the survey among those people aged 50 years and over who answered the question. If available, data are collected for the entire adult population, disaggregated by age and sex.
Method of estimation	NA
Monitoring and evaluation framework	Outcome
Method of estimation of global and regional aggregates	NA
Disaggregation	Sex Age
Unit of measurement	Percentage
Expected frequency of data dissemination	Every 1–2 years
Expected frequency of data collection	Continuous
Limitations	NA

[f] Gallup analytics [website]. Washington, DC: Gallup; 2014 (http://worldview.gallup.com, accessed 16 May 2014).

Data element	**Percentage of population with improved sanitation facilities**
Indicator name	(15) 4.1.c. Percentage of population with improved sanitation facilities
Abbreviated name	% population with improved sanitation
Data type representation	Percentage
Topic	Environmental factors
Rationale	Living in satisfactory and sanitary housing conditions is one of the most important aspects of people's lives. An assessment of population well-being thus needs to examine living conditions and whether dwellings have access to facilities – including adequate water and sewage supply – that are considered basic needs and human rights. The vital importance of sanitation to human health and well-being and its role as an engine of development are well recognized. In this context, it is also crucial to recognize that striking disparities often occur in progress towards providing these services to the population, particularly in the divide between urban and rural populations, even when taking the different starting points into consideration. Use of improved sanitation facilities is a proxy for the use of basic sanitation.
Definition	An improved sanitation facility is defined as one that hygienically separates human excreta from human contact. Improved sanitation facilities include: • flush/pour flush to: o piped sewer system o septic tank o pit latrine; • ventilated improved pit latrine; • pit latrine with slab; • composting toilet.
Associated terms	NA
Preferred data sources	HFA
Other possible data sources	WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP)[g] Population and housing censuses DHS MICS World Health Survey Living Standards Measurement Study

[g] JMP [website]. Geneva: WHO/UNICEF; 2014 (http://www.wssinfo.org/, accessed 19 May 2014).

Method of measurement	The WHO/UNICEF JMP is tasked with providing estimates that are comparable among countries and across time. Because definitions of "improved" sanitation facilities and drinking-water sources can vary widely among countries, the JMP has established a standard set of categories that are used to analyse national data on which the Millennium Development Goal (MDG) trends and estimates are based (see "Definition"). The population data used, including the proportions of the population living in urban and rural areas, are those established by the UN World Population Prospects.[h] The definitions and data sources used by the JMP are often different from those used by national governments.
Method of estimation	For each country, survey and census data are plotted on a timescale from 1980 to the present. A linear trend line, based on the least-squares method, is drawn through these data points to provide estimates for all years between 1990 and 2012 (wherever possible). The total estimates are a population-weighted average of the urban and rural numbers. Sanitation trend analyses at the country level are made for improved sanitation facilities and open defecation. The estimates for improved sanitation facilities presented are discounted by the proportion of the population that shared an improved type of sanitation facility. The ratio (proportion of the population that shares an improved sanitation facility between two or more households, including those using a public toilet) derived from the average of all available ratios from household surveys and censuses is subsequently subtracted from the trend estimates of improved sanitation facilities; this gives the estimates for shared sanitation facilities.
Monitoring and evaluation framework	MDG targets and indicators
Method of estimation of global and regional aggregates	Regional estimates are calculated when the available data cover at least 50% of the population in a region. The MDG regional groupings are used in all regional analyses and tabulations.
Disaggregation	Household
Unit of measurement	Percentage
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Every time a new WHO/UNICEF JMP report comes out, it supersedes all previous reports and the data contained therein. Hence, the latest time series is the most accurate and up to date and should not be mixed with previous ones.

[h] Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. World population prospects: the 2012 revision: highlights. New York: United Nations; http://esa.un.org/wpp/, accessed 19 May 2014.

Data element	**Private households' out-of-pocket payments on health as percentage of total health expenditure**
Indicator name	(16) 5.1.a. Private household out-of-pocket expenditure as a proportion of total health expenditure
Abbreviated name	OOP as % of THE
Data type representation	Percentage
Topic	Health systems resources
Rationale	This is a core indicator of health financing systems. It contributes to the understanding of the relative weight of direct payments by households in total health expenditure. High out-of-pocket payments are strongly associated with catastrophic and impoverishing spending, so this indicator represents a key support for equity and planning processes.
Definition	The level of out-of-pocket expenditure is expressed as a percentage of private expenditure on health. Private households' out-of-pocket payments on health are the direct outlays of households, including gratuities and payments in kind made to health practitioners and suppliers of pharmaceuticals, therapeutic appliances and other goods and services, whose primary intent is to contribute to the restoration or enhancement of the health status of individuals or population groups. They also include household payments to public services, non-profit institutions or nongovernmental organizations, non-reimbursable cost sharing, deductibles, co-payments and fees for service. They exclude payments made by enterprises that deliver medical and paramedical benefits, mandated by law or not, to their employees and payments for overseas treatment.
Associated terms	Out-of-pocket expenditure Total health expenditure (THE) Private expenditure on health
Preferred data sources	HFA
Other possible data sources	Administrative reporting systems Household surveys National health accounts (NHA) Special studies
Method of measurement	NHA trace the financing flows from households as the agents who decide on the use of the funds to health providers; in this indicator only direct payments or out-of-pocket expenditure are included. The NHA approach is to track records of transactions, without double counting, in order to achieve comprehensive coverage. Thus, reimbursements from insurance companies should be deducted. Monetary and non-monetary transactions are accounted for at the purchaser's value, meaning that payments

	in kind should be valued at the purchaser's price. Guides to producing NHA are available.[i]
Method of estimation	In countries where the fiscal year begins in July, expenditure data are allocated to the later calendar year (for example, 2008 data will cover the fiscal year 2007–2008) unless otherwise stated. These data are generated from sources that WHO has been collecting for over 10 years. The most comprehensive and consistent data on health financing are generated from NHA. Not all countries have or update NHA, and in these instances data are obtained from technical contacts in the country or from publicly available documents and reports and harmonized to the NHA framework. Missing values are estimated using various accounting techniques, depending on the data available for each country. The principal international references used are the Eurostat database, International Monetary Fund international financial statistics, Organisation for Economic Co-operation and Development (OECD) health data and the UN national accounts statistics. National sources include NHA reports, national accounts reports, comprehensive financing studies, private expenditure by purpose reports, institutional reports of private entities involved in health care provision or financing, and in particular actuarial and financial reports of private health insurance agencies. Additional sources include household surveys, business surveys, economic censuses and ad hoc surveys. WHO sends estimates to the respective ministries of health every year for validation.
Monitoring and evaluation framework	Impact
Method of estimation of global and regional aggregates	Averages are weighted by population to obtain global and regional averages for income groups (World Bank classification) and WHO regions.
Disaggregation	NA
Unit of measurement	Percentage
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Data on estimated health expenditure are collected by triangulating information from several sources to ensure that the outlays constitute the bulk of government and private expenditure on health. Some figures lack accuracy when they do not involve a full commodity flow. Household surveys tend to be biased due to sampling and non-sampling errors.

[i] A system of health accounts: 2011 edition. Paris: OECD Publishing; 2011 (http://www.oecd-ilibrary.org/social-issues-migration-health/a-system-of-health-accounts_9789264116016-en, accessed 14 March 2014); Guide to producing national health accounts: with special applications for low-income and middle-income countries. Geneva: World Health Organization; 2003 (http://www.who.int/nha/en/, accessed 14 March 2014).

Data element	**Total health expenditure as percentage of gross domestic product (GDP)**
Indicator name	(17) 5.1.c. Total expenditure on health (as a percentage of GDP)
Abbreviated name	THE as % GDP
Data type representation	Money
Topic	Health systems resources
Rationale	This is a core indicator of health financing systems. It contributes to the understanding of total expenditure on health relative to the beneficiary population, adjusted by purchasing power parity (PPP) to facilitate international comparisons.
Definition	Total health expenditure represents the sum of general government and private expenditure on health. Estimates for this indicator are produced by WHO jointly with OECD and the World Bank. The estimates are, to the greatest extent possible, based on the NHA classification (see the 2006 *World health report*[j] for details). The sources include both nationally reported data and estimates from international organizations such as the International Monetary Fund, OECD, UN and World Bank. They may therefore differ somewhat from official national statistics reported by countries.
Associated terms	Total health expenditure (THE)
Preferred data sources	HFA
Other possible data sources	WHO NHA database UN population data OECD health data
Method of measurement	NHA indicators are based on expenditure information collected within an internationally recognized framework. NHA synthesize the financing flows of a health system, recorded from the origin of the resources (sources) and the purchasing agents (financing schemes), which distribute their funds between providers, to pay for selected health goods and services to benefit individuals. Beneficiaries are analysed across geographical, demographic, socioeconomic and epidemiological dimensions. Total health expenditure is measured as the sum of spending of all financing agents managing funds to purchase health goods and services. The NHA strategy is to track records of transactions, without double counting and in order to achieve comprehensive coverage. Monetary and non-monetary transactions are accounted for at purchasers' values. Guides to producing NHA are available.[k]
Method of estimation	These data are generated from sources that WHO has been collecting for over 10 years. The most comprehensive and consistent data on health financing are generated from NHA. Not all countries have or update NHA and in these

[j] The world health report 2006: working together for health. Geneva: World Health Organization; 2006 (http://www.who.int/whr/2006/en/, accessed 13 March 2014).

[k] A system of health accounts: 2011 edition. Paris: OECD Publishing; 2011 (http://www.oecd-ilibrary.org/social-issues-migration-health/a-system-of-health-accounts_9789264116016-en, accessed 14 March 2014); Guide to producing national health accounts: with special applications for low-income and middle-income countries. Geneva: World Health Organization; 2003 (http://www.who.int/nha/en/, accessed 14 March 2014).

	instances, data are obtained from technical contacts in-country or from publicly available documents and reports and harmonized to the NHA framework. Missing values are estimated using various accounting techniques depending on the data available for each country. WHO sends estimates to the respective ministries of health every year for validation.
Monitoring and evaluation framework	Input
Method of estimation of global and regional aggregates	Averages are weighted by population to obtain global and regional averages for income groups (World Bank classification) and WHO regions.
Disaggregation	NA
Unit of measurement	Percentage, based on PPP international dollar
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Data on estimated health expenditure are collected by triangulating information from several sources to ensure that the outlays constitute the bulk of government and private expenditure on health. Some figures may be underestimated when it is not possible to obtain data on expenditure by local government, corporations, nongovernmental organizations or insurance companies. A time lag affects the registration of voluntary or forced population migrations.

Data element	**Established processes for target-setting**
Indicator name	(18) 6.1.a. Establishment of a process for target-setting documented (mode of documenting to be decided by individual Member States)
Abbreviated name	Established process for target-setting
Data type representation	Percentage (of countries in the Region that have such processes)
Topic	Health governance
Rationale	Determining the percentage of Member States with documented target-setting processes provides insight into capacities for monitoring improvement of overall health and well-being.
Definition	Target-setting processes are established national procedures for setting health goals, objectives, targets or indicators aligned with Health 2020. They are documented in Member State reports.
Associated terms	Target-setting
Preferred data sources	Member State survey
Other possible data sources	Desk review of national data, reports and websites
Method of measurement	Survey administered by WHO Regional Office for Europe
Method of estimation	Analysis of responses received
Monitoring and evaluation framework	Input
Method of estimation of global and regional aggregates	Summaries of national data to form regional/subregional results
Disaggregation	NA
Unit of measurement	Categorical and dichotomous (Yes/No) indicator at the country level Percentage at the regional level
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Response rate to the survey will vary

Data element	**Documented national policies, implementation plans and accountability mechanisms**
Indicator name	(19) 6.1.b. Evidence documenting a) the establishment of national policies aligned with Health 2020, b) an implementation plan and c) an accountability mechanism
Abbreviated name	Documented national policies, implementation plans and accountability mechanisms
Data type representation	Percentage (of countries in the Region that have such policies, plans and mechanisms)
Topic	Health governance
Rationale	As Member States in the WHO European Region develop policies and strategies to improve health and well-being, it is important to know whether these national policies are aligned with the Health 2020 vision. Alignment entails having a comprehensive national health policy or another strategy which includes a focus on improving universal health coverage, reducing the major causes of the burden of disease, addressing major health and well-being determinants and strengthening health systems.
Definition	Member States must document: a) the existence of a comprehensive national health policy/strategy (addressing universal health coverage, noncommunicable diseases, communicable diseases, maternal and child health and health systems strengthening, among others) aligned with Health 2020, or another national/subnational policy/strategy aligned with Health 2020; b) the existence of an implementation plan for the above-mentioned policy/strategy; and c) the existence or plan to establish an accountability mechanism for the above-mentioned policy/strategy.
Associated terms	Policy, implementation plan, accountability mechanism
Preferred data sources	Member State survey
Other possible data sources	Desk review of Member State data, website or other sources
Method of measurement	Survey administered by WHO Regional Office for Europe
Method of estimation	Analysis of responses received
Monitoring and evaluation framework	Input
Method of estimation of global and regional aggregates	Summaries of national data to form regional/subregional results
Disaggregation	National policy aligned with Health 2020 Implementation plan Accountability mechanism

Unit of measurement	Categorical and dichotomous (Yes/No) indicator at the country level Percentage at the regional level
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Response rate to the survey will vary

Additional indicators

Data element	**Age-standardized mortality rate from all causes (per 100 000 population)**
Indicator name	(1) 1.1.a. Age-standardized mortality rate from all causes, disaggregated by age, sex
Abbreviated name	SDR per 100 000 population
Data type representation	Rate
Topic	Health status
Rationale	The number of deaths per 100 000 population is influenced by the age distribution of the population. Two populations with the same age-specific mortality rates for a particular cause of death will have different overall death rates if the age distributions of their populations are different. Age-standardized mortality rates adjust for differences in the age distribution of the population by applying the observed age-specific mortality rates for each population to a standard population.
Definition	The age-standardized mortality rate is a weighted average of the age-specific mortality rates per 100 000 people, where the weights are the proportions of people in the corresponding age groups of the WHO standard European population. The age-standardized mortality rate is calculated using the direct method: it represents what the crude rate would have been if the population had the same age distribution as the WHO standard European population.
Associated terms	WHO standard European population
Preferred data sources	HFA and HFA-MDB
Other possible data sources	Civil registration systems Household surveys Population censuses Sample or sentinel registration systems Special studies Surveillance systems
Method of measurement	Data on deaths by cause, age and sex collected using national death-registration systems or sample registration systems
Method of estimation	Weighted averages are applied to WHO standard European population age structure, life tables and cause-of-death statistics. These are applied to data reported by Member States. Cause-of-death distributions are obtained from death-registration data and data from population-based epidemiological studies, disease registers and notifications systems for selected specific causes of death.
Monitoring and evaluation framework	Impact
Method of estimation of global and regional aggregates	Aggregation of estimates of deaths by cause, age and sex enables Member States to estimate regional and global cause-, age- and sex-specific mortality rates.

Disaggregation	Age Sex
Unit of measurement	Deaths per 100 000 population
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Dependent on completeness, coverage and quality of cause-of-death data

Data element	**Prevalence of current tobacco use among adolescents**
Indicator name	(2) 1.1.b. Prevalence of weekly tobacco use among adolescents
Abbreviated name	NA
Data type representation	Percentage
Topic	Risk factors
Rationale	The prevalence of current tobacco use among adolescents is an important measure of the health and economic burden of tobacco, and provides a baseline for evaluating the effectiveness of tobacco control programmes over time. The risk of chronic diseases starts early in childhood and such behaviour continues into adulthood. Tobacco is an addictive substance and use often starts in adolescence, before the development of risk perception. By the time the risk to health is recognized, addicted individuals find it difficult to stop tobacco use. Adjusted and age-standardized prevalence rates are constructed solely for the purpose of comparing tobacco-use prevalence estimates across multiple countries or across multiple time periods for the same country. These rates should not be used to estimate the number of smokers in the population.
Definition	Current prevalence estimates for use of any tobacco product are derived from the results of the latest adolescent tobacco-use survey (or a survey that asks tobacco-use questions), adjusted using the WHO regression method for standardization described in the section on method of estimation below. "Tobacco use" includes cigarettes, cigars, pipes or any other oral tobacco and snuff products. "Current use" includes both daily and non-daily or occasional smoking. This indicator is measured using the standard questionnaire during a health interview of a representative sample of the population aged 15 years and over. Many countries carry out such health interview surveys on a more or less regular basis, but most of the data are collected from multiple sources by the tobacco or health units at the WHO Regional Office for Europe. When data on male and female use are available, the total is calculated as the average of the male and female value.
Associated terms	NA
Preferred data sources	Health Behaviour in School-aged Children (HBSC) study
Other possible data sources	Household surveys Specific population surveys Surveillance systems
Method of measurement	Prevalence of current tobacco use among adolescents (varied age groups) can be obtained from the Global Youth Tobacco Survey (GYTS) and Global School Health Survey (GSHS), which are school-based surveys that request the following data: 1. the number of days on which the respondent smoked cigarettes or other tobacco products during the past 30 days;

	2. whether or not, or the number of days on which, the respondent used any tobacco products other than cigarettes during the past 30 days.
Method of estimation	WHO has developed a regression method that attempts to enable comparisons between countries. If data are partly missing or incomplete for a country, the regression technique uses data available for the region in which the country is located to generate estimates for that country. The regression models are run separately for males and females at UN subregional level 3 in order to obtain age-specific prevalence rates for a chosen region. These estimates are substituted for the missing indicator for the country within the subregion. Note that the technique cannot be used for countries with no data: these countries are excluded from any analysis. Information from heterogeneous sources originating from different surveys that do not employ standardized survey instruments makes it difficult to produce national-level age-standardized rates. The five main types of difference between surveys and the relevant adjustment procedures used are listed below. 1. Differences in age groups covered by the survey In order to estimate tobacco-use prevalence rates for standard age ranges (five-year groups from 15 to 79 years and a group of 80–100 years), the association between age and daily tobacco use is examined separately for males and females in each country using scatter plots. For this exercise, data from the latest nationally representative survey are chosen; in some cases more than one survey is chosen if male and female prevalence rates stem from different surveys or if the additional survey supplements data for the extreme age intervals. To obtain age-specific prevalence rates for five-year age intervals, regression models using tobacco-use prevalence estimates from a first order, second order and third order function of age are graphed against the scatter plot and the best fitting curve is chosen. For the remaining indicators, a combination of methods is applied: regression models are run at the subregional level to obtain age-specific rates for current and daily cigarette smoking, and an equivalence relationship is applied between smoking prevalence rates and cigarette smoking where cigarette smoking is dominant to obtain age-specific prevalence rates for current and daily cigarette smoking for the standard age intervals. 2. Differences in the types of indicator used to measure tobacco use If only data on current tobacco smoking and current cigarette smoking are available, definitional adjustments are made to account for the missing daily tobacco smoking and daily cigarette smoking data. Likewise, if only data on current and daily tobacco smoking are available, adjustments are made across tobacco types to generate estimates for current and daily cigarette smoking. 3. Differences in geographical coverage of the survey within the country Adjustments are made to the data by observing the prevalence relationship between urban and rural areas in countries within the relevant subregion. Results from this urban–rural regression exercise are applied to countries to allow a scaling-up of prevalence to the national level. For example, if a country has prevalence rates for daily tobacco in urban areas only, the regression results from the rural–urban tobacco-use relationship are used to obtain rural prevalence rates for daily smoking. These are combined with urban prevalence rates using urban–rural population ratios as weights to generate a national prevalence estimate, as well as national age-specific rates. 4. Differences in survey year Trend information is used to adjust for data collected in different years. For

	example, for the 2009 *WHO report on the global tobacco epidemic*,[1] smoking prevalence estimates were generated for 2006. Smoking prevalence data were sourced from surveys conducted in countries in different years: in some cases the latest available data came from surveys that took place either before or after 2006. To obtain smoking prevalence estimates for 2006, trend information was used either to project into the future for countries with data from before 2006 or to backtrack for those with later data. This was achieved by incorporating trend information from all available surveys for each country. For countries without historical data, trend information from the respective subregion in which they fall was used. 5. Differences in age-standardized prevalence Tobacco use generally varies widely between sexes and across age groups. Although the crude prevalence rate is reasonably easy to understand for one country at one point in time, comparing crude rates between two or more countries at one point in time, or between different points in time in one country, can be misleading if the populations being compared have significantly different age distributions or differences in tobacco use by sex. The method of age standardization is commonly used to overcome this problem and allows meaningful comparison of prevalence rates between countries. The method involves applying the age-specific rates by sex in each population to one standard population. The WHO standard European population – a fictitious population whose age distribution was artificially created and is largely reflective of the population age structure of low- and middle-income countries – is used. The resulting age-standardized rate, also expressed as a percentage of the total population, refers to the number of smokers per 100 people in the WHO standard European population. As a result, the rate generated using this process is only a hypothetical number with no inherent meaning in its magnitude. It is only useful when contrasting rates obtained from one country with those obtained in another, or rates from the same country at different points in time. In order to produce an overall smoking prevalence rate for a country, the age-standardized prevalence rates for males and females must be combined to generate total prevalence. Since the WHO standard European population is the same, irrespective of sex, the age-standardized rates for males and females are combined using population weights for males and females at the global level from the UN Population Division data for the relevant year. For example, if the age-standardized prevalence rate for tobacco smoking in adults is 60% for males and 30% for females, the combined prevalence rate for tobacco smoking in all adults is calculated as $60 \times (0.51) + 30 \times (0.49) = 45\%$, with the figures in brackets representing male and female population weights. Thus, of the total smoking prevalence (45%) the proportion of smoking attributable to males is 66.7% [$= (30 \div 45) \times 100$] and to females is 33.3% [$= (15 \div 45) \times 100$]. WHO compiles data from GYTS and GSHS in the WHO Global InfoBase.
Monitoring and evaluation framework	Outcome
Method of estimation of global and regional aggregates	Regional and global aggregates are based on population averages weighted by the total proportion of adolescent population aged 15 years and over. They are only presented if available data cover at least 50% of the total population aged 15 years and over in the regional or global groupings.

[1] WHO report on the global tobacco epidemic, 2009: implementing smoke-free environments. Geneva: World Health Organization; 2009 (http://www.who.int/tobacco/mpower/2009/en/, accessed 12 March 2014).

Disaggregation	Sex
Unit of measurement	Percentage
Expected frequency of data dissemination	Continuous
Expected frequency of data collection	NA
Limitations	Some of the surveys are conducted in small subnational populations and therefore may not accurately reflect the national picture. This problem may be overcome by the adjustments/estimates defined above.

Data element	**Heavy episodic drinking among adolescents**
Indicator name	(3) 1.1.c. Heavy episodic drinking (60 g of pure alcohol or around 6 standard alcoholic drinks on at least one occasion weekly) among adolescents
Abbreviated name	HED
Data type representation	Percentage
Topic	Risk factors
Rationale	Heavy episodic drinking is one of the key indicators that provide information regarding the patterns of alcohol consumption in a given country. More specifically, it identifies the proportion of the population that consumes high levels of alcohol on single occasions, and consequently highlights the population that has a higher risk of experiencing alcohol-related acute harm and also of developing chronic health complications.
Definition	Heavy episodic drinking among adolescents is defined as the proportion of adolescents (15 years and over) who have had at least 60 g or more of pure alcohol on at least one occasion weekly. A consumption of 60 g of pure alcohol corresponds approximately to 6 standard alcoholic drinks. Numerator: the (appropriately weighted) number of respondents (15 years and over) who reported drinking 60 g or more of pure alcohol on at least one occasion weekly. Denominator: the total number of participants (15 years and over) responding to the corresponding question(s) in the survey plus abstainers.
Associated terms	NA
Preferred data sources	Population-based surveys
Other possible data sources	HBSC study
Method of measurement	A representative sample of the adolescent population (15 years and over) of the country is asked to answer questions in a survey. The first priority is given to internationally comparative, nationally representative surveys (in this order of preference: the World Health Survey; the WHO STEPwise approach to Surveillance; Gender, Alcohol and Culture – an International Study; and the European Comparative Alcohol Study), the second to national surveys.
Method of estimation	Weighted percentages of survey respondents, where abstainers were coded as having 0 occasions
Monitoring and evaluation framework	NA
Method of estimation of global and regional aggregates	Survey estimates are weighted by the population size of countries.
Disaggregation	Sex
Unit of measurement	Percentage
Expected frequency of data dissemination	Every 3–5 years

Expected frequency of data collection	Every 3–5 years
Limitations	Survey questions vary between countries. Proxy measures may therefore be required to provide data that fulfil the indicator criterion “60 g of pure alcohol on at least one occasion weekly”.

Data element	**Prevalence of overweight and obesity among adolescents**
Indicator name	(4) 1.1.d. Prevalence of overweight and obesity among adolescents (defined as a BMI-for-age value above +1 Z-score[m] and +2 Z-score relative to the 2007 WHO growth reference median,[n] respectively)
Abbreviated name	ChildOverW
Data type representation	Percentage
Topic	Risk factors
Rationale	Excess body weight predisposes people to various diseases, particularly cardiovascular diseases, diabetes mellitus type 2, sleep apnoea and osteoarthritis. Obesity is a growing public health problem, although effective interventions exist to prevent and treat it. Many of the risks diminish with weight loss. Overweight and obesity: • are defined as abnormal or excessive fat accumulation that may impair health; • have important consequences for morbidity, disability and quality of life; • entail higher risk of developing type 2 diabetes, cardiovascular diseases, several common forms of cancer, osteoarthritis and other health problems; • are serious public health challenges in the WHO European Region. Worldwide, more than 1.4 billion adults aged 20 and over were overweight in 2008. Of these, over 200 million men and nearly 300 million women were obese. In the WHO European Region the age-standardized prevalence of overweight was 58.3% among adult males and 51.2% among adult females.
Definition	The prevalence refers to the percentage of defined population with overweight or obesity, in kg/m^2 (defined as a BMI-for-age value above +1 Z-score relative to the 2007 WHO growth reference median for overweight and above +2 Z-score relative to the 2007 WHO growth reference median for obesity). WHO defines overweight in adults (aged 18 years and over) as a BMI $\geq$25 kg/m^2 and obesity as a BMI $\geq$30 kg/m^2.
Associated terms	Excess body weight
Preferred data sources	European Childhood Obesity Surveillance Initiative (COSI)
Other possible data sources	HBSC study
Method of measurement	Measured height and weight (COSI) or self-reported height and weight (HBSC)

[m] The Z-score indicates how many units (of the standard deviation) a person's BMI is above or below the average BMI value for their age group and sex.

[n] de Onis M et al. Development of a WHO growth reference for school-aged children and adolescents. Bulletin of the World Health Organization. 2007;85(9):660–667 (http://www.who.int/growthref/growthref_who_bull.pdf, accessed 12 March 2014).

	The prevalence of overweight is defined as the proportion of the study population with a BMI-for-age value above +1 Z-score, relative to the 2007 WHO growth reference median. It is estimated as follows: (number of subjects that fall above +1 Z-score from the median BMI-for-age value of the 2007 WHO growth reference population (5–19 years) per total number of subjects that were measured) × 100. The prevalence of obesity is defined as the proportion of the study population with a BMI-for-age value above +2 Z-score, relative to the 2007 WHO growth reference median. It is estimated as follows: (number of subjects that fall above +2 Z-score from the median BMI-for-age value of the 2007 WHO growth reference population (5–19 years) per total number of subjects that were measured) × 100.
Method of estimation	Estimates are produced for the standard year 2008. The crude adjusted estimates are based on aggregated data provided by countries to WHO and obtained through a review of published and unpublished literature. The inclusion criteria for estimation analysis require that data come from a random sample of the general population, with clearly indicated survey methods (including sample sizes) and risk factor definitions. Adjustments are made for the following factors in order to make data comparable across countries: risk factor definition, age groups for reporting, reporting year and representativeness of population. Using regression modelling techniques, crude adjusted rates for each indicator are calculated. To further enable comparison among countries, age-standardized comparable estimates are produced using the WHO standard European population. Uncertainty in estimates is analysed by taking into account sampling error and uncertainty due to statistical modelling.
Monitoring and evaluation framework	Outcome
Method of estimation of global and regional aggregates	Regional and global aggregates are based on population averages weighted by the total proportion of adolescent population.
Disaggregation	Sex
Unit of measurement	Percentage
Expected frequency of data dissemination	Continuous through the WHO European Database on Nutrition, Obesity and Physical Activity
Expected frequency of data collection	Every 3 years (COSI) or 4 years (HBSC)
Limitations	Self-reported HBSC weight and height data underestimate the prevalence of overweight or obesity. Missing values for BMI vary from 3% to 84%.

Data element	**Age-standardized mortality rate from motor vehicle traffic accidents**
Indicator name	(5) 1.3.a. Age-standardized mortality rate from motor vehicle traffic accidents, disaggregated by age, sex
Abbreviated name	SDR, motor vehicle traffic accidents, per 100 000 population
Data type representation	Rate
Topic	Health status
Rationale	The number of deaths per 100 000 population is influenced by the age distribution of the population. Two populations with the same age-specific mortality rates for a particular cause of death will have different overall death rates if the age distributions of their populations are different. Age-standardized mortality rates adjust for differences in the age distribution of the population by applying the observed age-specific mortality rates for each population to a standard population.
Definition	The age-standardized mortality rate is a weighted average of the age-specific mortality rates per 100 000 people, where the weights are the proportions of people in the corresponding age groups of the WHO standard European population. The age-standardized mortality rate is calculated using the direct method: it represents what the crude rate would have been if the population had the same age distribution as the WHO standard European population. Motor vehicle traffic accident ICD-10 codes: V02–V04, V09, V12–V14, V19–V79, V82–V87, V89.
Associated terms	WHO standard European population
Preferred data sources	HFA and HFA-MDB
Other possible data sources	Civil registration systems Household surveys Population censuses Sample or sentinel registration systems Special studies Surveillance systems
Method of measurement	Data on deaths by cause, age and sex collected using national death-registration systems or sample registration systems
Method of estimation	Weighted averages are applied to WHO standard European population age structure, life tables and cause-of-death statistics. Cause-of-death distributions are obtained from death-registration data and data from population-based epidemiological studies, disease registers and notifications systems for selected specific causes of death.
Monitoring and evaluation framework	Impact
Method of estimation of global and regional aggregates	Aggregation of estimates of deaths by cause, age and sex enables Member States to estimate regional and global cause-, age- and sex-specific mortality rates.

Disaggregation	Age Sex
Unit of measurement	Deaths per 100 000 population
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Dependent on completeness, coverage and quality of cause-of-death data.

Data element	**Age-standardized mortality rate from accidental poisoning**
Indicator name	(6) 1.3.b. Age-standardized mortality rate from accidental poisoning, disaggregated by age, sex
Abbreviated name	SDR, accidental poisoning, per 100 000 population
Data type representation	Rate
Topic	Health status
Rationale	The number of deaths per 100 000 population is influenced by the age distribution of the population. Two populations with the same age-specific mortality rates for a particular cause of death will have different overall death rates if the age distributions of their populations are different. Age-standardized mortality rates adjust for differences in the age distribution of the population by applying the observed age-specific mortality rates for each population to a standard population.
Definition	The age-standardized mortality rate is a weighted average of the age-specific mortality rates per 100 000 people, where the weights are the proportions of people in the corresponding age groups of the WHO standard European population. The age-standardized mortality rate is calculated using the direct method: it represents what the crude rate would have been if the population had the same age distribution as the WHO standard European population. Accidental poisoning ICD-10 codes: X40–X49.
Associated terms	WHO standard European population
Preferred data sources	HFA-MDB
Other possible data sources	Civil registration systems Household surveys Population censuses Sample or sentinel registration systems Special studies Surveillance systems
Method of measurement	Data on deaths by cause, age and sex collected using national death-registration systems or sample registration systems
Method of estimation	Weighted averages are applied to WHO standard European population age structure, life tables and cause-of-death statistics. Cause-of-death distributions are obtained from death-registration data and data from population-based epidemiological studies, disease registers and notifications systems for selected specific causes of death.
Monitoring and evaluation framework	Impact
Method of estimation of global and regional aggregates	Aggregation of estimates of deaths by cause, age and sex enables Member States to estimate regional and global cause-, age- and sex-specific mortality rates.

Disaggregation	Age Sex
Unit of measurement	Deaths per 100 000 population
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Dependent on completeness, coverage and quality of cause-of-death data

Data element	**Age-standardized mortality rate from alcohol poisoning**
Indicator name	(7) 1.3.c. Age-standardized mortality rates from alcohol poisoning, disaggregated by age, sex
Abbreviated name	SDR, alcohol poisoning, per 100 000 population
Data type representation	Rate
Topic	Health status
Rationale	The number of deaths per 100 000 population by cause is influenced by the age distribution of the population. Two populations with the same age-specific mortality rates for a particular cause of death will have different overall death rates if the age distributions of their populations are different. Age-standardized mortality rates adjust for differences in the age distribution of the population by applying the observed age-specific mortality rates for each population to a standard population.
Definition	The age-standardized mortality rate is a weighted average of the age-specific mortality rates per 100 000 people, where the weights are the proportions of people in the corresponding age groups of the WHO standard European population. The age-standardized mortality rate is calculated using the direct method: it represents what the crude rate would have been if the population had the same age distribution as the WHO standard European population. Alcohol poisoning ICD-10 code: X45.
Associated terms	WHO standard European population
Preferred data sources	HFA-MDB
Other possible data sources	Civil registration systems Household surveys Population censuses Sample or sentinel registration systems Special studies Surveillance systems
Method of measurement	Data on deaths by cause, age and sex collected using national death-registration systems or sample registration systems
Method of estimation	Weighted averages are applied to WHO standard European population age structure, life tables and cause-of-death statistics. Cause-of-death distributions are obtained from death-registration data and data from population-based epidemiological studies, disease registers and notifications systems for selected specific causes of death.
Monitoring and evaluation framework	Impact
Method of estimation of global and regional aggregates	Aggregation of estimates of deaths by cause, age and sex enables Member States to estimate regional and global cause-, age- and sex-specific mortality rates.
Disaggregation	Age Sex

Unit of measurement	Deaths per 100 000 population
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Dependant on completeness, coverage and quality of cause-of-death data

Data element	**Age-standardized mortality rate from suicides**
Indicator name	(8) 1.3.d. Age-standardized mortality rates from suicides, disaggregated by age, sex
Abbreviated name	SDR, suicides, per 100 000 population
Data type representation	Rate
Topic	Health status
Rationale	The number of deaths per 100 000 population by cause is influenced by the age distribution of the population. Two populations with the same age-specific mortality rates for a particular cause of death will have different overall death rates if the age distributions of their populations are different. Age-standardized mortality rates adjust for differences in the age distribution of the population by applying the observed age-specific mortality rates for each population to a standard population.
Definition	The age-standardized mortality rate by cause is a weighted average of the age-specific mortality rates per 100 000 people, where the weights are the proportions of people in the corresponding age groups of the WHO standard European population. The age-standardized mortality rate is calculated using the direct method: it represents what the crude rate would have been if the population had the same age distribution as the WHO standard European population. Suicide ICD-10 codes: X60–X84.
Associated terms	WHO standard European population
Preferred data sources	HFA and HFA-MDB
Other possible data sources	Civil registration systems Household surveys Population censuses Sample or sentinel registration systems Special studies Surveillance systems
Method of measurement	Data on deaths by cause, age and sex collected using national death-registration systems or sample registration systems
Method of estimation	Weighted averages are applied to WHO standard European population age structure, life tables and cause-of-death statistics Cause-of-death distributions are obtained from death-registration data and data from population-based epidemiological studies, disease registers and notifications systems for selected specific causes of death.
Monitoring and evaluation framework	Impact
Method of estimation of global and regional aggregates	Aggregation of estimates of deaths by cause, age and sex enables Member States to estimate regional and global cause-, age- and sex-specific mortality rates.
Disaggregation	Age Sex

Unit of measurement	Deaths per 100 000 population
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Dependent on completeness, coverage and quality of cause-of-death data

Data element	**Age-standardized mortality rate from accidental falls**
Indicator name	(9) 1.3.e. Age-standardized mortality rates from accidental falls, disaggregated by age, sex
Abbreviated name	SDR, accidental falls, per 100 000 population
Data type representation	Rate
Topic	Health status
Rationale	The number of deaths per 100 000 population by cause is influenced by the age distribution of the population. Two populations with the same age-specific mortality rates for a particular cause of death will have different overall death rates if the age distributions of their populations are different. Age-standardized mortality rates adjust for differences in the age distribution of the population by applying the observed age-specific mortality rates for each population to a standard population.
Definition	The age-standardized mortality rate by cause is a weighted average of the age-specific mortality rates per 100 000 people, where the weights are the proportions of people in the corresponding age groups of the WHO standard European population. The age-standardized mortality rate is calculated using the direct method: it represents what the crude rate would have been if the population had the same age distribution as the WHO standard European population. Accidental falls ICD-10 codes: W00–W19.
Associated terms	WHO standard European population
Preferred data sources	HFA-MDB
Other possible data sources	Civil registration systems Household surveys Population censuses Sample or sentinel registration systems Special studies Surveillance systems
Method of measurement	Data on deaths by cause, age and sex collected using national death-registration systems or sample registration systems
Method of estimation	Weighted averages applied to WHO standard European population age structure, life tables and cause of death statistics Cause-of-death distributions are obtained from death-registration data and data from population-based epidemiological studies, disease registers and notifications systems for selected specific causes of death.
Monitoring and evaluation framework	Impact
Method of estimation of global and regional aggregates	Aggregation of estimates of deaths by cause, age and sex enables Member States to estimate regional and global cause-, age- and sex-specific mortality rates.
Disaggregation	Age Sex

Unit of measurement	Deaths per 100 000 population
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Dependent on completeness, coverage, and quality of cause of death data

Data element	**Age-standardized mortality rate from homicides and assaults**
Indicator name	(10) 1.3.f. Age-standardized mortality rates from homicides and assaults, disaggregated by age, sex
Abbreviated name	SDR, homicides and assaults, per 100 000 population
Data type representation	Rate
Topic	Health status
Rationale	The number of deaths per 100 000 population by cause is influenced by the age distribution of the population. Two populations with the same age-specific mortality rates for a particular cause of death will have different overall death rates if the age distributions of their populations are different. Age-standardized mortality rates adjust for differences in the age distribution of the population by applying the observed age-specific mortality rates for each population to a standard population.
Definition	The age-standardized mortality rate by cause is a weighted average of the age-specific mortality rates per 100 000 people, where the weights are the proportions of people in the corresponding age groups of the WHO standard European population. The age-standardized mortality rate is calculated using the direct method: it represents what the crude rate would have been if the population had the same age distribution as the WHO standard European population. Homicides and assaults ICD-10 codes: X85–Y09.
Associated terms	WHO standard European population
Preferred data sources	HFA and HFA-MDB
Other possible data sources	Civil registration systems Household surveys Population censuses Sample or sentinel registration systems Special studies Surveillance systems
Method of measurement	Data on deaths by cause, age and sex collected using national death-registration systems or sample registration systems
Method of estimation	Weighted averages applied to WHO standard European population age structure, life tables and cause-of-death statistics Cause-of-death distributions are obtained from death-registration data and data from population-based epidemiological studies, disease registers and notifications systems for selected specific causes of death.
Monitoring and evaluation framework	Impact
Method of estimation of global and regional aggregates	Aggregation of estimates of deaths by cause, age and sex enables Member States to estimate regional and global cause-, age- and sex-specific mortality rates.
Disaggregation	Age Sex

Unit of measurement	Deaths per 100 000 population
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Dependent on completeness, coverage, and quality of cause-of-death data

Data element	**Life expectancy at ages 1, 15, 45 and 65 years**
Indicator name	(11) 2.1.a. Life expectancy at ages 1, 15, 45 and 65 years, disaggregated by sex
Abbreviated name	Life expectancy at ages 1, 15, 45 and 65 years
Data type representation	Statistic
Topic	Health status
Rationale	Life expectancy at different ages reflects the overall mortality level of a population over the specified ages. It summarizes the mortality pattern that prevails across all age groups above such ages.
Definition	Life expectancy is the average number of years that a person of a given age (1, 15, 45 and 65 years) could expect to live if he or she were to pass through life exposed to the sex- and age-specific death rates prevailing at the time for a specific year, in a given country, territory or geographical area.
Associated terms	Life table
Preferred data sources	HFA
Other possible data sources	Civil registration systems Household surveys Population censuses
Method of measurement	Life expectancy at ages 1, 15, 45 and 65 years is derived from life tables and is based on sex- and age-specific death rates.
Method of estimation	The data are calculated by the WHO Regional Office for Europe for all countries that report detailed mortality data to WHO, using Wiesler's method, with age disaggregation of mortality data in the following age groups: <1 year, 1–4 years, five-year groups from 5–9 to 80–84 years, and 85 years and over. Procedures used to estimate WHO life tables for Member States vary depending on the data available to assess child and adult mortality. Three basic methods are used. In all three cases, the UN Inter-agency Group for Child Mortality Estimation estimates of neonatal, infant and under-5 mortality rates are used. WHO has developed a model life table using a modified logit system based on about 1800 life tables from vital registration judged to be of good quality to project life tables and to estimate life tables using a limited number of parameters as inputs. • When mortality data from civil registration are available, their quality is assessed; they are adjusted for level of completeness of registration if necessary and are directly used to construct the life tables. • When mortality data from civil registration for the latest year are not available, the life tables are projected from available years from 1985 onwards, using estimated under-5 mortality rates and adult mortality rates, or under-5 mortality rates only, and a modified logit model to which a global standard (defined as the average of all the 1800 life tables) is applied. • When no usable data from civil registration are available, the latest life table analyses of the UN Population Division are used.

Monitoring and evaluation framework	NA
Method of estimation of global and regional aggregates	The numbers of deaths estimated from life tables and the population by age groups are aggregated by relevant regions in order to produce regional life tables.
Disaggregation	Sex
Unit of measurement	Years
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Unfortunately, some countries are not able to ensure complete registration of all deaths and births; life expectancy calculated using incomplete mortality data is higher than the reality. In some cases underregistration of deaths may reach 20%: this has to be kept in mind when making comparisons between countries. Particularly high levels of mortality underregistration are observed in countries affected by armed conflicts during the 1990s, such as Georgia, Albania, Tajikistan and some other countries of the former USSR and Yugoslavia. In the case of Georgia this problem is further aggravated by missing sufficiently accurate population estimates to be used as denominator.

Data element	**Healthy life years at age 65**
Indicator name	(12) 2.1.b. Healthy life years at age 65, disaggregated by sex
Abbreviated name	Healthy life expectancy
Data type representation	Average life expectancy at a given age
Topic	Health status
Rationale	Substantial resources are devoted to reducing the incidence, duration and severity of major diseases that cause morbidity but not mortality, and to reducing their impact on people's lives. It is important to capture both fatal and non-fatal health outcomes in a summary measure of average levels of population health. Healthy life expectancy calculates the expectation of life for different health states, adjusted for severity distribution, making it sensitive to changes over time or differences between countries in the severity distribution of health states.
Definition	This indicator measures the number of years that a person at age 65 is still expected to live in a healthy condition. Healthy life years is a health expectancy indicator that combines information on mortality and morbidity. The data required are the age-specific prevalence of the population in healthy and unhealthy conditions and age-specific mortality information. A healthy condition is defined as the absence of limitations in functioning/disability. The indicator is calculated separately for males and females. The indicator is also called disability-free life expectancy. Life expectancy at age 65 is defined as the mean number of years still to be lived by a person of 65 years if subjected throughout the rest of his or her life to the current mortality conditions.
Associated terms	Life expectancy Disability
Preferred data sources	Civil registration system for mortality/life expectancy component Health interview surveys to determine functioning limitations/disability
Other possible data sources	Special studies (Global Health Observatory)
Method of measurement	NA
Method of estimation	Since comparable health-state prevalence data are not available for all countries, a four-stage strategy is used. 1. Data from the WHO Global Burden of Disease project are used to estimate severity-adjusted prevalence by age and sex for all countries. 2. Data from the WHO Multi-Country Survey Study and World Health Survey are used to make independent estimates of severity-adjusted prevalence by age and sex for survey countries. 3. Prevalence for all countries is calculated based on Global Burden of Disease, Multi-Country Survey Study and World Health Survey estimates. 4. Life tables constructed by WHO are used with Sullivan's method to compute healthy life expectancy for countries.

Monitoring and evaluation framework	Impact
Method of estimation of global and regional aggregates	NA
Disaggregation	Sex
Unit of measurement	Healthy life years Years of life expectancy Healthy life years expressed as a percentage of life expectancy
Expected frequency of data dissemination	Yearly
Expected frequency of data collection	Annual
Limitations	Issues arise from the lack of comparability of self-reported data from health interviews and the measurement of health-state preferences for such self-reporting.

Data element	**Social connections/relationships**
Indicator name	(13) 4.1.b. Percentage of people aged 65 years and over living alone
Abbreviated name	People 65+ years living alone
Data type representation	Proportion
Topic	Health and well-being
Rationale	Older people tend to report poorer health, so the need for social and other support increases with age. Social isolation and loneliness are key determinants of the current and future health and social care needs of the older population: they have been shown to have significant negative impacts on people's health status, including a demonstrable effect on blood pressure and a strong association with depression and increased risk of mortality. The eventual situation of many older people living alone is also related to health and care, and is important to well-being. The indicator focuses on the age group 65 years and over to better reflect the life-course approach in the overall Health 2020 indicators set.
Definition	This indicator measures the potential support needed for older – and in general more vulnerable – people in a community by measuring the percentage of people aged 65 and over living alone.
Associated terms	Social connections
Preferred data sources	Household surveys Population censuses
Other possible data sources	Information on European countries compiled annually by the United Nations Economic Commission for Europe surveys of income and living conditions Micro-censuses Other national surveys using the same methodological and questionnaire approach
Method of measurement	Population enumeration allows to determine the people who are 65 years and over and among them those who are living alone. The indicator is calculated as the proportion of people aged 65 years and over living alone among those aged 65 years and over in the population. In general, data are limited to people living in private households.
Method of estimation	NA
Monitoring and evaluation framework	Outcome
Method of estimation of global and regional aggregates	NA
Disaggregation	Sex Age
Unit of measurement	Percentage
Expected frequency of data dissemination	Censuses normally take place every 10 years but annual projections are available in many countries

Expected frequency of data collection	Census every 10 years Periodic every 1–3 years
Limitations	There are long intervals between censuses and not all countries have them regularly

Data element	**Total household consumption**
Indicator name	(14) 4.1.c. Household final consumption expenditure per capita (constant 2005 US dollars)
Abbreviated name	Household final consumption expenditure per capita
Data type representation	Weighted average
Topic	Economic policy and debt
Rationale	An economy's growth is measured by the change in the volume of its output or in the real incomes of its residents. The 2008 UN System of National Accounts[o] offers three plausible indicators for calculating growth: the volume of gross domestic product (GDP), real gross domestic income and real gross national income. The volume of GDP is the sum of value added, measured at constant prices, by households, government and industries operating in the economy. GDP accounts for all domestic production, regardless of whether the income accrues to domestic or foreign institutions.
Definition	Household final consumption expenditure is the market value of all goods and services, including durable products (such as cars, washing machines and home computers), purchased by households. It excludes purchases of dwellings but includes imputed rent for owner-occupied dwellings. It also includes payments and fees to governments to obtain permits and licenses. Here, household consumption expenditure includes expenditure by non-profit institutions serving households (NPISH), even when reported separately by the country. Data are in constant 2005 US dollars.
Associated terms	National accounts
Preferred data sources	World Bank national accounts data OECD national accounts data files
Other possible data sources	The Eurostat European System of National and Regional Accounts, which details final consumption of (resident) households (excluding NPISH) by type of goods and services, as well as actual individual consumption (AIC), which is the sum of household, NPISH and individual government consumption in Euros per capita. AIC per capita is an alternative indicator better suited to describe the material welfare situation of households as it takes account of widespread differences across countries in the shares of public financing for the provision of education and health services to individuals.
Method of measurement	NA
Method of estimation	Household final consumption expenditure per capita (private consumption per capita) is calculated using private consumption in constant 2005 prices and World Bank population estimates. GDP from the expenditure side is made up of household final consumption expenditure, general government final consumption expenditure, gross capital formation (private and public

[o] System of National Accounts 2008 – 2008 SNA [website]. New York: United Nations Statistics Division; 2014 (https://unstats.un.org/unsd/nationalaccount/sna2008.asp, accessed 19 May 2014).

	investment in fixed assets, changes in inventories, and net acquisitions of valuables) and net exports (exports minus imports) of goods and services. Such expenditures are recorded in purchaser prices and include net taxes on products. Deflators for household consumption are usually calculated on the basis of the consumer price index.
Monitoring and evaluation framework	NA
Method of estimation of global and regional aggregates	NA
Disaggregation	Country
Unit of measurement	Constant 2005 US dollars
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Because policy-makers have tended to focus on fostering the growth of output, and because data on production are easier to collect than data on spending, many countries generate their primary estimate of GDP using the production approach. Moreover, many countries do not estimate all the components of national expenditure but instead derive some of the main aggregates indirectly using GDP (based on the production approach) as the control total. Household final consumption expenditure is often estimated as a residual, by subtracting all other known expenditure from GDP. The resulting aggregate may incorporate fairly large discrepancies. When household consumption is calculated separately, many of the estimates are based on household surveys, which tend to be one-year studies with limited coverage. Thus, the estimates quickly become outdated and must be supplemented by estimates using price- and quantity-based statistical procedures. Complicating the issue, in many developing countries the distinction between cash outlays for personal business and those for household use may be blurred. Informal economic activities pose a particular measurement problem, especially in developing countries, where much economic activity is unrecorded. A complete picture of the economy requires estimating household outputs produced for home use, sales in informal markets, barter exchanges and illicit or deliberately unreported activities. The consistency and completeness of such estimates depend on the skill and methods of the compiling statisticians. Measures of growth in consumption and capital formation are subject to two kinds of inaccuracy. The first stems from the difficulty of measuring expenditures at current price levels. The second arises in deflating current price data to measure volume growth, where results depend on the relevance and reliability of the price indexes and weights used. Measuring price changes is more difficult for investment goods than for consumption goods because of the one-time nature of many investments and because the rate of technological progress in capital goods makes capturing change in quality difficult. (One example is computers: prices have fallen as quality has improved.)

Data element	**Educational attainment**
Indicator name	(15) 4.1.d. Educational attainment of people aged 25 years and over who have completed at least secondary education
Abbreviated name	Population 25+ years who have completed at least secondary education
Data type representation	Percentage
Topic	Health and well-being
Rationale	Educational attainment is used as a measure of human capital and the level of an individual's skills; it is also measure of the skills available in the population and the labour force. Higher levels of educational attainment are strongly associated with higher employment rates and are perceived as a means to better labour opportunities and earnings premiums, potentially increasing access to goods and services. Educational attainment is an indicator of accumulation of social capital that enhances potential for well-being. Higher attainment levels are associated with higher levels of employment, access to information and health.
Definition	Educational attainment is defined as the highest level successfully completed by the person in the educational system of the country where the education was received. The levels of education are defined according to the International Standard Classification of Education (ISCED) of 1997.
Associated terms	Educational level
Preferred data sources	HFA
Other possible data sources	UNESCO/UIS database National education registries Surveys of income and living conditions European Union Labour Force Survey Other (non-UNESCO) national surveys Labour force surveys
Method of measurement	Data by level of completion of secondary education or higher for people aged 25 years and over, collected using national registration systems or surveys. Number of people aged 25 years and over who have completed at least secondary education according to the national definition and using ISCED categories 2 and higher.
Method of estimation	NA
Monitoring and evaluation framework	Health determinants and outcome
Method of estimation of global and regional aggregates	Population-weighted average of educational attainment of secondary education by completion level for age 25 years and over and by sex for Member States to estimate regional levels.
Disaggregation	Level Sex
Unit of measurement	Percentage

Expected frequency of data dissemination	Every 1–3 years
Expected frequency of data collection	Continuous
Limitations	NA

Data element	**Maternal mortality ratio (per 100 000 live births)**
Indicator name	(16) 5.1.a. Maternal deaths per 100 000 live births (ICD-10 codes O00–O99)
Abbreviated name	Maternal mortality ratio
Data type representation	Ratio
Topic	Health status
Rationale	Complications during pregnancy and childbirth are a leading cause of death and disability among women of reproductive age in developing countries. The maternal mortality ratio represents the risk associated with each pregnancy: the obstetric risk. It is also a Millennium Development Goal indicator for monitoring Goal 5 – improving maternal health. The indicator monitors deaths related to pregnancy and childbirth. It reflects the capacity of health systems to provide effective health care to prevent and address the complications occurring during pregnancy and childbirth.
Definition	The maternal mortality ratio is the annual number of female deaths from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes), during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, per 100 000 live births, for a specified year.
Associated terms	Late maternal death Live birth Maternal death
Preferred data sources	HFA
Other possible data sources	Civil registration system with complete coverage and medical certification of cause of death National maternal death surveillance and response system Hospital data Household surveys Population censuses Sample or sentinel registration systems Special studies
Method of measurement	The maternal mortality ratio can be calculated by dividing the recorded (or estimated) maternal deaths by the total recorded (or estimated) live births in the same period and multiplying by 100 000. Measurement requires information on pregnancy status, timing of death (during pregnancy, childbirth, or within 42 days of termination of pregnancy), and cause of death. Preferably, two alternative sources of information on maternal mortality are used to calculate this indicator: routine mortality by cause statistics, regularly reported to WHO (in most cases from central statistical offices), and hospital data reported to ministries of health. The numbers of maternal deaths from both sources should normally be identical, which is the case in most western European countries. In some countries, however – particularly in eastern Europe – there are significant differences because of national practices of death certification and coding. In such cases, hospital data are more

	complete/accurate. Following the publication of the European Health for All database in January 2001, the maternal mortality rate is calculated using both data (when both figures are reported), taking the larger figure if unequal. Experts argue that even in countries with good vital registration systems, maternal mortality is actually approximately 50% higher. WHO, UNICEF and the UN Population Fund have developed such adjusted estimates for 1990 and 1995. The maternal mortality ratio can also be calculated directly from data collected through vital registration systems, household surveys or other sources, but problems often occur with data quality, particularly related to the underreporting and misclassification of maternal deaths. Data are therefore often adjusted in order to take into account these data quality issues. Adjustments for underreporting and misclassification of deaths and model-based estimates should be made in cases where data are not reliable. Because maternal mortality is a relatively rare event, large sample sizes are needed if household surveys are used. This is very costly and may still result in estimates with large confidence intervals, limiting the usefulness for comparisons between countries or over time. To reduce sample size requirements, the sisterhood method used in the DHS and MICS for 2010–2011 measures maternal mortality by asking respondents about the survival of sisters. It should be noted that the sisterhood method results in pregnancy-related mortality; regardless of cause of death, all deaths occurring during pregnancy, birth or the six weeks following the termination of the pregnancy are included in the numerator of the maternal mortality ratio. Reproductive age mortality studies use a variety of sources, depending on the context, to identify all deaths of women of reproductive age and ascertain which of these are maternal or pregnancy-related.
Method of estimation	WHO, UNICEF, the UN Population Fund and World Bank have developed a method to adjust existing data in order to take into account data quality issues and ensure the comparability of different data sources. This method involves the assessment of data for completeness and, where necessary, adjustment for underreporting and misclassification of deaths, as well as development of estimates through statistical modelling for countries with no reliable national-level data. Data on maternal mortality and other relevant variables are obtained from databases maintained by the UN Development Programme, UNICEF, WHO and the World Bank. Data available from countries vary in terms of source and collection methods. Given the variability of data sources, different methods are used for each source in order to arrive at country estimates that are comparable and enable regional and global aggregation. Currently, only approximately one third of all countries have reliable data and do not need additional estimations. For about half the countries included in the estimation process, country-reported estimates of maternal mortality are adjusted for the purposes of comparability of methodologies. For the remainder – those with no appropriate maternal mortality data – a statistical model is employed to predict maternal mortality levels. The calculated point estimates with this methodology, however, might not represent the true levels of maternal mortality: it is therefore advisable to consider the estimates together with the reported uncertainty margins to establish where the true levels are likely to lie.
Monitoring and evaluation framework	Impact

Method of estimation of global and regional aggregates	Regional and global aggregates are based on averages weighted by the total number of live births. Aggregates are presented only if available data cover at least 50% of total live births in the regional or global grouping.
Disaggregation	NA
Unit of measurement	Deaths per 100 000 live births
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual collection for the HFA database
Limitations	NA

Data element	**Treatment success rate for new smear-positive pulmonary tuberculosis (TB) cases**
Indicator name	(17) 5.1.b. Percentage of people treated successfully among laboratory confirmed pulmonary tuberculosis who completed treatment
Abbreviated name	Percentage of people treated for TB who completed treatment
Data type representation	Percentage
Topic	Health service coverage
Rationale	Treatment success is an indicator of the performance of national TB control programmes. In addition to the obvious benefit to individual patients, successful treatment of infectious cases of TB is essential to prevent the spread of the infection. Detecting and successfully treating a large proportion of TB cases should have an immediate impact on TB prevalence and mortality. By reducing transmission, successfully treating the majority of cases will also affect, with some delay, incidence of the disease.
Definition	Cure rate or treatment success (those cured plus those successfully completed tx without bacteriologic evidence) of sputum smear positive pulmonary TB cases is the most reliable indicator. TB cases registered under a national TB control programme in a given year that successfully completed treatment (without bacteriological evidence of success). At the end of treatment, each patient is assigned one of the following five mutually exclusive treatment outcomes: completed, died, failed, defaulted or transferred out with outcome unknown. The cases assigned to these outcomes, plus any additional cases registered for treatment but not assigned to an outcome, add up to 100% of cases registered.
Associated terms	New case of TB TB
Preferred data sources	Patient record systems Surveillance systems
Other possible data sources	NA
Method of measurement	Treatment success rates are calculated from cohort data (outcomes in registered patients) as the proportion of new smear-positive TB cases registered under a national TB control programme in a given year that are cured or successfully completed treatment without bacteriological evidence. The treatment outcomes of TB cases registered for treatment are reported annually by countries to WHO using a web-based data collection system (see the annual WHO global TB report[p]). These follow the WHO recommendations on definitions of outcomes; they are internationally comparable and there is no need for any adjustment. Because treatment for TB lasts 6–8 months there is a delay in assessing

[p] Global tuberculosis report 2013. Geneva: World Health Organization; 2013 (http://www.who.int/tb/publications/global_report/en/, accessed 13 March 2014).

	treatment outcomes. Each year, national TB control programmes report to WHO the number of cases of TB diagnosed in the preceding year and the outcomes of treatment for the cohort of patients who started treatment a year earlier.
Method of estimation	No estimation: direct reporting by countries
Monitoring and evaluation framework	Output
Method of estimation of global and regional aggregates	Regional and global estimates are produced by aggregating national estimates (for example, to calculate the global treatment success rate of new smear-positive cases, the sum of the number of new smear-positive cases that completed treatment in individual countries is divided by the total number of new smear-positive cases registered for treatment in a given year).
Disaggregation	NA
Unit of measurement	Percentage
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	NA

Data element	**General government expenditure on health as a percentage of GDP**
Indicator name	(18) 5.1.c. Government (public) expenditure on health as a percentage of GDP
Abbreviated name	GGHE as % GDP
Data type representation	Percentage
Topic	Health systems resources
Rationale	This is a core indicator of health financing systems. It contributes to the understanding of the relative level of public spending on health to the beneficiary population, expressed in international dollars to facilitate international comparisons. It includes not only the resources channelled through government budgets but also the expenditure on health by parastatals and extrabudgetary entities, particularly with regard to compulsory health insurance. It refers to resources collected and polled by public agencies, including all the revenue modalities.
Definition	General government expenditure on health is the sum of total outlays for health maintenance, restoration or enhancement paid for in cash or supplied in kind by government entities, such as ministries of health and other ministries, parastatal organizations and social security agencies (without double counting the government transfer for social security and to extrabudgetary funds). It includes transfer payments to households to offset medical care costs to finance health services and goods. The estimates are, to the greatest extent possible, based on the NHA classification (see the 2006 *World health report*[q] for details). The sources include both nationally reported data and estimates from international organizations such as the International Monetary Fund, OECD, UN and the World Bank. They may therefore differ somewhat from official national statistics reported by countries.
Associated terms	General government expenditure on health PPP international dollar rate
Preferred data sources	HFA
Other possible data sources	National Health Accounts Administrative reporting system
Method of measurement	NHA indicators are based on expenditure information collected within an internationally recognized framework. For this indicator, resources are tracked for all public entities acting as financing agents: those that are managing health funds and purchasing or paying for health goods and services. The NHA strategy is to track records of transactions, without double counting and in order to achieve comprehensive coverage. In particular, it aims to be consolidated in order not to double count government transfers to social security and extrabudgetary funds. Monetary and non-monetary transactions

[q] The world health report 2006: working together for health. Geneva: World Health Organization; 2006 (http://www.who.int/whr/2006/en/, accessed 13 March 2014).

	are accounted for at purchasers' value. Guides to producing NHA are available.[r]
Method of estimation	PPP series estimated by the World Bank, resulting from the 2005 International Comparison Program, are used. In countries where these are not available, PPP series are estimated by WHO. In countries where the fiscal year begins in July, expenditure data are allocated to the later calendar year (for example, 2008 data will cover the fiscal year 2007–2008) unless otherwise stated. These data are generated from sources that WHO has been collecting for over 10 years. The most comprehensive and consistent data on health financing are generated from NHA. Not all countries have or update NHA, and in these instances data are obtained from technical contacts in the country or from publicly available documents and reports and harmonized to the NHA framework. Missing values are estimated using various accounting techniques, depending on the data available for each country. The principle international references used are the WHO NHA database for general government expenditure on health and World Bank estimates for PPP series, or WHO estimates for countries for which the World Bank does not provide PPP series. WHO sends estimates to the respective ministries of health every year for validation.
Monitoring and evaluation framework	Input
Method of estimation of global and regional aggregates	Averages are weighted by population to obtain global and regional averages for income groups (World Bank classification) and WHO regions.
Disaggregation	NA
Unit of measurement	Percentage, based on PPP international dollar
Expected frequency of data dissemination	Annual
Expected frequency of data collection	Annual
Limitations	Data on estimated health expenditure are collected by triangulating information from several sources to ensure that the outlays constitute the bulk of government expenditure on health. Some figures may be underestimated when it is not possible to obtain data on expenditure by local government, other ministries and extra-budgetary entities. A time lag affects the registration of voluntary and forced population migrations.

[r] A system of health accounts: 2011 edition. Paris: OECD Publishing; 2011 (http://www.oecd-ilibrary.org/social-issues-migration-health/a-system-of-health-accounts_9789264116016-en, accessed 14 March 2014); Guide to producing national health accounts: with special applications for low-income and middle-income countries. Geneva: World Health Organization; 2003 (http://www.who.int/nha/en/, accessed 14 March 2014).

The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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