Mapping the overlap between six main health indicator sets used in Europe

This assignment falls under European Health Information Initiative (EHII) key area 1 and has been executed by

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Contents

Summary and recommendations

The aim of this report is to provide input to the European Health Information Initiative (EHII) for a discussion between WHO Regional Office for Europe (WHO/Euro), the European Commission (EC) and the Organisation for Economic Co-operation and Development (OECD) on the development of a common set of core indicators. Such alignment of health monitoring activities has repeatedly been requested by WHO European Member States, as it will reduce their reporting burden and improve efficient use of resources. The report describes a mapping exercise in which six main European health indicator sets (three from the WHO, two from the EC, and one from the OECD) are compared in order to identify overlap in indicators. This mapping exercise has been performed under the auspices of the Steering Group of the EHII.

The approach taken was to first organise the available indicator meta-data by means of a hierarchical tree structure developed from a conceptual model discussed in the EHII Steering Group. This categorisation allowed for the identification of blocks of indicators of manageable size, which consisted of indicators on the same or similar topics. Subsequently, the occurrence of each of these indicator blocks in the six indicator sets was mapped.

As an example for a starting point for the joint work on common indicators, this report shows the indicator blocks that occurred in at least five of the six sets assessed:

- Alcohol consumption;
- Food consumption;
- Tobacco use;
- Overweight/obesity;
- Income/poverty;
- External causes of death;
- Life expectancy;
- Infant mortality;
- Financing scheme;
- Quality of care (acute, primary, mental);
- Premature/avoidable mortality;
- Vaccination coverage.

. This could be a good starting point as these indicator blocks seem to adequately represent the areas of work of all three organisations. In addition, they cover the full range of the public health domain, while still representing a feasible number to proceed with. Alternatively, but not specifically presented in this report, the overlap between the three main sets (i.e. European Core Health Indicators (ECHI), WHO’s Health For All (HFA) and OECD health statistics) could be a good starting point. Another strategy could be to start from the indicators based on data collected through the joint data collections on monetary and non-monetary health care statistics.

Additional improvements or refinements to the mapping exercise presented in this report could consist of taking into account which indicators have been fully operationalised and implemented (it now also includes those being in development), or adding additional indicator or data sets, such as the Eurostat database and the Sustainable Development Goals (SDGs), broadening the base for discussion.

Identifying indicators from different indicator sets that cover similar topics is a first step towards establishing a set of common indicators. For insight in actual comparability, however, a more in depth assessment is needed. This would include aspects such as purpose, definition, disaggregation, standardisation, and underlying data source type. Therefore, as a next step, it is recommended that WHO/Euro, EC and OECD first make a selection of indicators to focus the work on (such as suggested in this report or another type of selection) and then explore the indicators at a more detailed level as suggested in the report.

Combining the outcomes of this report with the outcomes of the more detailed assessment will give an overview of the most promising topic areas for a joint approach, the topic areas that require more effort to harmonise, as well as topic areas where the indicators of the sets of the three organisations may complement each other.

1 Introduction

1.1 Background

The European Health Information Initiative (EHII) is a WHO network committed to improving the health of the people of the WHO European Region by improving the information that underpins policy. As such, the aim of the EHII is to support the development and implementation of health information strategies and systems. The EHII itself does not intend to collect health statistics, but rather intends to gather and harmonise European health information knowledge and expertise and to offer technical support during the development and/or improvement of existing health information datasets of international, national, and subnational authorities and other stakeholders.

EHII is organised around six key areas or pillars. Pillar one entails the development of information for health and well-being with a focus on indicators. This report describes an activity that is being performed under this pillar, entitled “Map existing and future developmental work on health information, including indicator development (with a focus on inequalities and life-course), as starting point for development of a set of common core indicators for WHO, European Commission and OECD”. Common indicators are desired by WHO European Member States, as it will reduce their reporting burden and improve efficient use of resources. All three international organisations acknowledge the need to reduce the reporting burden for member states and want to work together to improve the situation.

The above assignment comprises an extensive area. Therefore, in order to achieve concrete results within a reasonable timeframe, a narrower mapping exercise was defined as a first step. This is addressed further under paragraph 1.2 and chapter 2. The results presented in this report serve to start a practical discussion in EHII on the common core indicators and open the way for a discussion on next steps.

1.2 Overall aim and practical objective

The overall aim of this mapping exercise is to *gain insight* into the overlap between a limited number of important health indicator sets currently used in the WHO European Region, as a *starting point* for discussion on the development of a common set of core indicators by the WHO Regional Office for Europe (WHO/Euro), the European Commission (EC) and the Organisation for Economic Co-operation and Development (OECD).

More specifically, the objective is to map the overlap between the indicators in the following sets:

- WHO, Health For All database (HFA)
- WHO, Health 2020 monitoring framework (H2020)
- WHO, Global non-communicable diseases monitoring framework (NCD)
- EC, European Core Health Indicators (ECHI)
- EC, Joint Assessment Framework on Health (JAF)
- OECD Health Statistics (OECD HS)

The objective of the current work is not to recommend which indicators should be included in the common core set, but to create a possible starting point for developing this core set. This starting point consists of the concrete overlap between the indicator sets at the level of indicator topics. This report also contains some suggestions for possible ways to proceed.

2 Approach

This section provides a summary of the methodology applied for fulfilling the objectives. The work was performed by the National Institute for Public Health and the Environment (RIVM), the Netherlands, and the WHO Collaborating Centre for Health Indicators, Manchester, United Kingdom (WHO CC).

2.1 Sources and collection of indicator meta-data

The selection of indicator sets included in the comparison (HFA, H2020, NCD, ECHI, JAF Health, and OECD HS) was ratified by the EHII steering group in July 2016. Table 2.1 presents the references to the six meta-data sources used in the mapping exercise.

Table 2.1: indicator meta-data sources

Indicator set	Reference and background
• HFA	• http://data.euro.who.int/hfadb/. Accessed June 2016. • HFA is a database (family of databases), rather than an indicator set. HFA data are compiled from various sources, including a network of country experts, WHO/Europe's technical programmes, and partner organizations such as the statistical office of the European Union (Eurostat), the OECD, and United Nations agencies. HFA is mainly based on reported data, rather than estimates. Data are updated annually. The HFA indicators cover basic demographics, health status, health determinants and risk factors, as well as health care resources, expenditures and more.
• H2020	• WHO. Targets and indicators for Health 2020. Version 2, 2014. Via: http://www.euro.who.int/__data/assets/pdf_file/0009/251775/Health-2020-Targets-and-indicators-version2-ENG.pdf • Health 2020 is the latest WHO European health policy and aims to improve the health and well-being of populations, reduce health inequities and ensure people-centred health systems. To monitor progress towards it six targets, an indicator set was developed, which contains 20 core and 17 additional indicators. The indicator set was adopted by the 53 Member States of the WHO European Region in September 2013
• NCD	• WHO. Noncommunicable Diseases Global Monitoring Framework: Indicator Definitions and Specifications, 2014. Via: http://www.who.int/nmh/ncd-tools/indicators/GMF_Indicator_Definitions_Version_NOV2014.pdf • The Noncommunicable Diseases Global Monitoring Framework was adopted in May 2013 by the 66th World Health Assembly to monitor trends and assess progress made in the implementation of national strategies and plans on noncommunicable diseases across regions and country settings. It contains 25 indicators across three areas which focus on the key outcomes, risk factors and national systems response needed to prevent and control NCDs. From these, nine areas have been selected to be targets (for 2025, with a baseline of 2010; 1 mortality target, 6 risk factor targets, 2 national systems targets).
• ECHI	• Joint Action for ECHIM. List of operational ECHI indicators, 2012. Available via RIVM. • The European Community Health Indicators (ECHI) initiative started in 1998 as a project responding to the European Commission’s call to establish a set of public health indicators for the EU. The first version of the ECHI shortlist, which would serve as the core of a European public health monitoring system, was approved by the Commission and the EU Member States in 2005.

	Since then, the indicators in the ECHI shortlist have been regularly improved and updated. In 2008, the European Commission and the EU Member States began implementation of the indicators, i.e. they were put into practice. The ECHI shortlist contains 88 indicators; About 60 indicators are currently implemented, the others are in varying stages of development. The indicators cover the full range of public health, organized under 5 main themes: demography and socio-economic status, health status, determinants of health, health services and health promotion.
• JAF Health	• DG Empl. Towards a Joint Assessment Framework in the Area of Health. Work in progress: 2015 update. Via: http://ec.europa.eu/social/main.jsp?catId=758 • The Joint Assessment Framework (JAF) Health intends to act as a first-step quantitative screening device to detect possible challenges in MS's health systems (JAF Health country profile chart), with a specific focus on issues related to access, quality and equity. It was developed in 2013 with the support of the Commission services (in particular DG Employment, Social Affairs and Inclusion and Eurostat, with due consultation of DG SANTE and DG ECFIN). The list of the proposed indicators for the JAF Health includes such which were selected from the EU social indicators portfolio but also a number of indicators for development that were not evaluated with the quality criteria of the EU social indicators. The indicators cover overall health outcomes; health care performance: access, quality; health care system resources; non-health care determinants and socio-economic situation.
• OECD HS	• OECD. List of variables in OECD Health Statistics 2016, 2016. Via: https://www.oecd.org/els/health-systems/List-of-variables-OECD-Health-Statistics-2016.pdf • OECD Health Statistics is the main OECD Health database including more than 1200 indicators covering all aspects of health systems for the 35 OECD member countries, i.e. health status, non-medical determinants of health, health care resources, health workforce migration, health care utilisation, health care quality indicators, pharmaceutical market, long-term care and utilisation of resources, health expenditure and financing (systems of health account), social protection, demographic references and economic references. The database offers a comprehensive source of comparable statistics on health and health systems across OECD countries. It is a tool to carry out comparative analyses and draw lessons from international comparisons of diverse health systems.

All indicator meta-data were collected in an excel-file. The hierarchical structure and presentation of the available meta-data varied across indicator sets, creating challenges to categorise the indicator meta-information in a comparable way. Most importantly, the level of detail in indicator nomenclature varied widely between the sets. To facilitate comparisons across indicator sets, high-level indicator names were assigned to the indicators in the HFA, H2020, NCD and JAF sets. For example, indicators that originally were collected under the name ‘Prevalence of weekly tobacco use among adolescents’ and ‘Expenditure on curative care as % of current expenditure on health care’, were assigned the additional high-level indicator names ‘tobacco use’ and ‘health expenditure’ for the purpose of this mapping exercise.

2.2 Structuring the meta-data

The meta-data were structured and categorised according to a predefined and systematic process, to minimise bias. Decisions were made using an adapted Delphi technique through both face to face contacts and web conferencing facilities between RIVM and WHO CC (Manchester). Decisions were

based on consensus and validated through design and practice to form a feedback loop for iteration of the methodology.

It was agreed that the main goal was to develop ‘blocks’ of indicators of manageable size to compare across indicator sets, and that nomenclature would be for future discussion.

The process of categorising the indicators consisted of five major steps:

- Step 1: To capture the relevant indicator domains, a conceptual model was constructed and discussed with experts (in EHII Steering Group meetings, model not shown here). This model was translated into the first levels of a tree structure (level 1 and 2, see Table 2.2) that was used for organising the indicators included in the six indicator sets.
- Step 2: The full team assigned the indicators to the first two levels of the tree diagram.
- Step 3: From this, two researchers then defined and assigned two additional levels (level 3 and 4, see Table 2.3), compared their work and discussed to reach consensus.
- Step 4: A third researcher evaluated cases of disagreement and mutual doubt.
- Step 5: The full team ratified the created structure of indicators.

Table 2.2. First two levels of the tree structure

Level 1.	Level 2.
Health determinants	Individual characteristics and behaviours
	Physical and social environment
	Socioeconomic and demographic factors
Health status	Morbidity/disability
	Mortality
	Wellbeing
Health systems	Health system performance*
	Health resources and activities
Policy	NA (not further specified)

*The original model already included a third level here, consisting of Access; Quality; and Costs/expenditure

As can be seen in Table 2.2, the first level of the tree structure consists of the following domains: ‘Health determinants’, ‘Health Status’, ‘Health Systems’ and ‘Policy’; The second level consist of 8 subdomains (the ‘Policy’ domain was not further categorised). Table 2.3 shows the next levels that were created from these subdomains. The fourth and final level of the tree structure contained 83 indicator topic or ‘blocks’. These were identified as a potential starting point for the indicator comparison.

Table 2.3. Level 3 and 4 (indicator topic or ‘blocks’) of the tree structure, presented by level 1 and 2

1.Health determinants

2.Individual characteristics and behaviours	
Level 3.	Level 4.
Behaviours	Alcohol consumption
	Food consumption (or proxy)
	Physical activity
	Reproductive and maternal
	Tobacco use
	Use of psychoactive substances
Individual characteristics	Birth weight
	Blood pressure
	Cholesterol
	Overweight/obesity

2.Physical and social environment	
Level 3.	Level 4.
Physical environment	Housing and sanitation
	Pollution
Social environment	Social network
	Work-related

2.Socioeconomic and demographic factors	
Level 3.	Level 4.
Demographic factors	NA (Demographic factors)
Socioeconomic factors	Education
	Employment/ occupation
	Income/poverty

1.Health status

2.Morbidity/disability	
Level 3.	Level 4.
Accidents & injuries	Home/leisure
	Self-injury
	Traffic
	Work
Communicable diseases	Airborne and/or vaccine-preventable diseases
	Food and water borne
	Sexually transmissible and/or blood borne
	Zoonotic
Disability	NA (Disability)
Non-communicable diseases	Cancer
	Cardiovascular diseases
	Dental diseases
	Diabetes
	Mental diseases
	Reproductive, maternal and newborn health
	Respiratory diseases
Self-reported health status	Self-perceived health/morbidity

2.Mortality	
Level 3.	Level 4.
Age- and cause-specific mortality	All causes
	Cancer
	External causes
	Infectious diseases
	Non-communicable diseases (excluding cancer)
Life expectancies	Health expectancy
	Life expectancy
	Reduction of life expectancy (PYLL)
Maternal, perinatal and newborn mortality	Infant mortality
	Maternal mortality

2.Wellbeing	
Level 3.	Level 4.
NA (Wellbeing)	NA (Wellbeing)

1.Health systems			
2.Health care resources and activities		**2.Health systems**	
Level 3.	Level 4.	**Level 3.**	Level 4.
Care utilisation	Consultations	**Access**	(Un)met needs or their causes
	Diagnostic exams		Health care coverage
	Hospital utilisation	**Costs/ expenditure**	Assets
	Long-term care		Financing scheme
	Reproductive, maternal and newborn health		Function
			Provider
	Surgical procedures		Provision factors
Health employment and education	Education		Revenues
	Health workforce migration	**Quality**	Autopsy
	Nurses and/or midwives		Cancer screening
			Cancer survival rates
	Physicians		Care
	Remuneration		Patient experience
	Workforce other		Patient safety
Pharmaceutical sales & consumption	Generic market		Premature/ avoidable mortality
	Pharmaceutical consumption		Reproductive, maternal and newborn health
	Pharmaceutical sales		Vaccination coverage
Physical and technical resources	Hospitals and beds		
	Medical technology		
	Other care units/beds		

In addition to the predefined (sub)domains, the research team defined an ‘Unclassified’ category, to host indicators that could not easily be fitted within the predefined structure, such as those with a composite nature, e.g. “UNDP Human Development Index”, covering both health status and health determinants, or “Persons killed or injured in road traffic”, covering both morbidity and mortality; or “Area in square kilometres”, which represents a denominator rather than an indicator.

For some indicators, valid arguments may exist to categorise them under more than 1 domain; for example, ‘birth weight’ could fit under ‘health determinants’ – predicting future ill health – as well as under ‘health systems’ – being an outcome of pregnancy care. Premature/avoidable mortality could fit under mortality (stressing the mortality part of the indicator) or under health systems performance (stressing the premature/avoidable or quality part of the indicator). In such cases, the research team sought consensus on how to map the concerned indicators in a uniform way across indicator sets. At this, it is important to realise that this uniform mapping was the main purpose here, rather than finding the ‘best’ categorisation (i.e. it is more important that ‘birth weight’ from ALL sets are categorised under ‘health determinants’ than determining whether ‘health determinants’ or ‘health systems’ is the most optimal category for birth weight).

2.3 Comparing the meta-data

The overlap was analysed and presented at two different levels of detail, i.e. ‘operationalisations’ and ‘indicators’, the second being a more aggregated form of the first. The operationalisation level (n=3216) includes all operationalisations of the indicators in the six sets. For example, the ECHI indicator ‘Body mass index’ consists of eight operationalisations (including overweight, obesity and disaggregations on

sex and education, representing n=8 out of n= 1033 in Table 2.4). The indicator level (n=373) includes the operationalisations aggregated into one indicator name per topic per set (here, the ECHI ‘Body mass index’, represents n=1 out of n=101). In some cases this may have resulted in more than one indicator name per topic per set, e.g. the ‘Alcohol consumption’ area comprises both total alcohol consumption and heavy alcohol consumption as indicator names; and ‘Vaccination coverage’ comprises both influenza vaccination in elderly and child immunisations.
The ECHI and JAF sets also include indicators that are not (fully) implemented or defined yet.

Table 2.4: The categorisation process in numbers, by dataset

	HFA	H2020	NCD	ECHI	JAF	OECD	Total
Operationalisations	632	42**	25	1033	57	1427	3216
Indicators	105	29	22	101*	35	81	373

*covering 88 indicator names, or 94 as 6 are both register and self-reported; in addition, 3 indicators (disease-specific mortality, communicable diseases, surgical procedures) were assigned to different categories, **37 indicators: 19 core, 18 additional; 42 includes duplicates applying to different policy goals

For general characteristics and broad overview of the indicator meta-data, the first two levels (1 and 2) were used. To map the overlap between the sets and actively search for comparable indicators, the fourth level of the tree structure (i.e., the indicator blocks, see Section 2.2) was used. Overviews were constructed of this most detailed indicator level, by indicator set (i.e. HFA, H2020, NCD, ECHI, JAF, and OECD) and it was then registered how many of the data sets covered the particular indicator block (e.g. ‘birth weight’ was covered by 3 indicator sets).

3 Results

The indicator sets’ general coverage is shown in Table 3.1 and 3.2. All sets contain indicators on level 2 subdomains “Individual characteristics and behaviours” and “Health systems performance”. Those with the highest coverage (i.e. number of operationalisations and indicators) are “Morbidity/disability”, “Mortality”, “Health systems performance” and “Health resources and activities”.

When assessing coverage from the organisation perspective, almost all level 2 subdomains are covered by all three organisations, except the areas “Physical and social environment”, “Wellbeing” and “Policy” (not covered by OECD).

Table 3.1: Number of indicator operationalisations by data source and level (1 and 2)

	WHO HFA	**WHO H2020**	**WHO NCD**	**ECHI**	**EU JAF**	**OECD**	*Total*
1. Determinants of Health							
2. Socioeconomic and demographic factors	38	8	0	65	6	20	*137*
2. Individual characteristics and behaviours	31	6	13	66	6	40	*162*
2. Physical and social environment	13	3	0	39	0	0	*55*
1. Health status							
2. Wellbeing	0	1	0	1	1	0	*3*
2. Morbidity/disability	104	0	2	282	2	72	*462*
2. Mortality	273	13	0	95	8	659	*1048*
1. Health systems							
2. Health system performance	60	8	7	117	30	255	*477*
2. Health resources and activities	102	0	0	364	3	379	*848*
1. Policy	0	3	2	4	0	0	*9*
Unclassified	11	0	1	0	1	2	*15*
Total	*632*	*42*	*25*	*1033*	*57*	*1427*	*3216*

Table 3.2: Number of indicators by data source and level (1 and 2)

	WHO HFA	WHO H2020	WHO NCD	ECHI	EU JAF	OECD	*Total*
1. Determinants of Health							
2. Socioeconomic and demographic factors	14	5	0	9	4	6	*38*
2. Individual characteristics and behaviours	12	4	10	12	6	5	*49*
2. Physical and social environment	8	3	0	3	0	0	*14*
1. Health status							
2. Wellbeing	0	1	0	1	1	0	*3*
2. Morbidity/disability	21	0	2	28	1	8	*60*
2. Mortality	14	6	0	11	6	10	*47*
1. Health systems							
2. Health system performance	14	7	7	19	13	21	*81*
2. Health resources and activities	15	0	0	14	3	30	*62*
1. Policy	0	3	2	4	0	0	*9*
Unclassified	7	0	1	0	1	1	10
Total	*105*	*29*	*22*	*101*	*35*	*81*	*373*

Full results, encompassing all 4 levels used to organise the indicators, can be accessed via the embedded excel file in the Annex. Here, also, a detailed Table covering all 83 indicator blocks can be found (Table A1).

Table 3.3 shows the 12 indicator blocks (level 4) that are present in at least five of the six sets under investigation. The Annex shows more detailed overviews of these indicator blocks (Table A2) as well as an embedded excel file. One example block, alcohol consumption, is presented in Table 3.4.

Table 3.3: indicators or indicator areas that are covered by all or five of the six sets under comparison

Level 1	Level 2	Level 3	Level 4	HFA	H2020	NCD	ECHI	JAF	OECD	n
Determinants of health	Individual characteristics and behaviours	Behaviours	Alcohol consumption	x	x	x	x	x	x	6
			Food consumption (or proxy)	x		x	x	x	x	5
			Tobacco use	x	x	x	x	x	x	6
		Individual characteristics	Overweight/obesity	x	x	x	x	x	x	6
	Socioeconomic and demographic factors	Socioeconomic factors	Income/poverty	x	x		x	x	x	5
Health status	Mortality	Age- and cause-specific mortality	External causes	x	x		x	x	x	5
		Life expectancies	Life expectancy	x	x		x	x	x	5
		Maternal, perinatal and newborn mortality	Infant mortality	x	x		x	x	x	5
Health systems	Health system performance	Costs/expenditure	Financing scheme	x	x		x	x	x	5
		Quality	Quality of care (acute, primary, mental)		x	x	x	x	x	5
			Premature/avoidable mortality	x	x	x	x	x	x	6
			Vaccination coverage	x	x	x	x	x	x	6

All the indicator blocks in this table are used by all three organisations (WHO, EC and OECD), as depicted by Figure 3.1.

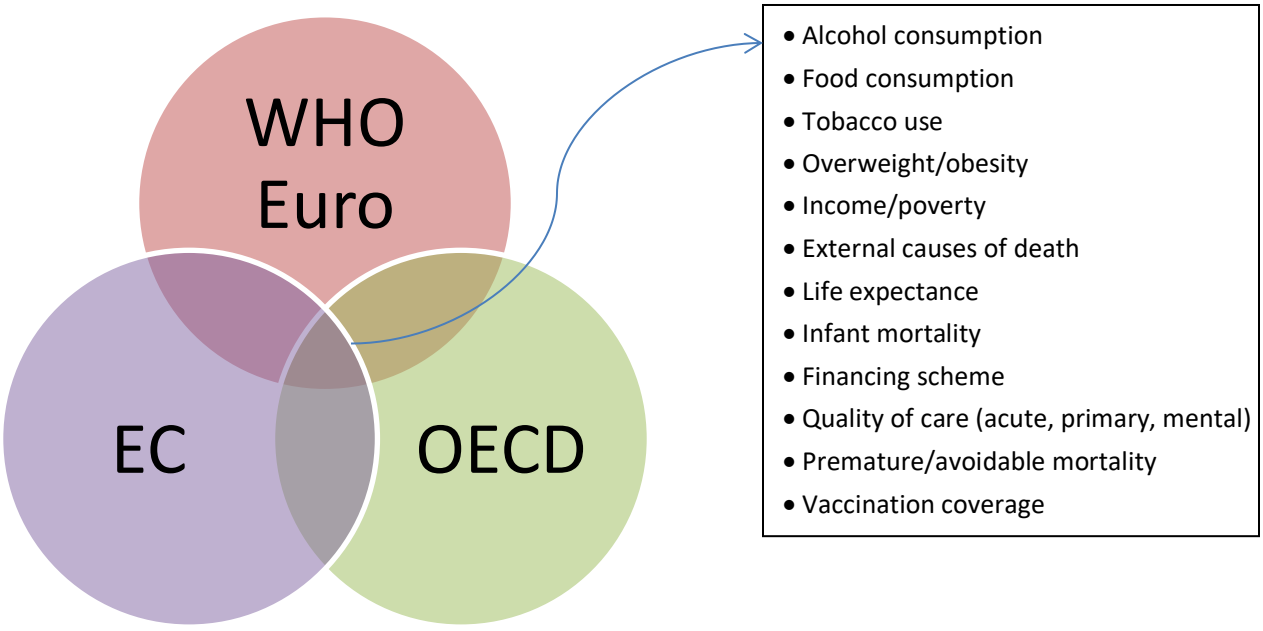

Figure 3.1. Overlap between the organisations on the fourth level of categorisation

Table 3.4: Example of indicator block (level 4): alcohol consumption

Dataset	Indicator name	Indicator operationalisation
ECHI	Total alcohol consumption	Litres of pure alcohol consumed per person aged 15+ per year
ECHI	Hazardous alcohol consumption	Proportion of individuals reporting to have had an average rate of consumption of more than 20 grams pure alcohol daily for women and more than 40 grams daily for men.
EU JAF	Alcohol consumption, hazardous	Risky single occasion drinking (total population, 15+, 15-24, men, women, educational level gap between ISCED 0-2 and 5-6)
OECD	Alcohol consumption	Annual consumption of pure alcohol in liters, per person, aged 15 years old and over
WHO H2020	Alcohol consumption	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
WHO H2020	Alcohol consumption, heavy	Heavy episodic drinking (60 g of pure alcohol or around 6 standard alcoholic drinks on at least one occasion weekly) among adolescents
HFA	Alcohol consumption	Pure alcohol consumption, litres per capita
HFA	Alcohol consumption	Spirits consumed in pure alcohol, litres per capita
HFA	Alcohol consumption	Wine consumed in pure alcohol, litres per capita
HFA	Alcohol consumption	Beer consumed in pure alcohol, litres per capita
HFA	Alcohol consumption	Pure alcohol consumed, litres per capita, age 15+
WHO NCD	Alcohol consumption, total	Total (recorded and unrecorded) alcohol per capita (aged 15+ years old) consumption within a calendar year in litres of pure alcohol, as appropriate, within the national context
WHO NCD	Alcohol consumption, heavy	Age-standardized prevalence of heavy episodic drinking among adolescents and adults, as appropriate, within the national context

4 Considerations and next steps

The results of the mapping exercise described in this report represent a starting point for a discussion between WHO/Euro, EC and OECD on the development of a core set of common indicators. It shows which blocks of indicators are most commonly represented in the six main health indicator sets used by the three organisations. Below, relevant issues for discussion are addressed and illustrated with practical examples.

Defining the starting point

The most common blocks of indicators identified in this report appear to be a sensible starting point for further investigation in developing a common core set.

Another strategy could be not to start with all sets in this report, but focus on the three main sets (i.e. ECHI, HFA database and OECD health statistics). Also, it is possible to broaden the base for discussion by adding sets, such as the SDG indicators and indicators from the Eurostat database. Alternatively, the starting point could be the indicators based on the joint data collections on monetary and non-monetary health care statistics, and from there harmonisation of the indicators that are based on these joint collections can be discussed.

It is important that the common core set will also be useful and feasible for the countries of the European Region that are not EU or OECD Member States. Therefore, the mapping methodology will be transferred to the WHO Collaborating Centre for Health Statistics and Analysis in Moscow for application in the Russian speaking part of the Region. In this way, an overview of commonly used health indicators in this part of the Region can be obtained, and this information can feed into the discussion between the three international organisations. Additional activities, including additional countries, may also be planned.

It is recommended that WHO/Euro, EC and OECD explore the outcomes of this mapping exercise in detail to determine to what extent it provides a good starting point for their joint work on common indicators. Improvements to the current mapping, like focusing only on those indicators that have been fully operationalised and implemented, that have high availability, taking into account if an indicator is used or not, might be necessary to create a good basis for the three international organisations.

When considering potential adaptations or additions, it is important to keep in mind that the mapping process is labour-intensive. It might be efficient to organise a face-to-face meeting to reach decisions on this.

Indicator concept

Before there can be a discussion on alignment of indicators, there is a need to assess whether indicators are actually measuring the same underlying concepts and serve the same purpose. For example, the following indicators originating from the same indicator block show different issues of interest:

- Example 1: Life expectancy
  - Life expectancy at 65 (more suitable to use for monitoring healthy ageing) and
  - Life expectancy at birth (general health outcome of a population)
- Example 2: Alcohol consumption
  - Total alcohol consumption (more general information) and
  - Heavy/risky/hazardous alcohol consumption (focus on hazardous behaviour)

If indicators are measuring different concepts, it will not be possible to align them. A discussion might then be needed on whether there is added value in measuring both concepts, or whether for the core set it might be sufficient to use only one. Sometimes, as in the example of alcohol consumption, data availability may favour one over the other. Even then, the bottom line is that an active choice needs to be made on which concept is measured and why.

Concept operationalisation

Next, for indicators measuring the same concept, it would be necessary to assess their overlap and differences at a deeper level of detail. Several elements are relevant for actual alignment, and the main four are listed and illustrated below.

1) Definition

In the six indicator sets assessed, different definitions are being used for the same indicator.

- Example: Cut-off points and timing for what is considered hazardous alcohol consumption
  - H2020: ≥ 60 g of pure alcohol on at least one occasion weekly
  - NCD: those drinking > 6 (60 grams) standard drinks in a single drinking occasion
  - ECHI: >20 grams pure alcohol daily for women and >40 grams daily for men
  - JAF: > 60g of pure ethanol on a single occasion in the past 12 months

Other examples of definitions that may be different for indicator measuring the same concept are ICD-codes that are included under cause-specific mortality and diseases that are included under childhood vaccination (e.g. HFA has a broader scope than OECD).

2) Disaggregation

This entails all aspects of age, sex, SES included to define subgroups as part of the operationalisation. Adolescents and adults occur as separate subgroups, or they are combined, and with or without additional disaggregation.

- Example: Age groups in hazardous alcohol consumption
  - H2020: adolescents age 15 and older
  - NCD: adolescents and adults
  - ECHI: age 15-64 and 65+; disaggregation education
  - JAF: age 15-64 and 65+, additional age 15-24; disaggregation education

Another example is tobacco use, which in the indicator sets assessed may be measured for age 15 and older, or for age 18 and older and separately for adolescents.

3) Standardisation and measurement unit

This entails agreeing on whether or not to standardise the data, and if so, agreeing on a common standardisation methodology and reference population. The availability of data by specific age distributions is an important aspect that needs to be taken into account here. Currently, different methods and reference populations are used by the different organisations.

- Example: Prevalence of obesity
  - ECHI: unstandardised (Eurostat does not standardise EHIS data)
  - HFA, H2020: age-standardised

4) Underlying data source type

Whether the data originates in administrative sources (such as medical records), self-reported sources (HIS) or involves physical measurements (HES) influences quality, validity and comparability of an indicator. The choice is often made based on the availability of data, a notion that needs to be taken into account.

- Example: Obesity
  - ECHI, JAF: self-reported
  - OECD, H2020: Both self-reported and measured

Another example is cancer screening (used by all three organisations), where for example OECD uses both administrative sources and surveys and ECHI uses only surveys.

The need for aligning indicators *and* data collections

Assessing to what extent the most commonly used indicators and indicator areas differ with respect to the above-described aspects, and agreeing on alignment when necessary, would be important next steps in the development of a core set of common indicators. At this, potential limitations caused by legal requirements at EU level should be taken into account[1]. The main benefit of such alignment for member states would be that for the topics included in the set there will be only one definition in use, and , if the underlying data source is the same, only one value will be published in the international arena. This would mean a major improvement as compared to the current situation, in which slightly different definitions are in use for the same indicator, resulting in different indicator values. This can be confusing and risks undermining the trustworthiness of health information.

However, for really reducing the reporting burden of member states, it would need to be ensured that they do no longer have to report the same data three times or more. To achieve this, the underlying data collection mechanisms of the international organisations would need to be integrated. Successful examples of this are the Joint OECD-Eurostat-WHO-Europe data collection on Non-Monetary Health

[1] EU Regulation 1338/2008 on Community statistics on public health and health and safety at work require EU MS to deliver statistics on five domains, each with several subjects to be covered. Variables, definitions, classifications and breakdowns to be adopted in accordance with Decision 1999/468/EC.

Care Statistics and the Joint OECD-Eurostat-WHO Health Accounts (SHA) Data Collection[2]. In the interest of the member states, both aspects of aligning indicators and aligning underlying data collections would need to be taken into account in the further process.

[2] From 2016 onwards this collection is mandatory in EU; data is submitted to Eurostat according to EU Regulation 2015/359 implementing EC 1338/2008 as regards the domain of ‘Health Care’ and subject ‘health care expenditure and financing’

5 Conclusions

Alignment of health monitoring activities across countries and organisations has great benefits. Having clear and common data collection guidelines and methods to improve data quality, which are shared between countries, will be of value for good comparisons between those countries that already have the data. In addition, it will make the data exchange processes easier, quicker and more efficient for countries that are in earlier stages of data collection. Thus, alignment of health monitoring activities between WHO/Euro, EC and OECD will be beneficial for all countries in the European Region. For those countries that are a member of more than one international organisation, reducing reporting burden is another main benefit of improved alignment.

Having a core set of common health indicators implemented at the European level and used by WHO/Euro, the EC and OECD would be the most efficient situation for both the users and providers of data. It can be envisaged that MS deliver their data to a single collection point for further processing according to one single, common method and dissemination of these indicators at a central web-based platform. At the same time, it will be no problem to leave room for international organisations to have their own or additional health indicators for specific purposes, policy needs or mandates. This report attempts to contribute to the realisation of this optimal situation, by mapping current overlap between the main health indicator sets used by the international organisations as a first step. This information may ultimately contribute to optimised and harmonised data collections, sets of indicators, and health reporting at the international level.

6 7th SG meeting, March 21st and 22nd 2017, Copenhagen

The mapping team suggested the following next steps as a potential way to move forward:

- Define a starting point for discussion on the development of a common set of core indicators by WHO/Euro, the European Commission and OECD, i.e. which indicator sets and which subsets to use as the starting point *and possibly start with indicators that occur in 5 out of the current 6 sets (as presented in the report)*
- Check if there is overlap in the indicator’s underlying concept (are the indicators actually aimed at measuring the same concept?)
- For those with similar underlying concept, check indicators’ *definitions, disaggregations, standardisation, underlying data source types, underlying data availability, and other relevant characteristics*
- Once meta-data are compared, set up working groups (e.g. at RIVM) including WHO/Euro, EC and OECD and start on 2-3 indicators to map the full potential and implications of aligning and determine the next steps.

Other possible leads in elaborating on the current work, suggested during the meeting, could be:

- Examining the sources of the indicators, including characteristics such as frequency, lag, statistical reliability and representativeness.
- Analysing Member States' policy priorities and linking currently collected indicators to these to identify data gaps.
- Analyse how cost-effectively different indicators may be produced.

Action points agreed during SG:

- WHO Secretariat, in consultation with OECD and the European Commission will draft the terms of reference for an expert Working Group that will use the results of the first draft of the mapping and identify next steps
- EHII Steering Group will comment on the ToRs

Expert Working Group will report back to Steering Group at the June meeting

Annex: Detailed results

This Annex shows detailed results from the mapping exercise.

Table A1 presents the occurrence of level 4 indicators within the indicator sets.

Table A2 presents more details for those level 4 indicators occurring in at least 5 out of 6 sets.

For easy access, the file with full results is embedded here.

Indicator mapping_final_2017

Table A1: occurrence of indicator blocks by data source
('x' means present in the indicator set; Level 4 adds up to 83 separate categories)

Level 1.	Level 2.	Level 3.	Level 4.	HFA	WHO H2020	WHO NCD	ECHI	EU JAF	OECD	Count*
Determinants of health	Individual characteristics and behaviours	Behaviours	Alcohol consumption	x	x	x	x	x	x	6
			Food consumption (or proxy)	x		x	x	x	x	5
			Physical activity			x	x	x		3
			Reproductive and maternal	x			x			2
			Tobacco use	x	x	x	x	x	x	6
			Use of psychoactive substances				x			1
		Individual characteristics	Birth weight	x			x		x	3
			Blood pressure			x	x			2
			Cholesterol			x				1
			Overweight/ obesity	x	x	x	x	x	x	6
	Physical and social environment	Physical environment	Housing and sanitation	x	x					2
			Pollution	x			x			2
		Social environment	Social network	x	x		x			3
			Work-related				x			1
	Socioeconomic and demographic factors	Demographic factors	NA (Demographic factors)	x			x	x	x	4

Level 1.	Level 2.	Level 3.	Level 4.	HFA	WHO H2020	WHO NCD	ECHI	EU JAF	OECD	Count*
		Socioeconomic factors	Education	x	x		x	x		4
			Employment/occupation	x	x		x		x	4
			Income/poverty	x	x		x	x	x	5
Health status	Morbidity/disability	Accidents & injuries	Home/leisure				x			1
			Self-injury				x			1
			Traffic	x			x		x	3
			Work	x			x			2
		Communicable diseases	Airborne and/or vaccine-preventable diseases	x			x		x	3
			Food and water borne	x			x			2
			Sexually transmissible and/or blood borne	x			x		x	3
			Zoonotic	x						1
		Disability	NA (Disability)	x			x			2
		Non-communicable diseases	Cancer	x		x	x		x	4
			Cardiovascular diseases				x			1
			Dental diseases	x					x	2
			Diabetes	x		x	x			3
			Mental diseases	x			x			2
			Reproductive, maternal and newborn health	x						1
			Respiratory diseases	x			x			2
		Self-reported health status	Self-perceived health/morbidity	x			x	x	x	4
	Mortality	Age- and cause-specific mortality	All causes	x	x		x		x	4
			Cancer	x			x		x	3
			External causes	x	x		x	x	x	5
			Infectious diseases	x			x		x	3
			Non-communicable diseases (excluding	x			x		x	3

Level 1.	Level 2.	Level 3.	Level 4.	HFA	WHO H2020	WHO NCD	ECHI	EU JAF	OECD	Count*
			cancer)							
		Life expectancies	Health expectancy		x		x	x		3
			Life expectancy	x	x		x	x	x	5
			Reduction of life expectancy (PYLL)	x				x	x	3
		Maternal, perinatal and newborn mortality	Infant mortality	x	x		x	x	x	5
			Maternal mortality	x	x				x	3
	Wellbeing	NA (Wellbeing)	NA (Wellbeing)		x		x	x		3
Health systems	Health care resources and activities	Care utilisation	Consultations				x	x	x	3
			Diagnostic exams						x	1
			Hospital utilisation	x			x		x	3
			Long-term care						x	1
			Reproductive, maternal and newborn health	x			x			2
			Surgical procedures	x			x		x	3
		Health employment and education	Education	x					x	2
			Health workforce migration				x		x	2
			Nurses and/or midwives	x			x	x	x	4
			Physicians	x			x	x	x	4
			Remuneration						x	1
			Workforce other	x					x	2
		Pharmaceutical sales & consumption	Generic market						x	1
			Pharmaceutical consumption				x		x	2
			Pharmaceutical sales						x	1
		Physical and technical resources	Hospitals and beds	x			x		x	3
			Medical technology				x		x	2

Level 1.	Level 2.	Level 3.	Level 4.	HFA	WHO H2020	WHO NCD	ECHI	EU JAF	OECD	Count*
			Other care units/beds	x						1
	Health system performance	Access	(Un)met needs or their causes				x	x	x	3
			Health care coverage				x	x	x	3
		Costs/ expenditure	Assets						x	1
			Financing scheme	x	x		x	x	x	5
			Function	x				x	x	3
			Provider						x	1
			Provision factors	x					x	2
			Revenues						x	1
		Quality	Autopsy	x						1
			Cancer screening			x	x	x	x	4
			Cancer survival rates				x	x	x	3
			Care		x	x	x	x	x	5
			Patient experience						x	1
			Patient safety	x			x		x	3
			Premature/avoidable mortality	x	x	x	x	x	x	6
			Reproductive, maternal and newborn health	x			x			2
			Vaccination coverage	x	x	x	x	x	x	6
Policy	NA (Policy)	NA (Policy)	NA (Policy)		x	x	x			3
Unclassified	NA (Unclassified)	NA (Unclassified)	NA (Unclassified)	x		x		x	x	4

*Summing up the occurrence of the 83 indicator blocks over the 6 sets yields n=232; Each indicator block may contain >1 indicator name

Tables A2: detailed results (presenting both indicator and operationalisation level) for those indicators occurring in at least 5 out of 6 sets.

Due to differences in structure of the indicator sets, some indicators also have a definition column (not presented here). Also, some indicator sets provide disaggregations as separate rows (ECHI and OECD), whereas others do not. Therefore, the number of rows on the operationalisation level is not fully comparable between sets. Please refer to the embedded excel-file for better readability.

Indicator blocks present in 5 or 6 sets

Alcohol consumption

Level	Status	Dataset	Code	Indicator name	Indicator operationalisation
Indicator		ECHI	46	Total alcohol consumption	Litres of pure alcohol consumed per person aged 15+ per year
Indicator		ECHI	47	Hazardous alcohol consumption	Precise operationalization still to be established
Indicator		WHO H2020	1.1.c.	Alcohol consumption	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
Indicato	Additional	WHO H2020	1.1.c.	Alcohol consumption, heavy	Heavy episodic drinking (60 g of pure alcohol or around 6 standard alcoholic drinks on at least one occasion weekly) among adolescents
Indicator		OECD		Alcohol consumption	Annual consumption of pure alcohol in liters, per person, aged 15 years old and over
Indicator		HFA	3050	Alcohol consumption	Pure alcohol consumption, litres per capita
Indicator		EU JAF	L-6	Alcohol consumption, hazardous	Risky single occasion drinking (total population 15+, 15-24, men, women, educational level gap between ISCED 0-2 and 5-6)
Indicator		WHO NCD	3.	Alcohol consumption, total	Total (recorded and unrecorded) alcohol per capita (aged 15+ years old) consumption within a calendar year in litres of pure alcohol, as appropriate, within the national context
Indicator		WHO NCD	4.	Alcohol consumption, heavy	Age-standardized prevalence of heavy episodic drinking among adolescents and adults, as appropriate, within the national context
Operationalisation		ECHI	46	Total alcohol consumption	Litres of pure alcohol consumed per person aged 15+ per year
Operationalisation		ECHI	47	Hazardous alcohol consumption	Proportion of individuals reporting to have had an average rate of consumption of more than 20 grams pure alcohol daily for women and more than 40 grams daily for men.
Operationalisation		WHO H2020	1.1.c.	Alcohol consumption	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
Operatio	Additional	WHO H2020	1.1.c.	Alcohol consumption, heavy	Heavy episodic drinking (60 g of pure alcohol or around 6 standard alcoholic drinks on at least one occasion weekly) among adolescents
Operationalisation		OECD		Alcohol consumption	Annual consumption of pure alcohol in liters, per person, aged 15 years old and over
Operationalisation		HFA	3050	Alcohol consumption	Pure alcohol consumption, litres per capita
Operationalisation		HFA	3051	Alcohol consumption	Spirits consumed in pure alcohol, litres per capita
Operationalisation		HFA	3052	Alcohol consumption	Wine consumed in pure alcohol, litres per capita
Operationalisation		HFA	3053	Alcohol consumption	Beer consumed in pure alcohol, litres per capita
Operationalisation		HFA	3054	Alcohol consumption	Pure alcohol consumed, litres per capita, age 15+
Operationalisation		EU JAF	L-6	Alcohol consumption, hazardous	Risky single occasion drinking (total population, 15+, 15-24, men, women, educational level gap between ISCED 0-2 and 5-6)
Operationalisation		WHO NCD	3.	Alcohol consumption, total	Total (recorded and unrecorded) alcohol per capita (aged 15+ years old) consumption within a calendar year in litres of pure alcohol, as appropriate, within the national context
Operationalisation		WHO NCD	4.	Alcohol consumption, heavy	Age-standardized prevalence of heavy episodic drinking among adolescents and adults, as appropriate, within the national context

Food consumption (or proxy)

Level	Status	Dataset	Code	Indicator name	Indicator operationalisation
Indicator		ECHI	49	Consumption of fruit	Proportion of people aged 15+ reporting to eat fruits (excluding juice) at least once a day.
Indicator		ECHI	50	Consumption of vegetables	Proportion of people aged 15+ reporting to eat vegetables (excluding potatoes and juice) at least once a day.
Indicator		OECD		Food supply and consumption	Total fat supply, Grammes per capita per day
Indicator		HFA	3200	Calories available	Average number of calories available per person per day (kcal)
Indicator		HFA	3210	Availability of fat	% of total energy available from fat
Indicator		HFA	3220	Availability of protein	% of total energy available from protein
Indicator		HFA	3230	Availability of cereal	Average amount of cereal available per person per year (in kg)
Indicator		HFA	3240	Availability of fruit and vegetables	Average amount of fruits and vegetables available per person per year (in kg)
Indicator		EU JAF	L-3	Fruit consumption	Fruit consumption(total population 15+, 15- 24, educational level gap between ISCED 0-2 and 5-6)
Indicator		EU JAF	L-4	Vegetable consumption	Vegetable consumption (total population 15+, 15- 24, educational level gap between ISCED 0-2 and 5-6)
Indicator		WHO NCD	8.	Salt consumption	Age-standardized mean population intake of salt (sodium chloride) per day in grams in persons aged 18+ years
Indicator		WHO NCD	15.	Energy intake from SFA	Age-standardized mean proportion of total energy intake from saturated fatty acids in persons aged 18+ years
Indicator		WHO NCD	16.	Fruit and vegetable consumption, low	Age-standardized prevalence of persons (aged 18+ years) consuming less than five total servings (400 grams) of fruit and vegetables per day
Operationalisation		ECHI	49	Consumption of fruit	Proportion of people aged 15+ reporting to eat fruits (excluding juice) at least once a day.
Operationalisation		ECHI	49	Consumption of fruit	Proportion of men aged 15+ reporting to eat fruits (excluding juice) at least once a day.
Operationalisation		ECHI	49	Consumption of fruit	Proportion of women aged 15+ reporting to eat fruits (excluding juice) at least once a day.
Operationalisation		ECHI	49	Consumption of fruit	Proportion of people reporting to eat fruits (excluding juice) at least once a day, for age group 15-24
Operationalisation		ECHI	49	Consumption of fruit	Proportion of people reporting to eat fruits (excluding juice) at least once a day, for age group 25-64
Operationalisation		ECHI	49	Consumption of fruit	Proportion of people reporting to eat fruits (excluding juice) at least once a day, for age group 65+
Operationalisation		ECHI	49	Consumption of fruit	Proportion of people aged 15+, whose highest completed level of education is ISCED class 0, 1 or 2, reporting to eat fruits (excluding juice) at least once a day.
Operationalisation		ECHI	49	Consumption of fruit	Proportion of people aged 15+, whose highest completed level of education is ISCED class 3 or 4, reporting to eat fruits (excluding juice) at least once a day.
Operationalisation		ECHI	49	Consumption of fruit	Proportion of people aged 15+, whose highest completed level of education is ISCED class 5 or 6, reporting to eat fruits (excluding juice) at least once a day.
Operationalisation		ECHI	50	Consumption of vegetables	Proportion of people aged 15+ reporting to eat vegetables (excluding potatoes and juice) at least once a day.
Operationalisation		ECHI	50	Consumption of vegetables	Proportion of men aged 15+ reporting to eat vegetables (excluding potatoes and juice) at least once a day.
Operationalisation		ECHI	50	Consumption of vegetables	Proportion of women aged 15+ reporting to eat vegetables (excluding potatoes and juice) at least once a day.
Operationalisation		ECHI	50	Consumption of vegetables	Proportion of people reporting to eat vegetables (excluding potatoes and juice) at least once a day, for age group 15-24
Operationalisation		ECHI	50	Consumption of vegetables	Proportion of people reporting to eat vegetables (excluding potatoes and juice) at least once a day, for age group 25-64
Operationalisation		ECHI	50	Consumption of vegetables	Proportion of people reporting to eat vegetables (excluding potatoes and juice) at least once a day, for age group 65+
Operationalisation		ECHI	50	Consumption of vegetables	Proportion of people aged 15+, whose highest completed level of education is ISCED class 0, 1 or 2, reporting to eat vegetables (excluding potatoes and juice) at least once a day.
Operationalisation		ECHI	50	Consumption of vegetables	Proportion of people aged 15+, whose highest completed level of education is ISCED class 3 or 4, reporting to eat vegetables (excluding potatoes and juice) at least once a day.
Operationalisation		ECHI	50	Consumption of vegetables	Proportion of people aged 15+, whose highest completed level of education is ISCED class 5 or 6, reporting to eat vegetables (excluding potatoes and juice) at least once a day.
Operationalisation		OECD		Food supply and consumption	Total fat supply, Grammes per capita per day
Operationalisation		OECD		Food supply and consumption	Total calories supply, Kilocalories per capita per day
Operationalisation		OECD		Food supply and consumption	Total protein supply, Grammes per capita per day
Operationalisation		OECD		Food supply and consumption	Sugar supply, Kilos per capita per year
Operationalisation		OECD		Food supply and consumption	Vegetables supply, Kilos per capita per year
Operationalisation		OECD		Food supply and consumption	Fruits supply, Kilos per capita per year
Operationalisation		OECD		Food supply and consumption	Vegetables consumption, daily, % of females aged 15 years old and over
Operationalisation		OECD		Food supply and consumption	Vegetables consumption, daily, % of males aged 15 years old and over
Operationalisation		OECD		Food supply and consumption	Vegetables consumption, daily, % of population aged 15 years old and over
Operationalisation		OECD		Food supply and consumption	Fruits consumption, daily, % of females aged 15 years old and over
Operationalisation		OECD		Food supply and consumption	Fruits consumption, daily, % of males aged 15 years old and over
Operationalisation		OECD		Food supply and consumption	Fruits consumption, daily, % of population aged 15 years old and over

Operationalisation	HFA	3200	Calories available	Average number of calories available per person per day (kcal)
Operationalisation	HFA	3210	Availability of fat	% of total energy available from fat
Operationalisation	HFA	3211	Availability of fat	Fat available per person per day (in g)
Operationalisation	HFA	3220	Availability of protein	% of total energy available from protein
Operationalisation	HFA	3221	Availability of protein	Protein available per person per day (in g)
Operationalisation	HFA	3230	Availability of cereal	Average amount of cereal available per person per year (in kg)
Operationalisation	HFA	3240	Availability of fruit and vegetables	Average amount of fruits and vegetables available per person per year (in kg)
Operationalisation	EU JAF	L-3	Fruit consumption	Fruit consumption(total population 15+, 15- 24, educational level gap between ISCED 0-2 and 5-6)
Operationalisation	EU JAF	L-4	Vegetable consumption	Vegetable consumption (total population 15+, 15- 24, educational level gap between ISCED 0-2 and 5-6)
Operationalisation	WHO NCD	8.	Salt consumption	Age-standardized mean population intake of salt (sodium chloride) per day in grams in persons aged 18+ years
Operationalisation	WHO NCD	15.	Energy intake from SFA	Age-standardized mean proportion of total energy intake from saturated fatty acids in persons aged 18+ years
Operationalisation	WHO NCD	16.	Fruit and vegetable consumption, low	Age-standardized prevalence of persons (aged 18+ years) consuming less than five total servings (400 grams) of fruit and vegetables per day

Tobacco use

Level	Status	Dataset	Code	Indicator name	Indicator operationalisation
Indicator		ECHI	44	Regular smokers	Proportion of people aged 15+ reporting to smoke cigarettes daily.
Indicator	WiP	ECHI	45	To be established - Pregnant	To be established - Pregnant women smoking
Indicator		WHO H2020	1.1.b.	Tobacco use	Age-standardized prevalence of current (includes both daily and nondaily or occasional) tobacco use among people aged 18 years and over
Indicator		OECD		Tobacco consumption	Grammes per capita (15+)
Indicator		HFA	3010	Tobacco smoking	% of regular daily smokers in the population, age 15+
Indicator		EU JAF	L-1	Regular smoking	Regular daily smoking (total population 15+, 15- 24, men, women, income quintile gap q1-q5)
Indicator		WHO NCD	9.	Tobacco use	Prevalence of current tobacco use among adolescents
Operationalisation		ECHI	44	Regular smokers	Proportion of people aged 15+ reporting to smoke cigarettes daily.
Operationalisation		ECHI	44	Regular smokers	Proportion of men aged 15+ reporting to smoke cigarettes daily.
Operationalisation		ECHI	44	Regular smokers	Proportion of women aged 15+ reporting to smoke cigarettes daily.
Operationalisation		ECHI	44	Regular smokers	Proportion of people reporting to smoke cigarettes daily, for age group 15-24
Operationalisation		ECHI	44	Regular smokers	Proportion of people reporting to smoke cigarettes daily, for age group 25-64
Operationalisation		ECHI	44	Regular smokers	Proportion of people reporting to smoke cigarettes daily, for age group 65+
Operationalisation		ECHI	44	Regular smokers	Proportion of people aged 15+, whose highest completed level of education is ISCED class 0, 1 or 2, reporting to smoke cigarettes daily.
Operationalisation		ECHI	44	Regular smokers	Proportion of people aged 15+, whose highest completed level of education is ISCED class 3 or 4, reporting to smoke cigarettes daily.
Operationalisation		ECHI	44	Regular smokers	Proportion of people aged 15+, whose highest completed level of education is ISCED class 5 or 6, reporting to smoke cigarettes daily.
Operationalisation	WiP	ECHI	45	To be established - Pregnant	To be established - Pregnant women smoking
Operationalisation		WHO H2020	1.1.b.	Tobacco use	Age-standardized prevalence of current (includes both daily and nondaily or occasional) tobacco use among people aged 18 years and over
Operationalisation	Additional	WHO H2020	1.1.b.	Tobacco use	Prevalence of weekly tobacco smoking among adolescents
Operationalisation		OECD		Tobacco consumption	Grammes per capita (15+)
Operationalisation		OECD		Tobacco consumption	Cigarettes per smoker per day
Operationalisation		OECD		Tobacco consumption	% of population aged 15+ who are daily smokers
Operationalisation		OECD		Tobacco consumption	% of females aged 15+ who are daily smokers
Operationalisation		OECD		Tobacco consumption	% of males aged 15+ who are daily smokers
Operationalisation		OECD		Tobacco consumption	% of population aged 15-24 years old who are daily smokers
Operationalisation		OECD		Tobacco consumption	% of females aged 15-24 years old who are daily smokers
Operationalisation		OECD		Tobacco consumption	% of males aged 15-24 years old who are daily smokers
Operationalisation		HFA	3010	Tobacco smoking	% of regular daily smokers in the population, age 15+
Operationalisation		HFA	3011	Tobacco smoking	% of regular daily smokers in the population, age 15+, male
Operationalisation		HFA	3012	Tobacco smoking	% of regular daily smokers in the population, age 15+, female
Operationalisation		HFA	3013	Tobacco smoking	Age-standardized prevalence of current tobacco smoking among people aged 15 years and over, WHO estimates (%)
Operationalisation		HFA	3014	Tobacco smoking	Age-standardized prevalence of current tobacco smoking among people aged 15 years and over, WHO estimates (%), males
Operationalisation		HFA	3015	Tobacco smoking	Age-standardized prevalence of current tobacco smoking among people aged 15 years and over, WHO estimates (%), females
Operationalisation		HFA	3016	Tobacco smoking	Number cigarettes consumed per person per year
Operationalisation		HFA	3017	Tobacco smoking	Total number of cigarettes consumed (in million pieces), per year
Operationalisation		EU JAF	L-1	Regular smoking	Regular daily smoking (total population 15+, 15- 24, men, women, income quintile gap q1-q5)
Operationalisation		WHO NCD	9.	Tobacco use	Prevalence of current tobacco use among adolescents
Operationalisation		WHO NCD	10.	Tobacco use	Age-standardized prevalence of current tobacco use among persons aged 18+ years

Overweight/obesity

Level	Status	Dataset	Code	Indicator name	Indicator operationalisation
Indicator		ECHI	42	Body mass index	Proportion of adult persons (18+) who are obese, i.e. whose body mass index (BMI) is ≥ 30 kg/m².
Indicator		WHO H2020	1.1.d.	Overweight and obesity	Age-standardized prevalence of overweight and obesity in persons aged 18+ years (defined as a body mass index ≥ 25 kg/m2 for overweight and ≥ 30 kg/m2 for obesity), reported measured and self-reported data separately
Indicator		OECD		Body weight	Overweight or obese population, measured data (age 15+), % of females
Indicator		HFA	3020	Overweight	Age-standardized prevalence of overweight (defined as BMI equal or greater 25 kg/m2) in people aged 18 years and over, WHO estimates (%)
Indicator		HFA	3023	Obesity	Age-standardized prevalence of obesity (defined as BMI equal or greater 30 kg/m2) in people aged 18 years and over, WHO estimates (%)
Indicator		EU JAF	L-2	Obesity	Proportion of people who are obese, i.e. whose body mass index (BMI) is >= 30kg/m2. Body mass index (BMI), or Quetelet index, is defined as the individual's body weight (in kilograms) divided by the square of their height (in metres). Weight and
Indicator		WHO NCD	13.	Overweight and obesity	Prevalence of overweight and obesity in adolescents (defined according to the WHO growth reference for school-aged children and adolescents, overweight - one standard deviation body mass index for age and sex, and obese - two standard devi
Operationalisation		ECHI	42	Body mass index	Proportion of adult persons (18+) who are obese, i.e. whose body mass index (BMI) is ≥ 30 kg/m².
Operationalisation		ECHI	42	Body mass index	Proportion of adult men (18+) who are obese, i.e. whose body mass index (BMI) is ≥ 30 kg/m².
Operationalisation		ECHI	42	Body mass index	Proportion of adult women (18+) who are obese, i.e. whose body mass index (BMI) is ≥ 30 kg/m².
Operationalisation		ECHI	42	Body mass index	Proportion of adult persons who are obese, i.e. whose body mass index (BMI) is ≥ 30 kg/m², for age group 18-64
Operationalisation		ECHI	42	Body mass index	Proportion of adult persons who are obese, i.e. whose body mass index (BMI) is ≥ 30 kg/m², for age group 65+
Operationalisation		ECHI	42	Body mass index	Proportion of adult persons (18+) who are obese, i.e. whose body mass index (BMI) is ≥ 30 kg/m², whose highest completed level of education is ISCED class 0, 1 or 2.
Operationalisation		ECHI	42	Body mass index	Proportion of adult persons (18+) who are obese, i.e. whose body mass index (BMI) is ≥ 30 kg/m², , whose highest completed level of education is ISCED class 3 or 4.
Operationalisation		ECHI	42	Body mass index	Proportion of adult persons (18+) who are obese, i.e. whose body mass index (BMI) is ≥ 30 kg/m², , whose highest completed level of education is ISCED class 5 or 6.
Operationalisation		WHO H2020	1.1.d.	Overweight and obesity	Age-standardized prevalence of overweight and obesity in persons aged 18+ years (defined as a body mass index ≥ 25 kg/m2 for overweight and ≥ 30 kg/m2 for obesity), reported measured and self-reported data separately
Operatio	Additiona	WHO H2020	1.1.d.	Overweight and obesity	Prevalence of overweight and obesity among adolescents (defined as BMI-for-age value above +1 Z-score and +2 Z-score relative to the 2007 WHO growth reference median, respectively)
Operationalisation		OECD		Body weight	Overweight or obese population, measured data (age 15+), % of females
Operationalisation		OECD		Body weight	Overweight population, measured data (age 15+), % of females
Operationalisation		OECD		Body weight	Obese population, measured data (age 15+), % of females
Operationalisation		OECD		Body weight	Overweight or obese population, self-reported data (age 15+), % of females
Operationalisation		OECD		Body weight	Overweight population, self-reported data (age 15+), % of females
Operationalisation		OECD		Body weight	Obese population, self-reported data (age 15+), % of females
Operationalisation		OECD		Body weight	Overweight or obese population, measured data (age 15+), % of males
Operationalisation		OECD		Body weight	Overweight population, measured data (age 15+), % of males
Operationalisation		OECD		Body weight	Obese population, measured data (age 15+), % of males
Operationalisation		OECD		Body weight	Overweight or obese population, self-reported data (age 15+), % of males
Operationalisation		OECD		Body weight	Overweight population, self-reported data (age 15+), % of males
Operationalisation		OECD		Body weight	Obese population, self-reported data (age 15+), % of males
Operationalisation		OECD		Body weight	Overweight or obese population, measured data (age 15+), % of total population
Operationalisation		OECD		Body weight	Overweight population, measured data (age 15+), % of total population
Operationalisation		OECD		Body weight	Obese population, measured data (age 15+), % of total population
Operationalisation		OECD		Body weight	Overweight or obese population, self-reported data (age 15+), % of total population
Operationalisation		OECD		Body weight	Overweight population, self-reported data (age 15+), % of total population
Operationalisation		OECD		Body weight	Obese population, self-reported data (age 15+), % of total population
Operationalisation		HFA	3020	Overweight	Age-standardized prevalence of overweight (defined as BMI equal or greater 25 kg/m2) in people aged 18 years and over, WHO estimates (%)
Operationalisation		HFA	3021	Overweight	Age-standardized prevalence of overweight (defined as BMI equal or greater 25 kg/m2) in people aged 18 years and over, WHO estimates (%), males
Operationalisation		HFA	3022	Overweight	Age-standardized prevalence of overweight (defined as BMI equal or greater 25 kg/m2) in people aged 18 years and over, WHO estimates (%), females
Operationalisation		HFA	3023	Obesity	Age-standardized prevalence of obesity (defined as BMI equal or greater 30 kg/m2) in people aged 18 years and over, WHO estimates (%)
Operationalisation		HFA	3024	Obesity	Age-standardized prevalence of obesity (defined as BMI equal or greater 30 kg/m2) in people aged 18 years and over, WHO estimates (%), males
Operationalisation		HFA	3025	Obesity	Age-standardized prevalence of obesity (defined as BMI equal or greater 30 kg/m2) in people aged 18 years and over, WHO estimates (%), females
Operationalisation		EU JAF	L-2	Obesity	Proportion of people who are obese, i.e. whose body mass index (BMI) is >= 30kg/m2. Body mass index (BMI), or Quetelet index, is defined as the individual's body weight (in kilograms) divided by the square of their height (in metres). Weight and
Operationalisation		WHO NCD	13.	Overweight and obesity	Prevalence of overweight and obesity in adolescents (defined according to the WHO growth reference for school-aged children and adolescents, overweight - one standard deviation body mass index for age and sex, and obese - two standard devi
Operationalisation		WHO NCD	14.	Overweight and obesity	Age-standardized prevalence of overweight and obesity in persons aged 18+ years (defined as body mass index ≥ 25 kg/m² for overweight and body mass index ≥ 30 kg/m² for obesity)

Income/poverty

Level	Status	Dataset	Code	Indicator name	Indicator operationalisation
Indicator		ECHI	9	Population below poverty line and income inequality	At risk of poverty rate (cut-off point: 60% of mean equivalised income), total population
Indicator		WHO H2020	3.1.f.	Income distribution	GINI coefficient
Indicator	Additiona	WHO H2020	4.1.c.	Consumption expenditure	Household final consumption expenditure per capita
Indicator		OECD		Macro economic references	Gross domestic product
Indicator		OECD		Monetary conversion rates	GDP purchasing power parity, US$
Indicator		HFA	0220	Inflation rate	Annual average rate of inflation in %
Indicator		HFA	0250	Gross national income	Gross national income, US$ per capita
Indicator		HFA	0260	Gross domestic product	Gross domestic product, US$ per capita
Indicator		HFA	0280	Income distribution	GINI coefficient (income distribution)
Indicator		EU JAF	S-2	Population at risk of poverty or social exclusion rate	At risk of poverty or social exclusion rate
Indicator		EU JAF	S-6	Gross domestic product	GDP per capita
Operationalisation		ECHI	9	Population below poverty line and income inequality	At risk of poverty rate (cut-off point: 60% of mean equivalised income), total population
Operationalisation		ECHI	9	Population below poverty line and income inequality	At risk of poverty rate (cut-off point: 60% of mean equivalised income), male population
Operationalisation		ECHI	9	Population below poverty line and income inequality	At risk of poverty rate (cut-off point: 60% of mean equivalised income), female population
Operationalisation		ECHI	9	Population below poverty line and income inequality	At risk of poverty rate (cut-off point: 60% of mean equivalised income), age 0-17
Operationalisation		ECHI	9	Population below poverty line and income inequality	At risk of poverty rate (cut-off point: 60% of mean equivalised income), age 18-64
Operationalisation		ECHI	9	Population below poverty line and income inequality	At risk of poverty rate (cut-off point: 60% of mean equivalised income), age 65+
Operationalisation		ECHI	9	Population below poverty line and income inequality	Inequality of income (income quintile share ratio), total population
Operationalisation		ECHI	9	Population below poverty line and income inequality	Inequality of income (income quintile share ratio), male population
Operationalisation		ECHI	9	Population below poverty line and income inequality	Inequality of income (income quintile share ratio), female population
Operationalisation		ECHI	9	Population below poverty line and income inequality	Inequality of income (income quintile share ratio), age 0-64
Operationalisation		ECHI	9	Population below poverty line and income inequality	Inequality of income (income quintile share ratio), age 65+
Operationalisation		WHO H2020	3.1.f.	Income distribution	GINI coefficient
Operationalisation		WHO H2020	4.1.d.	Income distribution	GINI coefficient (income distribution)
Operatio	Additiona	WHO H2020	4.1.c.	Consumption expenditure	Household final consumption expenditure per capita
Operationalisation		OECD		Macro economic references	Gross domestic product
Operationalisation		OECD		Macro economic references	Average annual wages
Operationalisation		OECD		Monetary conversion rates	GDP purchasing power parity, US$
Operationalisation		OECD		Monetary conversion rates	US$ exchange rate
Operationalisation		HFA	0220	Inflation rate	Annual average rate of inflation in %
Operationalisation		HFA	0250	Gross national income	Gross national income, US$ per capita
Operationalisation		HFA	0260	Gross domestic product	Gross domestic product, US$ per capita
Operationalisation		HFA	0270	Gross domestic product	Real gross domestic product, PPP$ per capita
Operationalisation		HFA	0280	Income distribution	GINI coefficient (income distribution)
Operationalisation		EU JAF	S-2	Population at risk of poverty or social exclusion rate	At risk of poverty or social exclusion rate
Operationalisation		EU JAF	S-6	Gross domestic product	GDP per capita

External causes of death

Level	Status	Dataset	Code	Indicator name	Indicator operationalisation
Indicator		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), external causes of injury & poisoning (ICD-10 codes V01-Y89), total population
Indicator	Dev	ECHI	17	To be established - Excess mortality by extreme temperatures	To be established - Excess mortality by extreme temperatures
Indicator		WHO H2020	1.3a.	Cause-specific mortality, external	Standardized mortality rates from all external causes and injuries, disaggregated by sex
Indicator		OECD		Causes of mortality	External causes of mortality, number of female deaths
Indicator		HFA	1710	Causes of mortality	SDR, external cause injury and poison, 0-64 per 100000
Indicator		HFA	4070	Accidents at work, fatalities	Deaths due to work-related accidents per 100000
Indicator		EU JAF	H-10	Cause-specific mortality, external	External causes of death excl. transport accidents (total)
Operationalisation		Dataset	Indicator	Indicator name	Indicator operationalisation
Operationalisation		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), external causes of injury & poisoning (ICD-10 codes V01-Y89), total population
Operationalisation		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), external causes of injury & poisoning (ICD-10 codes V01-Y89), for men
Operationalisation		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), external causes of injury & poisoning (ICD-10 codes V01-Y89), for women
Operationalisation		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), accidents (ICD-10 codes V01-X59), total population
Operationalisation		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), accidents (ICD-10 codes V01-X59), for men
Operationalisation		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), accidents (ICD-10 codes V01-X59), for women
Operationalisation		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), transport accidents (ICD-10 codes V01-V99), total population
Operationalisation		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), transport accidents (ICD-10 codes V01-V99), for men
Operationalisation		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), transport accidents (ICD-10 codes V01-V99), for women
Operationalisation		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), accidental falls (ICD-10 codes W00-W19), total population
Operationalisation		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), accidental falls (ICD-10 codes W00-W19), for men
Operationalisation		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), accidental falls (ICD-10 codes W00-W19), for women
Operationalisation		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), suicide and intentional self harm (ICD-10 codes X60-X84), total population
Operationalisation		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), suicide and intentional self harm (ICD-10 codes X60-X84), for men
Operationalisation		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), suicide and intentional self harm (ICD-10 codes X60-X84), for women
Operationalisation		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), homicide/assault (ICD-10 codes X85-Y09), total population
Operationalisation		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), homicide/assault (ICD-10 codes X85-Y09), for men
Operationalisation		ECHI	13	Disease-specific mortality	Standardised death rate (per 100,000 inhabitants), homicide/assault (ICD-10 codes X85-Y09), for women
Operatio	Dev	ECHI	17	To be established - Excess mortality by extreme temperatures	To be established - Excess mortality by extreme temperatures
Operationalisation		WHO H2020	1.3a.	Cause-specific mortality, external	Standardized mortality rates from all external causes and injuries, disaggregated by sex
Operatio	Additiona	WHO H2020	1.3.a.	Cause-specific mortality, external	Standardized mortality rates from motor vehicle traffic accidents
Operatio	Additiona	WHO H2020	1.3.b	Cause-specific mortality, external	Standardized mortality rates from accidental poisonings
Operatio	Additiona	WHO H2020	1.3.d.	Cause-specific mortality, external	Standardized mortality rates from suicides
Operatio	Additiona	WHO H2020	1.3.e.	Cause-specific mortality, external	Standardized mortality rates from accidental falls
Operatio	Additiona	WHO H2020	1.3.f.	Cause-specific mortality, external	Standardized mortality rates from homicides and assaults
Operationalisation		OECD		Causes of mortality	External causes of mortality, number of female deaths
Operationalisation		OECD		Causes of mortality	Accidents, number of female deaths
Operationalisation		OECD		Causes of mortality	Transport accidents, number of female deaths
Operationalisation		OECD		Causes of mortality	Accidental falls, number of female deaths
Operationalisation		OECD		Causes of mortality	Accidental poisoning, number of female deaths
Operationalisation		OECD		Causes of mortality	Intentional self-harm, number of female deaths
Operationalisation		OECD		Causes of mortality	Assault, number of female deaths
Operationalisation		OECD		Causes of mortality	External causes of mortality, number of male deaths
Operationalisation		OECD		Causes of mortality	Accidents, number of male deaths
Operationalisation		OECD		Causes of mortality	Transport accidents, number of male deaths
Operationalisation		OECD		Causes of mortality	Accidental falls, number of male deaths
Operationalisation		OECD		Causes of mortality	Accidental poisoning, number of male deaths
Operationalisation		OECD		Causes of mortality	Intentional self-harm, number of male deaths

Operationalisation	OECD		Causes of mortality	Assault, number of male deaths
Operationalisation	OECD		Causes of mortality	External causes of mortality, number of total deaths
Operationalisation	OECD		Causes of mortality	Accidents, number of total deaths
Operationalisation	OECD		Causes of mortality	Transport accidents, number of total deaths
Operationalisation	OECD		Causes of mortality	Accidental falls, number of total deaths
Operationalisation	OECD		Causes of mortality	Accidental poisoning, number of total deaths
Operationalisation	OECD		Causes of mortality	Intentional self-harm, number of total deaths
Operationalisation	OECD		Causes of mortality	Assault, number of total deaths
Operationalisation	OECD		Causes of mortality	External causes of mortality, deaths per 100 000 females (crude rates)
Operationalisation	OECD		Causes of mortality	Accidents, deaths per 100 000 females (crude rates)
Operationalisation	OECD		Causes of mortality	Transport accidents, deaths per 100 000 females (crude rates)
Operationalisation	OECD		Causes of mortality	Accidental falls, deaths per 100 000 females (crude rates)
Operationalisation	OECD		Causes of mortality	Accidental poisoning, deaths per 100 000 females (crude rates)
Operationalisation	OECD		Causes of mortality	Intentional self-harm, deaths per 100 000 females (crude rates)
Operationalisation	OECD		Causes of mortality	Assault, deaths per 100 000 females (crude rates)
Operationalisation	OECD		Causes of mortality	External causes of mortality, deaths per 100 000 males (crude rates)
Operationalisation	OECD		Causes of mortality	Accidents, deaths per 100 000 males (crude rates)
Operationalisation	OECD		Causes of mortality	Transport accidents, deaths per 100 000 males (crude rates)
Operationalisation	OECD		Causes of mortality	Accidental falls, deaths per 100 000 males (crude rates)
Operationalisation	OECD		Causes of mortality	Accidental poisoning, deaths per 100 000 males (crude rates)
Operationalisation	OECD		Causes of mortality	Intentional self-harm, deaths per 100 000 males (crude rates)
Operationalisation	OECD		Causes of mortality	Assault, deaths per 100 000 males (crude rates)
Operationalisation	OECD		Causes of mortality	External causes of mortality, deaths per 100 000 population (crude rates)
Operationalisation	OECD		Causes of mortality	Accidents, deaths per 100 000 population (crude rates)
Operationalisation	OECD		Causes of mortality	Transport accidents, deaths per 100 000 population (crude rates)
Operationalisation	OECD		Causes of mortality	Accidental falls, deaths per 100 000 population (crude rates)
Operationalisation	OECD		Causes of mortality	Accidental poisoning, deaths per 100 000 population (crude rates)
Operationalisation	OECD		Causes of mortality	Intentional self-harm, deaths per 100 000 population (crude rates)
Operationalisation	OECD		Causes of mortality	Assault, deaths per 100 000 population (crude rates)
Operationalisation	OECD		Causes of mortality	External causes of mortality, deaths per 100 000 females (standardised rates)
Operationalisation	OECD		Causes of mortality	Accidents, deaths per 100 000 females (standardised rates)
Operationalisation	OECD		Causes of mortality	Transport accidents, deaths per 100 000 females (standardised rates)
Operationalisation	OECD		Causes of mortality	Accidental falls, deaths per 100 000 females (standardised rates)
Operationalisation	OECD		Causes of mortality	Accidental poisoning, deaths per 100 000 females (standardised rates)
Operationalisation	OECD		Causes of mortality	Intentional self-harm, deaths per 100 000 females (standardised rates)
Operationalisation	OECD		Causes of mortality	Assault, deaths per 100 000 females (standardised rates)
Operationalisation	OECD		Causes of mortality	External causes of mortality, deaths per 100 000 males (standardised rates)
Operationalisation	OECD		Causes of mortality	Accidents, deaths per 100 000 males (standardised rates)
Operationalisation	OECD		Causes of mortality	Transport accidents, deaths per 100 000 males (standardised rates)
Operationalisation	OECD		Causes of mortality	Accidental falls, deaths per 100 000 males (standardised rates)
Operationalisation	OECD		Causes of mortality	Accidental poisoning, deaths per 100 000 males (standardised rates)
Operationalisation	OECD		Causes of mortality	Intentional self-harm, deaths per 100 000 males (standardised rates)
Operationalisation	OECD		Causes of mortality	Assault, deaths per 100 000 males (standardised rates)
Operationalisation	OECD		Causes of mortality	External causes of mortality, deaths per 100 000 population (standardised rates)
Operationalisation	OECD		Causes of mortality	Accidents, deaths per 100 000 population (standardised rates)
Operationalisation	OECD		Causes of mortality	Transport accidents, deaths per 100 000 population (standardised rates)
Operationalisation	OECD		Causes of mortality	Accidental falls, deaths per 100 000 population (standardised rates)
Operationalisation	OECD		Causes of mortality	Accidental poisoning, deaths per 100 000 population (standardised rates)

Operationalisation	OECD		Causes of mortality	Intentional self-harm, deaths per 100 000 population (standardised rates)
Operationalisation	OECD		Causes of mortality	Assault, deaths per 100 000 population (standardised rates)
Operationalisation	HFA	1710	Causes of mortality	SDR, external cause injury and poison, 0-64 per 100000
Operationalisation	HFA	1711	Causes of mortality	SDR, external cause injury and poison, 0-64 per 100000, male
Operationalisation	HFA	1712	Causes of mortality	SDR, external cause injury and poison, 0-64 per 100000, female
Operationalisation	HFA	1713	Causes of mortality	SDR, external causes of injury and poison, age 0-4 years
Operationalisation	HFA	1714	Causes of mortality	SDR, external causes of injury and poison, age 0-4 years, male
Operationalisation	HFA	1715	Causes of mortality	SDR, external causes of injury and poison, age 0-4 years, female
Operationalisation	HFA	1716	Causes of mortality	SDR, external causes of injury and poison, age 5-19 years
Operationalisation	HFA	1717	Causes of mortality	SDR, external causes of injury and poison, age 5-19 years, male
Operationalisation	HFA	1718	Causes of mortality	SDR, external causes of injury and poison, age 5-19 years, female
Operationalisation	HFA	1720	Causes of mortality	SDR, external cause injury and poison, all ages per 100000
Operationalisation	HFA	1721	Causes of mortality	SDR, external cause injury and poison, all ages per 100000, male
Operationalisation	HFA	1722	Causes of mortality	SDR, external cause injury and poison, all ages per 100000, female
Operationalisation	HFA	1723	Causes of mortality	SDR, external cause injury and poison, 65+ per 100000
Operationalisation	HFA	1724	Causes of mortality	SDR, external cause injury and poison, 65+ per 100000, male
Operationalisation	HFA	1725	Causes of mortality	SDR, external cause injury and poison, 65+ per 100000, female
Operationalisation	HFA	1730	Causes of mortality	SDR, motor vehicle traffic accidents, 0-64 per 100000
Operationalisation	HFA	1731	Causes of mortality	SDR, motor vehicle traffic accidents, 0-64 per 100000, male
Operationalisation	HFA	1732	Causes of mortality	SDR, motor vehicle traffic accidents, 0-64 per 100000, female
Operationalisation	HFA	1740	Causes of mortality	SDR, motor vehicle traffic accidents, all ages per 100000
Operationalisation	HFA	1741	Causes of mortality	SDR, motor vehicle traffic accidents, all ages per 100000, male
Operationalisation	HFA	1742	Causes of mortality	SDR, motor vehicle traffic accidents, all ages per 100000, female
Operationalisation	HFA	1743	Causes of mortality	SDR, motor vehicle traffic accidents, 65+ per 1000000
Operationalisation	HFA	1744	Causes of mortality	SDR, motor vehicle traffic accidents, 65+ per 100000, male
Operationalisation	HFA	1745	Causes of mortality	SDR, motor vehicle traffic accidents, 65+ per 100000, female
Operationalisation	HFA	1750	Causes of mortality	SDR, other external causes, 0-64 per 100000
Operationalisation	HFA	1751	Causes of mortality	SDR, other external causes, 0-64 per 100000, male
Operationalisation	HFA	1752	Causes of mortality	SDR, other external causes, 0-64 per 100000, female
Operationalisation	HFA	1760	Causes of mortality	SDR, o other external causes, all ages per 100000
Operationalisation	HFA	1761	Causes of mortality	SDR, other external causes, all ages per 100000, male
Operationalisation	HFA	1762	Causes of mortality	SDR, other external causes, all ages per 100000, female
Operationalisation	HFA	1763	Causes of mortality	SDR, other external causes, 65+ per 100000
Operationalisation	HFA	1764	Causes of mortality	SDR, other external causes, 65+ per 100000, male
Operationalisation	HFA	1765	Causes of mortality	SDR, other external causes, 65+ per 100000, female
Operationalisation	HFA	1770	Causes of mortality	SDR, suicide and self-inflicted injury, 0-64 per 100000
Operationalisation	HFA	1771	Causes of mortality	SDR, suicide and self-inflicted injury, 0-64 per 100000, male
Operationalisation	HFA	1772	Causes of mortality	SDR, suicide and self-inflicted injury, 0-64 per 100000, female
Operationalisation	HFA	1780	Causes of mortality	SDR, suicide and self-inflicted injury, all ages per 100000
Operationalisation	HFA	1781	Causes of mortality	SDR, suicide and self-inflicted injury, all ages per 100000, male
Operationalisation	HFA	1782	Causes of mortality	SDR, suicide and self-inflicted injury, all ages per 100000, female
Operationalisation	HFA	1783	Causes of mortality	SDR, suicide and self-inflicted injury, 65+ per 100000
Operationalisation	HFA	1784	Causes of mortality	SDR, suicide and self-inflicted injury, 65+ per 100000, male
Operationalisation	HFA	1785	Causes of mortality	SDR, suicide and self-inflicted injury, 65+ per 100000, female
Operationalisation	HFA	1790	Causes of mortality	SDR, homicide and intentional injury, 0-64 per 100000
Operationalisation	HFA	1791	Causes of mortality	SDR, homicide and intentional injury, 0-64 per 100000, male
Operationalisation	HFA	1792	Causes of mortality	SDR, homicide and intentional injury, 0-64 per 100000, female
Operationalisation	HFA	1793	Causes of mortality	SDR, homicide and intentional injury, all ages per 100000

Operationalisation	HFA	1794	Causes of mortality	SDR, homicide and intentional injury, all ages per 100000, male
Operationalisation	HFA	1795	Causes of mortality	SDR, homicide and intentional injury, all ages per 100000, female
Operationalisation	HFA	1796	Causes of mortality	SDR, homicide and intentional injury, 65+ per 100000
Operationalisation	HFA	1797	Causes of mortality	SDR, homicide and intentional injury, 65+ per 100000, male
Operationalisation	HFA	1798	Causes of mortality	SDR, homicide and intentional injury, 65+ per 100000, female
Operationalisation	HFA	1800	Causes of mortality	SDR, transport accidents, all ages per 100000
Operationalisation	HFA	1801	Causes of mortality	SDR, transport accidents, all ages per 100000, male
Operationalisation	HFA	1802	Causes of mortality	SDR, transport accidents, all ages per 100000, female
Operationalisation	HFA	4070	Accidents at work, fatalities	Deaths due to work-related accidents per 100000
Operationalisation	HFA	4071	Accidents at work, fatalities	Number of deaths due to work-related accidents
Operationalisation	EU JAF	H-10	Cause-specific mortality, external	External causes of death excl. transport accidents (total)

Life expectancy

Level	Status	Dataset	Code	Indicator name	Indicator operationalisation
Indicator		ECHI	10	Life expectancy	Life expectancy, total population, at birth
Indicator		WHO H20	2.1.	Life expectancy	Life expectancy at birth, disaggregated by sex
Indicator		OECD		Life expectancy, years	Females at birth
Indicator		HFA	1010	Life expectancy	Life expectancy at birth, in years
Indicator		HFA	1080	(Un)healthy life expectancy	Disability-adjusted life expectancy, (World Health Report)
Indicator		EU JAF	H-1	Life expectancy	Life expectancy at birth (total population, women, men)
Operationalisation		ECHI	10	Life expectancy	Life expectancy, total population, at birth
Operationalisation		ECHI	10	Life expectancy	Life expectancy, total population, at age 65
Operationalisation		ECHI	10	Life expectancy	Life expectancy, male population, at birth
Operationalisation		ECHI	10	Life expectancy	Life expectancy, male population, at age 65
Operationalisation		ECHI	10	Life expectancy	Life expectancy, female population, at birth
Operationalisation		ECHI	10	Life expectancy	Life expectancy, female population, at age 65
Operationalisation		WHO H20	2.1.	Life expectancy	Life expectancy at birth, disaggregated by sex
Operationalisation		WHO H20	3.1.b.	Life expectancy	Life expectancy at birth, disaggregated by sex
Operation	Additiona	WHO H20	2.1.a.	Life expectancy	Life expectancy at birth and at ages 1, 15, 45 and 65, disaggregated by sex
Operationalisation		OECD		Life expectancy, years	Females at birth
Operationalisation		OECD		Life expectancy, years	Females at age 40
Operationalisation		OECD		Life expectancy, years	Females at age 60
Operationalisation		OECD		Life expectancy, years	Females at age 65
Operationalisation		OECD		Life expectancy, years	Females at age 80
Operationalisation		OECD		Life expectancy, years	Males at birth
Operationalisation		OECD		Life expectancy, years	Males at age 40
Operationalisation		OECD		Life expectancy, years	Males at age 60
Operationalisation		OECD		Life expectancy, years	Males at age 65
Operationalisation		OECD		Life expectancy, years	Males at age 80
Operationalisation		OECD		Life expectancy, years	Total population at birth

Operationalisation	HFA	1010	Life expectancy	Life expectancy at birth, in years
Operationalisation	HFA	1011	Life expectancy	Life expectancy at birth, in years, male
Operationalisation	HFA	1012	Life expectancy	Life expectancy at birth, in years, female
Operationalisation	HFA	1020	Life expectancy	Life expectancy at age 1, in years
Operationalisation	HFA	1021	Life expectancy	Life expectancy at age 1, in years, male
Operationalisation	HFA	1022	Life expectancy	Life expectancy at age 1, in years, female
Operationalisation	HFA	1030	Life expectancy	Life expectancy at age 15, in years
Operationalisation	HFA	1031	Life expectancy	Life expectancy at age 15, in years, male
Operationalisation	HFA	1032	Life expectancy	Life expectancy at age 15, in years, female
Operationalisation	HFA	1040	Life expectancy	Life expectancy at age 45, in years
Operationalisation	HFA	1041	Life expectancy	Life expectancy at age 45, in years, male
Operationalisation	HFA	1042	Life expectancy	Life expectancy at age 45, in years, female
Operationalisation	HFA	1050	Life expectancy	Life expectancy at age 65, in years
Operationalisation	HFA	1051	Life expectancy	Life expectancy at age 65, in years, male
Operationalisation	HFA	1052	Life expectancy	Life expectancy at age 65, in years, female
Operationalisation	HFA	1080	(Un)healthy life expectancy	Disability-adjusted life expectancy, (World Health Report)
Operationalisation	HFA	1081	(Un)healthy life expectancy	Disability-adjusted life expectancy, (World Health Report), male
Operationalisation	HFA	1082	(Un)healthy life expectancy	Disability-adjusted life expectancy, (World Health Report), female
Operationalisation	HFA	1090	Life expectancy	Estimated life expectancy, (World Health Report)
Operationalisation	HFA	1091	Life expectancy	Estimated life expectancy, (World Health Report), male
Operationalisation	HFA	1092	Life expectancy	Estimated life expectancy, (World Health Report), female
Operationalisation	EU JAF	H-1	Life expectancy	Life expectancy at birth (total population, women, men)
Operationalisation	EU JAF	H-1	Life expectancy	Life expectancy at 65 (total population, women, men)

Infant mortality

Level	Status	Dataset	Code	Indicator name	Indicator operationalisation
Indicator		ECHI	11	Infant mortality	Infant mortality per 1000 live births
Indicator		ECHI	12	Perinatal mortality	Weight specific (1000 g +) fetal deaths and early neonatal deaths per 1000 births (live births and stillbirths).
Indicator		WHO H2020	3.1.a.	Infant mortality	Infant mortality per 1000 live births, disaggregated by sex
Indicator		OECD		Causes of mortality	Certain conditions originating in the perinatal period, number of female deaths
Indicator		OECD		Maternal and infant mortality	Infant mortality, No minimum threshold of gestation period or birthweight, deaths per 1 000 live birts
Indicator		HFA	1070	Probability of dying before age 5	Probability of dying before age 5 years per 1000 live births
Indicator		HFA	1100	Infant death rate	Estimated infant mortality per 1000 live births (WHO & UNICEF estimate)
Indicator		HFA	1120	Neonatal and perinatal deaths	Neonatal deaths per 1000 live births
Indicator		EU JAF	H-5	Infant mortality	Infant mortality rate (total)
Indicator		EU JAF	H-6	Child mortality	Child mortality, 1-14 (total)
Operationalisation		ECHI	11	Infant mortality	Infant mortality per 1000 live births
Operationalisation		ECHI	12	Perinatal mortality	Weight specific (1000 g +) fetal deaths and early neonatal deaths per 1000 births (live births and stillbirths).
Operationalisation		WHO H2020	3.1.a.	Infant mortality	Infant mortality per 1000 live births, disaggregated by sex
Operationalisation		OECD		Causes of mortality	Certain conditions originating in the perinatal period, number of female deaths
Operationalisation		OECD		Causes of mortality	Certain conditions originating in the perinatal period, number of male deaths
Operationalisation		OECD		Causes of mortality	Certain conditions originating in the perinatal period, number of total deaths
Operationalisation		OECD		Causes of mortality	Certain conditions originating in the perinatal period, deaths per 100 000 females (crude rates)
Operationalisation		OECD		Causes of mortality	Certain conditions originating in the perinatal period, deaths per 100 000 males (crude rates)
Operationalisation		OECD		Causes of mortality	Certain conditions originating in the perinatal period, deaths per 100 000 population (crude rates)
Operationalisation		OECD		Causes of mortality	Certain conditions originating in the perinatal period, deaths per 100 000 females (standardised rates)
Operationalisation		OECD		Causes of mortality	Certain conditions originating in the perinatal period, deaths per 100 000 males (standardised rates)
Operationalisation		OECD		Causes of mortality	Certain conditions originating in the perinatal period, deaths per 100 000 population (standardised rates)
Operationalisation		OECD		Maternal and infant mortality	Infant mortality, No minimum threshold of gestation period or birthweight, deaths per 1 000 live birts
Operationalisation		OECD		Maternal and infant mortality	Infant mortality, Minimum threshold of 22 weeks (or 500 grams birthweight), deaths per 1 000 live birts
Operationalisation		OECD		Maternal and infant mortality	Neonatal mortality, No minimum threshold of gestation period or birthweight, deaths per 1 000 live birts
Operationalisation		OECD		Maternal and infant mortality	Neonatal mortality, Minimum threshold of 22 weeks (or 500 grams birthweight), deaths per 1 000 live birts
Operationalisation		OECD		Maternal and infant mortality	Perinatal mortality, deaths per 1 000 total birts
Operationalisation		OECD		Maternal and infant mortality	Maternal mortality, deaths per 100 000 live birhts

Operationalisation	HFA	1070	Probability of dying before age 5	Probability of dying before age 5 years per 1000 live births
Operationalisation	HFA	1071	Probability of dying before age 5	Probability of dying before age 5 years per 1000 live births, male
Operationalisation	HFA	1072	Probability of dying before age 5	Probability of dying before age 5 years per 1000 live births, female
Operationalisation	HFA	1073	Probability of dying before age 5	Estimated probability of dying before age 5 per 1000 live births (World Health Report)
Operationalisation	HFA	1074	Probability of dying before age 5	Estimated probability of dying before age 5 per 1000 live births (World Health Report), male
Operationalisation	HFA	1075	Probability of dying before age 5	Estimated probability of dying before age 5 per 1000 live births, (World Health Report), female
Operationalisation	HFA	1100	Infant death rate	Estimated infant mortality per 1000 live births (WHO & UNICEF estimate)
Operationalisation	HFA	1110	Infant death rate	Infant deaths per 1000 live births
Operationalisation	HFA	1111	Infant death rate	Infant deaths per 1000 live births, male
Operationalisation	HFA	1112	Infant death rate	Infant deaths per 1000 live birth, female
Operationalisation	HFA	1120	Neonatal and perinatal deaths	Neonatal deaths per 1000 live births
Operationalisation	HFA	1130	Neonatal and perinatal deaths	Early neonatal deaths per 1000 live births
Operationalisation	HFA	1131	Neonatal and perinatal deaths	Number of early neonatal deaths
Operationalisation	HFA	1140	Neonatal and perinatal deaths	Late neonatal deaths per 1000 live birth
Operationalisation	HFA	1150	Neonatal and perinatal deaths	Postneonatal deaths per 1000 live births
Operationalisation	HFA	1160	Neonatal and perinatal deaths	Fetal deaths per 1000 births
Operationalisation	HFA	1161	Neonatal and perinatal deaths	Number of dead-born fetuses
Operationalisation	HFA	1170	Neonatal and perinatal deaths	Perinatal deaths per 1000 births
Operationalisation	HFA	1171	Neonatal and perinatal deaths	Number of dead-born fetuses with a birth weight of 1000 g or more
Operationalisation	HFA	1172	Neonatal and perinatal deaths	Number of early neonatal deaths with a birth weight of 1000 g or more
Operationalisation	HFA	1174	Neonatal and perinatal deaths	Perinatal deaths national criteria per 1000 births
Operationalisation	HFA	1175	Neonatal and perinatal deaths	Perinatal deaths 1000+g per 1000 births
Operationalisation	EU JAF	H-5	Infant mortality	Infant mortality rate (total)
Operationalisation	EU JAF	H-6	Child mortality	Child mortality, 1-14 (total)

Financing scheme

Level	Status	Dataset	Indicator	Code	Indicator name	Indicator operationalisation
Indicator		ECHI	42201	77	Expenditures on health care	Total health care expenditure as % of GDP, all financing agents
Indicator	Additiona	WHO H202	A18	5.1c.	Health expenditure, government	Government expenditure on health as a percentage of GDP
Indicator		WHO H202	C15	5.1.a.	Health expenditure, out-of-pocket	Private household out-of-pocket expenditure as a proportion of total health expenditure
Indicator		WHO H202	C17	5.1.c.	Health expenditure	Total expenditure on health (as a percentage of gross domestic product (GDP))
Indicator		OECD			HF - Financing scheme	HFTOT All financing schemes
Indicator		HFA	340102	6710	Total health expenditure	Total health expenditure as % of gross domestic product (GDP)
Indicator		HFA	992703	6730	Public health expenditure	Public health expenditure as % of total health expenditure
Indicator		HFA	340402	6860	Health expenditure out-of-pocket	Private households' out-of-pocket payments on health as % of total health expenditure
Indicator	To be def	EU JAF		A-4	Health, expenditure out-of-pocket	Financial burden of out- of-pocket payment for health care
Operationalisation		ECHI	42201	77	Expenditures on health care	Total health care expenditure as % of GDP, all financing agents
Operationalisation		ECHI	42202	77	Expenditures on health care	Total health care expenditure as % of GDP, general government (HF1)
Operationalisation		ECHI	42203	77	Expenditures on health care	Total health care expenditure as % of GDP, private sector (HF2)
Operationalisation		ECHI	42204	77	Expenditures on health care	Total health care expenditure, in millions of Purchasing Power Standard, all financing agents
Operationalisation		ECHI	42205	77	Expenditures on health care	Total health care expenditure, in millions of Purchasing Power Standard, general government (HF1)
Operationalisation		ECHI	42206	77	Expenditures on health care	Total health care expenditure, in millions of Purchasing Power Standard, private sector (HF2)
Operationalisation		ECHI	42207	77	Expenditures on health care	Current health care expenditure as % of GDP, all financing agents
Operationalisation		ECHI	42208	77	Expenditures on health care	Current health care expenditure as % of GDP, general government (HF1)
Operationalisation		ECHI	42209	77	Expenditures on health care	Current health care expenditure as % of GDP, private sector (HF2)
Operationalisation		ECHI	42210	77	Expenditures on health care	Current health care expenditure, in millions of Purchasing Power Standard, all financing agents
Operationalisation		ECHI	42211	77	Expenditures on health care	Current health care expenditure, in millions of Purchasing Power Standard, general government (HF1)
Operationalisation		ECHI	42212	77	Expenditures on health care	Current health care expenditure, in millions of Purchasing Power Standard, private sector (HF2)
Operation	Additiona	WHO H202	A18	5.1c.	Health expenditure, government	Government expenditure on health as a percentage of GDP
Operationalisation		WHO H202	C15	5.1.a.	Health expenditure, out-of-pocket	Private household out-of-pocket expenditure as a proportion of total health expenditure
Operationalisation		WHO H202	C17	5.1.c.	Health expenditure	Total expenditure on health (as a percentage of gross domestic product (GDP))
Operationalisation		OECD			HF - Financing scheme	HFTOT All financing schemes
Operationalisation		OECD			HF - Financing scheme	HF1 Government schemes and compulsory contributory health care financing schemes
Operationalisation		OECD			HF - Financing scheme	HF11 Government schemes
Operationalisation		OECD			HF - Financing scheme	HF12HF13 Compulsory contributory health insurance schemes/CMSA
Operationalisation		OECD			HF - Financing scheme	HF2HF3 Private expenditure
Operationalisation		OECD			HF - Financing scheme	HF2 Voluntary health care payment schemes
Operationalisation		OECD			HF - Financing scheme	HF21 Voluntary health insurance schemes
Operationalisation		OECD			HF - Financing scheme	HF22 NPISH financing schemes
Operationalisation		OECD			HF - Financing scheme	HF23 Enterprise financing schemes
Operationalisation		OECD			HF - Financing scheme	HF3 Household out-of-pocket payment
Operationalisation		OECD			HF - Financing scheme	HF31 Out-of-pocket excluding cost-sharing
Operationalisation		OECD			HF - Financing scheme	HF32 Cost-sharing with third-party payers
Operationalisation		OECD			HF - Financing scheme	HF4 Rest of the world financing schemes (non-resident)
Operationalisation		OECD			HF - Financing scheme	HF41 Compulsory schemes (non-resident)
Operationalisation		OECD			HF - Financing scheme	HF42 Voluntary schemes (non-resident)
Operationalisation		OECD			HF - Financing scheme	HF0 Financing schemes unknown
Operationalisation		HFA	340102	6710	Total health expenditure	Total health expenditure as % of gross domestic product (GDP)
Operationalisation		HFA	340103	6711	Total health expenditure	Total health expenditure as % of gross domestic product (GDP), WHO estimates
Operationalisation		HFA	992701	6720	Total health expenditure	Total health expenditure, PPP$ per capita
Operationalisation		HFA	992702	6721	Total health expenditure	Total health expenditure, PPP$ per capita, WHO estimates
Operationalisation		HFA	992703	6730	Public health expenditure	Public health expenditure as % of total health expenditure
Operationalisation		HFA	992751	6731	Public health expenditure	Public health expenditure as % of total health expenditure, WHO estimates
Operationalisation		HFA	340202	6850	Public health expenditure	Public-sector expenditure on health as % of total government expenditure, WHO estimates
Operationalisation		HFA	340402	6860	Health expenditure out-of-pocket	Private households' out-of-pocket payments on health as % of total health expenditure
Operation	To be def	EU JAF		A-4	Health, expenditure out-of-pocket	Financial burden of out- of-pocket payment for health care
Operation	To be def	EU JAF		A-6	Health, expenditure out-of-pocket	Household out-of- pocket payment for health care

Quality of care (acute, primary, mental)

Level	Status	Dataset	Code	Indicator name	Indicator operationalisation
Indicator		ECHI	79	30-day in-hospital case-fatality AMI and ischemic stroke	Proportion of hospital in-patients with principal diagnosis of stroke who died within 30 days after the admission
Indicator	Dev	ECHI	84	To be established - Diabetes control	To be established - Diabetes control
Indicator	Additiona	WHO H2020	5.1.b.	TB cured cases	Percentage of people treated successfully among laboratory confirmed pulmonary tuberculosis (TB) cases who completed treatment
Indicator		OECD		Primary care	Asthma hospital admission, age-sex standardised rate per 100 000 population
Indicator		OECD		Prescribing in primary care	Diabetic patients with at least one prescription of cholesterol lowering medication, percentage of diabetic patients
Indicator		OECD		Acute care	Thirty-day mortality after admission to hospital for AMI based on admission data
Indicator		OECD		Mental health care	In-patient suicide among patients diagnosed with a mental disorder, age-sex standardised rate per 100 patients
Indicator		EU JAF	Q-9	In-hospital mortality following AMI	In-hospital mortality following AMI
Indicator		EU JAF	Q-10	In-hospital mortality following stroke	In-hospital mortality following stroke
Indicator		EU JAF	Q-11a	Avoidable admission	Avoidable admission: respiratory diseases (asthma)
Indicator		WHO NCD	18.	Eligible person receiving drug therapy and counselling to prevent heart disease	Proportion of eligible persons (defined as aged 40 years and older with a 10-year cardiovascular risk ≥30%, including those with existing cardiovascular disease) receiving drug therapy and counselling (including glycaemic control)
Indicator		WHO NCD	19.	Availability and affordability of essential noncommunicable disease medicines	Availability and affordability of quality, safe and efficacious essential noncommunicable disease medicines, including generics, and basic technologies in both public and private facilities
Indicator		WHO NCD	20.	Acces to palliative care	Access to palliative care assessed by morphine-equivalent consumption of strong opioid analgesics (excluding methadone) per death from cancer
Operationalisation		ECHI	79	30-day in-hospital case-fatality AMI and ischemic stroke	Proportion of hospital in-patients with principal diagnosis of stroke who died within 30 days after the admission
Operationalisation		ECHI	79	30-day in-hospital case-fatality AMI and ischemic stroke	Proportion of hospital in-patients with primary diagnosis of stroke who died within 30 days after the admission
Operatio	Dev	ECHI	84	To be established - Diabetes control	To be established - Diabetes control
Operatio	Additiona	WHO H2020	5.1.b.	TB cured cases	Percentage of people treated successfully among laboratory confirmed pulmonary tuberculosis (TB) cases who completed treatment
Operationalisation		OECD		Primary care	Asthma hospital admission, age-sex standardised rate per 100 000 population
Operationalisation		OECD		Primary care	Chronic obstructive pulmonary disease hospital admission, age-sex standardised rate per 100 000 population
Operationalisation		OECD		Primary care	Asthma and chronic obstructive pulmonary disease hospital admission, age-sex standardised rate per 100 000 population
Operationalisation		OECD		Primary care	Congestive heart failure hospital admission, age-sex standardised rate per 100 000 population
Operationalisation		OECD		Primary care	Hypertension hospital admission, age-sex standardised rate per 100 000 population
Operationalisation		OECD		Primary care	Congestive heart failure and hypertension hospital admission, age-sex standardised rate per 100 000 population
Operationalisation		OECD		Primary care	Diabetes hospital admission, age-sex standardised rate per 100 000 population
Operationalisation		OECD		Primary care	Diabetes lower extremity amputation, age-sex standardised rate per 100 000 population
Operationalisation		OECD		Primary care	Diabetes hospital admission, age-sex standardised rate per 100 000 people with diabetes
Operationalisation		OECD		Primary care	Diabetes lower extremity amputation, age-sex standardised rate per 100 000 people with diabetes
Operationalisation		OECD		Prescribing in primary care	Diabetic patients with at least one prescription of cholesterol lowering medication, percentage of diabetic patients
Operationalisation		OECD		Prescribing in primary care	Diabetic patients with prescription of first choice antihypertensive medication, percentage of diabetic patients
Operationalisation		OECD		Prescribing in primary care	Elderly patients with prescription of long-term benzodiazepines or related drugs, number per 1 000 patients aged 65 and over
Operationalisation		OECD		Prescribing in primary care	Elderly patients with prescription of long-acting benzodiazepines or related drugs, number per 1 000 patients aged 65 and over
Operationalisation		OECD		Prescribing in primary care	Patients with long-term prescription of any anticoagulating drug in combination with an oral NSAID, number per 1 000 patients receiving anticoagulating drugs
Operationalisation		OECD		Prescribing in primary care	Total volume of antibiotics for systemic use, DDD per 1 000 population per day
Operationalisation		OECD		Prescribing in primary care	Volume of second line antibiotics as a share of total volume, percentage of all antibiotics prescribed
Operationalisation		OECD		Acute care	Thirty-day mortality after admission to hospital for AMI based on admission data
Operationalisation		OECD		Acute care	Thirty-day mortality after admission to hospital for AMI based on patient data
Operationalisation		OECD		Acute care	Thirty-day mortality after admission to hospital for hemorrhagic stroke based on admission data
Operationalisation		OECD		Acute care	Thirty-day mortality after admission to hospital for hemorrhagic stroke based on patient data
Operationalisation		OECD		Acute care	Thirty-day mortality after admission to hospital for ischemic stroke based on admission data
Operationalisation		OECD		Acute care	Thirty-day mortality after admission to hospital for ischemic stroke based on patient data
Operationalisation		OECD		Acute care	Hip-fracture surgery initiated within 2 days after admission to the hospital
Operationalisation		OECD		Acute care	Hip-fracture surgery initiated within the following day after admission to the hospital
Operationalisation		OECD		Acute care	Hip-fracture surgery initiated within the same day after admission to the hospital
Operationalisation		OECD		Mental health care	In-patient suicide among patients diagnosed with a mental disorder, age-sex standardised rate per 100 patients
Operationalisation		OECD		Mental health care	Suicide within 1 year after discharge among patients diagnosed with a mental disorder, age-sex standardised rate per 100 patients
Operationalisation		OECD		Mental health care	Suicide within 30 days after discharge among patients diagnosed with a mental disorder, age-sex standardised rate per 100 patients
Operationalisation		OECD		Mental health care	Excess mortality for patients diagnosed with schizoprenia, age-sex standardised rate per 100 patients
Operationalisation		OECD		Mental health care	Excess mortality for patients diagnosed with bipolar disorder
Operationalisation		OECD		Mental health care	Excess mortality for patients diagnosed with severe mental illness, age-sex standardised rate per 100 patients
Operationalisation		EU JAF	Q-9	In-hospital mortality following AMI	In-hospital mortality following AMI
Operationalisation		EU JAF	Q-10	In-hospital mortality following stroke	In-hospital mortality following stroke
Operationalisation		EU JAF	Q-11a	Avoidable admission	Avoidable admission: respiratory diseases (asthma)
Operationalisation		EU JAF	Q-11b	Avoidable admission	Avoidable admission: respiratory diseases (COPD)
Operationalisation		EU JAF	Q-12	Avoidable admission	Avoidable admission: uncontrolled diabetes
Operationalisation		WHO NCD	18.	Eligible person receiving drug therapy and counselling to prevent heart attacks a	Proportion of eligible persons (defined as aged 40 years and older with a 10-year cardiovascular risk ≥30%, including those with existing cardiovascular disease) receiving drug therapy and counselling (including glycaemic control)
Operationalisation		WHO NCD	19.	Availability and affordability of essential noncommunicable disease medicines	Availability and affordability of quality, safe and efficacious essential noncommunicable disease medicines, including generics, and basic technologies in both public and private facilities
Operationalisation		WHO NCD	20.	Acces to palliative care	Access to palliative care assessed by morphine-equivalent consumption of strong opioid analgesics (excluding methadone) per death from cancer

Premature/avoidable mortality

Level	Status	Dataset	Indicator	Indicator name	Indicator operationalisation
indicator		ECHI	14	Drug-related deaths	Drug-related deaths per 100,000 inhabitants
indicato	WiP	ECHI	15	Smoking-attributable deaths	Death rates from combined, selected causes of death which are related to smoking in people aged 35+, per 100,000
indicato	WiP	ECHI	16	Alcohol-attributable deaths	Death rates from combined, selected causes of death which are related to alcohol use in people aged 15+, per 100,000
indicato	Additional	WHO H20	1.3.c.	Cause-specific mortality, external	Standardized mortality rates from alcohol poisoning
indicator		OECD		Causes of mortality	Alcohol use disorders, number of female deaths
indicator		HFA	1970	Alcohol-attributable deaths	SDR, selected alcohol related causes, per 100000
indicator		HFA	1980	Smoking-attributable deaths	SDR, selected smoking related causes, per 100000
indicator		WHO H20	1.1.a.	Premature mortality from noncommunicable disease	Standardized overall premature mortality rate (from 30 to under 70 years) for four major noncommunicable diseases (cardiovascular diseases, cancer, diabetes mellitus and chronic respiratory disease), disaggregated by sex
indicator		HFA	1990	Premature mortality	SDR, major noncommunicable diseases, 30-69 years, both sexes
indicator		HFA	6440	Avoidable mortality	SDR, appendicitis, 0-64 per 100000
indicator		EU JAF	H-8	Amenable mortality	Amenable mortality,standardised death rate per 100.000 population aged 0-74 years
indicator		EU JAF	H-9	Preventable mortality	Preventable mortality,standardised death rate per 100.000 population aged 0-74 years
indicator		WHO NC	1.	Premature mortality from noncommunicable disease	Unconditional probability of dying between ages of 30 and 70 from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases

Level	Status	Dataset	Code	Indicator name	Indicator operationalisation
Operationatlisation		ECHI	14	Drug-related deaths	Drug-related deaths per 100,000 inhabitants
Operationatlisation		ECHI	14	Drug-related deaths	Drug-related deaths per 100,000 inhabitants, for men
Operationatlisation		ECHI	14	Drug-related deaths	Drug-related deaths per 100,000 inhabitants, for women
Operationatlisation		ECHI	14	Drug-related deaths	Drug-related deaths per 100,000 inhabitants, for people aged 15-39 years
Operationatlisation		ECHI	14	Drug-related deaths	Drug-related deaths per 100,000 inhabitants, for people aged 15-64 years
Operati	WiP	ECHI	15	Smoking-attributable deaths	Death rates from combined, selected causes of death which are related to smoking in people aged 35+, per 100,000
Operati	WiP	ECHI	15	Smoking-attributable deaths	Death rates from combined, selected causes of death which are related to smoking, in men aged 35+, per 100,000
Operati	WiP	ECHI	15	Smoking-attributable deaths	Death rates from combined, selected causes of death which are related to smoking, in women aged 35+, per 100,000
Operati	WiP	ECHI	15	Smoking-attributable deaths	Death rates from combined, selected causes of death which are related to smoking, per 100,000, for age group 35-64
Operati	WiP	ECHI	15	Smoking-attributable deaths	Death rates from combined, selected causes of death which are related to smoking, per 100,000, for age group 65+
Operati	WiP	ECHI	16	Alcohol-attributable deaths	Death rates from combined, selected causes of death which are related to alcohol use in people aged 15+, per 100,000
Operati	WiP	ECHI	16	Alcohol-attributable deaths	Death rates from combined, selected causes of death which are related to alcohol use, in men aged 15+, per 100,000
Operati	WiP	ECHI	16	Alcohol-attributable deaths	Death rates from combined, selected causes of death which are related to alcohol use, in women aged 15+, per 100,000
Operati	WiP	ECHI	16	Alcohol-attributable deaths	Death rates from combined, selected causes of death which are related to alcohol use, per 100,000, for age group 15-44
Operati	WiP	ECHI	16	Alcohol-attributable deaths	Death rates from combined, selected causes of death which are related to alcohol use, per 100,000, for age group 45-64
Operati	WiP	ECHI	16	Alcohol-attributable deaths	Death rates from combined, selected causes of death which are related to alcohol use, per 100,000, for age group 65+
Operati	Additional	WHO H20	1.3.c.	Cause-specific mortality, external	Standardized mortality rates from alcohol poisoning
Operationatlisation		OECD		Causes of mortality	Alcohol use disorders, number of female deaths
Operationatlisation		OECD		Causes of mortality	Drug use disorders, number of female deaths
Operationatlisation		OECD		Causes of mortality	Alcohol use disorders, number of male deaths
Operationatlisation		OECD		Causes of mortality	Drug use disorders, number of male deaths
Operationatlisation		OECD		Causes of mortality	Alcohol use disorders, number of total deaths
Operationatlisation		OECD		Causes of mortality	Drug use disorders, number of total deaths
Operationatlisation		OECD		Causes of mortality	Alcohol use disorders, deaths per 100 000 females (crude rates)
Operationatlisation		OECD		Causes of mortality	Drug use disorders, deaths per 100 000 females (crude rates)
Operationatlisation		OECD		Causes of mortality	Alcohol use disorders, deaths per 100 000 males (crude rates)
Operationatlisation		OECD		Causes of mortality	Drug use disorders, deaths per 100 000 males (crude rates)
Operationatlisation		OECD		Causes of mortality	Alcohol use disorders, deaths per 100 000 population (crude rates)
Operationatlisation		OECD		Causes of mortality	Drug use disorders, deaths per 100 000 population (crude rates)
Operationatlisation		OECD		Causes of mortality	Alcohol use disorders, deaths per 100 000 females (standardised rates)
Operationatlisation		OECD		Causes of mortality	Drug use disorders, deaths per 100 000 females (standardised rates)
Operationatlisation		OECD		Causes of mortality	Alcohol use disorders, deaths per 100 000 males (standardised rates)

Operationalisation	OECD		Causes of mortality	Drug use disorders, deaths per 100 000 males (standardised rates)
Operationalisation	OECD		Causes of mortality	Alcohol use disorders, deaths per 100 000 population (standardised rates)
Operationalisation	OECD		Causes of mortality	Drug use disorders, deaths per 100 000 population (standardised rates)
Operationalisation	HFA	1970	Alcohol-attributable deaths	SDR, selected alcohol related causes, per 100000
Operationalisation	HFA	1971	Alcohol-attributable deaths	SDR, selected alcohol related causes, per 100000, male
Operationalisation	HFA	1972	Alcohol-attributable deaths	SDR, selected alcohol related causes, per 100000, female
Operationalisation	HFA	1980	Smoking-attributable deaths	SDR, selected smoking related causes, per 100000
Operationalisation	HFA	1981	Smoking-attributable deaths	SDR, selected smoking related causes, per 100000, male
Operationalisation	HFA	1982	Smoking-attributable deaths	SDR, selected smoking related causes, per 100000, female
Operationalisation	WHO H20	1.1.a.	Premature mortality from noncommunicable disease	Standardized overall premature mortality rate (from 30 to under 70 years) for four major noncommunicable diseases (cardiovascular diseases, cancer, diabetes mellitus and chronic respiratory disease), disaggregated by sex
Operationalisation	HFA	1990	Premature mortality	SDR, major noncommunicable diseases, 30-69 years, both sexes
Operationalisation	HFA	1991	Premature mortality	SDR, major noncommunicable diseases, 30-69 years, males
Operationalisation	HFA	1992	Premature mortality	SDR, major noncommunicable diseases, 30-69 years, females
Operationalisation	HFA	1993	Premature mortality	SDR, digestive diseases, 30 – 69 years, both sexes
Operationalisation	HFA	1994	Premature mortality	SDR, digestive diseases, 30 – 69 years, males
Operationalisation	HFA	1995	Premature mortality	SDR, digestive diseases, 30 – 69 years, females
Operationalisation	HFA	6440	Avoidable mortality	SDR, appendicitis, 0-64 per 100000
Operationalisation	HFA	6441	Avoidable mortality	SDR, appendicitis, 0-64 per 100000, male
Operationalisation	HFA	6442	Avoidable mortality	SDR, appendicitis, 0-64 per 100000, female
Operationalisation	HFA	6450	Avoidable mortality	SDR, appendicitis, all ages per 100000
Operationalisation	HFA	6451	Avoidable mortality	SDR, appendicitis, all ages per 100000, male
Operationalisation	HFA	6452	Avoidable mortality	SDR, appendicitis, all ages per 100000, female
Operationalisation	HFA	6460	Avoidable mortality	SDR, hernia and intestinal obstruction, 0-64 per 100000
Operationalisation	HFA	6461	Avoidable mortality	SDR, hernia and intestinal obstruction, 0-64 per 100000, male
Operationalisation	HFA	6462	Avoidable mortality	SDR, hernia and intestinal obstruction, 0-64 per 100000, female
Operationalisation	HFA	6470	Avoidable mortality	SDR, hernia and intestinal obstruction, all ages per 100000
Operationalisation	HFA	6471	Avoidable mortality	SDR, hernia and intestinal obstruction, all ages per 100000, male
Operationalisation	HFA	6472	Avoidable mortality	SDR, hernia and intestinal obstruction, all ages per 100000, female
Operationalisation	HFA	6480	Avoidable mortality	SDR, adverse effects of therapeutic agents, 0-64 per 100000
Operationalisation	HFA	6481	Avoidable mortality	SDR, adverse effects of therapeutic agents, 0-64 per 100000, male
Operationalisation	HFA	6482	Avoidable mortality	SDR, adverse effects of therapeutic agents, 0-64 per 100000, female
Operationalisation	HFA	6490	Avoidable mortality	SDR, adverse effects of therapeutic agents, all ages per 100000
Operationalisation	HFA	6491	Avoidable mortality	SDR, adverse effects of therapeutic agents, all ages per 100000, male
Operationalisation	HFA	6492	Avoidable mortality	SDR, adverse effects of therapeutic agents, all ages per 100000, female
Operationalisation	EU JAF	H-8	Amenable mortality	Amenable mortality,standardised death rate per 100.000 population aged 0-74 years
Operationalisation	EU JAF	H-9	Preventable mortality	Preventable mortality,standardised death rate per 100.000 population aged 0-74 years
Operationalisation	WHO NC	1.	Premature mortality from noncommunicable disease	Unconditional probability of dying between ages of 30 and 70 from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases

Vaccination coverage

Level	Status	Dataset	Code	Indicator name	Indicator operationalisation
Indicator		ECHI	56	Vaccination coverage in children	Percentage of infants reaching their first birthday fully vaccinated against diphteria
Indicator		ECHI	57	Influenza vaccination rate in elderly	Proportion of elderly individuals (65+) reporting to have received one shot of influenza vaccine during the last 12 months.
Indicator		WHO H2020	1.2.a.	Vaccination coverage	Percentage of children vaccinated against measles (1 dose by second birthday), polio (3 doses by first birthday) and rubella (1 dose by second birthday)
Indicator		OECD		Immunisation	Immunisation: Diphtheria, Tetanus, Pertussis, % of children immunised
Indicator		HFA	7150	Vaccination coverage in children	% of infants vaccinated against tuberculosis
Indicator		EU JAF	Q-7	Vaccination coverage in children	Vaccination coverage for children
Indicator		EU JAF	Q-8	Influenza vaccination in elderly	Influenza vaccination for 65+ (total, by educational level gap between ISCED 0-2 and 5-6)
Indicator		WHO NCD	22.	Availability of HPV vaccine	Availability, as appropriate, if cost-effective and affordable, of vaccines against human papillomavirus, according to national programmes and policies
Indicator		WHO NCD	24.	Vaccination coverage	Vaccination coverage against hepatitis B virus monitored by number of third doses of Hep-B vaccine (HepB3) administered to infants
Operationalisation		ECHI	56	Vaccination coverage in children	Percentage of infants reaching their first birthday fully vaccinated against diphteria
Operationalisation		ECHI	56	Vaccination coverage in children	Percentage of infants reaching their first birthday fully vaccinated against pertussis
Operationalisation		ECHI	56	Vaccination coverage in children	Percentage of infants reaching their first birthday fully vaccinated against poliomyelitis
Operationalisation		ECHI	56	Vaccination coverage in children	Percentage of infants reaching their first birthday fully vaccinated against tetanus
Operationalisation		ECHI	56	Vaccination coverage in children	Percentage of infants reaching their second birthday fully vaccinated against measles
Operationalisation		ECHI	56	Vaccination coverage in children	Percentage of infants reaching their second birthday fully vaccinated against mumps
Operationalisation		ECHI	56	Vaccination coverage in children	Percentage of infants reaching their second birthday fully vaccinated against rubella
Operationalisation		ECHI	57	Influenza vaccination rate in elderly	Proportion of elderly individuals (65+) reporting to have received one shot of influenza vaccine during the last 12 months.
Operationalisation		ECHI	57	Influenza vaccination rate in elderly	Proportion of elderly men (65+) reporting to have received one shot of influenza vaccine during the last 12 months.
Operationalisation		ECHI	57	Influenza vaccination rate in elderly	Proportion of elderly women (65+) reporting to have received one shot of influenza vaccine during the last 12 months.
Operationalisation		ECHI	57	Influenza vaccination rate in elderly	Proportion of elderly individuals (65+), whose highest completed level of education is ISCED class 0, 1 or 2, reporting to have received one shot of influenza vaccine during the last 12 months.
Operationalisation		ECHI	57	Influenza vaccination rate in elderly	Proportion of elderly individuals (65+), whose highest completed level of education is ISCED class 3 or 4, reporting to have received one shot of influenza vaccine during the last 12 months.
Operationalisation		ECHI	57	Influenza vaccination rate in elderly	Proportion of elderly individuals (65+), whose highest completed level of education is ISCED class 5 or 6, reporting to have received one shot of influenza vaccine during the last 12 months.
Operationalisation		WHO H2020	1.2.a.	Vaccination coverage	Percentage of children vaccinated against measles (1 dose by second birthday), polio (3 doses by first birthday) and rubella (1 dose by second birthday)
Operationalisation		WHO H2020	5.1.b.	Vaccination coverage	Percentage of children vaccinated against measles (1 dose by second birthday), polio (3 doses by first birthday) and rubella (1 dose by second birthday)
Operationalisation		OECD		Immunisation	Immunisation: Diphtheria, Tetanus, Pertussis, % of children immunised
Operationalisation		OECD		Immunisation	Immunisation: Measles, % of children immunised
Operationalisation		OECD		Immunisation	Immunisation: Hepatitis B, % of children immunised
Operationalisation		OECD		Immunisation	Immunisation: Influenza, % of population aged 65 years and over
Operationalisation		HFA	7150	Vaccination coverage in children	% of infants vaccinated against tuberculosis
Operationalisation		HFA	7160	Vaccination coverage in children	% of infants vaccinated against diphtheria
Operationalisation		HFA	7170	Vaccination coverage in children	% of infants vaccinated against tetanus
Operationalisation		HFA	7180	Vaccination coverage in children	% of infants vaccinated against pertussis
Operationalisation		HFA	7190	Vaccination coverage in children	% of children vaccinated against measles
Operationalisation		HFA	7200	Vaccination coverage in children	% of infants vaccinated against poliomyelitis
Operationalisation		HFA	7210	Vaccination coverage in children	% infants vaccinated against invasive disease due to Haemophilius influenzae type b
Operationalisation		HFA	7220	Vaccination coverage in children	% of infants vaccinated against hepatitis B
Operationalisation		HFA	7230	Vaccination coverage in children	% of infants vaccinated against mumps
Operationalisation		HFA	7240	Vaccination coverage in children	% of infants vaccinated against rubella
Operationalisation		EU JAF	Q-7	Vaccination coverage in children	Vaccination coverage for children
Operationalisation		EU JAF	Q-8	Influenza vaccination in elderly	Influenza vaccination for 65+ (total, by educational level gap between ISCED 0-2 and 5-6)
Operationalisation		WHO NCD	22.	Availability of HPV vaccine	Availability, as appropriate, if cost-effective and affordable, of vaccines against human papillomavirus, according to national programmes and policies
Operationalisation		WHO NCD	24.	Vaccination coverage	Vaccination coverage against hepatitis B virus monitored by number of third doses of Hep-B vaccine (HepB3) administered to infants