

Metadata – Ischemic heart disease

Description	Two indicators were considered: <ul style="list-style-type: none">a) <i>Angina pectoris prevalence</i>: the number of people who have reported suffering from coronary heart disease, expressed in percentage.b) <i>Acute myocardial infarction (AMI) incidence</i>: the estimated number of all first events of AMI in a given year.
Rationale	<p>Ischemic heart disease (IHD), also called coronary heart disease, is one type of cardiovascular disease (CVD). CVD are the main cause of death worldwide, and include coronary heart disease, cerebrovascular disease, rheumatic heart disease and other conditions. The World Health Organization (WHO) has estimated that 17.9 million people died from CVDs in 2016 (31% of all deaths). 85% of these deaths are due to heart attack and stroke [1].</p> <p>Reduce the mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease by the end of 2030 is one of the United Nations Sustainable Development Goals (SDGs) [2]. However, despite the progress made during the first decade of the 21st century, the age-standardized premature mortality rates of CVDs stagnate since 2010 in the low income countries, and are slowing in the upper-middle and high income countries [3].</p> <p>Angina pectoris prevalence and AMI incidence are indicators allowing to monitor the extent of the ischemic heart disease in the population.</p>
Primary Data source	<ul style="list-style-type: none">a) The Sciensano Belgian Health Interview Survey (HIS) 2008-2013-2018b) <ol style="list-style-type: none">1. The hospital discharge data (“Minimum Hospital Summary”) 2008-2016 (except 2015) (Federal Public Service Health, Foodchain safety and Environment) [5].2. The mortality data from Sciensano SPMA 2008-20163. The population data from Sciensano SPMA 2008-2016
Indicator source	<ul style="list-style-type: none">a) Sciensano: Belgian HIS [4].b) <ol style="list-style-type: none">1. Sciensano calculation
Periodicity	<ul style="list-style-type: none">a) Every 3-5 yearsb) Annual
Calculation, technical definitions and limitations	<ul style="list-style-type: none">a) <i>Angina pectoris prevalence</i>: the numerator is the number of persons reporting to suffer from coronary heart disease (angina pectoris by answering “yes” to the following question in the HIS; the denominator is the number of respondents of the following question in the HIS (MA01): “Have you suffered from one of the following diseases or conditions during the past 12 months?” (a list of diseases or conditions is proposed). <p>Results are weighted to account for the survey design.</p> <p>Age-adjustment was made using a direct standardization method, using the age distribution of the Belgium 2018 as weights for age groups.</p> <p>Data must be interpreted with caution since they are self-reported and thus reflect individual perceptions of health that may differ from actual health: it is not excluded that some people report an illness incorrectly by lack of knowledge or because the disease is perceived as not socially acceptable.</p>

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- b) *Acute myocardial infarction (AMI) incidence*: the number of AMI first events (2008-2016) was estimated by summing the hospital discharged data, i.e. the number of people with a first event of a primary diagnose of AMI who were discharged alive from the hospital (incidence per person) and the mortality data, i.e. the number of people deceased from a heart attack in Belgium (in the hospital or not).

AMI was defined using the WHO International Statistical Classification of Diseases (ICD) [7]:

- For the hospital discharge data: ICD-9 codes 410-411 (2008-2014) and ICD-10 codes I21-I22-I23-I24 (2016)
- For the mortality data: ICD-10 codes I21-I22-I23-I24.

The mid-year population 2016-2017 data from SPMA were used to calculate crude incidence rates per 100,000 population; there were also used as weights to compute age-adjusted rates per 100,000 population.

Several limitations can be pointed out:

- Year 2015 is not available in the hospital discharged data due to the transition from the ICD-9 to the ICD-10 classification system, and therefore, AMI incidence was not estimated this year.
- Although hospital discharge data were available to 2017, mortality data were only available to 2016, therefore, AMI incidence was estimated until 2016.
- Hospital discharge data are aggregated data. Data were provided by age-group (0-4 years, 5-9 years, ... 95+ years), by sex, by region and by type of diagnosis (primary or secondary). For privacy reasons, when there were less than 5 cases, data were marked <5 (small cells) by the data provider. To avoid this problem that mainly occurred in the young ages or in the very old ages, as well as in the Brussels region, larger age groups were made. For that reason, age-standardized rates were calculated only for 2016 in Belgium and Regions, and age-standardized trends were calculated only for Belgium but not for regions for which there were too many small cells the other years.
- Hospital discharged data provided don't allow to follow patients between several hospitals, therefore, patients who were transferred or who changed from hospital may be counted several times.
- Hospital discharge data don't include patients with AMI who have stayed in the emergency department but were not subsequently hospitalized. This number, however, is estimated to be low.
- Mortality data were used to take into account people with AMI that died before reaching the hospital. But by summing the incidence per person (people with AMI discharged alive from the hospital) and the number of death due to AMI (in the hospital or not), people with AMI that were discharged alive and died later from an AMI may be counted twice. Although, there is probably not so much people in that case.

International comparability

- a) - Availability: Angina pectoris prevalence is an indicator being part of the Eurostat European Health Interview Survey (EHIS) [8] and in the WHO World Health Survey [9]
- Comparability: the self-reported prevalence of angina pectoris indicator of EHIS data are not age-standardized, which can hamper the comparability since the prevalence of angina pectoris increases strongly with age. The general coverage of the World Health Survey is the population aged 18 or over, unlike the EHIS or Belgian HIS in which the population included is aged 15 or over.

- b) - Availability: *acute myocardial infarction (incidence per person)* is an indicator available in the Eurostat Morbidity Statistics project [10]
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- Comparability: hospitalization data and causes of death statistics were combined to produce the Eurostat AMI incidence per person, which allows comparability. However, few countries have used the combined method to produce AMI incidence estimates, which may hamper comparability.
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References List

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