7. PROPORTION OF PEOPLE WITH SELF-REPORTED MULTIMORBID STATE IN THE LAST 12 MONTHS (CHR-3)

7.1. Documentation sheet

Description	Percentage of the population aged 15 years and over who self-reported more than one of the following chronic diseases: chronic lung disease, serious heart disease, diabetes, osteoarthritis/arthritis, hypertension, cancer
Calculation	**Numerator** = the number of persons aged 15 years and over reporting more than one chronic diseases from a list of 6 diseases or disease groups **Denominator** = the total amount of respondents in the Belgian Health Interview Survey The result is provided as a percentage
Rationale	Non-communicable diseases (NCDs) constitute a problem of public health since they are responsible for 71% of deaths worldwide. They have a high impact on the quality of life and are also an important cause of premature death. Most of the NCDs can be preventable by adopting health policies to help to reduce the risk factors (e.g. smoking, drinking alcohol or lacking of physical activities) associated to the most important NCDs (cardiovascular diseases, cancer, respiratory diseases, and diabetes). The term "chronic disease" is often used as a synonym for NCDs, since they tend to be of a long duration. However, NCDs are defined by their non-infectious cause, even though some chronic diseases can have an infectious cause (e.g. HIV). Self-reported chronic morbidity is used in the European Community Health Indicators (ECHI) projects. It is a widely used indicator to measure the population health and to provide estimates of health care needs.[1]
Primary data source	**National Health Interview Survey (HIS)** module: Chronic conditions, Sciensano Belgium, 2001, 2004, 2013, 2018. This survey is set up every 3 to 5 years. **The InterMutualistic Agency/InterMutualistisch Agentschap/Agence InterMutualiste** (IMA-AIM) database, update 2020[e] In the **HISLink**[f] project, Sciensano performed a linkage between HIS data (2013 and 2018) and IMA-AIM data. The aim was notably to support RIZIV-INAMI to overcome the shortcomings of the data (e.g. information on non-reimbursed health care use , lack of link between health care use and health needs, or scarcity of information on socio-demographic background characteristics). Data extracted from the HIS cover the following topics: socio-demographic characteristics, health status, lifestyle and health care use. The linkage is not 100% because some individuals included in HIS could not be identified in the IMA-AIM database. In the HIS2013, linkage was possible for 88% of HIS participants, while in the HIS2018 linkage, this was the case for ~94%.
Technical definitions	**National Health Interview Survey (HIS)** The numerator is the number of persons aged 15 years and over, reporting to suffer from more than one chronic disease or disease group (see further in the text) by answering "yes" to two or more diseases, by means of the following question in the HIS (in face-to-face interview MA01): "During the past 12 months, have you had any of the following diseases or conditions?".

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[e]   Available from https://atlas.ima-aim.be/databanken/?rw=1&lang=nl
[f]   HISLink project, https://www.sciensano.be/en/projects/linkage-health-interview-survey-data-health-insurance-data (last access 6 October 2021)

The denominator is the number of respondents to the same question of the HIS (MA01).

For the purpose of this indicator, 10 of a list of 38 diseases are considered (asthma, Chronic obstructive pulmonary disease (COPD), Acute Myocardial infarction (AMI) and consequences, coronary heart disease, other serious heart disease, hypertension, osteoarthritis, arthritis, cancer and diabetes). In the construction of the indicator, asthma and COPD are taken together as 'chronic lung disease'; AMI and consequences, coronary heart disease and other serious heart disease are taken together as 'serious heart disease'; and osteoarthritis and arthritis (2 different questions) are also taken together. This leaves 6 diseases or disease groups (chronic lung disease, serious heart disease, diabetes, osteoarthritis/arthritis, hypertension and cancer).

Multimorbidity is defined as having at least two from those six. This implies that people reporting only two diseases from the same 'disease group' are not considered as multimorbid.

IMA-AIM

Individuals entitled to the chronic illness status. Entitlement is observed through data from the InterMutualistic Agency (IMA-AIM), variables pp3015, pp3016 or pp3017. If the value for one of these 3 variables is equal to 1 or 2, the individual has an entitlement and is assumed to suffer from a chronic disease. To be entitled to the RIZIV-INAMI chronic illness status, health expenditure based on official tariffs i.e. RIZIV-INAMI expenditures and patients' official co-payments (tickets modérateurs / remgelden) but excluding extra-billings exceed €300 (2013 tariff, indexed to €325.35 in 2019) per quarter for eight consecutive quarters or if they benefit for the fixed payments for chronically ill people or if they suffer from a rare or orphan disease and if their health expenditure based on official tariffs per quarter for eight consecutive quarters.

Limitations	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 a disease incorrectly by lack of knowledge or because the disease is perceived as not socially acceptable.[1]
	Belgian citizens younger than 15 years are excluded
	To date, consensus on the definition of multimorbidity is still lacking. The definition of ≥ 2 chronic diseases is under discussion, especially when highly prevalent conditions (e.g. hypertension) are included because these may result in high prevalence rates even if there is a lesser impact on patients' symptoms, functional status, and HRQoL.[2]
International comparability	e. Availability: /
	f. Comparability: /
Performance dimension	Contextual indicator
Related indicators	CHR-1, CHR-2

7.2. Results

7.2.1. self-reported multimorbid state in the last 12 months in the population

The proportion of people in Belgium reporting at least two chronic conditions among the selected diseases increased from 2001 (11.4%) to 2018 (15.2%). The increase over age groups is largely explained by the ageing of the population (Table 11). In 2018, the proportion of people with at least two chronic conditions increased with age from 0.8% (age group 15-24) to 41.8% (age group 75+) and was the highest in Wallonia (16.5%), followed by Flanders (15.1%) and Brussels (10.8%) (Figure 16).
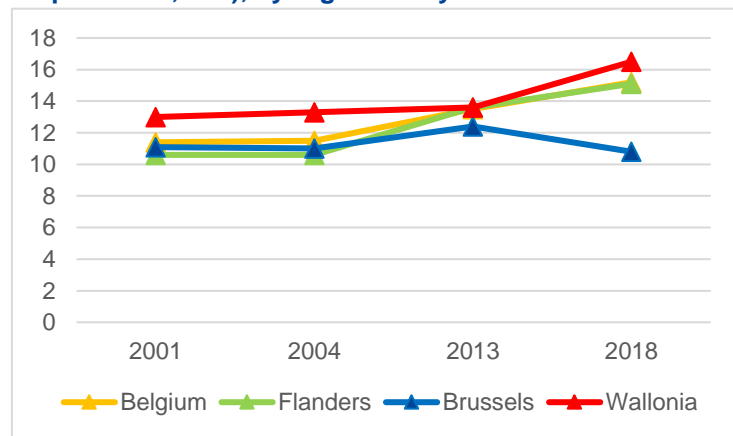
Table 11 – Percentage of the population (per age group) reporting at least two chronic conditions among the selected diseases. (years 2001, 2004, 2013, 2018)

Age Group	2001	2004	2013	2018
15-24	0.3% [0.1%-0.6%]	0.5% [0.0%-1.1%]	0.0% [0.0%-0.1%]	0.8% [0.0%-1.6%]
25-34	1.6% [0.7%-2.5%]	1.5% [0.9%-2.1%]	1.9% [0.8%-3.0%]	1.3% [0.6%-1.9%]
35-44	3.4% [2.4%-4.3%]	3.5% [2.3%-4.7%]	4.3% [2.7%-5.9%]	4.7% [3.3%-6.0%]
45-54	8.7% [7.0%-10.5%]	8.3% [6.5%-10.1%]	10.5% [8.4%-12.6%]	10.7% [8.7%-12.7%]
55-64	17.9% [15.2%-20.5%]	18.8% [16.2%-21.4%]	19.7% [17.0%-22.5%]	24.4% [21.5%-27.3%]
65-74	29.5% [26.1%-32.9%]	30.6% [27.5%-33.7%]	33.2% [28.9%-37.5%]	34.1% [30.6%-37.7%]
75+	39.9% [34.8%-44.9%]	37.1% [33.4%-40.8%]	39.0% [34.7%-43.4%]	41.8% [37.8%-45.7%]

Source: National Health Interview Survey (HIS)

Figure 16 – Proportion of people reporting at least two chronic conditions among the selected diseases in the last 12 months (% of respondents, 15+), by region and year

Source: National Health Interview Survey (HIS)

7.2.2. Chronic illness status and self-reported chronic disease in people self-reporting multimorbidity state in the last 12 months

These are the results on the self-reported multimorbid state in the HISLink sample, a linkage between HIS and IMA-AIM data (see Table 12). Among the HIS respondents of 2018 who report to have a chronic disease, 33.8% reports to be multimorbid. Note however that the questions for these variables are set up different (see technical fiche of CHR2 indicator and CHR3 indicator). It might be that respondents report a chronic disease that is not listed in the question on multimorbidity or only suffer from one chronic disease.

Among the patients who have the RIZIV-INAMI chronic illness status (2018) only 47.4% reports to have multimorbidity. And in the group not having the chronic disease status, 10.6% reports to be multimorbid.

- It seems that there is not a clear link between the chronic disease status and multimorbidity. People can perhaps have other healthcare expenses that are not related to a chronic disease. Or certain diseases that are not asked for in the HIS (mental problems?) can lead to higher healthcare expenses for a long time… On the other hand, 10.6% of respondents who do not have the IMA status report multimorbidity. This could be explained by a low spending in reimbursed care for their specific diseases.

- However, presumably multimorbidity is more expensive for a substantive number of respondents than having only one chronic disease. The IMA status might better identify people with comorbidity, probably because they have more spending in reimbursed care.

A remarkable thing is that in 2018 7.9% of people who do not report to have chronic disease are comorbid. This is difficult to explain except if people do not understand correctly the question about chronic disease.

Table 12 – Proportion of people self-reporting multimorbid state in the last 12 months

	2013						2018					
	Self-reported multimorbid state (HIS)		Chronic illness status (HISlink)		NO chronic illness status (HISlink)		Self-reported multimorbid state (HIS)		Chronic illness status (HISlink)		NO chronic illness status (HISlink)	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
Belgium	33.7	30.7 – 36.7	45.4	41.1 – 49.6	9.7	8.7 – 10.6	33.8	31.2 – 36.3	47.4	43.6 – 51.2	10.6	9.7 – 11.4
Brussels	34.6	28.7 – 40.5	49.5	40.5 – 58.6	8.9	7.4 – 10.3	28.7	24.4 – 32.9	38.3	32.4 – 44.1	7.7	6.4 – 9.0
Flanders	34.5	29.9 – 39.0	47.3	41.1 – 53.6	9.36	8.2 – 11.1	34.4	30.8 – 38.0	48.3	43.0 – 53.7	10.2	9.0 – 11.4
Wallonia	32.2	27.9 – 36.6	41.0	34.7 – 47.4	10.0	8.6 – 11.5	34.1	29.8 – 38.4	48.2	41.8 – 54.6	12.0	10.3 – 13.7

Source: National Health Interview Survey (HIS) and HISlink data

Key points

- **The proportion of people in Belgium reporting at least two chronic conditions increased from 2001 (11.4%) to 2018 (15.2%).**

- **Figures for multimorbidity increase with age.**

- **Wallonia has the highest proportion and the Brussels region the lowest.**

- **There is not a clear link between the chronic illness status and multimorbidity**

References

1. Sciensano. Metadata Overview 20190725 [Web page].2019 [cited 2021/07/03]. Available from: https://www.healthybelgium.be/metadata/hsr/03_Metadata_Overview_20190725.pdf

2. Van Wilder L, Devleesschauwer B, Clays E, De Buyser S, Van der Heyden J, Charafeddine R, et al. The impact of multimorbidity patterns on health-related quality of life in the general population: results of the Belgian Health Interview Survey. Qual Life Res. 2021.