12. SELF-PERCEIVED QUALITY OF LIFE (QOL-1)

12.1. Documentation sheet

Description	Self-perceived quality of life
Calculation	The EQ-5D-5L instrument is used to score the subjective health (see rational section)
Rationale	With technological progress and increasing life expectancy of the population (and therefore the number of patients suffering from chronical conditions), the impact of health interventions on the quality of life of the population is becoming an important concern in public health policies and patient management decisions. The aim is no longer to just extend people's lives but also to improve or try to maintain their health-related quality of life.[1] While quality of life is a very broad concept that can be influenced by all aspects of an individual existence, health-related quality of life (HRQoL) focuses on the way health affects the quality of life, i.e., on the impact of health status on quality of life. According to a more specific definition, HRQoL focuses on the value of health, i.e. the value (also called the utility) assigned to different health states.[1] The approach to estimate the HRQoL is to use a multidimensional generic HRQoL instrument in combination with a pre-existing set of utility values or value set. A value set contains a fixed utility value for each of the possible health states that can be described with the HRQoL instrument. The last value set was developed in 2021 by Bouckaert et al. [1]. The value set is used to attribute values to the health states of any study population. The use of multidimensional generic HRQoL instruments in combination with a pre-existing value set is referred to as an indirect evaluation. Different instruments exist but the one used for this indicator is the EuroQol EQ-5D-5L instrument.[1] The EQ-5D-5L, developed by the EuroQol Group, is a generic HRQoL instrument commonly used for indirect utility measurement.[2] It is a descriptive system for health states, encompassing 5 dimensions of health (mobility, self-care, usual activities, pain/discomfort and anxiety/depression), combined with a visual analogue scale (VAS) ranging from "worst imaginable health state" to "best imaginable health state". Each EQ-5D-5L health state is labelled by a code, e.g. 21531, where each digit represents the severity level of a dimension.[1]
Data source	**The Health Interview Survey (HIS).** As the EQ-5D-5L questionnaire is included in the Belgian Health Interview Survey (HIS) since 2013, reference values from the general population (i.e. population norms) are generated and can be compared to others, i.e. patients with chronic diseases. The value set developed in 2021 by Bouckaert et al. is used to value the results of the EQ-5D-5L questionnaire from the HIS.[1] In the *HISLink*[n] project, Sciensano performed a linkage between HIS 2013 and 2018 and **IMA-AIM data**, partly to support NIHDI to overcome the shortcomings of the data (e.g. information on non-reimbursed health care use is lacking, no link between health care use and health needs, information on socio-demographic background characteristics is scarce). 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 IMA-AIM database.

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[n]   HISLink project, https://www.sciensano.be/en/projects/linkage-health-interview-survey-data-health-insurance-data (last access 6 October 2021)

	In the HIS2013, linkage was possible for 88% of HIS participants, while in the HIS2018 linkage, this was the case for ~94%.
Technical definitions	Chronic definitions: 1) HIS: The number of persons reporting to suffer from a chronic disease by answering "yes" to the following question in the HIS; the denominator is the number of respondents of the following question in the HIS (MA_SH02): "Do you suffer from a chronic disease or affection?". 2) 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 condition. To be entitled to the NIHDI chronic illness status, health expenditure based on official tariffs i.e. NIHDI 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	The Health Interview Survey (and HISLink) partly excludes under 15 years self-reported data.
International comparability	/
Dimension	/
Related performance indicators	/
Keywords	Health related quality of life

12.2. Results

12.2.1. Self-reported health-related quality of life in population

In 2018, the average EQ-5D-5L score is 0.843 (95% CI 0.836,0.850) which corresponds to a decrease of 0.018 in HRQoL compared to 2013 (Mean: 0.861; 95% Confidence Interval (CI): 0.864,0.868). The decrease is observed in all Belgian regions and is even more pronounced in Wallonia (-0.030) than in Flanders (-0.010) and Wallonia (0.010) (see Table 20). More in-depth analyses of health-related quality of life are available in Van Wilder et al. (2021). [3]

Table 20 – Quality of life scores in population 15+, by year and by region

	2013		2018		
	Mean	**95% CI**	**Mean**	**95% CI**	**Diff Mean**
Belgium	0.861	0.864,0.868	0.843	0.836,0.850	-0.018
Brussels	0.849	0.836,0.862	0.839	0.827,0.851	-0.010
Flanders	0.878	0.869,0.888	0.868	0.860,0.877	-0.010
Wallonia	0.828	0.815,0.840	0.798	0.783,0.813	-0.030

CI=Confidence Interval

12.2.1.1. *Self-reported health-related quality of life in patients with chronic disease*

- **Self-reported chronic disease (HIS)**

Participants reporting a **chronic disease have a lower quality of life** than participants not reporting a chronic disease. The mean score was 0.211 and 0.207 lower in participants reporting a chronic disease than in participants not reporting a chronic disease, in 2013 and 2018 respectively. The quality of life score is lower in patients with a chronic disease than in patients without chronic disease whatever the year (2013 or 2018) and the Belgian region (Brussels, Flanders, Wallonia) (Table 21).

In 2013 and 2018, the **difference** in self-reported HRQoL by a self-reported chronic disease state **was higher in Wallonia** (EQ-5D-5L self-reported chronic disease – EQ-5D-5L no self-reported chronic disease 2013: -0.208; 2018: -0.245) than in Brussels (2013: -0.202; 2018: -0.211) and Flanders (2013: -0.214; 2018:-0.178) (Table 21). Between 2013 and 2018, the difference in HRQoL between self-reported chronic disease state increased in Brussels and Wallonia, but decreased in Flanders (see Table 21).

Table 21 – Quality of life scores, by year, region and self-reported chronic disease status

	2013					2018				
	Self-reported chronic disease		No self-reported chronic disease		Difference	Self-reported chronic disease		No self-reported chronic disease		Difference
	Mean	95% CI	Mean	95% CI	Mean	Mean	95% CI	Mean	95% CI	Mean
Belgium	0.709	0.691,0.728	0.920	0.916,0.924	-0.211	0.696	0.679,0.712	0.903	0.898,0.909	-0.207
Brussels	0.732	0.705,0.758	0.902	0.891,0.914	-0.202	0.687	0.658,0.716	0.898	0.889,0.908	-0.211
Flanders	0.720	0.693,0.748	0.934	0.928,0.939	-0.214	0.739	0.717,0.760	0.917	0.910,0.925	-0.178
Wallonia	0.686	0.660,0.712	0.894	0.885,0.903	-0.208	0.632	0.602,0.662	0.877	0.867,0.887	-0.245

CI=Confidence Interval

Entitled to the NIHDI chronic illness status

The patients **entitled to the chronic illness status have a lower quality of life** than the participants not entitled to the chronic illness status. The HRQoL score was 0.231 and 0.242 lower in participants entitled to the status than in participants not entitled, **in 2013 and 2018** respectively. The same observation is made by region and year but the difference of HRQoL between chronic illness status is even more pronounced in Brussels and Wallonia than in Flanders (Table 22Table 21). The difference of HRQoL between chronic and non-chronic persons decreased between 2013 and 2018 in Flanders (2013: -0.232; 2018: -0.224) and Brussels (2013: -0.215; 2018: -0.193) but increased in Wallonia (2013: -0.232; 2018: -0.273)

In 2013 and 2018, the **HRQoL** was **lower in the patients entitled to the NIHDI chronic illness status** (2013: 0.656; 95% CI 0.625,0.688; 2018: 0.630; 95% CI 0.601,0.659) **than in the patients with self-reported chronic diseases in the HIS** (2013: 0.709; 95% CI 0.691,0.728; 2018: 0.696; 95%CI 0.679,0.712) (Table 21;Table 22). Regardless of the origin of the status (NIHDI vs HIS), a decrease in HRQoL is observed between 2013 and 2018 in chronic disease patients (Figure 33).
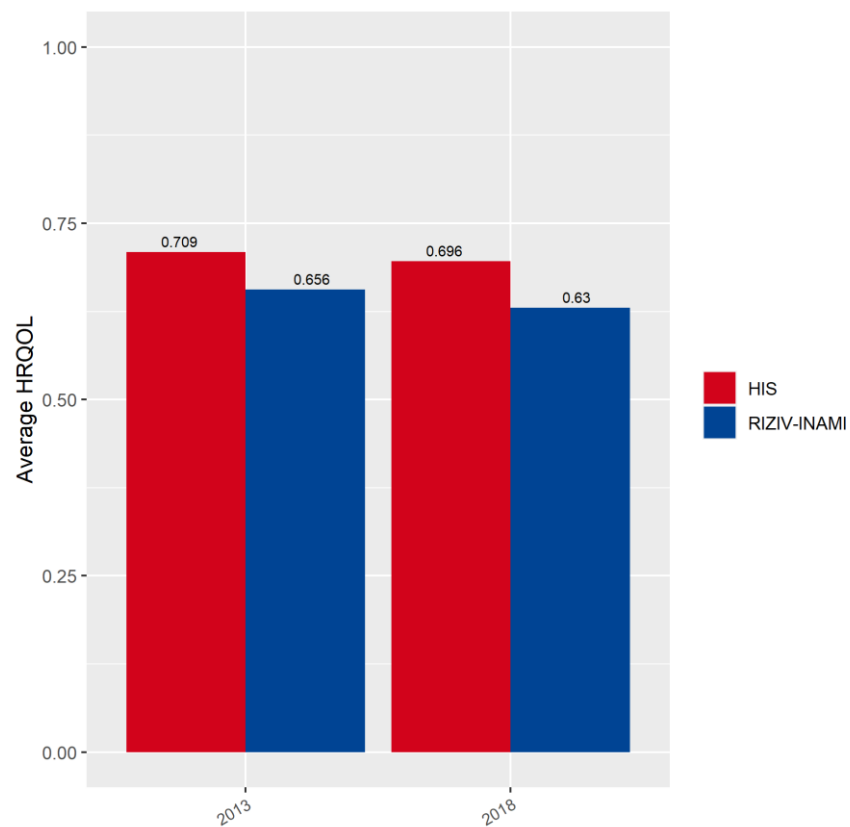
Table 22 – Quality of life scores, by year, region and entitlement to the chronic illness

| | 2013 | | | | | | 2018 | | | | | |
| | Entitled to the chronic illness status | | Not entitled to the chronic illness status | | Difference | | Entitled to the chronic illness status | | Not entitled to the chronic illness status | | Difference |
	Mean	95% CI	Mean	95% CI	Mean	Mean	95% CI	Mean	95% CI	Mean
Belgium	0.656	0.625,0.688	0.887	0.881,0.893	-0.231	0.630	0.601,0.659	0.872	0.866,0.878	-0.242
Brussels	0.655	0.589,0.722	0.870	0.858,0.882	-0.215	0.627	0.574,0.680	0.864	0.853,0.875	-0.193
Flanders	0.674	0.630,0.719	0.906	0.899,0.913	-0.232	0.671	0.632,0.711	0.895	0.888,0.903	-0.224
Wallonia	0.619	0.571,0.668	0.851	0.839,0.863	-0.232	0.558	0.508,0.608	0.831	0.817,0.844	-0.273

Figure 33 – Overall HRQOL among chronic ill persons by year and by data source

Data: Sciensano, figure: KCE

Self-reported chronic disease (HIS) AND entitled to the status chronic illness (RIZI-INAMI)

Participants with both self-reported chronic disease and entitled to the NIHDI chronic illness status reported even worse HRQoL (2013: 0.610; 95%CI 0.572,0.648; 2018: 0.575; 95% 0.540,0.609) than the person with either status (see Table 21 and Table 22), whatever the region (Brussels, Flanders or Wallonia).

Table 23 – Quality of life scores among person who were entitled to the chronic illness status and who self-reported chronic disease, by year

	Entitled to the chronic illness status* AND self-reported chronic disease** 2013		Entitled to the chronic illness status * AND self-reported chronic disease** 2018	
	Mean	95% CI	Mean	95% CI
Belgium	0.610	0.572,0.648	0.575	0.540,0.609
Brussels	0.637	0.573,0.701	0.579	0.513,0.644
Flanders	0.615	0.562,0.669	0.616	0.568,0.664
Wallonia	0.592	0.535,0.646	0.503	0.446,0.561

*NIHDI chronic illness status; **HIS self-reported chronic disease or condition

Keypoints

- **In 2018, the average EQ-5D-5L score is 0.843 (95% CI 0.836-0.850) which corresponds to a decrease of 0.018 in health-related quality of life compared to 2013 (Mean: 0.861; 95% CI 0.864-0.868). The decrease is observed in all Belgian regions and is even more pronounced in Wallonia.**

- **In 2013 and 2018, the participants <u>self-reporting or entitled to chronic illness status</u> reported a <u>lower health-related quality of life than the participants without chronic diseases/not entitled to chronic illness status</u>. By region, the conclusion is the same but the difference in HRQoL is more pronounced in Wallonia and Brussels than in Flanders.**

- **Between 2013 and 2018, the difference in health-related quality of life between chronic and non-chronic disease patients (HIS) increased in Brussels and Wallonia but decreased in Flanders. When looking at the persons entitled to the chronic illness status (NIHDI), the difference between chronic and non-chronic persons increased in Brussels but decreased in Wallonia and Flanders.**

- **In 2013 and 2018, the HRQoL was lower in the patients entitled to the NIHDI chronic illness than in the patients who self-reported being chronically ill in the HIS.**

- **The participants with both chronic disease status (i.e. self-reported (HIS) and entitled (NIHDI) have even worse HRQoL than those with only one chronic status (HIS or NIHDI).NI**

References

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2. Group TE. EuroQol-a new facility for the measurement of health-related quality of life. Health policy. 1990;16(3):199-208.

3. 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.