

PERFORMANCE OF THE BELGIAN HEALTH SYSTEM: REPORT 2024

SUPPLEMENT: TECHNICAL SHEETS FOR INDICATORS – DOMAINS



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■ TABLE OF CONTENTS

LIST OF FIGURES	6
LIST OF TABLES	11
■ APPENDIX REPORT	14
1 LIST OF INDICATORS	14
2 TECHNICAL SHEETS	17
2.1 PREVENTIVE CARE	17
2.1.1 Child and adolescent vaccination (P-1, P-2, P-3, P-12, P-14)	17
2.1.2 Results	19
2.1.3 Impact of COVID-19 pandemic	19
2.2 INFLUENZA VACCINATION (% POP AGED ≥65 YEARS) (P-4)	24
2.2.1 Documentation sheet	24
2.2.2 Results	25
2.3 INCIDENCE OF MEASLES (P-5)	32
2.3.1 Documentation sheet	32
2.3.2 Results	33
2.4 BREAST CANCER SCREENING (% WOMEN AGED 50-69 YEARS) (P-6, P-7)	38
2.4.1 Documentation sheet	38
2.4.2 Results	41
2.5 CERVICAL CANCER SCREENING (% WOMEN AGED 20-69 YEARS) (P-8)	48
2.5.1 Documentation sheet	48
2.5.2 Results	50
2.6 COLORECTAL CANCER SCREENING (% OF PEOPLE AGED 50-74 YEARS) (P-9)	53



2.6.1	Documentation sheet	53
2.6.2	Results	55
2.7	REGULAR CONTACTS WITH DENTIST (% POP AGED ≥ 3 YEARS) (P-11).....	58
2.7.1	Documentation sheet	58
2.7.2	Results	59
2.8	AVOIDABLE MORTALITY: PREVENTABLE MORTALITY (P-13)	65
2.8.1	Documentation sheet	65
2.8.2	Results	67
3	MENTAL HEALTHCARE.....	74
3.1	PRACTISING PSYCHIATRISTS (/10 000) (MH-2)	74
3.1.1	Documentation sheet	74
3.1.2	Results	75
3.2	WAITING TIME FOR A FIRST FACE-TO-FACE CONTACT IN A CENTRE FOR AMBULATORY MENTAL HEALTH (DAYS) (MH-3)	82
3.2.1	Documentation sheet	82
3.2.2	Results (Flanders).....	83
3.3	RATE OF INVOLUNTARY COMMITMENTS IN PSYCHIATRIC HOSPITAL WARDS (/10 000 POPULATION) (MH-4).....	88
3.3.1	Documentation sheet	88
3.3.2	Results	89
3.4	EMERGENCY ROOMS VISITS FOR SOCIAL, MENTAL OR PSYCHIC REASON (% OF ADMISSION IN EMERGENCY ROOMS IN GENERAL HOSPITALS) (MH-5)	92
3.4.1	Documentation sheet	92
3.4.2	Results	93
3.5	ANTIDEPRESSANT MEDICATION (MH-6, MH-7, MH-8)	97



3.5.1	Documentation sheet	97
3.5.2	Results	99
3.6	NUMBER OF HOSPITALISATION DAYS IN PSYCHIATRIC HOSPITAL WARDS (/1000 POPULATION) (MH-10)	108
3.6.1	Documentation sheet	108
3.6.2	Results	109
3.7	READMISSIONS WITHIN 30 DAYS IN PSYCHIATRIC HOSPITAL WARDS (IN THE SAME HOSPITAL, % OF ADMISSIONS) (MH-11)	112
3.7.1	Documentation sheet	112
3.7.2	Results	113
3.8	NUMBER OF CLINICAL PSYCHOLOGISTS REGISTERED AT RIZIV – INAMI (/10 000) (MH-12)	115
3.8.1	Documentation sheet	115
3.8.2	Results	116
4	CARE FOR OLDER PEOPLE	120
4.1	LONG-TERM CARE, IN HOMES FOR OLDER PEOPLE OR AT HOME (% POP AGED 65 YEARS AND OVER) (OLD-1 AND OLD-2)	120
4.1.1	Documentation sheet	120
4.1.2	Results	123
4.2	INFORMAL CARERS (% OF POPULATION AGED 50 YEARS AND OVER) (OLD-3)	130
4.2.1	Documentation sheet	130
4.2.2	Results	131
4.3	NUMBER OF BEDS IN HOMES FOR OLDER PEOPLE (PER 1 000 POPULATION AGED 65 YEARS AND OVER) (OLD-4)	136
4.3.1	Documentation sheet	136
4.3.2	Results	137



4.4	LOW CARE-DEPENDENT PEOPLE IN HOMES FOR OLDER PEOPLE (% OF RESIDENTS) (OLD-5)	141
4.4.1	Documentation sheet	141
4.4.2	Results	142
4.5	PRACTICING GERIATRICIANS (PER 10 000 POPULATION AGED 65 YEARS AND OVER) (OLD-6)	144
4.5.1	Documentation sheet	144
4.5.2	Results	146
4.6	FALL INCIDENTS DURING THE LAST MONTH IN HOMES FOR OLDER PEOPLE (% OF RESIDENTS) (OLD-7)	150
4.6.1	Documentation sheet	150
4.6.2	Results	151
4.7	PREVALENCE OF PRESSURE ULCERS (GRADE II-IV) IN OLDER PERSONS (% OF RESIDENTS) (OLD-8)	154
4.7.1	Documentation sheet	154
4.7.2	Results	155
4.8	USE OF ANTICHOLINERGICS IN OLDER PERSONS (OLD-10)	157
4.8.1	Documentation sheet	157
4.8.2	Results	160
4.9	USERS OF ANTIPSYCHOTICS (A) AND ANTIDEPRESSANTS (B) IN OLDER PERSONS IN HOMES FOR OLDER PEOPLE (OLD-11) VERSUS OUTSIDE HOMES FOR OLDER PEOPLE (OLD-12)	163
4.9.1	Documentation sheet	163
4.9.2	Results	164
4.10	POLYPHARMACY AMONG THE ELDERLY (OLD-13)	173
4.10.1	Documentation sheet	173



	4.10.2 Results	175
5	END-OF-LIFE CARE.....	180
5.1	CANCER PATIENTS WHO RECEIVED PALLIATIVE CARE AT THE END OF THEIR LIFE (EOL-1)	180
	5.1.1 Documentation sheet	180
	5.1.2 Results	182
5.2	CANCER PATIENTS WHO DIED WITHIN ONE WEEK AFTER START OF PALLIATIVE CARE (EOL-2)	187
	5.2.1 Documentation sheet	187
	5.2.2 Results	188
5.3	CANCER PATIENTS WHO RECEIVED CHEMOTHERAPY IN THE LAST 14 DAYS OF LIFE (EOL-3)	193
	5.3.1 Documentation sheet	193
	5.3.2 Results	194
5.4	DEATH AT USUAL PLACE OF RESIDENCE (AT HOME OR IN RESIDENTIAL CARE) (EOL-4)...	198
	5.4.1 Documentation sheet	198
	5.4.2 Results	200



LIST OF FIGURES

Figure 1 – Coverage of vaccination against influenza in people aged 65 years and over, by region (2010-2021) and by district (2021)	27
Figure 2– Coverage of vaccination against influenza for people aged 65 years and over: international comparison (2021, trend 2010-2021)	30
Figure 3 – Measles notification rate (per million) in Belgium, by region (2011-2021)	34
Figure 4 – Measles notification rate (cases per million) in 2021, by country, ECDC	35
Figure 5 – Measles notification rate (cases per million), EU-15 comparison, 2010-2021	36
Figure 6 – Coverage of organised (left-hand side) and total (right-hand side) breast cancer screening in women 50-69 years old in 2010-2021, by region (primary indicators)	43
Figure 7 – Coverage of organised (left-hand side) and total (right-hand side) breast cancer screening in women 50-69 years old in 2021, by district (primary indicators)	44
Figure 8 – Coverage of breast cancer screening: international comparison (2010-2021)	46
Figure 9 – Coverage of cervical cancer screening: international comparison (2021)	52
Figure 10 – Colorectal cancer screening (people aged 50-74 years): international comparison (2021)	56
Figure 11 – Regular contact with a dentist (% pop aged 3+), by patient region (left 2010-2021) and district (right, 2021).....	62
Figure 12 – Age-adjusted preventable mortality rates, by sex, Belgium and regions, 2019	68
Figure 13 – Age-adjusted preventable mortality rates, by sex, Belgium and regions, 2020	68
Figure 14 – Leading causes of preventable mortality among men, 2019-2020	68
Figure 15 – Leading causes of preventable mortality among women, 2019-2020.....	69
Figure 16 – Age-standardised preventable mortality rates among men, Belgium and regions, 2010-2020	70
Figure 17 – Age-standardised preventable mortality rates among women, Belgium and regions, 2010-2020	70
Figure 18 – Age-standardised preventable mortality rate among men, EU-14, 2020	71
Figure 19 – Age-standardised preventable mortality rate among men, EU-27, 2020	71
Figure 20 – Age-standardised preventable mortality rate among women, EU-14, 2020	72



Figure 21 – Age-standardised preventable mortality rate among women, EU-27, 2020	72
Figure 22 – Density of practising psychiatrists per 10 000 inhabitants by region or community.....	76
Figure 23 – Density of practising psychiatrists: number of practising psychiatrists per 10 000 inhabitants, by district (2021)	78
Figure 24 – Distribution of psychiatric hospitals (PH) and psychiatric departments within general hospitals (PDGH) in Belgium (2020).....	78
Figure 25 – Number of practising psychiatrists per 10 000 pop: international comparison (2010-2021).....	80
Figure 26 – Rate of Involuntary Committals per 10 000 inhabitants (2010-2021).....	89
Figure 27 – Average length of stay of involuntary committals (days), by region (2012-2021)	90
Figure 28 – Proportion of adult psychiatric admissions that were involuntary in 2021-2022 (or most recent reporting period available; international comparison).....	90
Figure 29 – Percentage of visits in emergency rooms (ER) for social, mental or psychic reasons (2010-2021).....	94
Figure 30 – Percentage of visits in emergency rooms (ER) for suicide attempts (2010-2021).....	94
Figure 31 – Percentage of visits in emergency rooms (ER) for social, mental or psychic reasons, or suicide attempts (2010-2021)	95
Figure 32 – Proportion (%) of visits in emergency rooms for social, mental or psychic reasons, or suicide attempts by district (2021)	95
Figure 33 – Defined Daily Doses (DDDs) of antidepressants per 1000 inhabitants per day, by patient region (2010-2021) and district (2021)	100
Figure 34 – DDDs of antidepressants: international comparison (2010- 2021)	101
Figure 35 – Percentage of adults (≥18 years) with antidepressants (2010-2021)	104
Figure 36 – Short-term antidepressant use per region: treatment < 3 months (left-hand side) and treatment < 6 months (right-hand side) in 2011-2020.....	106
Figure 37 – Number of hospitalisation days in psychiatric hospital or in psychiatric services in general hospital per 1000 inhabitants, by patient region (2012-2021)	110



Figure 38 – 30 days readmission rate in psychiatric hospital or in psychiatric services in general hospital, by patient region (2010-2021).....	113
Figure 39 – Unplanned readmission rate for adults in mental healthcare: international comparison (2022) ...	114
Figure 40 – Density of registered psychologists: number of psychologists per 10 000 inhabitants (2022)	118
Figure 41 – Evolution of the mean age of persons in rest homes and rest and nursing homes in Belgium, men and women (2008-2021).....	124
Figure 42 – Long-term care in homes for older people or at home (% pop aged 65 years or over) - by region (2008-2021)	125
Figure 43 – Long-term care in homes for older people or at home (% pop aged 65 years or over) - by region (2018/2021).....	126
Figure 44 – Long-term care recipients in institutions (A) or at home (B) (% pop aged 65 years or over) - international comparison (2020)	128
Figure 45 – Informal carers (% of population aged 50+) (2018) - by region	132
Figure 46 – Informal carers (% of population aged 50+), either on daily or weekly basis (2019 or nearest year) – international comparison	134
Figure 47 – Number of beds per 1 000 persons ≥ 65 years (2022/21)	138
Figure 48 – Long-term care beds in institutions and hospitals, 2019 (or nearest year) per 1000 population aged 65 years and over – international comparison.....	139
Figure 49 – Low care-dependent people (with O/A lump sum) in homes for older people (% of residents) 2008-2021.....	142
Figure 50 – Practising geriatricians per 10 000 population 65+, in FTE, per region, 2011-2021.....	148
Figure 51 – Geriatricians per 10 000 population 65 and older in the G-7 countries.....	148
Figure 52 – Fall incidents during the last month in homes for older people (% of residents): one or more fall incidents (2018-2021)	151
Figure 53 – Fall incidents during the last month in homes for older people (% of residents): one or more fall incidents (2016-2017)	152



Figure 54 – Fall incidents in people aged 65 years and over in 12 months preceding the interview (2008-2013-2018).....	152
Figure 55 – Prevalence of pressure ulcers (category 2 or more) in homes for older people - Flanders (2018-2021).....	155
Figure 56 – Prevalence of pressure ulcers (category 2 or more) that developed in the home – Flanders (2018-2021)	156
Figure 57 – Percentage of the Belgian population aged ≥ 65 years using anticholinergic drugs or antidepressant drugs with anticholinergic effects (>80 DDD): evolution 2011-2021	160
Figure 58 – Percentage of the Belgian population aged ≥ 65 years using anticholinergic drugs or antidepressant drugs with anticholinergic effects (>80 DDD), by sex (2021).....	160
Figure 59 – Percentage of the Belgian population aged ≥ 65 years using anticholinergic drugs or antidepressant drugs with anticholinergic effects (>80 DDD), by age group (2021)	161
Figure 60 – Percentage of the Belgian population aged ≥ 75 years using anticholinergic drugs or antidepressant drugs with anticholinergic effects (>80 DDD), in homes for older people versus at home (2021)	161
Figure 61 – Percentage of the Belgian population aged ≥ 65 years using anticholinergic drugs or antidepressant drugs with anticholinergic effects (>80 DDD), by region and province (2021)	162
Figure 62 – Percentage of the Belgian population aged ≥ 65 years using antipsychotics (≥ 1 DDD): evolution 2008-2021	164
Figure 63– Percentage of the Belgian population aged ≥ 65 years using antipsychotics (≥ 1 DDD), by gender (2008-2021)	165
Figure 64 – Percentage of the Belgian population using antipsychotics (≥ 1 DDD), by age category (2008-2021)	165
Figure 65 – Percentage of the Belgian population aged ≥ 65 years using antipsychotics (≥ 1 DDD), by use of long-term care (2008-2021)	166
Figure 66 – Percentage of the Belgian population aged ≥ 65 years using antipsychotics (≥ 1 DDD), by region and province (2021).....	167
Figure 67 – Percentage of the Belgian population aged ≥ 65 years using antipsychotics (≥ 1 DDD), by region and by type of long-term care (2021).....	168



Figure 68 – People with at least one prescription of antipsychotics in the year, per 1 000 people aged ≥65 years, 2019 (or nearest year) (>0 DDD): OECD data	168
Figure 69 – People with at least one prescription of antipsychotics in the year, per 1 000 people aged ≥65 years, 2019 (or nearest year) (>0 DDD): OECD data – by gender	169
Figure 70 – Percentage of the Belgian population aged ≥65 years using antidepressants (≥1 DDD): evolution 2008-2021	169
Figure 71 – Percentage of the Belgian population aged ≥65 years using antidepressants (≥1 DDD), by gender (2008-2021)	170
Figure 72 – Percentage of the Belgian population using antidepressants (≥1 DDD), by age category (2008-2021)	170
Figure 73 – Percentage of the Belgian population aged ≥65 years using antidepressants (≥1 DDD), by use of long-term care (2008-2021)	171
Figure 74 – Percentage of the Belgian population aged ≥65 years using antidepressants (≥1 DDD), by region and province (2021)	171
Figure 75 – Percentage of the Belgian population aged ≥65 years using antidepressants (≥1 DDD), by region and by type of long-term care (2021)	172
Figure 76 – Difference from the national mean of the insured population aged 65+ using 5 or more drugs of >80 DDD per year, by district, 2022	178
Figure 77– Standardized percentage of the insured population aged 65+ using 5 or more drugs of >80 DDD per year and coefficient de variations between districts, by age group, 2022	178
Figure 78 – Evolution of the standardized percentage of the insured population aged 65+ using 5 or more drugs of >80 DDD per year, by province, 2019-2022	179
Figure 79 – Place of death in cancer patients (2008-2020) by year of death, all tumours (deaths in 2006, 2007 and 2021 excluded, maximum 3 years of follow-up)	201
Figure 80 – Place of death of patients diagnosed with an acute versus chronic tumour type (year of death=2020, incidence years 2018-2020 included)	202
Figure 81 – Place of death, by region, all tumours (year of death=2020, incidence years 2018-2020 included)	203



LIST OF TABLES

Table 1 – List of indicators	14
Table 2 – Critical immunization threshold and WHO immunization target rates.	19
Table 3 – National immunisation rates (weighted average) by disease, Belgium 2012-2020.....	20
Table 4 – Regional immunization rates against selected diseases by region, 2012-2020 regional vaccination surveys.....	21
Table 5 – Coverage of vaccination against influenza in people aged 65 years and over, by patient characteristics (2021)	28
Table 6 – Coverage (in %) of breast cancer screening in women 50-69 years old in 2021 (primary indicators)	42
Table 7 – Coverage (in %) of breast cancer screening in women 50-69 years with medical exclusions in 2020 and 2021 (secondary indicators)	43
Table 8 – Coverage of cervical cancer screening in women aged 20-69 years, by patient characteristics (2020 and 2021).....	51
Table 9 – Coverage rate (%) of cervical screening in women aged 20-69 years without medical exclusions, by age category and region (2021).....	51
Table 10 – Proportion of the target population eligible for colorectal cancer screening (50-74 years old) who had a screening in 2020 and 2021	55
Table 11 – Regular contact with a dentists, by year and patient characteristics (2010-2021).....	60
Table 12 – Age-adjusted preventable mortality rates, by sex, Belgium and regions, 2019-2020	67
Table 13 – Data on practising psychiatrists (2011-2021)	75
Table 14 – Number (head counts) of psychiatrists per region and title (2021)	77
Table 15 – Average waiting time (in days) from enrolment to first face-to-face contact in ambulatory mental health centres in Flanders (2016-2022).....	84
Table 16 – Average duration (in days) from first face-to-face contact to second face-to-face contact in ambulatory mental healthcare centres in Flanders in 2016-2022	85
Table 17 – Defined Daily Doses (DDDs) of antidepressants per 1000 inhabitants per day, by patient characteristics (2021)	99



Table 18 – Percentage of adults with antidepressants prescribed and delivered, by patient characteristics (2021).....	102
Table 19 – Percentage of adults with short-term antidepressants delivered, by patient characteristics (2020).....	105
Table 20 – Number of registered and licensed clinical psychologists (2022).....	116
Table 21 – Long-term care in homes for older people or at home (% pop aged 65 years or over) - by patient characteristics (2018/2021)	123
Table 22 – Long-term care in institution or at home (% pop aged 65 years or over) - by region and province (2018/2021).....	126
Table 23 – Informal carers (% of population aged 50+) - analysis by gender and income quintile (2018) – HIS	131
Table 24 – Informal carers (% of population) - analysis by age category (2018) – HIS.....	132
Table 25 – Number of long-term care beds in homes for older people – 2011-2022.....	137
Table 26 – Number of long-term care beds in homes for older people - per region (2022/21).....	138
Table 27 – Low care-dependent people (with O/A lump sum) in homes for older people (% of residents) 2008-2021	143
Table 28 – Practising geriatricians: demographic characteristics and data by region, 2021	146
Table 29 – Number of geriatricians, Belgium, 2012-2021	147
Table 30 FTE practising geriatricians and convention rate, by province, 2021.....	148
Table 31 – Proportion of the population aged 65 years and older reporting having taken 5 or more different medicines during the last 24 hours, 2018.	176
Table 32 – Percentage of the insured population aged 65+ using 5 or more drugs of >80 DDD per year, 2022	177
Table 33 –Cancer patients who received palliative care at the end of their life, by year of death (2008-2020) (maximum 3 years of follow-up)	182
Table 34 –Cancer patients receiving palliative care at the end of their life – by tumour type (all patients, maximum 3 years of follow-up) (2006-Jun2021)	183



Table 35 –Cancer patients who received palliative care at the end of their life by region (year of death=2020, incidence years 2018-2020 included).....	184
Table 36 –Cancer patients receiving palliative care who died within one week after start of palliative care - by year of death (2008-2020) (deaths in 2006, 2007 and 2021 excluded, maximum 3 years of follow-up) ..	189
Table 37 – Cancer patients receiving palliative care who died within one week after start palliative care - by tumour type (all patients incidence years 2006-2020, maximum 3 years of follow-up).....	190
Table 38 –Cancer patients receiving palliative care who died within one week after start of palliative care - by region (year of death=2020, incidence years 2018-2020 included)	191
Table 39 –Patients who received chemotherapy in the last 14 days of life - by year of death (deaths in 2006, 2007 and 2021 excluded, maximum 3 years of follow-up)	194
Table 40 –Patients receiving chemotherapy in the last 14 days of life by tumour type (all patients 2006-2020, maximum 3 years of follow-up).....	196
Table 41 –Patients who received chemotherapy in the last 14 days of life - by region (year of death=2020, incidence years 2018-2020 included)	196
Table 42 – Place of death in cancer patients (2008-2020) by year of death, all tumours (deaths in 2006, 2007 and 2021 excluded, maximum 3 years of follow-up)	200
Table 43 – End of life: Place of death, by Region, all tumours (year of death=2020, incidence years 2018-2020 included)	202



■ APPENDIX REPORT

1 LIST OF INDICATORS

Table 1 list the indicators of the Belgian performance report 2024 related to the domains: preventive care, mental healthcare, care for older people, and end-of-life care. This table also allows to identify indicators for which analyses according to socio-economic characteristics or gender are done in the technical sheets.

Table 1 – List of indicators

ID	Indicator	Socio-economic characteristics	Gender analyses
Preventive care			
Vaccination coverage			
P-1	Polio (% , 4 th dose)		
P-12	Diphtheria, tetanus and pertussis vaccination in children (% , 4 th dose)		
P-2a	Measles vaccination in children (% , 1 st dose)		
P-2b	Measles vaccination in adolescents (% , 2 nd dose)		
P-3	Pneumococcus vaccination in children (% , 3 th dose)		
P-4	Influenza vaccination (% pop aged ≥65 years) ^c	x	x
P-14	HPV vaccination in girls (% , 2 nd or 3 rd doses following vaccines)		
New			
Incidence infectious diseases preventable by vaccination			
P-5	Incidence of measles (new cases/million pop) ^d		
Cancer screening			
P-6	Breast cancer screening (% women aged 50-69 years)	x	
P-7	Breast cancer screening - organized programme (% women aged 50-69 years)	x	
P-8	Cervical cancer screening (% women aged 20-69 years)		x
P-9	Colorectal cancer screening (% pop aged 50-74 years)		
Oral health – contacts with dentis			



P-11	Regular contacts with dentist ^h (% pop aged ≥3 years)	x	
Preventable mortality			
P-13	Preventable mortality (rate/100 000 pop, age-adjusted)		x
Mental healthcare			
Accessibility of care			
MH-2	Practising psychiatrists (/10 000 pop)		
MH-12	Number of clinical psychologists registered at RIZIV-INAMI (/10 000)		
New			
MH-3	Waiting time for a first face-to-face contact in a centre for ambulatory mental health (days)	x	x
Appropriateness of care			
MH-4	Rate of involuntary committals in psychiatric hospital wards (/10 000 pop)		x
MH-5	Emergency rooms (ER) visits for social, mental or psychic reason (% of admission in ER in general hospitals)		
Continuity of care			
MH-11	Readmissions within 30 days in psychiatric hospital wards (in the same hospital, % of admissions)		
Appropriateness of prescribing pattern in ambulatory patients			
MH-6	Use of antidepressants (total DDD/1000 pop./day)		x
MH-7	Use of antidepressants (% of adult population, at least once in the year)	x	x
MH-8	Use of short (<3 months) antidepressant treatment episodes (% of adult population under antidepressant)	x	x
Contextual			
MH-10	Number of hospitalisation days in psychiatric hospital wards (/1000 population)		x
Care for older people			
Accessibility of long-term care services			
OLD-1	Long-term care in home for older people (% of pop. 65+)		x
OLD-2	Long-term home nursing care (% of pop. 65+)		x
OLD-3	Informal carers (% of pop. 50+)	x	x
OLD-4	Number of long-term care beds in homes for older people ^a (per 1 000 population 65+)		
OLD-5	Low care-dependent people in homes for older people (% of residents)		



Accessibility of acute care		
OLD-6	Practising geriatricians (per 10 000 pop. 65+)	
Safety in residential care		
OLD-7	Fall incident during the last month in homes for older people (% of residents)	x
OLD-8	Prevalence of pressure ulcers (grade II-IV) in homes for older people (% of residents)	
Appropriateness of care		
OLD-10	Prescription of anticholinergic drugs >80 DDD in older people (% of pop. 65+)	x
OLD-11 A	Use of antipsychotics ≥1 DDD in homes for older people (% of residents 65+)	x
OLD-11 B	Use of antidepressants ≥1 DDD in homes for older people (% of residents 65+)	x
OLD-12 A	Use of antipsychotics ≥1 DDD outside homes for older people (% of pop. 65+)	x
OLD-12 B	Use of antidepressants ≥1 DDD outside homes for older people (% of pop. 65+)	x
OLD-13	Polypharmacy among older people (5 or more drugs of >80 DDD per year) (% of pop. 65+)	x x
End-of-life care		
Access to palliative care		
EOL-1	Cancer patients who received palliative care at the end of their life (% of cancer patients with poor prognosis who died)	
Timeliness of palliative care		
EOL-2	Cancer patients who started receiving palliative care and died within one week after start of palliative care (% of cancer patients with poor prognosis who received palliative care and died)	
Aggressiveness of care at the end of life		
EOL-3	Cancer patients who received chemotherapy in the last 14 days of life (% of cancer patients with poor prognosis who died)	
People-centred care		
EOL-4	Death at usual place of residence (home or in residential care) (% of cancer patients with poor prognosis who died)	



2 TECHNICAL SHEETS

2.1 Preventive care

2.1.1 Child and adolescent vaccination (P-1, P-2, P-3, P-12, P-14)

Description	Percentage of infants who have been fully vaccinated against important infectious childhood diseases. The following coverage will be monitored: poliomyelitis (P-1), diphtheria, tetanus, pertussis (P-12), and pneumococcus (P-3). Percentage of infants and adolescents who have been fully vaccinated against measles (P-2) and the human papillomavirus (HPV, P-14).
Calculation	Diphtheria-tetanus-pertussis (DTP), poliomyelitis, pneumococcus Percentage of infants of 18-24 months who have been fully vaccinated for this age according to national vaccination schedules, against pertussis, diphtheria, tetanus, poliomyelitis (4 doses) or pneumococcus (3 doses). Measles Percentage of infants reaching their 2nd birthday in the given calendar year who have been fully vaccinated against measles (first dose). Percentage of adolescents who have received the second dose of vaccination against measles. Human papillomavirus (HPV) Percentage of adolescent girls and boys who have received a full vaccination schedule (2 or 3 doses following the age).
Rationale	Immunisation is one of the most powerful and cost-effective forms of primary prevention. It is a classical prevention strategy which should be maintained to ensure collective protection. Moreover, Belgium has signed the international commitment to eliminate measles, which implies a vaccination coverage of 95% for the first and the second dose of measles, and the European Vaccine Action Plan (1;2). The choice of the specific vaccine-preventable diseases in our indicator set is a sub-selection of the vaccination indicators from ECHIM (3) that has been updated to recent vaccination schemes.
Primary Data source	Regional vaccination coverage surveys are organized by the regions/communities. For adolescents in Wallonia and Brussels: school surveys.
Indicator source	For the Belgian pooled values: Sciensano (Service of Epidemiology of Infectious Diseases) (4) By region: - Vaccination surveys reports: 2019 for Wallonia, 2020 for Flanders and 2019 for Brussels (5-11). - For measles coverage, school survey 2020-2021 in adolescents in Wallonia and Brussels (12-16)



	- For HPV coverage, school survey 2019-2020 in adolescents in Wallonia and Brussels (17)
Periodicity	Vaccination coverage surveys occur every 3-4 years (5-6 years in Brussels)
Technical definitions and limitations	In Belgium, vaccination is not a federal health competence and the vaccination coverage rates are measured at regional or community level. A “national” vaccination coverage rate is computed afterwards as a weighted average of the 3 regional/community rates, assuming that the rates remain constant during the inter-survey period. Vaccination schedule: for poliomyelitis, diphtheria, tetanus and pertussis, the complete schedule in Belgium foresees 4 doses. For pneumococcus, it comprises 3 doses. For measles, the target for measles elimination is to reach 95% coverage of the 1st (at 12 months) and 2nd dose. The 2nd dose was previously given around 10-12 years in Belgium, however, since 2019 the Belgian Superior Health Council recommended administering the 2nd dose around 7-9 years (18). Coverage for the 2nd dose is not measured the same way in Flanders, Brussels and Wallonia, and is therefore difficult to compare, including the possibility of underestimation in Brussels and Wallonia. Moreover, following the change in the recommendation, the school survey in Brussels and Wallonia in 2020-2021 took place in the 2nd year of primary school instead of previously the 6th year of primary school, and probably further underestimates the coverage. Vaccination for HPV is offered free of charge to girls and boys within the organised vaccination programme by the Communities (organised vaccination); 1st year of secondary school in Flemish Community, 2nd year of secondary school in French Community. For each programme, 2 doses are administrated with an interval of 6 months. HPV vaccination was extended to boys in 2019. Opportunistic HPV vaccination is also possible and partially reimbursed for girls and boys aged 12 to 18 years (included) by the National Institute for Health and Disability Insurance (INAMI-RIZIV). Reimbursement by INAMI-RIZIV was extended to boys by August 2022. Note that it can be that a small percentage of infants was fully vaccinated in a country with another schedule and therefore misclassified as not fully vaccinated.
International comparability	Only full vaccination coverage by vaccine-preventable disease should be compared. National vaccination schemes differ between countries in age and the number of doses. As currently published international figures do not always display this full coverage, we do not use them and we do not present international comparison.
Targets and critical immunization rates	The critical immunisation rate (minimal level to reach herd immunity ensuring collective protection) varies according to authors (7). Based on those ranges, WHO has recommended minimal targets to reach: 90% for DTP and polio, 95 % for measles and 90% among girls for HPV (1,19). The European Vaccine Action Plan aims at ≥95% coverage with three doses of DTP (2). The Superior Health Council recommends 95% coverage for poliomyelitis (20).
Reviewers	Reviewed by: - Laura Cornelissen, Sciensano, Scientist in Infectious diseases epidemiology - Tine Grammens, Sciensano, Scientist in Infectious diseases epidemiology - Hélène De Pauw, Sciensano, Scientist in the Cancer Center

**Table 2 – Critical immunization threshold and WHO immunization target rates.**

Disease	Critical threshold (7)	WHO target (1,19)	European target (2)	Belgian Superior Health Council (20)
Poliomyelitis	80-93%	90%	95%	95%
Diphtheria	80-85 %	90%	95%	
Pertussis	92-95%	90%	95%	
Pneumococcus	70%	/	/	
Measles 1 and 2	92-95%	95%	/	95%
HPV 2		90% (among girls before 15y)		

2.1.2 Results

Table 3 summarises the immunization rates for polio, DTP, pneumococcus, measles, and HPV at Belgium level. Those national rates are computed by Sciensano as a weighted average from the regional/community rates.

At national level, there is an increase in the vaccination coverage rate for polio and DTP vaccines, reaching around 94% in 2020. This level is sufficient for diphtheria, but slightly lower than the (Belgian) target for polio, and slightly lower than the critical threshold for pertussis. The national coverage is sufficient for pneumococcus.

The national coverage for the 1st dose of measles vaccination has reached the 95% target since 2012. However, the coverage for the 2nd dose of measles vaccination is too low. Completed HPV vaccination among girls under 15 years old is still too low compared to the target of 90%.

Table 4 shows regional differences in vaccination coverage in Belgium. Coverage for polio, DTP, and the 1st dose of measles is now similar in

Flanders and Wallonia but lower in Brussels. Since 2015, Wallonia has reached the 95% target for the 1st dose of measles, and Brussels is close to the target with a coverage of 94.8%. Caution should be applied when comparing regional estimates, due to different methodologies, but there are clear indications that true coverage is lower in Wallonia and Brussels than in Flanders.

2.1.3 Impact of COVID-19 pandemic

During the COVID-19 pandemic, vaccination of young children has been prioritized in Belgium, leading to very low to no impact for infants. However, school health services have been disrupted at the beginning of the pandemic and were overwhelmed with contact tracing. In Flanders, the 2nd dose of measles was prioritized and the HPV vaccination and DTP booster were later taken up by catch-up vaccination. In the French-speaking community, a decrease in vaccination was observed in 2020-2021 and 2021-2022.

**Table 3 – National immunisation rates (weighted average) by disease, Belgium 2012-2020**

Vaccine and dose	2012	2016	2019	2020
Surveys used for calculation of weighted average	VL 2012 RW 2012 BXL 2012	VL 2016 RW 2015 BXL 2012 RW-BXL 2015-16 for MMR2	VL 2016 WL 2019 BXL 2019 RW-BXL 2019-20 for HPV2 RW-BXL 2015-16 for MMR2	VL 2020 WL 2019 BXL 2019
Polio 4	92.0%	93.0%	93.7%	94.0%
DTP 4	91.9%	92.7%	93.3%	93.9%
Pneumococcus (PCV) 3	93.3%	93.6%	93.6%	93.8%
MMR 1	95.6%	95.7%	96.1%	96.0%
MMR 2	80.5%	82.0%	82.1%	83.0%
HPV 2 (girls)	59.0%	65.4%	66.0%	69.3%
HPV 2 (boys)	/	/	/	63.3%
HPV 2 (girls and boys)	/	/	/	66.1%

Green: reaching the critical threshold and national target; Yellow: reaching critical threshold but not national target, or very close to the critical threshold; Red: far from the target/threshold

VL = Flanders; RW = Wallonia; BXL = Brussels

**Table 4 – Regional immunization rates against selected diseases by region, 2012-2020 regional vaccination surveys.**

Vaccine and dose	Flanders 2012	Brussels 2012	Wallonia 2012	Flanders 2016	Brussels 2015	Wallonia 2015	Flanders 2020	Brussels 2019	Wallonia 2019
Polio 4	93.2%	91.1%	90.4%	93.6%	no new survey	92.9%	94.2%	92.8%	94.3%
DTP 4	93.0%	91.1%	90.4%	93.0%	no new survey	92.9%	94.2%	92.6%	94.0%
Pneumococcus (PCV) 3	96.5%	90.1%	89.2%	94.9%	no new survey	92.9%	95.4%	91.7%	92.0%
MMR 1	96.6%	94.1%	94.4%	96.2%	no new survey	95.6%	96.1%	94.8%	96.5%
MMR 2*	84.6%	75.5% (2008-2009)	75.5% (2008-2009)	87.4%	75.0% (2015-2016)	75.0% (2015-2016)	89.2%	51.1%** (2020-2021)	51.1%** (2020-2021)
HPV 2* (girls)	83.5%	29.2% (2012-2013)	29.2% (2012-2013)	89.5%	36.1% (2016-2017)	36.1% (2016-2017)	84.3%	50.2% (2019-2020)	50.2% (2019-2020)
HPV 2 (boys)							77.3%	45.4% (2019-2020)	45.4% (2019-2020)
HPV 2* (girls and boys)	/	/	/	/	/	/	80.7%	47.6% (2019-2020)	47.6% (2019-2020)

the method differs by region (school survey for Wallonia and Brussels, survey in general population for Flanders)this study was done with another sample and methodology than the previous years in the context of changes in vaccination schedule and pandemic; results are not representative*



Key points

- **It is important to develop a vaccination registry to have comparable and qualitative data from all regions**
- **Vaccination coverages are increasing. Vaccination coverage for all vaccines included in the basic infant vaccination schedule is above 90% throughout Belgium.**
- **For measles: the coverage for the second dose is too low in the 3 regions; in Flanders, it is approaching the threshold, but in Wallonia and Brussels the coverage is quite low (coverage in Brussels and Wallonia may be underestimated). An effort is still to be made to avoid measles outbreaks.**
- **For HPV: the vaccination in boys started in 2019 and had a good start. The coverage is too low in all regions, particularly in Wallonia and Brussels.**

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2.2 Influenza vaccination (% pop aged ≥65 years) (P-4)

2.2.1 Documentation sheet

Description	Proportion of the population aged 65 years and over that were vaccinated against influenza
Calculation	<u>Numerator</u>: number of individuals aged 65 years and over who received a dose of influenza vaccine during the past calendar year.^a <u>Denominator</u>: number of individuals aged 65 years and over Because results are based on sickness funds data, most calculations are based on older patients who are not residing in an institution. However a sensitivity analysis including data from nursing homes in Wallonia and Brussels has also been performed (see Limitation section for details).
Rationale	Influenza vaccines are considered as the most effective preventive tool to reduce disease burden and severe disease caused by influenza in individuals. In Belgium, seasonal influenza vaccination is currently recommended for the prevention of influenza for, among others, all individuals aged 65 years and over and for all individuals living in institutions (among other groups).¹ The WHO recommends as target a 75% vaccination rate for older people.² During the COVID-19 pandemic, increasing the rate of influenza vaccination among older people became even more important as countries sought to avoid a flu epidemic on top of the COVID-19 pandemic and the additional pressure that this would put on hospitals and other parts of health care systems.³ In addition, influenza vaccination may be beneficial for the prevention of COVID-19, as it was reported that influenza vaccination was associated with a small/moderate lower risk of COVID-19 infection and adverse outcomes.⁴
Data source	IMA – AIM data of influenza vaccines which have been reimbursed.
Technical definitions	In IMA – AIM data: all vaccines belonging to the ATC 4 class J07BB (anti-influenza vaccines).
Limitation	In IMA – AIM data, only vaccines which have been reimbursed by the RIZIV – INAMI are taken into account. In <u>Flanders</u>, since 2010, vaccines are free of charge for older people residing in elderly and nursing homes: vaccines are bought as a group by the Flemish community, and hence are not reimbursed by sickness funds, and do not appear in the IMA – AIM database (source: Agentschap voor Zorg and Gezondheid). Hence all calculations for this indicator exclude (from the numerator and denominator) older people residing in elderly or nursing homes, which may result in an underestimation of the true coverage rate. As a sensitivity analysis, this indicator is computed including older people residing in institutions or nursing homes, for Wallonia and Brussels. However, the coverage

^a This definition differs from epidemiological studies, where rates are generally calculated on one influenza season, which usually overlaps two calendar years.



	rate of vaccination against influenza in institutions in Brussels and Wallonia is likely to be underestimated as some nursing homes in Brussels use a bulk ordering system for influenza vaccines, which results in data not being recorded in the IMA – AIM data.
International comparability	The OECD data provides data on immunisation against influenza among people aged 65 years and over during the last 12 months. The last 12 months cover the last influenza season or calendar year. In some countries the definition used deviates from the OECD definition, such as in Belgium, Germany and Croatia. In Belgium, only vaccines which have been reimbursed are taken into account and the elderly residing in elderly or nursing homes are excluded. In Germany, only the data of the statutory health insured persons are taken into account, vaccinations carried out with private insured persons are not recorded. In addition, the definition includes the utilisation of influenza vaccination in the previous winter season of people aged 60 years and more. In Croatia, data about immunisation against influenza is available for immunisation seasons each of which includes two years, therefore percentage for certain year is actually percentage for that season. Thus, caution needs to be applied when comparing results for Belgium with those for other EU countries.
Dimension	Accessibility of preventive care
Related indicators	
Reviewer	Finaba Berete (Sciensano)

2.2.2 Results

Belgium

Based on reimbursement data, vaccination rates against influenza for individuals aged 65 years old and over decreased between 2010 and 2019 in Belgium, from 57.7% to 52.9% (data excluding nursing homes).

Impact of the COVID-19 pandemic

The vaccination rate increased sharply from 52.9% in 2019 to 62.1% in 2020 and then decreased to 57.3% in 2021.

Analysis by demographic characteristics and socio-economic status

There are also large differences in coverage rates by patient age: while the rate only reaches 47.5% for individuals aged 65-69 years, it improves to 66.1% for individuals aged 85-89 years (see Table 5). The vaccination rate was slightly higher in women than men (58.3% vs 56.2%). The same data also show that there might be accessibility problems for people having preferential reimbursement entitlement, as their influenza vaccination rate is lower than for people without preferential reimbursement entitlement (55.2% vs 58.1%).



Based on the HISlink 2018, a recent study reported no significant association between socioeconomic status (income and education) of individuals aged 65 years old and over and influenza vaccination.⁵ Individuals with an insufficient/limited level of health literacy were more likely to be vaccinated than those with a sufficient level of health literacy (60.7% vs 53.0%). This association could partly be explained by the fact that individuals with a lower health literacy may belong to a risk group and may as a result be more likely to have contact with physicians and be offered an influenza vaccination. There was no significant mediating contribution of health literacy in the pathway by which socioeconomic status affected influenza vaccination, indicating a possible influence of the universal health coverage in place in Belgium.

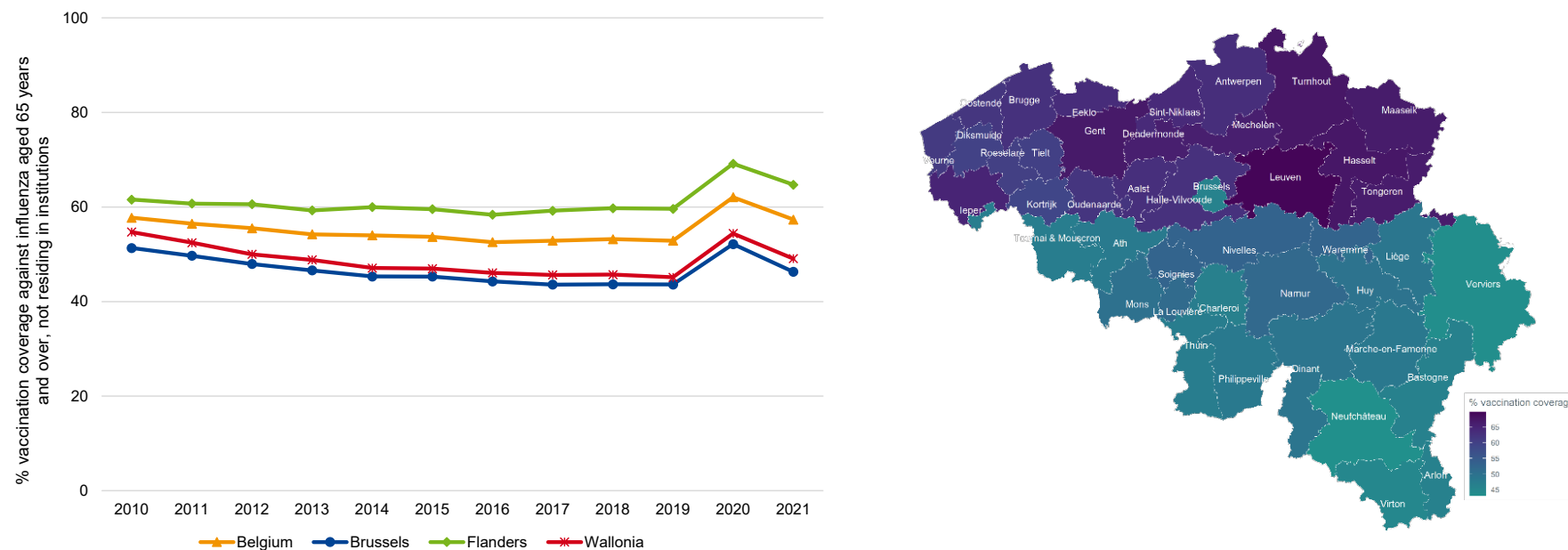
Regional comparison

In 2021, there was a higher coverage rate in Flanders (64.7%) than in Wallonia (49.1%) and Brussels (46.3%), and large differences between patient provinces (see Table 5). Indeed, the Walloon Brabant (53.3%) showed a higher vaccination rate than the other Walloon provinces, and on the Flemish side, West Flanders (61.4%) showed a lower vaccination rate than other provinces in Flanders (see Table 5; Figure 1).

The results exclude older people residing in nursing homes because in Flanders influenza vaccines for this population are bought directly by the regional health authority. A sensitivity analysis was performed including and excluding older people residing in institutions and limiting the analysis to Wallonia and Brussels. By including older people living in institutions, the vaccination coverage rate reached 50.1% (71.8% in institutions) and is improved both in Wallonia (from 49.1% to 50.7%) and in Brussels (from 46.3% to 47.4%). By excluding older people residing in institutions the vaccination coverage rate in Brussels and Wallonia decreased to 48.6% (see Table 5).



Figure 1 – Coverage of vaccination against influenza in people aged 65 years and over, by region (2010-2021) and by district (2021)



Source: IMA – AIM data, KCE calculation. **Note: People residing in institution are excluded from the analysis** (see section limitation in technical fiche for details).

**Table 5 – Coverage of vaccination against influenza in people aged 65 years and over, by patient characteristics (2021)**

Variable	Category	BELGIUM CALCULATION, INSTITUTIONS EXCLUDED			WALLONIA+BRUSSELS CALCULATION, INSTITUTIONS INCL.		
		Numerator	Denominator	Influenza vaccination coverage (%)	Numerator	Denominator	Influenza vaccination coverage (%)
Total		1 271 018	2 217 047	57.3	444 002	886 074	50.1
Age (years)	65-69	308 676	650 204	47.5	96 092	252 412	38.1
	70-74	319 205	562 958	56.7	108 614	223 881	48.5
	75-79	263 244	420 747	62.6	86 495	157 051	55.1
	80-84	193 811	294 897	65.7	67 491	113 511	59.5
	85-89	127 146	192 394	66.1	50 595	82 033	61.7
	≥90	58 936	95 847	61.5	34 715	57 186	60.7
Gender	Female	700 140	1 201 617	58.3	258 488	505 765	51.1
	Male	570 878	1 015 430	56.2	185 514	380 309	48.8
Entitlement to increased reimbursement	No	976 094	1 680 408	58.1	326 043	640 534	50.9
	Yes	294 831	533 806	55.2	117 901	244 709	48.2
Long term care	Home care	153 105	244 831	62.5	44 223	82 245	53.8
	Institutions*	-	-	-	42 042	58 594	71.8
	No long term care	1 117 913	1 972 216	56.7	357 737	745 235	48.0
Region	Brussels	69 691	150 575	46.3	75 624	159 445	47.4
	Flanders	867 225	1 340 413	64.7	-	-	-
	Wallonia	332 269	676 905	49.1	368 378	726 629	50.7
	Brussels + Wallonia (sensitivity analysis)	401 960	827 480	48.6	444 002	886 074	50.1
	Antwerp	233 825	359 765	65.0	-	-	-
Province	Walloon Brabant	41 623	78 158	53.3	45 497	83 311	54.6
	Brussels-Capitale	69 691	150 575	46.3	75 624	159 445	47.4
	Hainaut	121 871	250 185	48.7	135 658	269 325	50.4

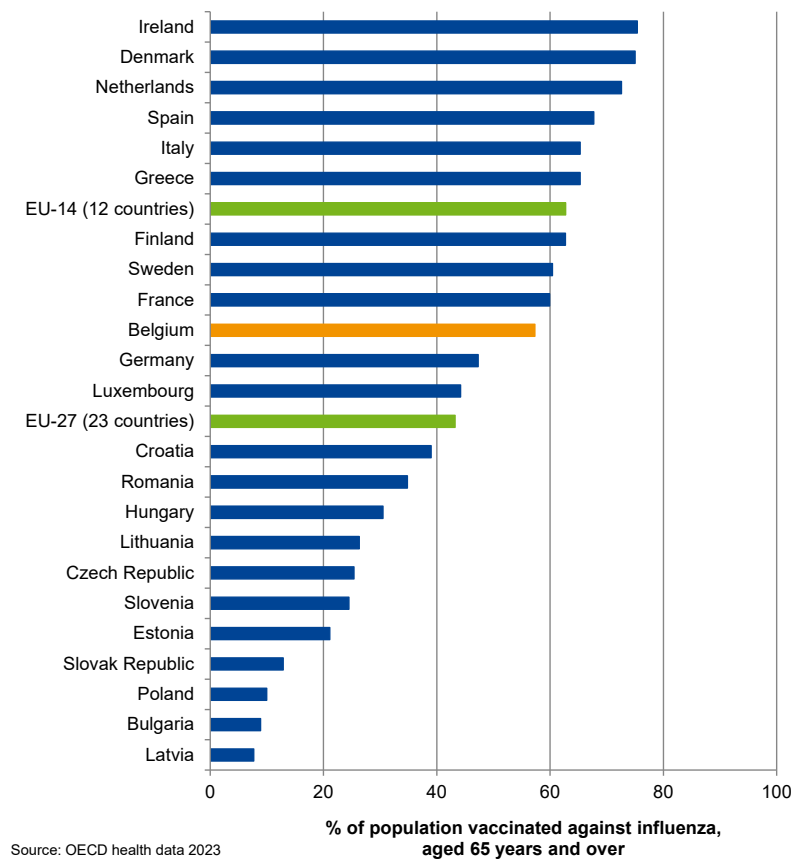
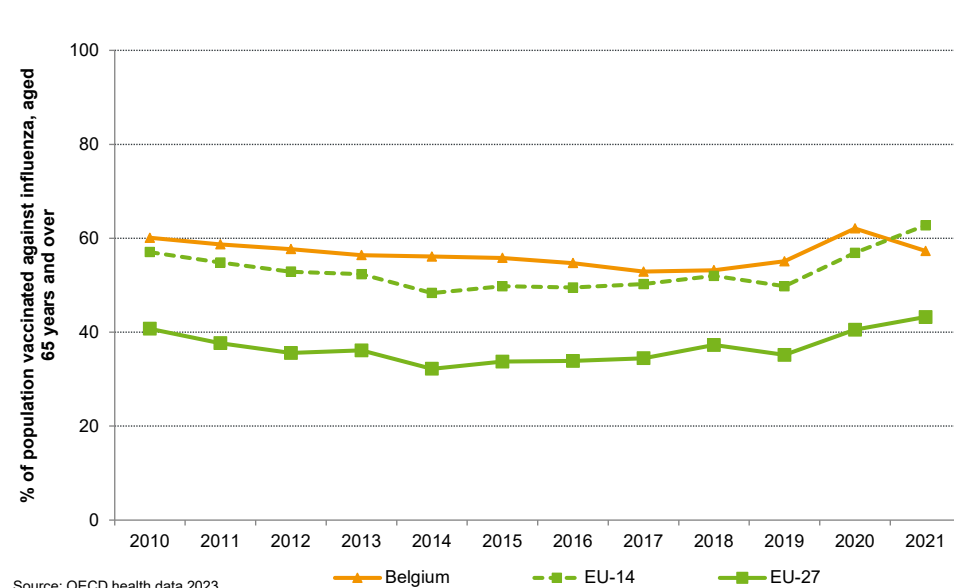


Limburg	120 810	180 471	66.9	-	-	-
Liège	99 144	206 872	47.9	110 053	221 865	49.6
Luxembourg	21 873	47 727	45.8	24 605	51 537	47.7
Namur	47 758	93 963	50.8	52 565	100 591	52.3
East Flanders	195 326	300 667	65.0	-	-	-
Flemish Brabant	146 175	220 971	66.2	-	-	-
West Flanders	171 089	278 539	61.4	-	-	-

Note: People residing in institution are excluded from the analysis at Belgian level - see Wallonia and Brussels columns for sensitivity analyses (on the right of the table; see Limitation section in documentation sheet for details); Source: IMA-AIM data, KCE calculation. *Institutions providing long term care include homes for older people ("ROB" -"MRPA" facilities) and nursing homes ("RVT"- "MRS" facilities).

International comparison

In 2021, the coverage of influenza vaccination in Belgium (57.3%) was higher than the EU-27 average (43.2%) but lower than the EU-14 average (62.8%; see Figure 2). However, between 2010 and 2020, the coverage of influenza vaccination in Belgium was higher than the EU-14 and EU-27 averages.

**Figure 2– Coverage of vaccination against influenza for people aged 65 years and over: international comparison (2021, trend 2010-2021)**



Key points

- In 2021, the vaccination coverage against influenza of people aged 65 years and over (and not residing in an institution) was 57.3%, far below the WHO target of 75%. During the COVID-19 pandemic, the vaccination coverage increased by 17% in 2020 compared to 2019.
- Vaccination rates for 65+ years old (in 2021) were higher in Flanders (64.7%) than in Wallonia (49.1%) and Brussels (46.3%) and also higher for people aged above 75 years.
- There might be some accessibility problems to influenza vaccine for people entitled to preferential reimbursement.
- Although in 2010-2020 Belgium had a higher influenza vaccination coverage than the EU averages, in 2021, Belgium's influenza vaccination coverage (57.3%) was between the EU-27 average (43.2%) and the EU-14 average (62.8%).

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2.3 Incidence of measles (P-5)

2.3.1 Documentation sheet

Description	Incidence of measles per million inhabitants
Calculation	Number of cases of measles notified in a given year, divided by the population
Rationale	Measles is a highly communicable disease caused by the measles virus; complications are frequent (30%), and very severe complications occur in 4 out of 1000 cases in developed countries (death or encephalopathy with permanent brain damage) (1). In the pre-vaccine era, measles was endemic in Belgium as in all European countries, and most children got infected by regular outbreaks. Immunisation against measles has completely changed the epidemiology of the disease: in Europe, the incidence has fallen dramatically, however, limited outbreaks remain common in countries where subgroups of the population have low levels of immunity. The European countries have committed to eliminating measles, as proposed by the WHO Regional Office for Europe (2). The target is to reach an incidence rate lower than 1 per million inhabitants (2). In Belgium, vaccination against measles was introduced in the vaccination schedule in 1985 (single dose) and 1995 (2 doses). The Superior Health Council has published a recommendation to reach 95% coverage for each dose of the measles vaccination (3). In 2021, the vaccination calendar was updated to advance the age at the second dose (3).
Primary data source	Sciensano, Service Epidemiology of Infectious Diseases
Source of results	For Belgium: Sciensano, Service Epidemiology of Infectious Diseases (5) For Europe: ECDC publishes monthly data based on TESSy inputs from each member state. These data are available via https://atlas.ecdc.europa.eu/public/index.aspx.
Technical definitions	Case definition: cases are defined by the EU as “possible” (clinical only), “probable” (clinical and an epidemiological link with a confirmed case) or “confirmed” (clinical and laboratory) (6). All 3 categories of cases are pooled and reported together for the computation of incidence. From 2003 to 2009, cases were reported through a network of paediatricians, PediSurv, at Sciensano. Mandatory notification in Belgium has only started in June 2009. Since 2010 cases have been reported by several sources to Sciensano: • national reference centre for measles, mumps and rubella [https://nrchm.wiv-isp.be/fr/centres_ref_lab/masles_et_rubellavirus/default.aspx] • sentinel laboratories [https://epidemio.wiv-isp.be/ID/Surveillance/Pages/sentinelLabs.aspx] • mandatory notification in the three regions • network of paediatricians Pedisurv [https://www.sciensano.be/fr/surveillance-des-maladies-infectieuses-chez-les-enfants-pedisurv] The records are pooled based on an identifying key to avoid duplicates. When reporting to WHO on the country's status related to the elimination process, the incidence is calculated using only the non-imported cases of measles.
International comparability	Availability: yes, data are published by ECDC, OECD and WHO



	Standardisation: the data sources and the exhaustiveness of the coverage differ between the countries. Caution is required when interpreting the data because of the diversity of the surveillance systems.
Limitation	Although the cases are reported by several sources to Sciensano, some cases can remain undiagnosed and some may be diagnosed but not reported to one of the used sources (underreporting). This may result in an underestimation of the incidence.
Related indicators	Measles vaccination

2.3.2 Results

Belgium

In 2020, 47 cases of measles (1 imported) have been reported and only 7 cases (2 imported) in 2021, compared to 480 cases in 2019 (epidemic year).

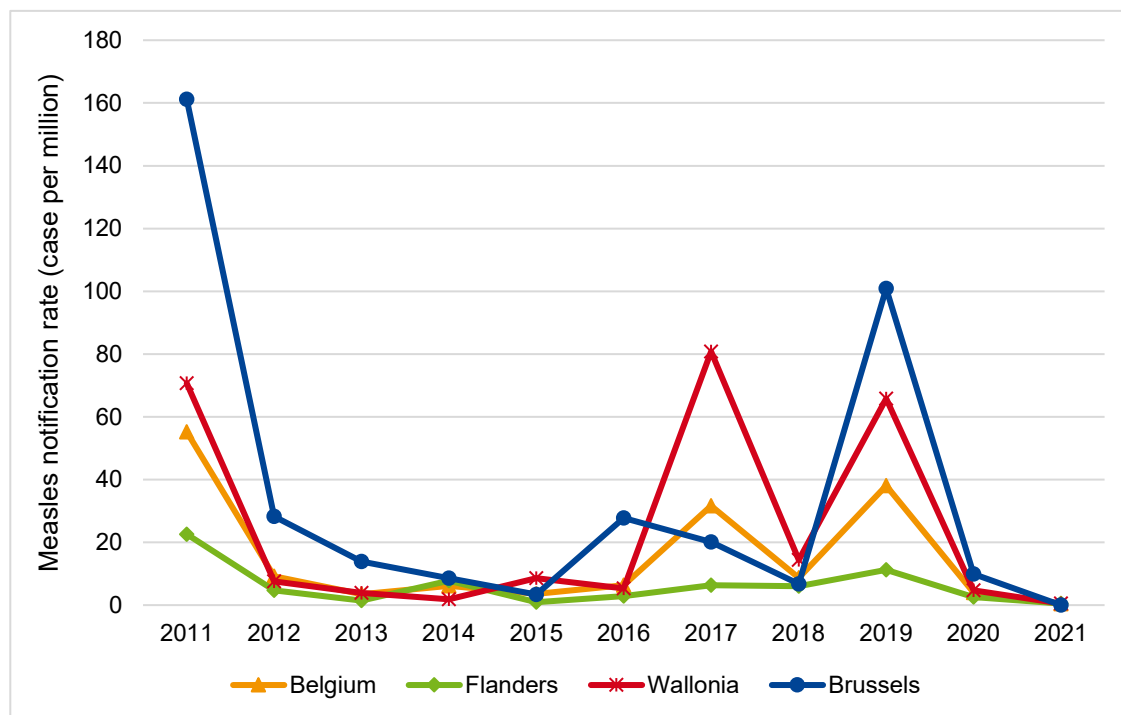
The estimated measles incidence was 4.0 cases per million inhabitants in 2020 and 0.4 cases in 2021. In 2020, the incidence was highest in Brussels (9.9 per million), followed by Wallonia (4.7) and Flanders (2.6). In 2021, no case was reported in Brussels, and Wallonia and Flanders had the same incidence (0.5).

In 2020, after reaching the threshold of 36 months of interrupted endemic transmission, measles was declared eliminated in Belgium (7). However, measles cases have been strongly influenced by the pandemic and the control measures. Given the low coverage of the second dose of the vaccine, build-up of susceptible individuals and continued measles circulation abroad (including neighbouring countries), there is still a high risk of measles outbreaks in Belgium.

Time trends

Figure 3 shows the evolution of the notification rate in Belgium and by region. Three major epidemics have taken place in Belgium since 2010; in 2011 (55.2 cases per million), in 2017 (31.6 per million), and in 2019 (38.1 per million). Between the epidemic years, the estimated incidence of measles fluctuated between 3 and 9 cases per million inhabitants. The majority of cases since 2020 have been notified in January and February 2020. Since the start of the COVID-19 epidemic, few cases have been reported. This can be explained by the restriction's measures causing a likely decrease in cases but under-reporting cannot be excluded (5).

Figure 3 – Measles notification rate (per million) in Belgium, by region (2011-2021)



Source: *Epidemiological surveillance of measles, Sciensano (5)*

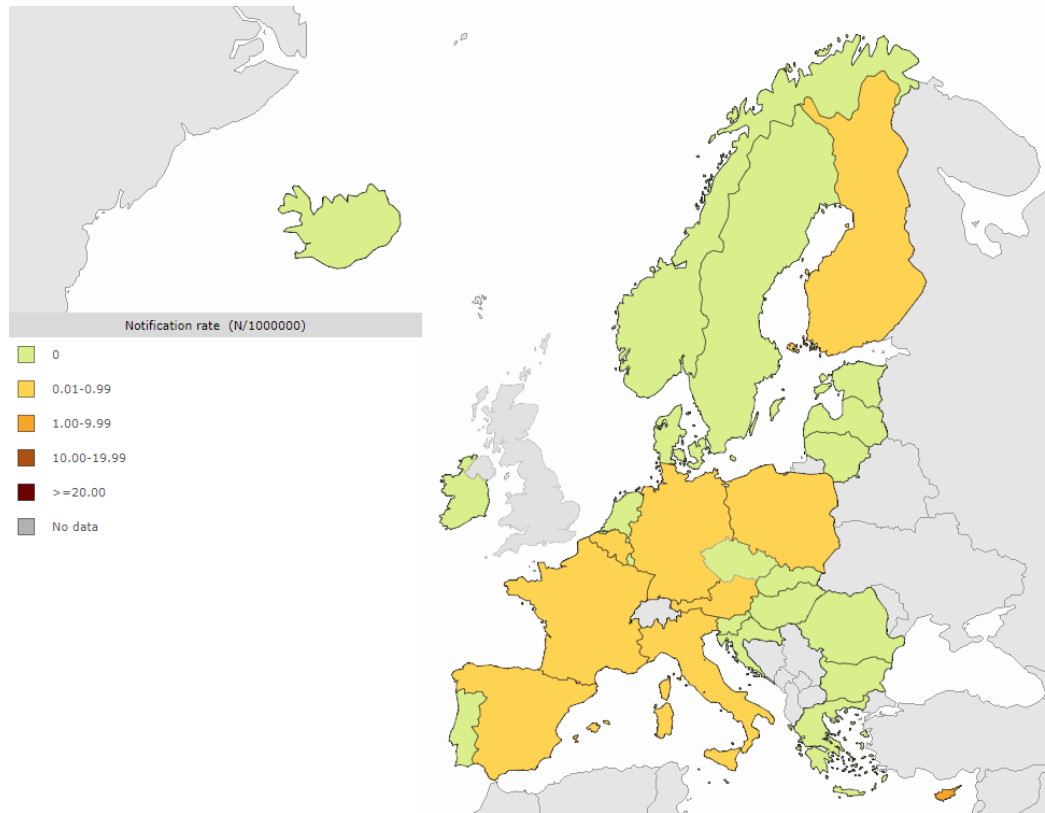
International comparisons

Figure 4 shows the notification rate by EU-country in 2021. The decrease in the notification rate since 2020 has been observed in all countries. All countries, (except Cyprus with 1.1 per million), had a notification rate below 1 per million or reported no case in 2021.

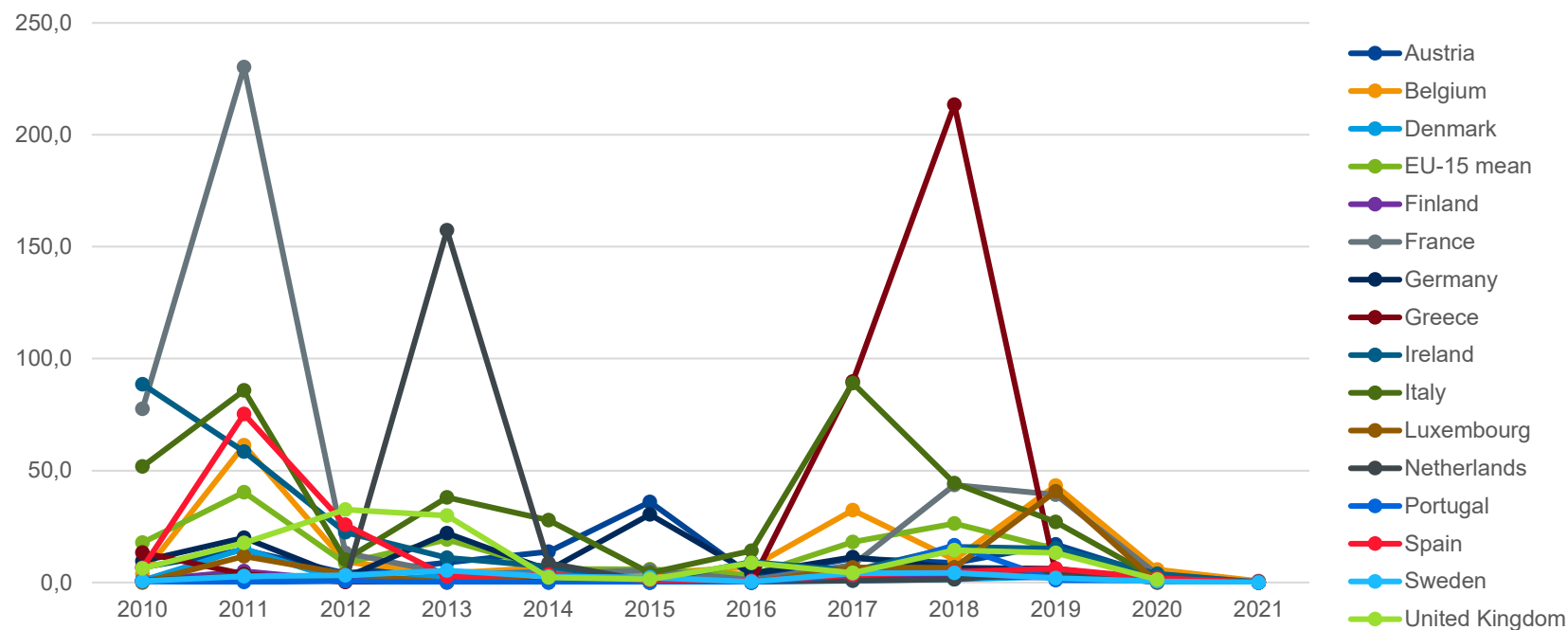
Figure 5 shows the evolution of the notification rate by country since 2010. We see that the measles virus is circulating at a low level in Europe, with regular outbreaks occurring in some countries, and moving to other countries from one year to another. The decrease in 2020 and 2021 was observed in all countries.



Figure 4 – Measles notification rate (cases per million) in 2021, by country, ECDC



Source: ECDC surveillance, <https://atlas.ecdc.europa.eu/public/index.aspx>.

**Figure 5 – Measles notification rate (cases per million), EU-15 comparison, 2010-2021**

Source: ECDC surveillance, <https://atlas.ecdc.europa.eu/public/index.aspx>.

Discussion

The substantial decrease in the estimated incidence of measles in Belgium and Europe is likely due to the restrictions put in place to stop the transmission of COVID-19. However, underreporting or delays in the notification of measles during the COVID-19 epidemic cannot be excluded. The WHO target of <1 case per million inhabitants has been reached in 2021 for the first time in Belgium.

Despite these encouraging trends, it is important to note the low vaccine coverage and the rising trend in the number of cases in Europe in the last few years.

The vaccine coverage in Belgium reaches a good level for the first dose (96%) but the coverage for the second dose is insufficient (83%) (5).



Key points

- **The incidence rate of measles in Belgium has substantially decreased since 2020. In 2020, measles has been declared eliminated in Belgium. However, there is still a high risk of measles outbreaks in Belgium.**
- **Despite the progress due to the restrictions linked to the COVID-19 epidemic, measles elimination remains a challenge at the EU as well as at the Belgian level.**
- **To continue the efforts towards the elimination of measles, a sufficient level of coverage for the first and second vaccination doses should be reached (95%), which is not yet the case for the 2nd dose in Belgium.**

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2.4 Breast cancer screening (% women aged 50-69 years) (P-6, P-7)

2.4.1 Documentation sheet

Description	Primary indicators Proportion of women aged 50-69 years having received at least one bilateral mammogram within the last two years 1. Within or outside the context of the organised screening programme (all mammograms) 2. Within the context of the organised screening programme (mammogram with a specific billing code for screening) Secondary indicators (OECD definition) Proportion of women aged 50-69 years having received at least one bilateral mammogram within the last two years with medical exclusions 3. Within or outside the context of the organised screening programme (all mammograms) 4. Within the context of the organised screening programme
Calculation	Primary indicators <u>Numerator 1 (P-6)</u>: number of women in the denominator, having received a bilateral mammogram (organised programme + opportunistic screening) within that year or the preceding year <u>Numerator 2 (P-7)</u>: number of women in the denominator, having received a bilateral mammogram (via an organised programme) within that year or the preceding year <u>Denominator</u>: Number of women aged 50-69 years affiliated to a sickness fund in a given year Secondary indicators (OECD definition) <u>Numerator 3 (P-6)</u>: number of women in the denominator, having received a bilateral mammogram (organised programme + opportunistic screening) within that year or the preceding year <u>Numerator 4 (P-7)</u>: number of women in the denominator, having received a bilateral mammogram (via an organised programme) within that year or the preceding year <u>Denominator</u>: Number of women aged 50-69 years during the reference period minus women excluded for medical reasons
Rationale	In Belgium, breast cancer is by far the first female cancer in incidence (11 319 cases in 2021)^b, and is also one of the leading cause of death in females (age-adjusted: 31.6 deaths per 100 000 population in 2019)^c. Mammographic screening is considered an efficient mean to improve the prognosis and a recent article reported that in Flanders mammography screening program substantially reduced breast cancer deaths.¹ Regional breast cancer screening programmes exist for women aged 50-69 years^d since 2001 in Flanders and 2002 in Brussels and Wallonia. Each eligible woman aged 50 to 69 years receives every two years an invitation to participate in the screening programme. The mammograms realised in the

^b http://www.kankerregister.org/Statistiques_tableaux%20annuelle (last access: 11 May 2023)

^c <https://www.healthybelgium.be/en/health-status/mortality-and-causes-of-death/general-mortality-by-cause> (last access: 11 May 2023)

^d <http://www.zorg-en-gezondheid.be/Ziektes/Vlaams-bevolkingsonderzoek-naar-borstkanker/> and <http://www.sante.cfwb.be/index.php?id=cancerdusein0> (last access: 21 October 2021)



programme follow a specific procedure to insure the quality and effectiveness, and have their own RIZIV – INAMI billing codes. The examination is free of charge for women.

Primary and secondary indicators for P-7 measure the proportion of women aged 50-69 years undergoing a mammogram in the framework of the organised screening, whereas indicators for P-6 measure the proportion of women aged 50-69 years undergoing a mammogram within or outside the organised programme (all mammograms).

Indicators for P-7 attempt to measure the success of the organised programme, while indicators for P-6 measure the whole coverage of mammographic screening in Belgium.

The European guidelines recommend that 70% (acceptable) to 75% (desirable) of invited women attend screening. The Europe's Beating Cancer Plan set an ambitious goal of having 90% of the EU population who qualify for breast cancer screenings offered screening by 2025.²

Data sources

Primary indicators: IMA – AIM data (for years 2016-2021); IMA – AIM atlas (for years 2010-2015)

Secondary indicators: multiple data sources were used, including:

- Centre Communautaire de Référence (CCR), Centrum voor Kankeropsporing (CvKO), Bruprev: data on the target population and data on the screening in the programs.
- Central cyto-histopathological register of the Belgian Cancer Registry (CHP): cyto-histopathological data from the laboratories.
- Cancer database of the Belgian Cancer Registry (CIB): data of the cancer registration.
- Intermutualist Agency (IMA – AIM): data of the reimbursed care and medicines.

Technical definitions

Primary and secondary indicators

RIZIV-INAMI billing codes:

Numerators 1 and 3 (P-6): 450096 (mammogram per breast, including any axillary films); 450192 – 450203 (mammogram of both breasts within the screening programme); 450354 – 450365 (mammogram of both breasts as part of breast cancer screening in asymptomatic women with a very high risk profile) ; 459830 – 459841 (MRI of both breasts as part of breast cancer screening in asymptomatic women with a very high risk profile, as defined in Article 17, § 1, 1°bis); 461090 (mammogram per breast, including any axillary films); 461134 – 461145 (ultrasound of both breasts as part of breast cancer screening in asymptomatic women at very high risk as defined in Article 17, § 1, 1°).

Numerators 2 and 4 (P-7): 450192 – 450203: mammogram of both breasts (first reading) within the screening programme: organised screening mammograms.

In the IMA-AIM database only the year of birth is available and not the exact date of birth. The age is the difference between the calendar year and the year of birth (snapshot on the 30th of June or the 31st of December). If the woman's age falls between 50 and 69 years, she enters the denominator.

Secondary indicators

Women excluded for medical reasons: women from the target population of the program who are not eligible for screening due to their medical history.

- Permanent exclusion: history of bilateral mastectomy
- Temporary exclusion: (1) History of diagnosis of primary breast cancer – invasive or in situ – no invitation for 10 years from the date of breast cancer incidence. (2) History of diagnosis of breast cancer – invasive or in situ – registered only in the CHP: no invitation for 4 years.

Only one mammogram is taken into account for each woman per two-year period. A mammogram performed in the program is prioritised over bilateral mammography outside the program.



Limitations	It is impossible to distinguish opportunistic screening mammograms (i.e. mammogram made for screening purposes but outside the organised programme) from diagnostic mammograms (i.e. mammogram made for diagnostic reasons, e.g. in women with symptoms or at high risk). Since the fraction of diagnostic mammograms among all mammograms is quite low, the rate of mammograms outside the screening is an acceptable proxy of the opportunistic screening.³ Considering insurers can reimburse a medical service up to two years after the date of the service, that a certain period of time is required for administrative processing, and that the database closure is completed quarterly, the IMA-AIM database for a given calendar year will not be complete until 30 months after that year. This applies to the years 2020 and 2021, but the impact is likely to be limited. For the primary indicators, data for the numerators (1 and 2) for the years 2010-2015 were based on a more limited set of RIZIV-INAMI billing codes: 450192-450203, 450096 and 461090, as the other codes for women with a very high risk profile did not yet exist. For the secondary indicators, the method to calculate breast cancer screening rate according to the OECD definition was only applied starting in 2020. Thus, data for the years before 2020 using the same methodology are not available. Data by socioeconomic status, province and district were not available for the secondary indicators.
International comparability	The OECD publishes the proportion of women aged 50-69 having had a bilateral mammography within the past two years (or according to the specific screening frequency recommended in each country) from programme (administrative billing) data and survey data. Only data from screening programmes were used for the international comparisons, as survey data may be affected by recall bias and lower availability. Programme data for Greece, Portugal and Spain were not available (only survey data). In some countries (Estonia before 2018, Ireland before 2021, Netherlands, Slovak Republic, and Sweden), the age group of women included in the screening programmes deviated from the age group used in the standard definition (50-69 years old), potentially limiting comparability. For Belgium, OECD results are available from IMA-AIM atlas data under the label “programme data” and exclude mammograms with the following RIZIV-INAMI billing codes: 450354 – 450365 ; 459830 – 459841 ; 461134 – 461145.⁴
Dimension	Accessibility of preventive care
Related indicators	Breast Cancer 5-year survival rate
Reviewer	Koen Van Herck (BCR)



2.4.2 Results

Belgium

The total breast cancer screening coverage (organised screening mammograms and other mammograms) was 59.0% in 2021. The organised breast cancer screening covered 31.5% of women aged 50-69 years in 2021 (see Table 6). The coverage of total and organised breast cancer screening have remained relatively stable since 2010, with a decrease during the COVID-19 pandemic, from 61% in 2019 to 57.7% in 2020 and from 32.3% to 30.3%, respectively. The overall coverage is still lower than the desirable 75% European target screening rate.⁵

When accounting for medical eligibility beyond the age range (secondary indicators), the total breast cancer screening coverage was 61.8% in 2021 (see Table 7). The coverage from the organised breast cancer screening program was 35.3% and the coverage from outside the program was 26.6%.

Analysis by demographic characteristics and socio-economic status

The total breast cancer screening coverage is higher for younger women (50-54 years) within the target age group (50-69 years) (see Table 6).

In both organised and total screening, vulnerable women (those entitled to increased reimbursement) have lower coverage than the remaining population (21.1% versus 33.9% and 43.1% versus 62.9% in 2021, respectively) (see Table 6). This is in line with evidence from other countries: several countries have income inequalities in breast cancer screening (e.g. Czech Republic, Denmark, France, New Zealand and Poland in 2009).⁶ The breast cancer screening coverage by level of income is considered by the OECD as an indicator of access of care.

Based on the 2018 HISLINK, a recent study reported that low educated people participated less in breast cancer screening^e (organised and opportunistic screening) than higher educated people (52.5% vs 69.2%) and that individuals in a low household income category had a lower probability of having received breast cancer screening (57.9% vs 74.3%) than those belonging to higher household income category.⁷ However, after correction for participants characteristics, the association of educational attainment with breast cancer screening was no longer significant. No significant correlation was reported between health literacy and participation in breast cancer screening, and there was no evidence that health literacy served as a pathway by which socioeconomic status affected participation in breast cancer screening. This might indicate a possible influence of the universal health coverage in place.⁷

Regional comparison

As observed in previous performance reports, the organised screening coverage was still higher in Flanders (49.2%) than in Brussels (9.0%) and Wallonia (4.0%) in 2021 (see Table 6, Figure 6 and Figure 7). While the coverage continued to increase in Flanders between 2010 (47.1%) and 2019 (50.1%), the coverage was stable in Brussels and decreased in Wallonia from 7.3% in 2010 to 4.7% in 2019 (see Figure 6).

In Flanders, the total mammograms coverage has plateaued in 2012, then decreased slightly until 2015, and remained stable in 2016-2019. The high coverage by mammograms outside the organised screening coverage in Wallonia and Flanders is historically due to the early implantation of the opportunistic breast cancer screening.

When accounting for medical eligibility beyond the age range (secondary indicators), coverage rates by region were slightly higher than when not taking medical eligibility into account and only using IMA-AIM data (primary indicators).

^e The study used different nomenclature codes for the mammograms (450096, 450100, 450192, 450203, 461090, 461101) than the ones used in the analyses (see Technical definitions).



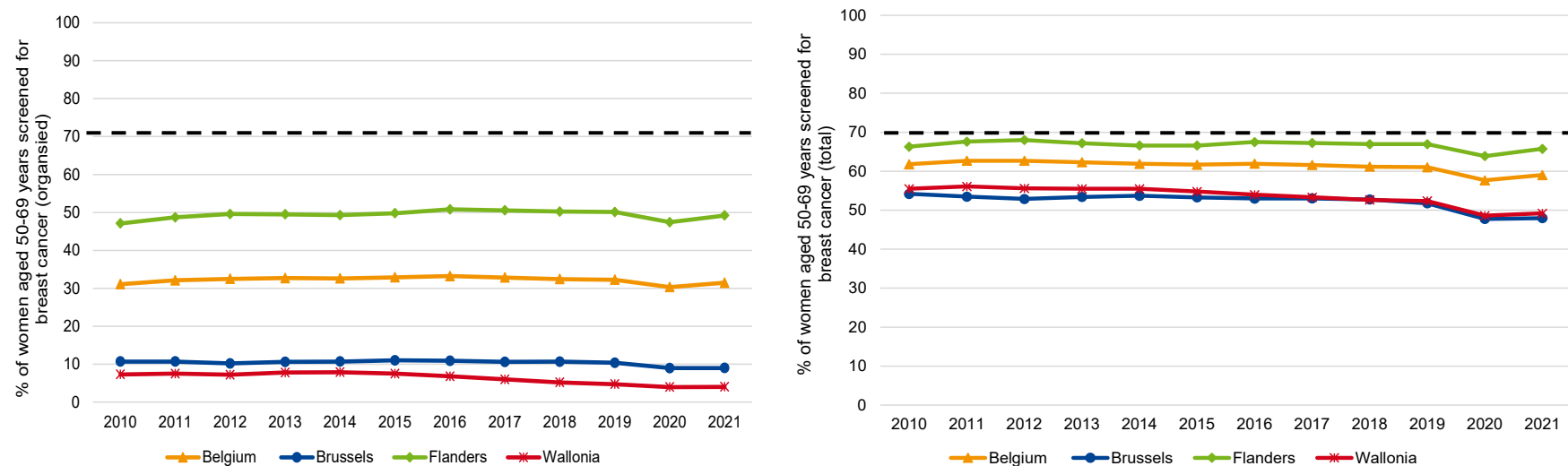
Table 6 – Coverage (in %) of breast cancer screening in women 50-69 years old in 2021 (primary indicators)

Variable	Category	Organised screening mammograms coverage	Total mammograms coverage
Age (years)	50-54	32.1	63.1
	55-59	28.9	56.0
	60-64	33.9	60.4
	65-69	31.1	56.4
	Total (50-69)	31.5	59.0
Entitlement to increased reimbursement	No	33.9	62.9
	Yes	21.1	43.1
Region of residence	Brussels	9.0	48.0
	Flanders	49.2	65.8
	Wallonia	4.0	49.2
Province of residence	Brussels	9.0	48.0
	Antwerp	48.1	65.7
	Limburg	57.6	67.9
	East Flanders	51.1	67.1
	Flemish Brabant	39.5	63.6
	West Flanders	51.3	64.7
	Walloon Brabant	5.7	56.2
	Hainaut	3.8	49.7
	Liège	3.0	47.2
	Luxembourg	7.5	43.5
	Namur	3.8	49.2

Source: IMA-AIM data



Figure 6 – Coverage of organised (left-hand side) and total (right-hand side) breast cancer screening in women 50-69 years old in 2010-2021, by region (primary indicators)



Note: mammogram = organised + opportunistic screening + diagnostic test; Dashed line= European target screening rate. Source: IMA – AIM data (2016-2021); IMA – AIM atlas (2010-2015)

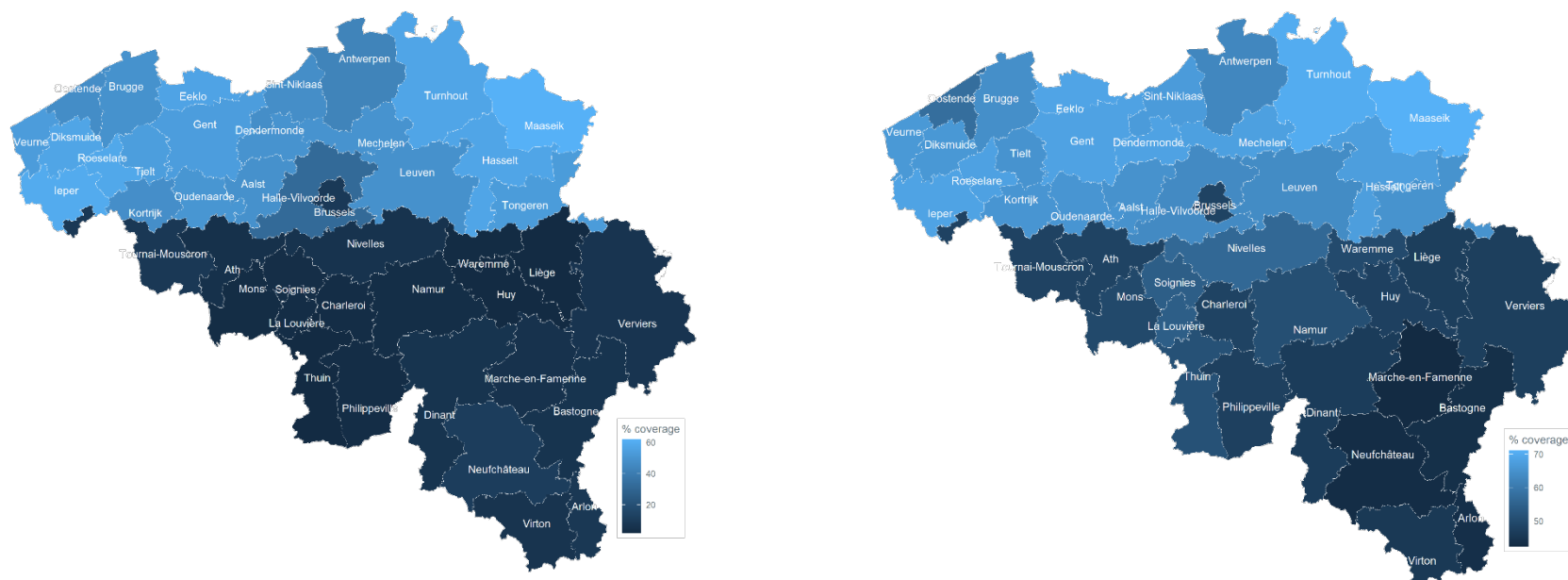
Table 7 – Coverage (in %) of breast cancer screening in women 50-69 years with medical exclusions in 2020 and 2021 (secondary indicators)

	Total coverage		Coverage from the organised screening program		Coverage from outside the program	
	2020	2021	2020	2021	2020	2021
Belgium	55.37	61.84	35.38	35.27	19.99	26.57
Brussels	42.45	48.86	11.94	10.71	30.51	38.15
Flanders	63.60	68.29	53.59	54.05	10.01	14.24
Walloon region	42.36	52.55	5.51	5.26	36.85	47.29

Source: CCR, CvKO, Bruprev, CHP, CIB, IMA-AIM



Figure 7 – Coverage of organised (left-hand side) and total (right-hand side) breast cancer screening in women 50-69 years old in 2021, by district (primary indicators)



Source: IMA – AIM data



Impact of the COVID-19 pandemic

The coverage of total and organised breast cancer screening decreased during the COVID-19 pandemic, from 61.0% in 2019 to 57.7% in 2020 and from 32.3% to 30.3%, respectively. In 2021, the coverage of total and organised breast cancer screening rebounded to reach 59.0% and 31.5%, respectively (see Figure 6).

Indeed, on the 17th of March 2020 the different levels of Belgian government temporarily suspended all elective medical procedures and treatments, including cancer screening programs. Moreover, many women also delayed seeking health care to reduce the risk of COVID-19 transmission which led to a decline in breast cancer screening uptake. In mid-May 2020, restrictions eased and non-urgent health services, such as elective surgeries and the cancer screening programs, resumed.⁸ In April 2020, female breast cancer diagnoses in the screening population declined by 56%. Breast cancer diagnoses rebounded, with only 6% of diagnoses missing by the end of 2020 in the screening population.⁸ The number of new breast cancer diagnoses in Belgium decreased by 50% between April 2020 and April 2019, by 5% between the year 2020 and 2019, and by 2% between the period January 2020- December 2021 and the same period in 2019.⁹ During the COVID-19 pandemic, the breast cancer screening program invitation coverage went down from 97.5% in 2019 to 88.7% in 2020, which may have influenced screening coverage. The backlog of invitations was largely resolved in the first six months of 2021.¹⁰

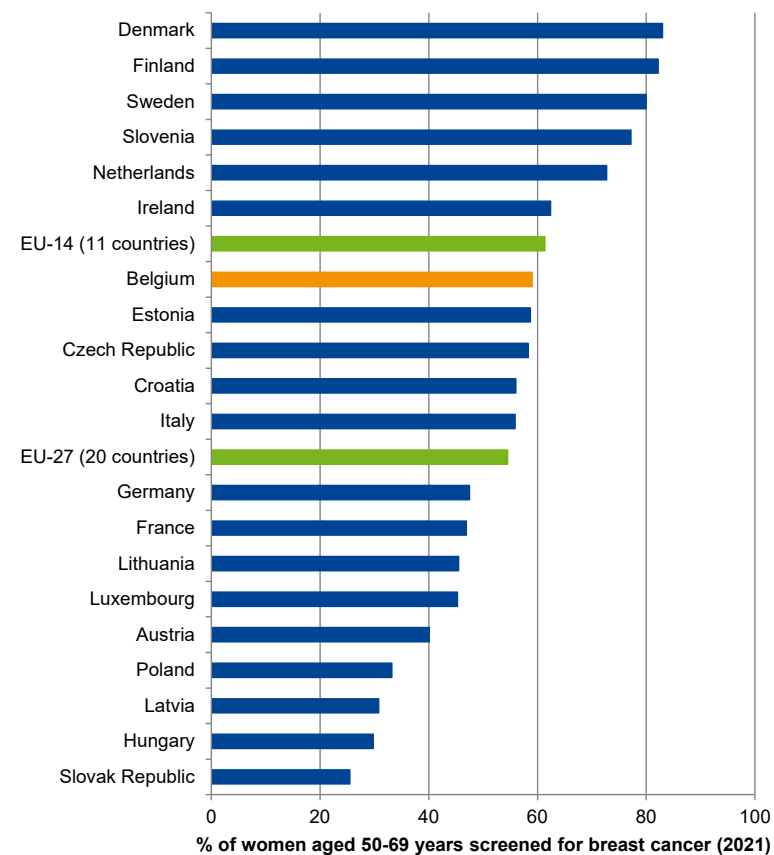
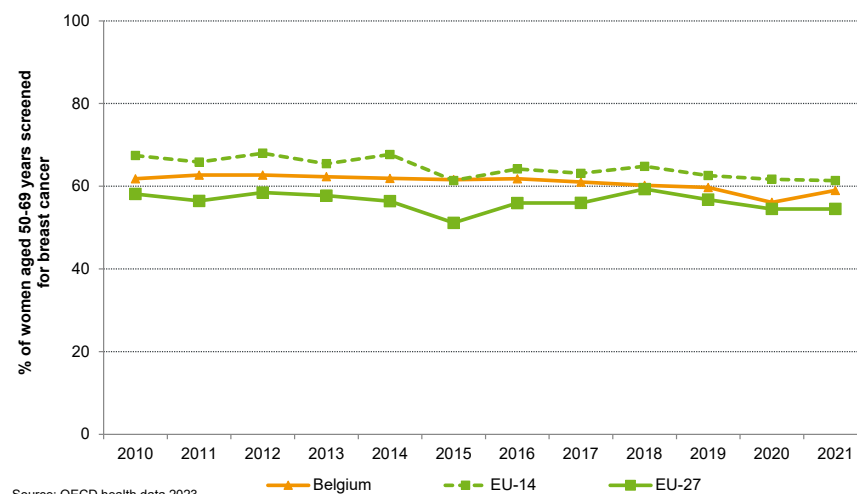
International comparison

Only the total mammogram coverage can be compared with other countries. Between 2010 and 2021, the Belgian coverage is below the EU-14 average (2021: 59.0% vs 61.4%) and above the EU-27 average (2021: 59.0% vs 54.5%). However, the total coverage in Flanders (2021: 65.8%) is above the EU-14 average.

In 2021, four countries reached the desirable 75% target coverage: Denmark, Finland, Sweden and Slovenia (Figure 8). Breast cancer screening rates also dropped in most countries in 2020, but more in countries that had lower pre-pandemic screening rates.¹¹



Figure 8 – Coverage of breast cancer screening: international comparison (2010-2021)



Source: OECD health data 2023

Source: OECD Health statistics 2023, for Belgium IMA-AIM atlas. Luxembourg: rate for 2020 is preliminary



Key points

- **The total coverage of breast cancer screening was 59% in 2021. In 2021, Flanders reached the highest rate at 65.8% while the lowest rate of 48.0% was achieved in Brussels (49.2% in Wallonia).**
- **The coverage of the organised breast cancer screening stagnates at a national level around 31.5% in 2021, with very large differences in participation between Regions: Flanders: 49.2%, Brussels 9%, Wallonia 4%.**
- **There are indications of socio-economic inequalities in the access to breast cancer screening: women with a lower socio-economic status have a lower participation rate in the screening procedures than other women.**
- **The COVID-19 pandemic led to a decrease in the total coverage of breast cancer screening in Belgium (from 61% in 2019 to 57.7% in 2020) and across all regions.**
- **The breast cancer screening coverage in Belgium fails to achieve the commonly accepted target of 75%, which was reached in Denmark, Finland, Sweden and Slovenia in 2021. The national coverage level is also lower than the EU-14 average (61.4%), but the coverage in Flanders is higher than the EU-14 average.**

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2.5 Cervical cancer screening (% women aged 20-69 years) (P-8)

2.5.1 Documentation sheet

Description	Primary indicator Proportion of women aged 20-69 years screened for cervical cancer within the last three years without medical exclusions
	Secondary indicator Proportion of women aged 20-69 years screened for cervical cancer within the last three years with medical exclusions
Calculation	Primary indicator <u>Numerator</u> : Number of women in the denominator, having received a screening smear test within the last three years <u>Denominator</u> : Number of women aged 20-69 years during the reference period
	Secondary indicator <u>Numerator</u> : Number of women in the denominator, having received a screening smear test within the last three years <u>Denominator</u> : Number of women aged 20-69 years during the reference period minus women excluded for medical reasons
Rationale	Cervical cancer is a rare cancer (641 new cervical cancers in 2021 in Belgium) with a medium to poor prognosis, and affects rather young women.¹ Cervical cancer is the 12th most common cancer in women Belgium. In 2021, the age-standardised incidence rates of cervical cancer in Belgium was 9.7 per 100 000 women (using European standard population).² Cervical cancer can largely be detected at a curable stage by an accessible and harmless test, the smear test which can substantially decrease the incidence and mortality.³ Since 2013, the smear test is reimbursed once every three years. In Flanders, there is an official cervical screening program since 01/06/2013. Women aged between 25 and 64 years receive a letter of invitation if they have not been screened in the last 3 years, either on their own initiative or at the request of their doctor. In Wallonia, there is no official program, but there are awareness campaigns and a pilot project has been launched. In December 2022, the Health Minister announced that soon women aged between 30 and 64 years will be invited for an HPV (human papillomavirus) test every five years, instead of a smear test every three years, as part of the their cervical screening. ⁴ The European guidelines recommend a 70% (acceptable) to 85% (desirable) cervical cancer screening rate every three years. ⁵ To reach the WHO cervical cancer incidence rate target of less than four new cases of cervical cancer per 100 000 women, WHO recommends 70% coverage of cervical cancer screening at ages 35 and 45 years.⁶
Data sources	Multiple data sources were used, including:



- Belgian Statistical Office (Statbel) for data on the number of women aged 20-69 years.
- Centrum voor Kankeropsporing (CvKO): for data on the target population of the screening program in Flanders.
- Central cyto-histopathological register of the Belgian Cancer Registry (CHP): for cyto-histopathological data from the laboratories.
- Cancer database of the Belgian Cancer Registry (CIB): for data of the cancer registration.
- Intermutualist Agency (IMA-AIM): for data of the reimbursed care and medicines.

Technical definitions

The age of women is determined based on the date of birth. The calculations by region are based on the postal code of the woman's residence at the time of the smear test (only available in the CHP data). Therefore, tests for which results in the CHP are lacking could not be redistributed by region.

Only one smear test, the most recent one, is considered for each woman per three-year period. The available data do not allow to distinguish between screening and follow-up tests.

Currently, Flanders is the only region with an organised cervical cancer screening program. The target population of the program for Flanders is women residing in Flanders, aged between 25 and 64 years for a given year.

Women excluded for medical reasons: women from the Statbel population or from the target population of the screening program in Flanders who are not eligible for screening due to their medical history:

- Permanent exclusion: removal of the cervix, hysterectomy, invasive cervical or endometrial cancer
- Temporary exclusion (3 years): in situ cancer of the cervix

The exclusions are calculated only for the general population of Belgium (using the CHP and IMA-AIM data) and for Flanders (using CvKO data). As Flanders is the only region for which the Belgian Cancer Registry receives individual target population data that allow individual linkage, exclusions for medical reasons can only be implemented in Flanders.

Limitations

Only Flanders currently has a systematic screening program in place. The age range used in the screening program in Flanders (25-64 years old) is different from the age range used for this indicator (OECD definition). The Walloon region is currently developing a project to set up a program. A large proportion of cervical cancer screening is therefore carried out at the initiative of the woman and/or her physician; with regional variations. Considering insurers can reimburse a medical service up to two years after the date of the service, that a certain period of time is required for administrative processing, and that the database closure is completed quarterly, the IMA-AIM database for a given calendar year will not be complete until 30 months after that year. This may affect both the denominator (exclusion for medical reasons) and the numerator (smear tests) in the years 2020 and 2021, but the impact is likely to be limited. Exclusions for medical reasons cannot be implemented in regional calculations for Wallonia and Brussels.



	As the method to calculate cervical cancer screening rate was updated in 2020, data for the years before 2020 using the same methodology are not available. Data by socioeconomic status were not available. The calculations by region are based on the postal code of the woman's residence at the time of the smear test, which is only available in the CHP. Therefore, when the postal code associated with a test is missing or when the smear test is missing for a women in the CHP (exhaustivity of the CHP is not 100%), the women is not counted as screened in the regional figures, even if she is counted as screened in the national figure (based on IMA–AIM data). This explains the discrepancy between the coverage rate with medical exclusions in Belgium (53.5%) and in the regions (<53%).
International comparability	This is an international indicator reported by the OECD. International comparisons were limited to countries that use organised screening programme data, rather patient survey-base data (generally overestimated). The definition used by the OECD is: the number of women aged 20-69 years who have been screened for cervical cancer within the past three years (or according to the specific screening frequency recommended in each country) divided by the number of women aged 20-69 years eligible for an organised screening programme. Comparisons should be performed with caution as the specific age groups and frequency may vary across national programmes. Cervical cancer screening programme data are not available in Austria (no organised programme), Greece, Poland, Spain and Croatia.
Dimension	Accessibility of preventive care
Related indicators	
Reviewer	Koen Van Herck (BCR)

2.5.2 Results

Belgium

The cervical cancer screening coverage, defined as the proportion of women aged 20-69 who had a smear test in the last 3 years, was 53.5% in 2020 to 53.7% in 2021 without medical exclusions and 57.2% and 57.4% with medical exclusions (see Table 8).

Analysis by demographic characteristics

In 2021, the coverage rate in Belgium with medical exclusions is highest in women aged 25-64 years (63.3%), then in women aged 65-69 years (51.7%) and lowest in women aged 20-24 years (11.9%). In the different regions the coverage rate without medical exclusions is also highest in women aged 25-64 years (see Table 9).



Regional comparison

The coverage of cervical cancer screening without medical exclusions is approximately 52% for the three regions in 2021 (see Table 8). The coverage rate reaches almost 59% in Flanders when using the target population of the program (women aged 25-64 years) and is even higher with medical exclusions (62.7%) in 2021.

Table 8 – Coverage of cervical cancer screening in women aged 20-69 years, by patient characteristics (2020 and 2021)

Variable	Category	Coverage rate (%) without medical exclusions		Coverage rate (%) with medical exclusions	
		2020	2021	2020	2021
Age (years)	20-24	17.1	11.9	17.2	11.9
	25-64	58.7	59.5	62.5	63.3
	65-69	42.4	42.6	50.4	51.7
	Total (20-69)	53.5	53.7	57.2	57.4
Region of residence	Brussels	52.0	52.0		
	Walloon region	52.4	51.8		
	Flanders	51.2	52.0		
	Flanders*: target population of the program	57.2	58.5	61.4	62.7

*Data used comes from CvKO. See Limitations in the Documentation Sheet for explanations on the discrepancy between the national and regional coverage rates without medical exclusions.

Table 9 – Coverage rate (%) of cervical screening in women aged 20-69 years without medical exclusions, by age category and region (2021)

Age categories	Brussels	Walloon region	Flanders
20-24 years	6.3	16.2	9.5
25-64 years	57.5	57.0	57.8
65-69 years	48.5	41.7	39.7
Total (20-69 years)	52.0	51.8	52.0

Impact of the COVID-19 pandemic

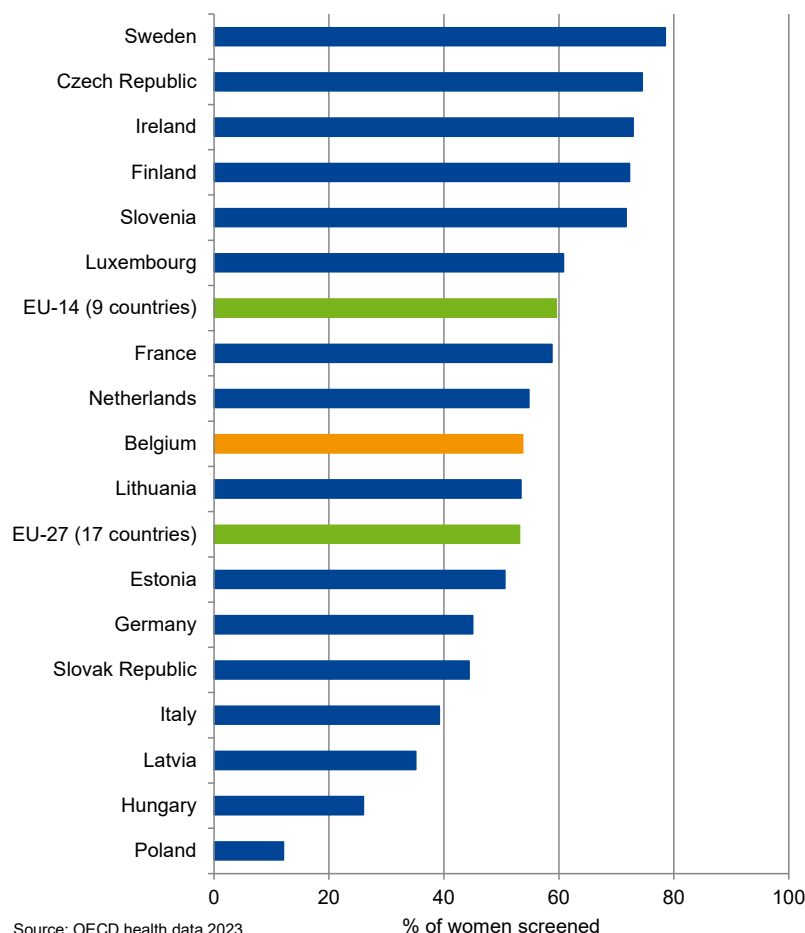
Without data before 2020, it was not possible to evaluate the impact of the COVID-19 pandemic on cervical cancer screening coverage.

International comparison

The Belgian cervical cancer screening rate was lower than the EU-14 average (59.6%), but similar to the EU-27 average (53.2%) in 2021 (see Figure 9). None of the EU countries with data available reached the desirable cervical cancer screening rate of 85% and five countries (Sweden, Czech Republic, Ireland, Finland and Slovenia) reached the acceptable coverage rate of 70%.



Figure 9 – Coverage of cervical cancer screening: international comparison (2021)



Key points

- In 2021, the coverage of cervical cancer screening was 53.7% without medical exclusions and 57.4% with medical exclusions.
- The coverage without medical exclusions is similar across regions (52%).
- The coverage rate with medical exclusions is almost 63% in Flanders when using the target population of the program (women aged 25-64 years) in 2021.
- The Belgian cervical cancer screening rate was lower than the EU-14 average (60%), but similar to the EU-27 average (53%) in 2021.
- The cervical cancer screening rate in Belgium was also below the 70% acceptable rate recommended by European guidelines.

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2.6 Colorectal cancer screening (% of people aged 50-74 years) (P-9)

2.6.1 Documentation sheet

Description	Proportion of persons (aged 50-74 years) having been screened for colorectal cancer within the last two years
Calculation	<u>Numerator</u> : Number of individuals in the denominator, having received a colorectal cancer screening in an organised program or with a colorectal cancer screening tests (fecal occult blood test, or virtual or total colonoscopy) only outside of an organised program within the last two years. <u>Denominator</u> : number of individuals 50-74 years during the reference period minus individuals excluded for medical reasons
Rationale	In 2021 in Belgium, the age-standardised incidence rate of colorectal cancer was 36.1 per 100 000 person-years in males and 25.5 per 100 000 person-years in females (using European standard population).¹ Colorectal cancer is a frequent cancer (third cancer for men, third for women since 2021), with a high mortality if detected at an advanced stage. In 2003, the European recommendations on cancer prevention recommended to screen the population aged 50 to 74 years old.² In 2006, a Health Technology Assessment (HTA) report showed that colorectal cancer screening with faecal occult blood test (FOBT), followed by colonoscopy if FOBT was positive, was cost-effective in persons aged 50 years and older.³ The organisation of the cancer screening programs is a competence of regional entities: in the French Community (Wallonia and Brussels), a screening programme was started in March 2009, and targeted persons aged 50 to 74 years old. Every two years, those persons are invited to undergo a FOBT (the faecal immunochemical occult blood test (iFOBT or FIT) since 02/2016)⁴, or directly a colonoscopy for individuals at high or very high risk.⁵ In Flanders, since 2013, all persons of the targeted age group are invited to undergo a FOBT; the screening test used in Flanders is the iFOBT.⁶ The European guidelines state that >45% of invited individuals who attend screening is acceptable and >65% of invited individuals who attend screening is desirable.⁷ One of the Europe's Beating Cancer Plan target is to have 90% of the EU population who qualify for colorectal cancer screenings are offered screening by 2025.⁸
Data sources	Several data sources are used to calculate this indicator. The data are sent to the Belgian Cancer Registry (BCR) by the 3 organisations in charge of the screening programs. • Centre Communautaire de Référence (CCR; Walloon Region), Centrum voor Kankeropsporing (CvKO; Flanders), Bruprev (Brussels): for data on the target population and data on the screening in the program. • Central cyto-histopathological register of the BCR (CHP): cyto-histopathological data from the laboratories.



- Cancer database of the BCR (CIB): for data of the cancer registration.
- Intermutualist Agency (IMA-AIM): for data of the reimbursed care and medicines.

Technical definitions

The target group eligible for colorectal screening: consists of the target population of the program (individuals 50-74 years residing in Belgium) minus individuals excluded for medical reasons. The age of an individual is based on the date of birth.

Valid screening outside of the screening program include:

- Total colonoscopy: valid for in the 10 years in Flanders and for 5 years for Brussels and the Walloon region
- Virtual colonoscopy: valid for 4 years
- FOBT: valid for 2 years

At the national level: If a person is in the eligible target population of the program in Flanders and is covered by a total colonoscopy less than 10 years old but is also included in the target population of the program in another region (duplicate), the coverage criterion of Flanders has priority because the duration of exclusion is longer for total colonoscopy

Individuals excluded for medical reasons are individuals from the target population of the program who are not eligible for the screening due to their medical history:

- Permanent exclusion: total colectomy
- Temporary exclusion: diagnosis of colorectal cancer (invasive or in situ), no invitation for 10 years from the date of the colorectal cancer incidence.

Limitations

As screening programs are organised at the regional level, three different screening exists in Belgium. There is substantial variability between regions for participation in opportunistic screenings. Considering insurers can reimburse a medical service up to two years after the date of the service, that a certain period of time is required for administrative processing, and that the database closure is completed quarterly, the IMA-AIM database for a given calendar year will not be complete until 30 months after that year. This may affect both the denominator (exclusions for medical reasons) and the numerator (FOBT, total or virtual colonoscopy outside the program) in the years 2020 and 2021, but the impact is likely to be limited.

Individuals from the eligible target group who are not invited for screening in a given year because they were still covered by a valid screening test (FOBT or total colonoscopy or virtual colonoscopy) were not excluded.

As the method to calculate colorectal cancer screening rate was updated in 2020, data for the years before 2020 using the same methodology are not available. Data by demographic and socioeconomic status were not available.

International comparability

This is an international indicator reported by the OECD. International comparisons were limited to countries that use organised screening programme data, rather patient survey-base data (generally overestimated). The definition applied by the OECD is: number of target population who had the initial screening test specified in the country's colorectal cancer screening programme during the period specified in the screening programme / the number of target population who were eligible for the initial screening test specified in the country's screening programme during the period specified in the screening programme. Programme data are collected to monitor national screening programmes, but differences in



	target age, screening frequency and screening methods may lead to variations in the data reported across countries. Thus, results should be interpreted with caution.
	No colorectal screening programme data are available in Austria, Greece, Poland, Portugal, Slovak Republic, Spain, Sweden, Bulgaria and Romania, either because the programme data are currently not retrievable or because there is no organised screening programme in place.
Dimension	Accessibility of preventive care
Related indicators	Colorectal cancer five year survival rate
Reviewer	Koen Van Herck (BCR)

2.6.2 Results

Belgium

The total colorectal cancer screening coverage, defined as the proportion of persons (aged 50-74 years) having been screened for colorectal cancer within the last two years increased slightly from 51.7% in 2020 to 53.6% in 2021 (see Table 10). The coverage from the screening in the program (32.6%) was higher than coverage from the screening outside of the program (21.1%) in 2021.

Regional comparison

The total screening coverage rate was higher in Flanders (66.1%) than in Brussels and Wallonia (33.2%) in 2021 (see Table 10). The coverage from the screening in the program (43.0%) was higher than coverage from the screening outside of the program (23.1%) in Flanders only. In Brussels and Wallonia, the coverage from the screening outside of the program (19.4% and 17.5%, respectively) was higher than coverage from the screening in the program (13.9% and 15.6% respectively).

Table 10 – Proportion of the target population eligible for colorectal cancer screening (50-74 years old) who had a screening in 2020 and 2021

	Total coverage		Coverage from the program		Coverage from outside the program	
	2020	2021	2020	2021	2020	2021
Belgium	51.7	53.7	30.9	32.6	20.8	21.1
Brussels	28.7	33.2	10.4	13.9	18.3	19.4
Flanders	65.0	66.1	42.1	43.0	22.9	23.1
Walloon region	31.0	33.2	13.7	15.6	17.3	17.5



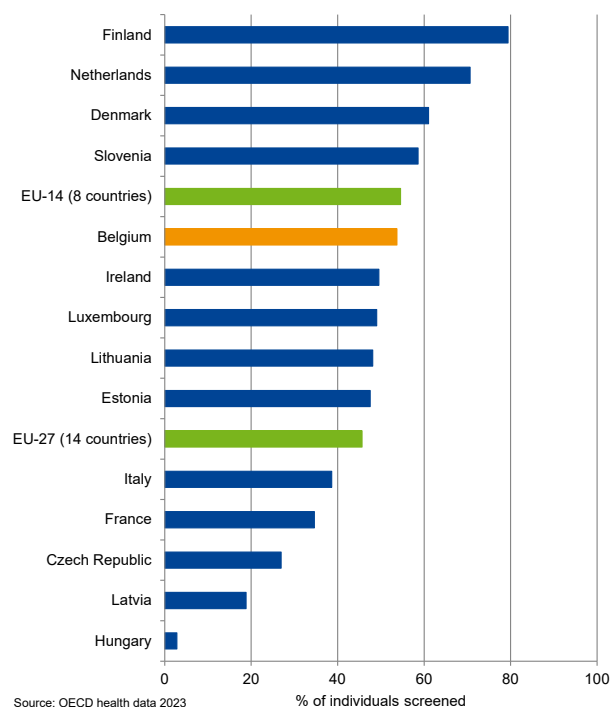
Impact of the COVID-19 pandemic

Without data before 2020, it was not possible to evaluate the impact of the COVID-19 pandemic on colorectal cancer screening coverage.

International comparison

The Belgian colorectal cancer screening rate was lower than the EU-14 average (54.6%), but higher than the EU-27 average (45.7%) in 2021 (see Figure 10). The total coverage screening rate in Belgium met the acceptable rate of 45% of invited individuals attended screening, and Flanders's coverage (66.1% in 2021) was just above the desirable rate of 65%.

Figure 10 – Colorectal cancer screening (people aged 50-74 years): international comparison (2021)





Key points

- The total colorectal cancer screening rate was 53.6% in 2021, with 32.6% from screening in the program and 21.1% from screening outside of the program.
- The total screening coverage rate was two-fold higher in Flanders (66.1%) than in Brussels and Wallonia (33.2%) in 2021.
- The Belgian coverage rate was lower than the EU-14 average (54.6%), but higher than the EU-27 average (45.7%) in 2021.
- While the colorectal coverage screening rate in Belgium met the acceptable rate of 45% recommended by European guidelines, the coverage rate in Flanders met the desirable rate of 65%.

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2.7 Regular contacts with dentist (% pop aged ≥3 years) (P-11)

2.7.1 Documentation sheet

Description	Proportion of the population with a “regular contact with a dentist” (defined as at least two contacts in two different years during the last three years)
Calculation	<u>Numerator</u> : number of individuals 3 years old and older who had a contact with a dentist at least twice in two different years during the last three years. <u>Denominator</u> : number of individuals aged 3 years and older in a given year and the two years before.
Rationale	Oral health is a condition in which people can eat, speak and socialise without (oral) disease, discomfort or embarrassment.¹ While having good levels of oral health is important in itself, it has also been linked to general health.² Fortunately, some oral disorders (like dental caries and dental erosion) can be prevented. Regular dental visits not only enable the diagnosis and treatment of any dental problem in an early stage, they also help to prevent such problems through dietary and oral hygiene advice and the delivery of professional prophylaxis (i.e. the removal of dental plaque and calculus, the application of fluoride and sealants). Several studies demonstrated (inter- and intra-country) socioeconomic inequalities in access to oral healthcare, oral health and oral health related behaviour (e.g. toothbrushing).²⁻⁷ Evidence from several countries suggests that the number of visits to the dentists decreased during the COVID-19 pandemic, because of the restrictive measures, the cessation of oral health programmes in the community or due to the fear of catching COVID-19 when seeking dental care.⁸⁻¹² The declines in dental care services have primarily impacted more socially disadvantaged groups and underserved areas, further widening oral health inequalities.^{8, 10}
Data source	IMA-AIM Atlas data
Technical definitions	Regular contact with a dentist is defined as at least two contacts with a dentist in two different years over a period of three consecutive years. Region, province and district is to the place of residence of the residents. Contact definition: all RIZIV-INAMI billing codes belonging to N group 04 (dental care provided by general dental practitioners, periodontists, orthodontists, or medical specialists in stomatology) or N group 16 (care provided by maxilla-facial surgeons). Hereafter, the term 'dentist' is used to cover all these dental care specialists.
International comparability	This is not an international indicator. The definition of “regular contact with a dentist” varies from one country to another; the most frequently used indicator is yearly contact.
Limitation	International comparisons could not be performed for this indicator.
Dimension	Access to dental care
Related indicators	
Reviewer	Roos Leroy (KCE)



2.7.2 Results

Belgium

The proportion of the population who had at least two dental visits in two different years in the last three years increased from 48.5% in 2010 to 53.8% in 2021 (Table 11). The increase between 2010 and 2019 may (in part) be attributed to the information campaigns of the health insurance funds and the dental professional associations on the upcoming dental care program ('Mondzorgtraject' – 'Trajet de soins bucco-dentaires')^f which was established on 1 July 2016.¹³

The national results based on billing data are in line with the results reported in the 2018 Health Interview Survey, in which 67.7% of the respondents reported that they had consulted a dentist in the preceding year.¹⁴ The data further illustrated an increase in the proportion of people who consulted a dental care specialist between 2013 and 2018.¹⁵

Impact of the COVID-19 pandemic

Between 2019 and 2021, the proportion of the Belgian population with regular contacts decreased from 55.7% to 53.8%, which is likely to be due to dental service disruptions during the COVID-19 pandemic. Indeed, between the start of the first lockdown (14 March 2020) and end of strict confinement (4 May 2020) in Belgium, clinical activity dropped dramatically, with most practitioners limiting activity to emergency services or remote advice.¹² The decline observed in 2021 could be ascribed to the sequelae of the COVID-19 pandemic.¹⁶

^f The concept of the dental care program ('Mondzorgtraject' – 'Trajet de soins bucco-dentaires') is that citizens of 18 years and older who have a dental appointment (during which a reimbursed procedure is performed) every calendar year receive a higher reimbursement (i.e. have a smaller personal share) for curative care (e.g. dental restorations, extractions, prostheses) than those who do not attend a dentist regularly. The following procedures are not included in the dental care program: consultations, preventive care, orthodontics, periodontics and dental radiographs. The dental care program

Analysis by demographic characteristics and socio-economic status

As was also observed in the preceding years, the age groups with the highest 'regular dental contact rate' in 2021, are the 5-14 year olds and 15-17 year olds (66.6% and 70.8% , respectively), which is not surprising since there is full reimbursement for the majority of preventive and restorative procedures up to age 18 years since 2009. In addition, this is the age span in which many children/adolescents receive orthodontic diagnosis and/or treatment.

The lowest 'regular dental contact rate' is seen in children under 4 years old (15.6%) and in people aged 75 years and older (39.4%).

In the 2018 Health Interview Survey (HIS), the 'dental contact rate'⁹ varied across age groups, with the highest rate in the 2-14 years old age group (75.4%) and the lowest rate in the seniors (aged ≥ 75 years, 43.0%). The higher attendance rates in the HIS compared to administrative IMA-AIM data are logical as they are based on self-report.¹⁷

The HIS (interactive analysis) further revealed important sociodemographic differences, even after correction for age and gender: only 40.1% of the group with the lowest educational level (primary or no degree) reported having seen a dentist in the preceding year, while the respective proportion is 78.1% in the highest educational level group (superior education).¹⁵ A recent study using the HISlink 2018 reported that the prevalence of having received preventive dental care was significantly higher among individuals with sufficient level of health literacy than those with insufficient/limited level of health literacy (41.4% vs 37.2%).¹⁸ In addition, health literacy served as a pathway by which socioeconomic status affected preventive dental care,

should not be confused with the 'continuity rule', which stipulates (for a long time already) that the reimbursement for a professional dental debridement is halved for citizens who had no reimbursed dental care during the previous year.

⁹ In the HIS, the 'dental contact rate' was defined as the proportion of the adult population aged 18 years and over who had least one contact with a dentist in 2018, for preventive care.



suggesting that strategies for improving preventive dental care may benefit from considering individuals' level of health literacy. However, the mediated percentages were quite low (3%), which might suggest a shared decision between physician and patients.¹⁸

Regional comparison

Again, as was also observed in the preceding years, the regular dental attendance rate was higher in Flanders (57.6%) than in Wallonia (48.7%) and Brussels (47.4%) in 2021 (Table 11, Figure 11).

Table 11 – Regular contact with a dentist, by year and patient characteristics (2010-2021)

Variable	Category	Proportion of the population who had a regular contact with a dentist (%)
Year	2010	48.5
	2011	48.8
	2012	49.2
	2013	49.1
	2014	49.8
	2015	51.9
	2016	54.1
	2017	55.3
	2018	55.5
	2019	55.7
	2020	54.4
	2021	53.8
Age (2021) (years)	3-4	15.6
	5-14	66.6
	15-17	70.8
	18-24	52.6
	25-44	52.3
	45-64	57.9
	65-74	54.4
	≥75	39.4

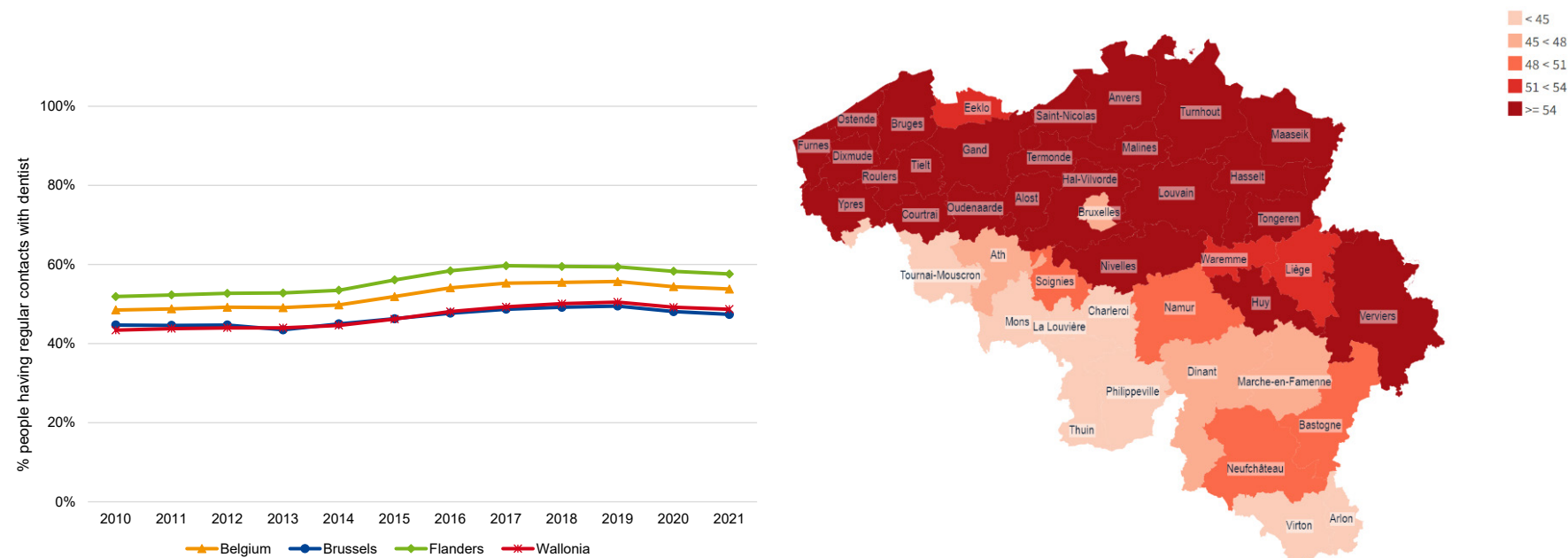


BIM status (2021)	Yes	42.0
	No	56.8
Province (2021)	Antwerpen	56.5
	Brabant Wallon	54.7
	Brussels	47.4
	Hainaut	43.6
	Liège	53.5
	Limburg	60.3
	Luxembourg	46.4
	Namur	48.1
	Oost-Vlaanderen	56.9
	Vlaams Brabant	57.8
	West-Vlaanderen	58.0
Region (2021)	Brussels	47.4
	Flanders	57.6
	Wallonia	48.7

Source: IMA-AIM Atlas; BIM status: beneficiary of increased reimbursement.



Figure 11 – Regular contact with a dentist (% pop aged 3+), by patient region (left 2010-2021) and district (right, 2021)



Source: IMA-AIM Atlas



International Comparison

Since “regular dental visit” has been defined in the IMA–AIM atlas (the information source for this indicator) as at least two contacts with a dentist in a time span of three consecutive years and since this is not a standard indicator, it is not possible to compare these results with international reports or publications.

Key points

- **Just a little over half of the Belgian population had a regular dental contact (i.e. at least twice in two different years during the last three years) in the period 2019-2021.**
- **The population having a regular dental contact increased between 2010 and 2019, and decreased slightly after 2019.**
- **The proportion of the population with the highest regular attendance rate is seen in the age groups 5-14 years (67%) and 15-17 years (71%).**
- **As was also observed in the preceding years, the regular dental attendance rate was higher in Flanders (58%) than in Wallonia (49%) and Brussels (47%) in 2021.**
- **It is difficult to benchmark these data with other countries, since the IMA-AIM atlas indicator “regular dental visit” is not a standard indicator in the international literature.**

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2.8 Avoidable mortality: preventable mortality (P-13)

2.8.1 Documentation sheet

Description	This sheet describes the two sub-indicators constituting the “avoidable mortality”: 1. The treatable mortality 2. The preventable mortality The concept of avoidable mortality is based on the idea that certain deaths (for specific diseases/conditions) among people aged less than 75 years could be 'avoided' or that their number could be reduced, if there had been more effective medical and public health interventions in place (1). • Treatable mortality: Causes of death that can be mainly avoided through timely and effective health care interventions, including secondary prevention and treatment (i.e. after the onset of diseases, to reduce case-fatality). • Preventable mortality: Causes of death that can be mainly avoided through effective public health and primary prevention interventions (i.e. before the onset of diseases/injuries, to reduce incidence). Avoidable mortality concerns exclusively deaths under 75 years old. Some causes of death can be prevented and treated once they occurred, in those cases they have been attributed to the preventable category. For a minority of causes of death, there is no strong evidence of predominance between treatable and preventable mortality, in which case a 50%-50% allocation was used (1).
Calculation	Treatable deaths are all deaths under 75 years old in Belgium with a treatable underlying cause of death as defined by the Eurostat/OECD list (1). Preventable deaths are all deaths under 75 years old in Belgium with a preventable underlying cause of death as defined by the Eurostat/OECD list (1). Age-standardised mortality rates are then calculated as the age-specific rates weighted by the European standard population then summed up and divided by the total standard population to obtain age-standardised rates, that allow for regional or between countries comparisons.
Rationale	Avoidable mortality indicators, while not being definite measures of health system performance, are a good starting point to assess the performance of public health and healthcare policies in avoiding premature mortality from preventable and treatable causes of death (1).
Primary data source	Statistics Belgium, causes of death (COD) database
Indicator source	For Belgium: own calculations (based on Statistics Belgium COD database) For international comparisons: Eurostat This can lead to slightly different results between the Belgian and the Eurostat results.
Technical definitions	Since the introduction of the concept in the 80ths, many lists of causes for so-called “avoidable deaths” have been proposed. In 2018, an expert group from Eurostat and OECD develop a new joint list that built on earlier work carried out by researchers. The current work uses the revised list adopted by Eurostat/OECD (1).



The complete list of causes included in the preventable and treatable categories can be [consulted here](#) (1). For all causes, the upper age limit is 75 years.

Limitations

- The choice of the causes and the attribution of the causes to a category is sometimes discussable. The lists are revised regularly to integrate new knowledge. For example, since data 2020 COVID-19 is included as a preventable disease.
- Avoidable mortality is informing health system performance assessment but is not an exact measure of performance.
- The number of avoidable deaths is also likely to be influenced by other factors related to the likelihood that individuals may contract a disease or seek medical advice, such as education, social background, beliefs related to health, and costs of diagnosis and treatment (2).
- It is an aggregate measure that provides only global information but does not indicate what is to be addressed when there is evidence of suboptimal quality. This needs a more in-depth analysis (including a cause-specific mortality analysis and a qualitative assessment of the process) (3).
- The treatable mortality indicator does not take into account all the benefits of the health care interventions that are not only preventing death but meanwhile improving the quality of life.

International comparability

Availability: yes (Eurostat)

Validity: the validity of the comparison is hampered by (at least) two major causes:

1. Differences between countries can be partly due to differences in certification and coding of the cause of death; moreover, there are important differences between the countries in the quality of coding. Countries with a large proportion of poorly determined causes of death will have consequently fewer specified causes of death, those latter only constituting avoidable deaths.
2. The 'treatable mortality' does not account for differences in the underlying prevalence/incidence of the diseases.

Reviewer

Martina Otavova, PhD student, Center for Demographic Research, UCLouvain, and Department of Epidemiology and Public Health, Sciensano



2.8.2 Results

2.8.2.1 Treatable mortality

see QE-8

2.8.2.2 Preventable mortality

Rates by sex and region

The age-standardised preventable mortality rate is two times higher in men than in women (sex ratio 2.1). The sex ratio was the highest in the Brussels-Capital region.

The preventable mortality is higher in Wallonia and in Brussels compared to Flanders; the regional disparities increased in 2020.

Table 12 – Age-adjusted preventable mortality rates, by sex, Belgium and regions, 2019-2020

Year	Sex	Belgium	Flanders	Brussels	Wallonia	Ratio Brussels/Flanders	Ratio Wallonia/Flanders
2019	Males	193.4	171.9	200.8	233.9	1.2	1.4
	Females	91.6	81.7	86.5	110.9	1.1	1.4
	Sex ratio	2.1	2.1	2.3	2.1		
2020	Males	243.1	200.9	292.7	313.3	1.5	1.6
	Females	113.8	96.0	127.3	144.6	1.3	1.5
	Sex ratio	2.1	2.1	2.3	2.2		



Figure 12 – Age-adjusted preventable mortality rates, by sex, Belgium and regions, 2019

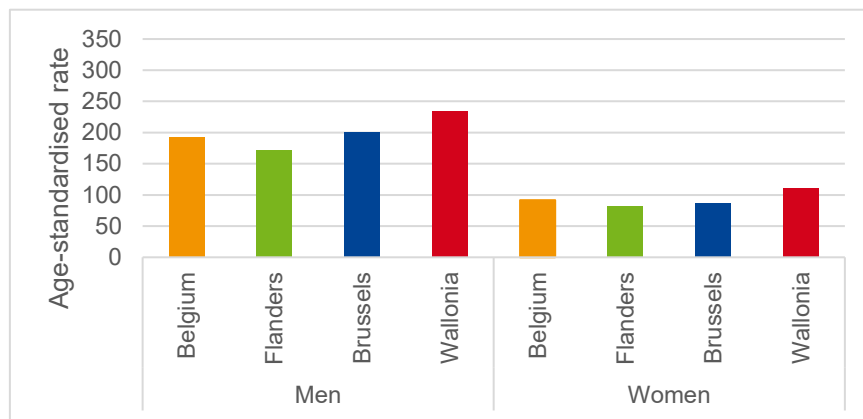
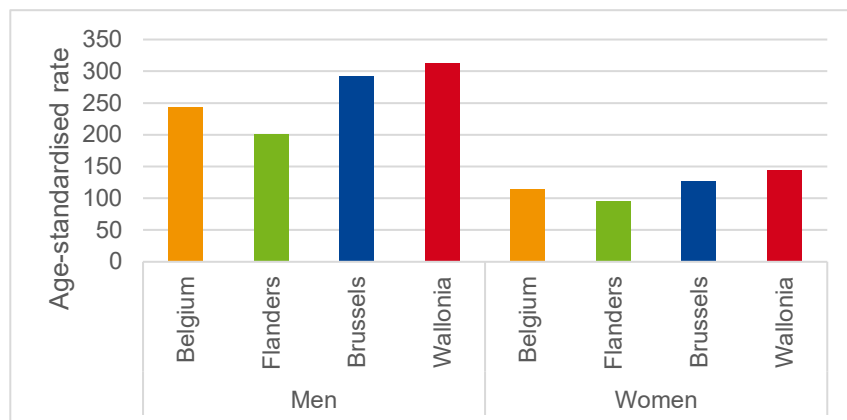


Figure 13 – Age-adjusted preventable mortality rates, by sex, Belgium and regions, 2020



Source: author's calculation based on Statbel causes of death database

Leading causes of preventable mortality

In 2020, the leading causes of preventable mortality in men and women are COVID-19 and lung cancer. In men, it is followed by suicide and in women, it is followed by chronic lower respiratory diseases. Except for the presence of COVID-19, the ranking was similar in 2019 for men and women.

Figure 14 – Leading causes of preventable mortality among men, 2019-2020

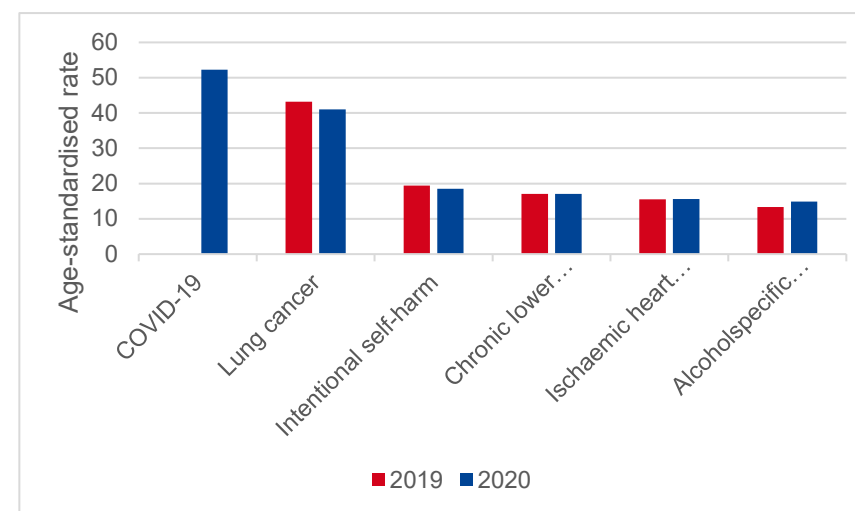
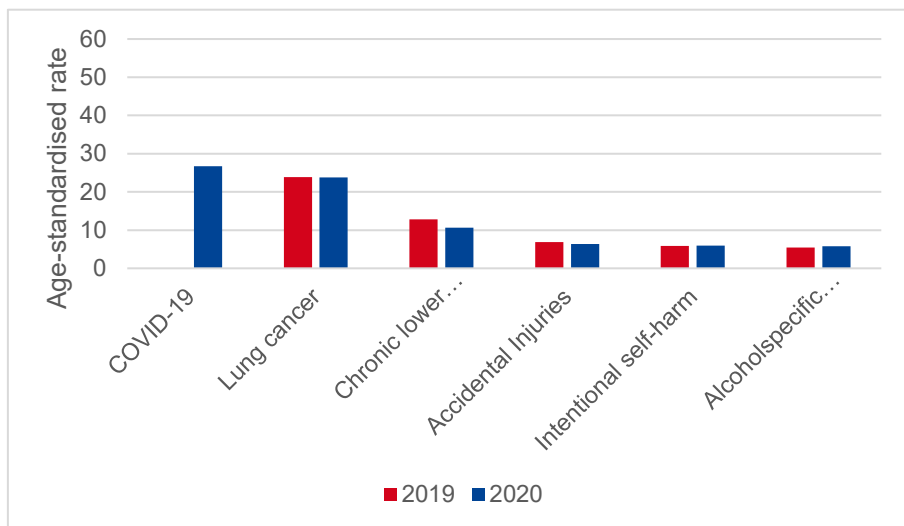




Figure 15 – Leading causes of preventable mortality among women, 2019-2020



Source: author's calculation based on Statbel causes of death database

Evolution by sex and region over time and impact of the COVID-19 pandemic

Between 2010 and 2019, the preventable mortality rates decrease more in men than in women. In 2020, an increase in the preventable mortality rates is observed due to COVID-19 being added as a preventable cause of death. Except for men living in Flanders, preventable mortality rates in 2020 exceeded those in 2010.



Figure 16 – Age-standardised preventable mortality rates among men, Belgium and regions, 2010-2020

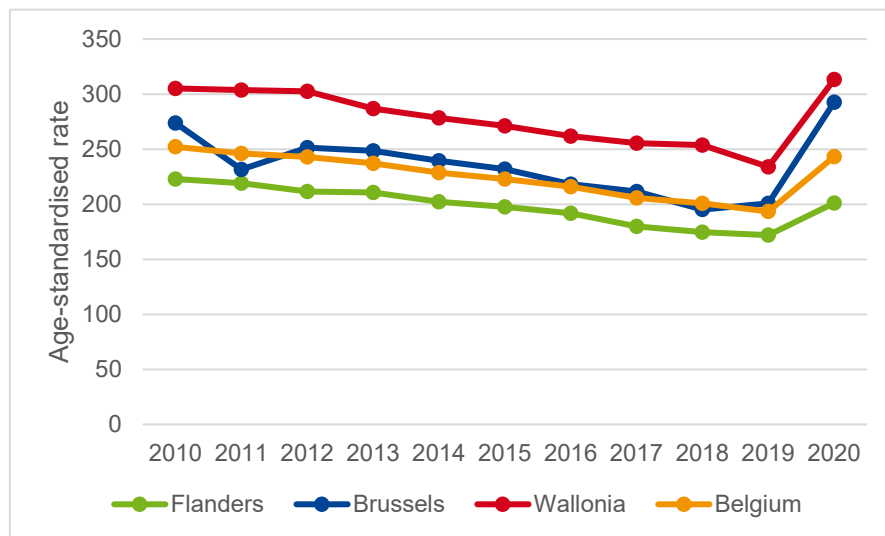
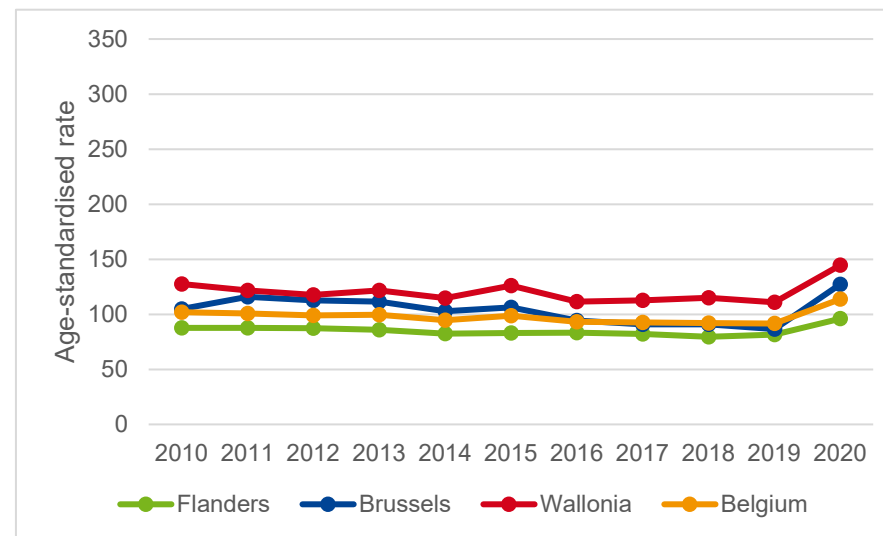


Figure 17 – Age-standardised preventable mortality rates among women, Belgium and regions, 2010-2020



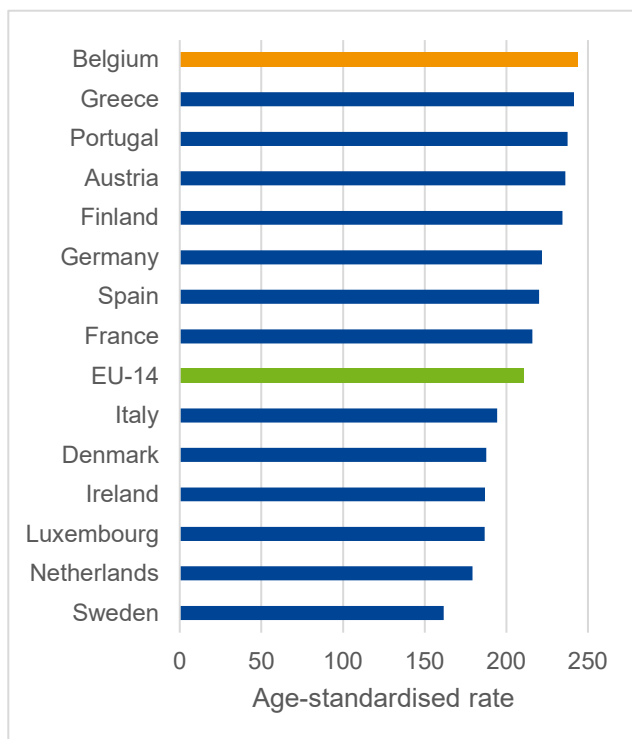
Source: author's calculation based on Statbel causes of death database



European comparison

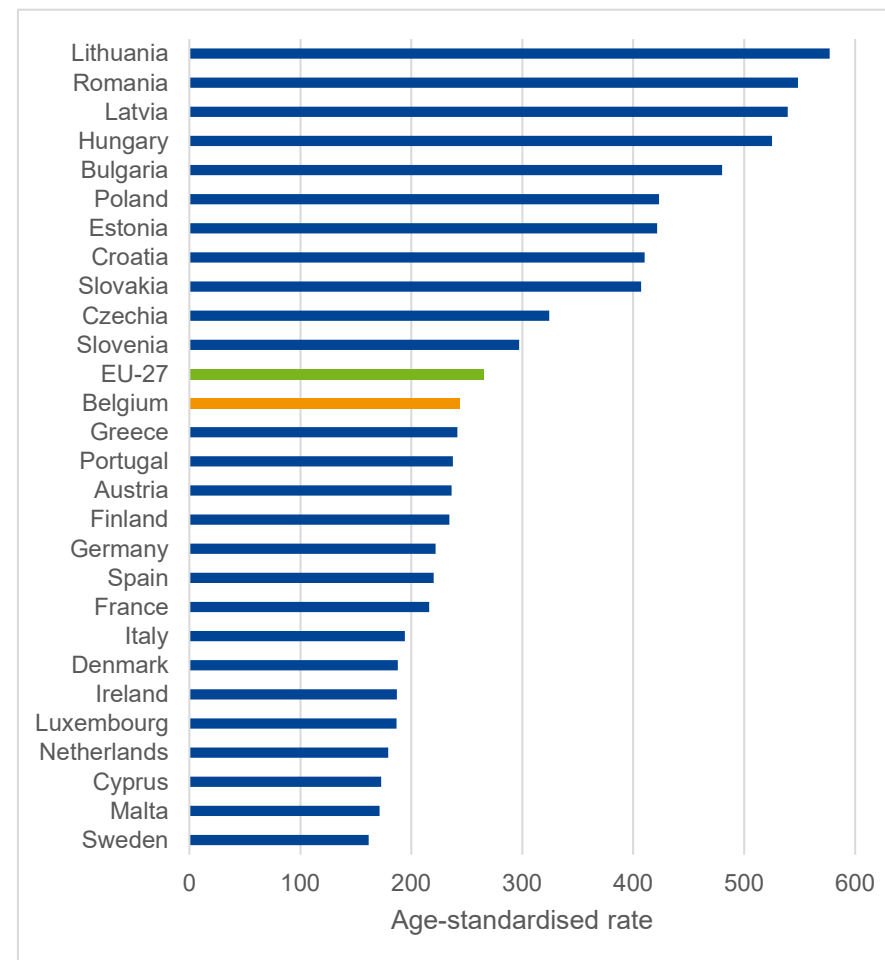
Belgium has the highest preventable mortality among EU-14 countries in 2020 in both sexes.

Figure 18 – Age-standardised preventable mortality rate among men, EU-14, 2020



Source: Eurostat

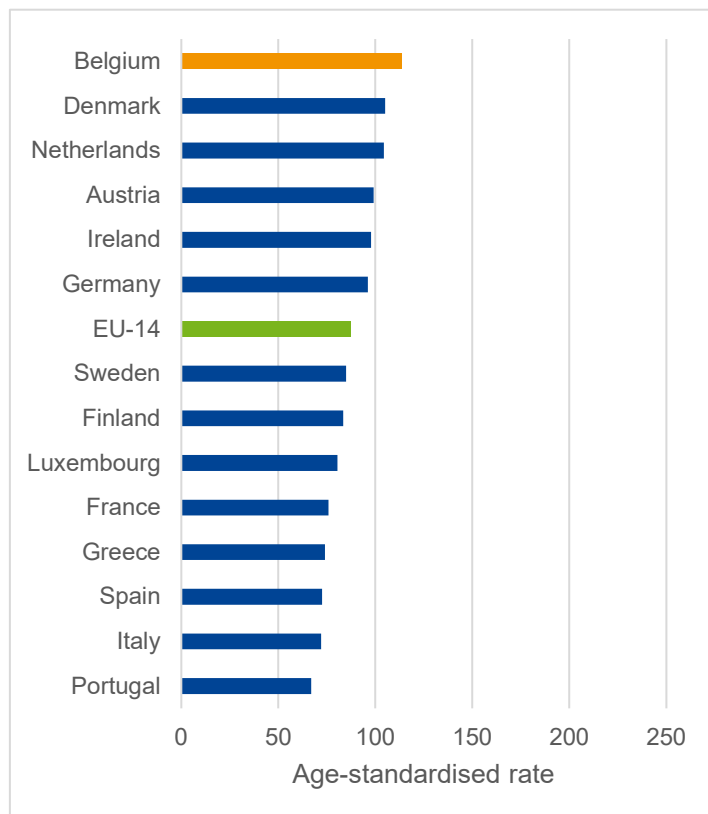
Figure 19 – Age-standardised preventable mortality rate among men, EU-27, 2020



Source: Eurostat

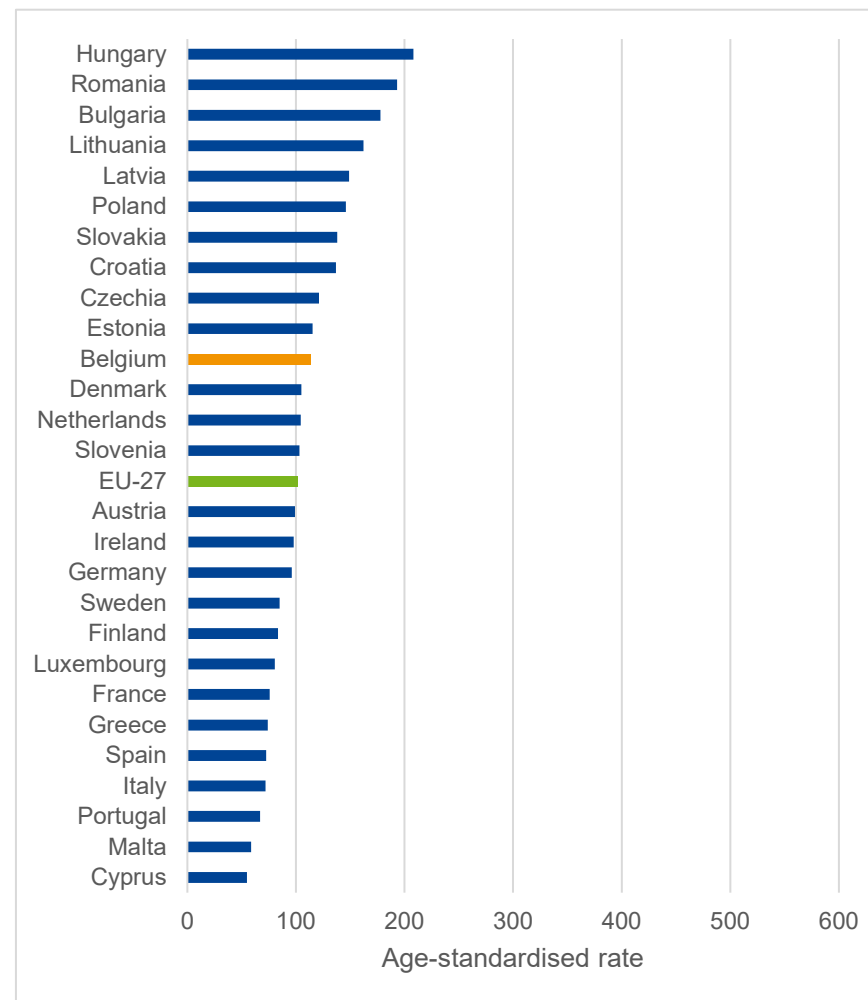


Figure 20 – Age-standardised preventable mortality rate among women, EU-14, 2020



Source: Eurostat

Figure 21 – Age-standardised preventable mortality rate among women, EU-27, 2020



Source: Eurostat



Key messages

- **There are regional differences in treatable and preventable mortality, with the highest mortality rates in Wallonia, followed by Brussels-Capital region, and Flanders.**
- **Preventable mortality is consistently two times higher in men than in women.**
- **The occurrence and consequent inclusion of COVID-19 as a cause of preventable death increases preventable mortality in 2020. Before 2020, preventable mortality is decreasing in men and constant in women.**
- **In comparison with the countries of the EU-14, Belgium compares well in treatable mortality. Conversely, Belgium has the highest rate of preventable mortality in the EU-14.**

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3 MENTAL HEALTHCARE

3.1 Practising psychiatrists (/10 000) (MH-2)

3.1.1 Documentation sheet

Description	Number of practising psychiatrists per 10 000 population
Calculation	Numerator: Number of practising psychiatrists x 10 000 Denominator: Total end of year Belgian population
Rationale	The number of care providers gives important information on the medical workforce and thus the accessibility of healthcare. Together with the number of graduates, this information can be used for health providers supply planning. People with mental health problems may receive help from a variety of professionals but international organisations¹ focus mostly on psychiatrists, as psychiatrists have a pivotal role in the mental health care system and the availability of comparable data on others, such as psychologists, is more limited. Therefore also in this report figures for psychiatrists are reported separately within the results-section.
Data source	INAMI – RIZIV annual statistics
Technical definitions	A care provider is considered to be practising (INAMI – RIZIV: “profiles”) if he/she provided more than one clinical service (i.e. consultations, visits, technical acts, but not prescriptions) during a given year or the two preceding years. Physicians still in training are not counted. Psychiatrists are medical doctors who specialise in the prevention, diagnosis and treatment of mental illness. They have post-graduate training in psychiatry and may also have additional training in a psychiatric specialty. The Belgian data excludes non-practising physicians, physicians in training, retired professionals and professionals working abroad. Professionals who are of foreign origin are included. The INAMI – RIZIV codes used to identify psychiatrists include: 780 and 784 for psychiatrists and 764, 760, 889 (child) and 192 (+ neurosurgery) for neuropsychiatrists.
International comparability	The OECD differentiates between practising physicians (doctors providing direct care to patients), professionally active physicians (including also doctors working in the health sectors as managers, educators, researchers, etc.) and physicians licensed to practise (i.e. having the required diploma). In addition, OECD countries use different methodologies to calculate the same indicator (such as different levels of activity). For instance, the definition of used psychiatrists in Germany includes practising physicians with specialty “psychiatry and psychotherapy”, “paediatric psychiatry and psychotherapy”, “neuropsychiatry” and “psychosomatical medicine and psychotherapy”, while in Portugal and Spain child or paediatric psychiatrists are included. Moreover the role of psychiatrists varies across countries (e.g. collaboration with GPs). Comparisons are therefore potentially inadequate. While the OECD definition of practicing physicians include medical interns and resident physicians training in psychiatry, data from Belgium, France and Luxembourg excluded interns and residents, data from Greece and Portugal included all physicians licensed to practice, and data



	from Finland included all physicians working in healthcare and excluded interns and residents. EU countries for which data were not available in the OECD database are: Bulgaria, Croatia, Cyprus, Malta, Romania, Slovak Republic and Slovenia.
Limitations	The psychiatrists' home address was used to identify the geographical distribution of psychiatrists (i.e. by region and district). Consequently, using the home address instead of the workplace address provides little information on the real available workforce per region and district, as there is potentially a lot of professional mobility between the regions and districts. Reporting the rate of psychiatrists alone does not give a sufficiently good picture of the mental health workforce.
Dimensions	Accessibility, Health workforce
Related indicators	Medical graduates, Number of registered psychologists
Reviewer	Jan De Lepeleire (KU Leuven)

3.1.2 Results

Belgium

In 2021, the number of practising psychiatrists in Belgium was 2011, corresponding to a density of 1.74 per 10 000 inhabitants. The number of psychiatrists increased since 2011 (1865 at that time), and the density increased slightly (Table 13). The number of practising psychiatrists acceding to the agreement ("conventioned") was 1800 (Table 14).

Regional comparison

At the regional level (based on home address of the psychiatrists), the density of psychiatrists was 3.30 per 10 000 pop. in Brussels, 1.50 in

Flanders, 1.64 in Wallonia, and 0.89 in the German-speaking community in 2021 (Figure 22 and Table 14 for a more complete picture in 2021). The number of psychiatrists also varied substantially within region (Figure 23). It should be noted that this provides little information on the real available workforce per region, as the workplace address is not available and there is potentially a lot of professional mobility between the regions. Furthermore, the density of practising psychiatrists by district is correlated with the distribution of psychiatric hospitals and psychiatric departments within general hospitals across Belgium (Figure 24).

**Table 13 – Data on practising psychiatrists (2011-2021)**

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Number of persons (head counts)	1865	1890	1899	1907	1930	1950	1965	1969	1960	1983	2011
Density per 10 000 population (head counts)	1.69	1.70	1.70	1.70	1.71	1.72	1.73	1.72	1.71	1.72	1.74
Number of FTEs	1247	1229	1248	1241	1258	1289	1303	1316	1291	1240	1316
Density per 10 000 population (FTEs)	1.13	1.11	1.12	1.11	1.12	1.14	1.15	1.15	1.12	1.08	1.14

Source: INAMI – RIZIV (based on the home address of the psychiatrist); calculation: KCE

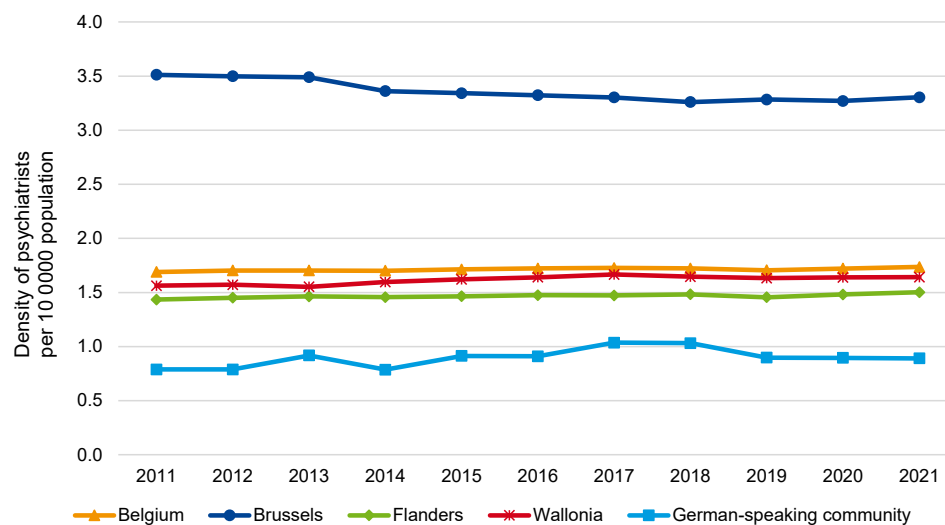
Figure 22 – Density of practising psychiatrists per 10 000 inhabitants by region or community

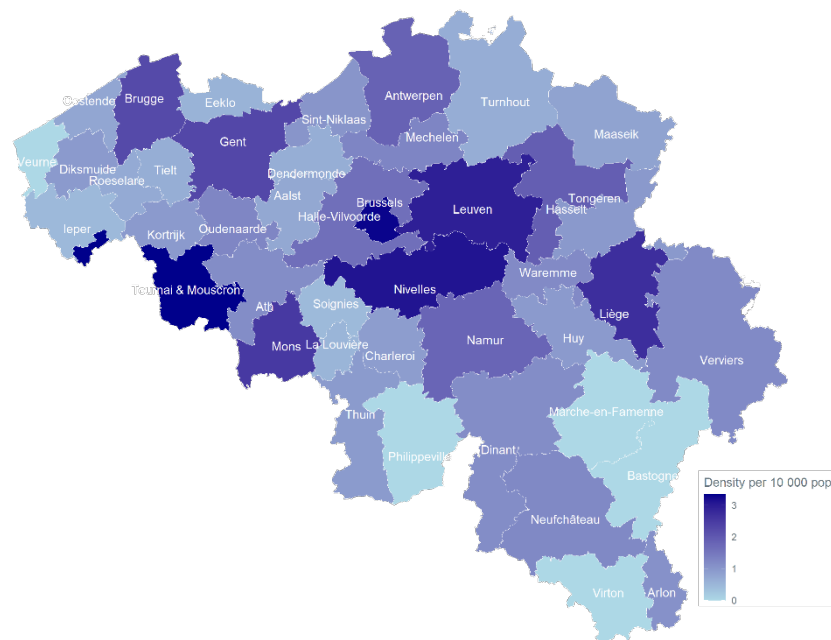

Table 14 – Number (head counts) of psychiatrists per region and title (2021)

Region	Licensed	Practising	Practising psychiatrists acceding to the agreement (conventioned)	Density of practising psychiatrists per 10 000 inhabitants
Brussels	497	404	343	3.30
Flanders	1268	1006	925	1.50
Wallonia	724	601	532	1.64
German-speaking community	10	7		0.89
Belgium*	2489	2011	1800	1.74

**Belgium is equal to total of Brussels, Flanders, Wallonia. Licensed: Number of licensed psychiatrists (head count); Practising: number of psychiatrists that is practising on the Belgian labour market (as employee or with RIZIV – INAMI activity); Practising psychiatrists acceding to the agreement (conventioned psychiatrists): Number of psychiatrists with a minimal activity (at least 0.1 FTE in the Social security context or at least two RIZIV/INAMI activities billed).*

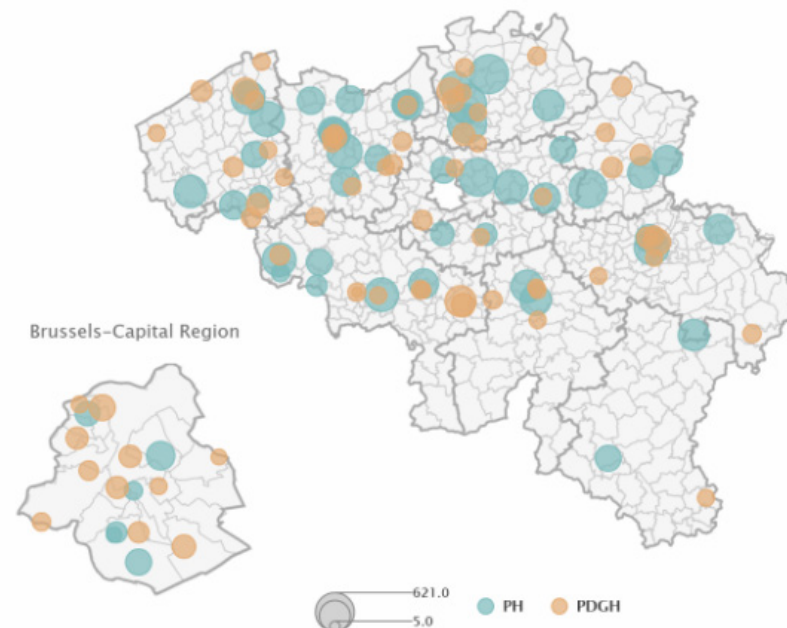
Source: INAMI – RIZIV (based on the home address of the psychiatrist); calculation: KCE

Figure 23 – Density of practising psychiatrists: number of practising psychiatrists per 10 000 inhabitants, by district (2021)



Source: INAMI – RIZIV (based on the home address of the psychiatrist); calculation: KCE

Figure 24 – Distribution of psychiatric hospitals (PH) and psychiatric departments within general hospitals (PDGH) in Belgium (2020)



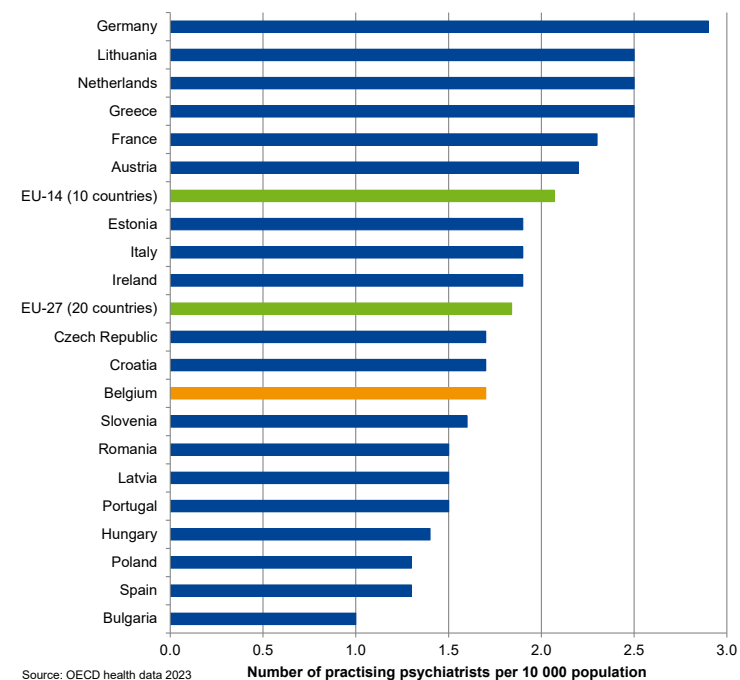
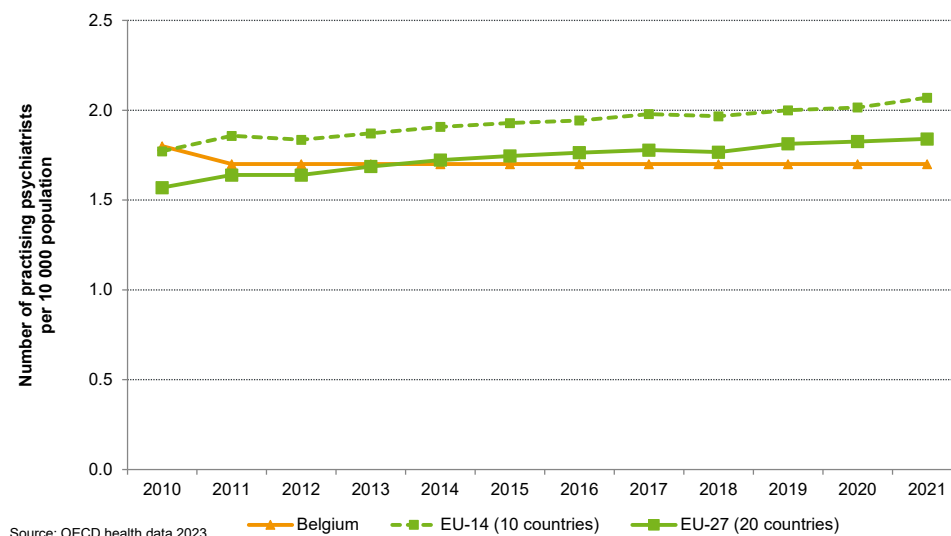
Note: the size of the circles indicate the number of beds for adults. Source: CIC, FPS Health, Food Chain Safety and Environment (1/01/2020)

**International comparison**

The role of psychiatrists and other mental health service providers (e.g. psychologists) varies across countries. An estimation on which types of care providers are consulted per country can be found in Eurobarometer.^{2, 3}

Data from OECD show an increase in the density of practising psychiatrists in EU-27 and EU-14 countries over the period 2010-2021 (Figure 25). In 2021, the density of practising psychiatrists in Belgium (1.74 per 10 000) was lower than the EU-14 (2.07 per 1000) and EU-27 (1.84 per 10 000) averages.

No impact of the COVID-19 pandemic

**Figure 25 – Number of practising psychiatrists per 10 000 pop: international comparison (2010-2021)**



Key points

- The density of practising psychiatrists was relatively stable between 2011 (1.69 per 10 000 pop.) and 2021 (1.74 per 10 000 pop.).
- The density of psychiatrists in 2021 is higher in Brussels (3.30 per 10 000 pop.), compared with Flanders (1.50 per 10 000 pop.) and Wallonia (1.64 per 10 000 pop.); however, the region is based on the home address of the psychiatrists, giving little information on the actual workplace.
- Compared to the EU-27 and EU-14 countries that report the number of practising psychiatrists to the OECD health data, Belgium has a density of practising psychiatrists below the EU-14 and EU-27 averages in 2021 (2.07 and 1.84 per 10 000 pop., respectively).

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3.2 Waiting time for a first face-to-face contact in a centre for ambulatory mental health (days) (MH-3)

3.2.1 Documentation sheet

Description	Waiting time for a first face-to-face contact in a centre for ambulatory mental health
Calculation	• Average number of days a patient has to wait for a screening or an intake assessment in a centre for ambulatory mental health; • Average number of days a patient has to wait for a second contact with a centre for ambulatory mental health.
Rationale	Long waiting times are an important indication of accessibility problems. Excessive wait times may contribute to clinical deterioration and increased risk of suicide or hospitalisation.^{1,2} Furthermore, the longer the wait, the less likely patients and families are to attend appointments.³ Similar effects have also been observed for children and adolescents, with longer waiting times for mental health services contribute to higher rate of 'no shows', higher likelihood of disengaging from services during the therapeutic process, and possible worsening of the condition.⁴ Therefore, timeliness of access to mental health services can be considered a key indicator in calls for improvement of the mental healthcare system. Several EU countries (Denmark, Finland, Ireland, Lithuania, the Netherlands, some regions in Spain, and Sweden) have implemented a waiting time target or guarantee in at least one area of mental health care, with most of them aiming to provide treatment or a first service contact within 1-3 months.⁵ In Belgium, the competencies for mental health care services are not homogeneously organised at the level of the public authorities (e.g. the federal government is responsible for the payment of psychiatrists, psychiatric wards in acute hospitals and primary psychological care while the federated entities are responsible for the organisation and payment of centres for ambulatory mental health care).⁶ Due to these scattered competencies, no standardised data sources exist that cover the entire mental healthcare system. Consequently, problems arise when needing to monitor waiting times for access to the mental health services. A second best option is to monitor the waiting times for one type of service. In this report, we use the data published by the Flemish Agency of Care on waiting times for the centres for ambulatory mental health. Since 2023, there are 18 mental health centres (CGG) in Flanders and Brussels (18 CGG before). They have to submit once a year (twice a year before 2023) a set of data based on their electronic patient records (two different systems in use since 2007). A survey from the European Psychiatric Association (EPA) reported that the number of patients treated by psychiatrist in outpatient settings halved during the first wave of the COVID-19 pandemic (April 2020) compared to the previous months, which likely affected waiting time for ambulatory mental health.⁷ In Belgium, the CGG quickly shifted to using videocalls to treat patients during the pandemic.
Technical definitions	A CGG provides medical-psychiatric and psychotherapeutic assistance to people with serious mental health problems, through daytime consultations. In addition, a CGG can also provide specific forms of care (e.g. alcohol, drug and suicide prevention, forensic assistance, addiction care, assistance to persons with disabilities and additional mental health problems, etc.); participate together with other partners in projects aimed at specific target groups or themes; and provide support and consultations to other organisations such as special youth care facilities, prisons, residential care centres or care homes. Consultation rates in ambulatory mental health centres vary by patients' contribution status. Patients in the regular contribution status group pay the standard rate (€ 11).⁸ The reduced contribution group (€ 4 per consultation) includes: individuals with an



	increased allowance within the sickness and invalidity regulations (OMNIO, WIGW); individuals who are in budget counselling, budget management or debt mediation with a recognised institution (CAW, OCMW) or person, and young people consulting on their own initiative. The no contribution group (€ 0) includes detainees, asylum seekers or people without papers, individuals who have reached the maximum bill for medical care expenses in the current calendar year, and individuals in a vulnerable situation.
Data source	Departement Zorg: Cijfers Centra voor Geestelijke Gezondheidszorg ⁹
International comparability	No international comparison available for this indicator. Recent evidence has shown that during the pandemic waiting times and waiting lists for mental health care for both adults and young people increased in several European countries, such as Switzerland, the Netherlands and Finland. ^{10, 11} In Finland, these challenges persisted in 2022, with 40% of children and young people having to wait more than 90 days for specialised mental health care, an increase of 13% compared to August 2019. ¹²
Limitations	Waiting times are a complex measure that is linked to many factors, and can as a result give a distorted picture. For instance, waiting times depend on facilities' inflow and outflow policies, individuals are often on multiple waiting lists and are not always on the waiting list for the most appropriate type of care (e.g. specialised care vs primary care). No international comparison available. The OECD Waiting Times Policy Questionnaire 2019: waiting times are considered to be an issue for mental health services: Denmark, Estonia, Finland, Latvia, Lithuania, Netherlands, Poland and Slovenia. EU countries with no issue: Greece, Hungary, Ireland, Luxembourg, Portugal, Slovak Republic.
Dimension	Accessibility (accessibility mental health services)
Related indicators	Percentage of visits to the Emergency Rooms in general hospitals for mental health and/or substance- related problems
Reviewers	Els Vanlinthout (Departement Zorg)

3.2.2 Results (Flanders)

The average **waiting time from enrolment to first face-to-face contact** with an ambulatory mental health centre was 41 days in 2022 (see Table 15). The average waiting time remained relatively stable between 2016 and 2021, and decreased by 10 days in 2022. The average waiting time was highest for children and young people (46 days) and lowest for older people (27 days). The average waiting time for men was three days longer than for women. There were substantial variations in waiting time between provinces in 2016-2022. Care for people with mental disabilities was the type of care with the highest average waiting time (217 days in 2022).

Individuals with reduced contribution had higher waiting times for all years compared to those with no, regular and other contribution.

The average **waiting time from first to second face-to-face contact** with an ambulatory mental health centre was 48 days in 2022 (see Table 16). The average waiting time increased between 2016 and 2020 (from 48 to 60 days), and decreased in 2021 and 2022. The average waiting time was higher for children and young people and adults (54 days) than for older people (38 days). Day activation and employment care had the highest average waiting times in 2022 (64 days). Individuals with reduced contribution had higher waiting times for all years compared to those with no, regular and other contribution.

**Table 15 – Average waiting time (in days) from enrolment to first face-to-face contact in ambulatory mental health centres in Flanders (2016-2022)**

	2016	2017	2018	2019	2020	2021	2022
Average	51	57	55	47	52	51	41
Sex							
Men	51	52	55	47	51	50	42
Women	51	61	56	48	52	51	39
Age group							
Children and young people (0-17 years)	61	67	62	52	58	59	46
Adults (18-59 years)	48	55	53	48	52	51	40
Older people (>59 years)	47	51	55	32	36	31	27
Age unknown	53	131					
By province							
Antwerp	59	57	55	52	57	58	46
Brussels Capital	47	50	19	25	29	25	22
Limburg	37	49	52	45	48	52	36
East Flanders	52	58	58	44	49	44	32
Flemish Brabant	51	60	67	68	86	76	59
West Flanders	57	63	56	38	34	37	42
Type of care							
Child and youth care	63	69	69	59	62	64	48
Adult care	50	56	58	49	55	53	36
Elderly care	39	50	65	29	34	26	21
Forensic care	44	57	48	48	61	56	53
Addiction care	38	45	46	46	43	36	38
Care for people with mental disabilities	97	95	150	148	175	263	217
Refugee care	26	38	27	28	25	35	27
Art. 107 Adults	20	23	21	23	29	18	13
Crisis care	12	5	7	20	19	13	14
Day activation and employment care	20	37	32	30	55	16	14
Projects	43	67	21	29	40	35	43
Psychiatric care in the home	205	70	41	12	22	16	18



Early detection and intervention in psychiatric (psychotic) problems (VDIP)	23	23	44	17	22	34	27
Other types of care	80	42	22	27	21	44	45
Type of contribution							
Other contribution: Project art.7, 9 or 10 BVR	39	46	41	31	36	34	38
No contribution	46	52	48	45	55	52	45
Regular contribution	52	58	56	49	50	49	36
Reduced contribution	57	64	65	55	63	63	50

Each care periods for which the first face-to-face contact is in the registry year are included.

Source: Departement Zorg 2023

Table 16 – Average duration (in days) from first face-to-face contact to second face-to-face contact in ambulatory mental healthcare centres in Flanders in 2016-2022

	2016	2017	2018	2019	2020	2021	2022
Average	48	50	53	57	60	56	48
Sex							
Men	47	48	51	56	57	54	48
Women	49	52	55	58	63	58	48
Age group							
Children and young people (0-17 years)	51	54	61	61	63	57	54
Adults (18-59 years)	48	51	52	58	62	57	47
Older people (>59 years)	39	40	42	42	43	44	38
Age unknown		35					
Type of care							
Child and youth care	56	58	66	70	71	64	59
Adult care	53	57	59	66	72	68	50
Elderly care	38	39	40	38	38	44	36
Forensic care	32	32	37	42	49	50	44
Addiction care	38	50	50	59	54	46	47
Care for people with mental disabilities	74	55	42	60	47	52	52
Refugee care	20	27	20	21	25	23	21
Art. 107 Adults ¹	19	18	17	18	18	18	16
Crisis care	9	14	9	14	11	11	18



Day activation and employment care	25	24	27	47	53	27	64
Projects	28	30	31	31	31	28	31
Psychiatric care in the home	69	53	50	21	15	21	27
Early detection and intervention in psychiatric (psychotic) problems (VDIP)	26	25	23	30	31	22	20
Other types of care	24	24	28	21	28	32	29
Type of contribution							
Other contribution: Project art. 7, 9 or 10 BVR*	37	39	40	42	42	38	41
No contribution	36	35	38	42	49	52	46
Regular contribution	50	52	54	59	61	55	46
Reduced contribution	54	58	64	69	73	69	57

Each care periods for which the second face-to-face contact is in the registry year are included.

**Articles based on Decree of the Flemish Government*

¹This refers to the reform on mental healthcare services for adults. Article 107 stipulated that "the King may provide specific means of financing to allow, as experimental and for a limited period, prospective and programmed financing of healthcare pathways and networks".

Source: Departement Zorg 2023

Impact of the COVID-19 pandemic

The COVID-19 pandemic did not seem to have an impact on waiting times for a first face-to-face or second contact in a centre for ambulatory mental health. However, the number of care periods (or number of individuals receiving care at a CGG) decreased between 2019 (57 165) and 2020 (51 554), to increase again after 2020 (2021: 54 266 and 2022: 62 091).



Key points

- **Data about waiting times for mental health services are not systematically collected for the entire Belgian mental healthcare system. Only data for waiting times to access Flemish ambulatory mental health centres are publicly available.**
- **In 2022, the average waiting time was 41 days from enrolment to first face-to-face contact with an ambulatory mental health centre and 48 days from first to second face-to-face contact.**
- **On average waiting times are longest for care for people with mental disabilities, and shortest for care for older people.**

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3.3 Rate of involuntary committals in psychiatric hospital wards (/10 000 population) (MH-4)

3.3.1 Documentation sheet

Description	Rate of involuntary committals in psychiatric hospitals or psychiatric services of general hospitals per capita
Calculation	Numerator: Number of involuntary admissions per year Denominator: Total midyear Belgian population
Rationale	Involuntary committal (or placement under observation, also known as formal admission) is subject to specific conditions which are stated in the Law of 1990: the person must be suffering from a mental illness, he/she must constitute a danger for him/herself or for society, and there can be no other treatment option, such as voluntary admission or treatment at home. A patient can be ordered into involuntary admission by a magistrate and is usually admitted to a psychiatric hospital. The observation period is limited to 40 days, but can be extended if necessary. During the first period of observation (10 days maximum), a period of observation takes place and the psychiatrist submits a medical report to the judicial authority.¹ The need to minimise unnecessary involuntary admissions but provide appropriate treatment, supervision and protection for persons with serious mental illness is a key system goal.² An involuntary admission is indicative of a crisis episode but can also shed some insights into the availability and adequacy of inpatient resources and alternative forms of care for the group of more demanding patients.³ In addition, this risk of involuntary admissions has been shown to be greater for ethnic minority groups.^{3, 4} In order to better protect psychiatric patients, most European countries have reformed their mental protection laws and reviewed their criteria for involuntary commitment.³ Despite these reforms, there are international and intra-regional differences in the use of involuntary admissions with rates increasing in some western European countries that cannot be explained by increased prevalence of severe mental disorders.⁵ While some authors have expressed concern that an increased number of forensic beds signals re-institutionalisation, this has not been accompanied by a consistent rise in forensic involuntary admissions.⁵
Data source	MPG – RPM provided by FPS Public Health SPSCAE – FOD VVVL
Technical definitions	All involuntary admissions identified in MPG by variable “MA09 Type of admissions” by the following response categories (21” admission for observation”; 22 “internment”; 23” continuation forced stay”; 24 “probation”; 29 “other legal conditions”). For regional figures, calculations are based on patient’s residence.
International comparability	This indicator is included in the International Mental Health Comparisons (adults and older adults services) from the NHS Benchmarking Network and referred to as detention rate. The interpretation of this indicator in an international context requires investigation into the operation of legislation pertaining to such admissions and number of beds in the countries under analysis. For instance, where the number of beds is low, patients that require involuntary admissions in accordance with legal requirement, may be prioritised over patients requiring inpatient care voluntarily (i.e. not under legislation). This explains why New Zealand and England reported the two highest rates of adult involuntary committals and the two lowest number of general adult psychiatry beds per 100 000 population. In Belgium, a change in status from involuntary towards voluntary admission during the hospitalisation period is not taken into account whereas this was usually done by other countries.⁶



	Data reporting period varied across countries: 2019-2020 for Australia, 2020-2021 for Canada and New Zealand, 2021 for Sweden, Switzerland and Ireland, and 2021-2022 for the UK.
Dimension	Quality (appropriateness of mental healthcare)
Related indicators	
Reviewer	Nathalie Terryn (FPS Public Health)

3.3.2 Results

Belgium

The rate of involuntary committals in psychiatric hospitals or psychiatric services of general hospitals increased from 7.09 per 10 000 inhabitants in 2010 to 9.43 in 2021 (see Figure 26). In 2020, 87% of involuntary committals were in psychiatric hospitals and the number of involuntary admissions in these hospitals increased by 34% in 2011-2020.¹ In psychiatric services of general hospitals, the number of involuntary committals doubled since 2019 and increased by 84% between 2011 and 2020.¹ Furthermore, the average length of stay of involuntary committals decreased from 171 days in 2012 to 90 days in 2021.

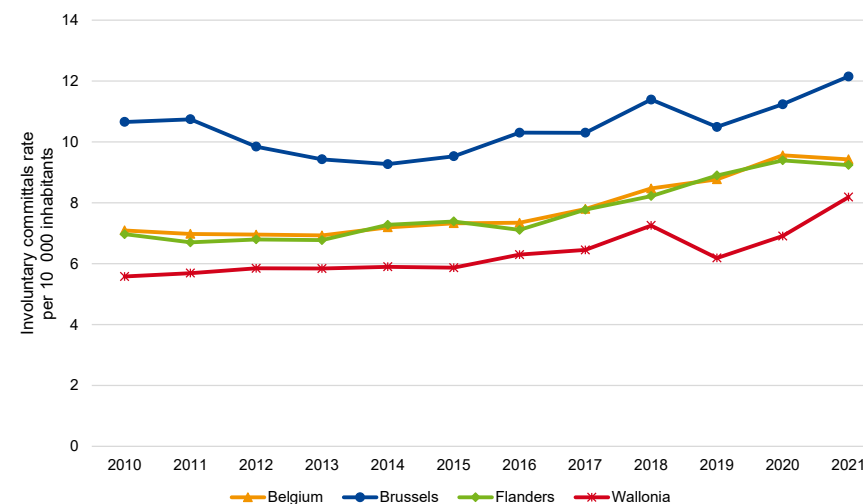
Analysis by demographic characteristics

It is higher for men (2021: 11.62/10 000) compared to women (2021: 7.30/10 000) and highest in individuals aged 18-40 years and lowest in individuals aged below 18 years (2021: <18 years: 1.61/10 000, 18-40 years: 17.28/10 000, 41-64 years: 10.33/10 000, ≥65 years: 4.43/10 000).

Regional comparison

Large differences can be observed between regions (in 2021): Flanders 9.24/10 000; Brussels 12.15/10 000; Wallonia: 8.19/10 000). Several initiatives are taken to deal with this increasing trend. The rate of involuntary committals was highest in the province of Limbourg and the Brussels-Capital Region. In 2021, the average length of stay was higher in Flanders (101 days) and Wallonia (86 days) than Brussels (53 days). However, the average length of stay decreased over time across all regions (see Figure 27).

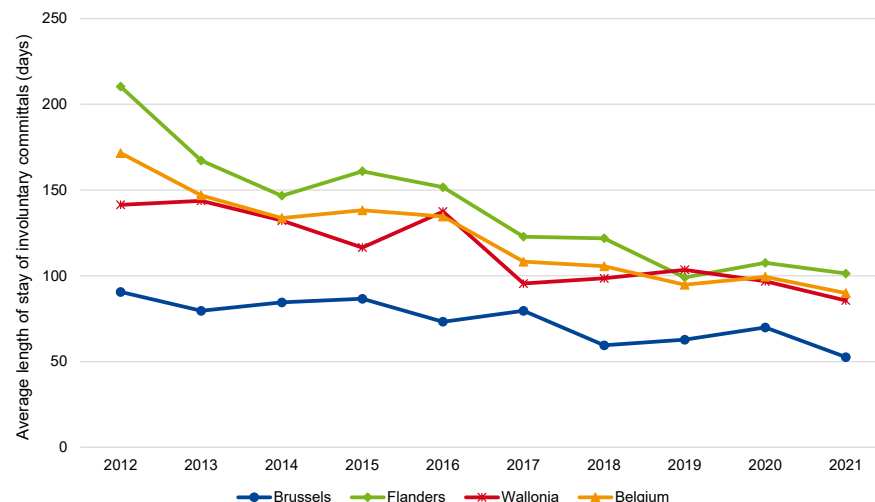
Figure 26 – Rate of Involuntary Committals per 10 000 inhabitants (2010-2021)



Source: SPF SPSCAE – FOD VVVL



Figure 27 – Average length of stay of involuntary committals (days), by region (2012-2021)



Source: SPF SPSCAE – FOD VVVL

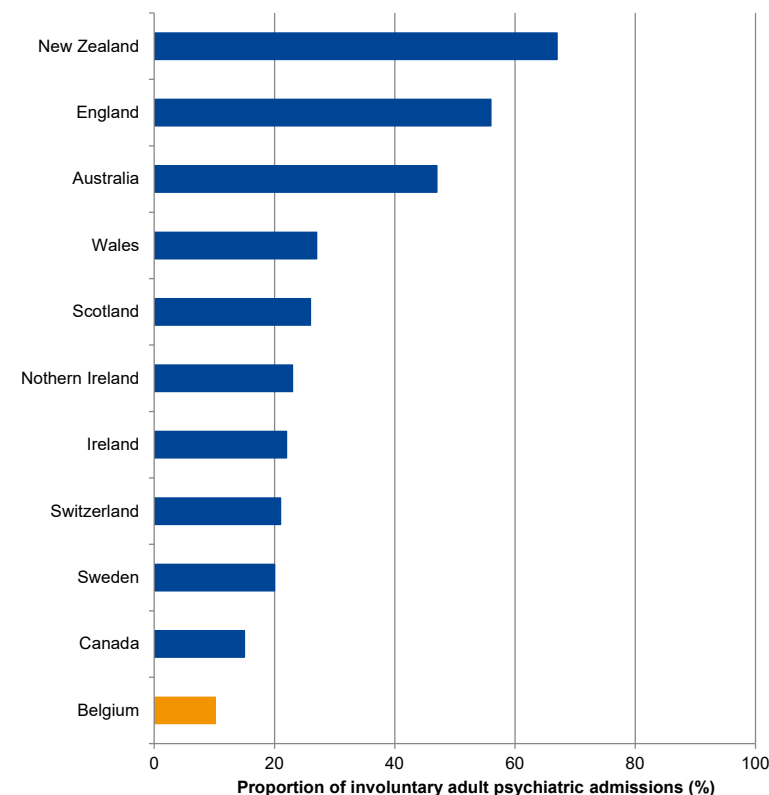
Impact of the COVID-19 pandemic

Based on the analyses above, there was no reduction in the rate of involuntary committals during the COVID-19 pandemic (2020-2021). In contrast to voluntary admissions, measures to combat the COVID-19 pandemic had no impact on the number of involuntary committals.¹

International Comparison

In 2021-2022, the proportion of adult psychiatric admissions that were involuntary was lower in Belgium (10%) than in other countries, including New Zealand, the UK (Wales, Scotland, Northern Ireland), Ireland, Switzerland, Sweden and Canada (mean: 30%, median: 23%; see Figure 28).⁷ There was substantial variation in results across the 11 countries.⁷

Figure 28 – Proportion of adult psychiatric admissions that were involuntary in 2021-2022 (or most recent reporting period available; international comparison)



Source: NHS Benchmarking Network 2022



Key points

- The involuntary committal rate in psychiatric hospital wards rose from 7.1 / 10 000 pop. in 2010 to 9.4 / 10 000 pop. in 2021.
- The average length of stay of involuntary committals decreased from 171 days in 2012 to 90 days in 2021.
- Large differences between regions exist with higher rates in Brussels (10.2 involuntary committals per 10 000 inhabitants) compared to Flanders (9.2 / 10 000) and Wallonia (8.2 / 10 000).
- In 2021-2022, the proportion of adult psychiatric admissions that were involuntary was lower in Belgium (10%) than in a selection of other countries, including New Zealand, the UK, Ireland, Switzerland, Sweden and Canada (mean: 30%, median: 23%).

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3.4 Emergency Rooms visits for social, mental or psychic reason (% of admission in emergency rooms in general hospitals) (MH-5)

3.4.1 Documentation sheet

Description	Proportion of visits to the Emergency Rooms in general hospitals for social, mental or psychic reason
Calculation	<u>Numerator</u> : number of emergency room presentations with a mental health and/or social problem and/or suicide attempt <u>Denominator</u> : total emergency room presentations
Rationale	Although unforeseen and unavoidable emergencies do arise in mental health, mental health related emergency room use is used as an indicator of poor coordination of care and service failures.¹ The community treatment system to support services for people with mental health related problems is regarded as ineffective when utilisation rates of emergency departments of general hospitals are high.² Highly accessible outpatient care is considered to help people to enter treatment before reaching the crisis stage and minimise the need for emergency room visits.¹ In addition, it is assumed that effective liaison between emergency rooms and mental health crisis resources reduce the use of emergency rooms for mental health services/clients. High rates of mental health related emergency room visits are not only a concern for members of the mental health community. It is also a concern that overcrowding emergency department results in decreased quality of care and increased likelihood of medical error.² In the United States, it has been illustrated that mental health related emergency room visits are on the rise for more than one decade.³ This stresses the importance of the availability of expertise in the field of mental health in emergency rooms to manage these crises. Depending on the number of visits for mental health problems, availability of a mental health specialist in every emergency room may not be practical. Still, there should be a minimum protocol by which mental health expertise is accessible for immediate care for every citizen.⁴
Data source	RHM – MZG (hospital administrative discharge data)
Technical definitions	Denominator = number of visit in emergency room. Definition of visit in emergency room using the RHM – MZG: The admissions in emergency department can be identified in the RHM with the following codes: 1. Variable CODE_UNIT beginning with “URG” in dataset STAYUNIT (A5) 2. ORDER_UNIT = 1 in dataset STAYUNIT (A5) Excluding the long stays with A2_HOSPTYPE_FAC = N, M or L in STAYHOSP Distinction between type of admission: 1. Ambulatory emergency (A2_HOSPTYPE_FAC = U in dataset STAYHOSP (A2)) 2. ONE day (A2_HOSPTYPE_FAC = C & D in dataset STAYHOSP (A2)) 3. Classic hospitalization (A2_HOSPTYPE_FAC = H & F in dataset STAYHOSP (A2)) Numerator = Number of visit in emergency room (see definition of denominator) with mental health/substance related problem records Definition of mental health/substance-related problem records in emergency room using the RHM: we can identify the reason of admission for suicide attempt or mental/psychological reasons. These codes are, however, not specific enough as they also include non-mental health related problems (e.g. social problems). The following selection was used to detect these cases: M6_TYPE_INFO_URG = R and M6_CODE_INFO_URG = F or S in the dataset URGADMIN (M6)



International comparability	This indicator is not standardised for international comparison. The Health Care Utilization Project (HCUP) of HARQ gives the most detailed description of this indicator and makes use of a similar data source and coding structure as the MKG – RCM. ² Similar data are reported by the US Centres for Disease Control and Prevention (in National Center for Health Statistics reports) and NHS Scotland. ^{5, 6}
Limitations	This indicator should be considered as a proxy indicator since it is based on the symptoms/complaints with which the patients arrives to the emergency room. The flagged symptoms/complaints include besides suicide attempts, mental and psychic reasons also social reasons. A more detailed analysis with linkages with the verified admission diagnosis (or secondary diagnoses) via the Belgian hospital discharge dataset (RHM – MZG) is beyond the scope of this study. Data for the year 2015 is missing.
Dimensions	
Related indicators	
Reviewers	Nathalie Terryn (FPS Public Health)

3.4.2 Results

Belgium

From the 3 450 004 emergency admissions in 2021 in Belgium, there are 5604 admissions for suicide attempts (0.16%) and 56 659 admissions for social, mental or psychiatric reasons (1.64%). These percentages are relatively stable over time (2010-2021).

Regional comparison

For the proportion of patients with social, mental or psychic complaints, Flanders (1.88%) has the highest rate in 2021, followed by Brussels (1.72%) and Wallonia (1.30%; see Figure 29). The proportion of suicide attempts is higher in Wallonia (0.26%) compared to Brussels (0.06%) and Flanders (0.13%) in 2021 (see Figure 30). There were also variations within regions in the percentage of visits in emergency rooms for social, mental or psychic reasons, or suicide attempts (see Figure 32).

Impact of the COVID-19 pandemic

The percentage of visits in emergency rooms for social, mental or psychic reasons increased between 2019 and 2021 in Flanders and Wallonia, and increased between 2019 and 2020 in Brussels to then decrease in 2021. The COVID-19 pandemic did not seem to have impacted the percentage of visits in emergency rooms for suicide attempts in Belgium. International findings for a related indicator: presentations and admissions in psychiatric emergency departments during the first wave of the COVID-19 pandemic, are heterogenous.⁷



Figure 29 – Percentage of visits in emergency rooms (ER) for social, mental or psychic reasons (2010-2021)

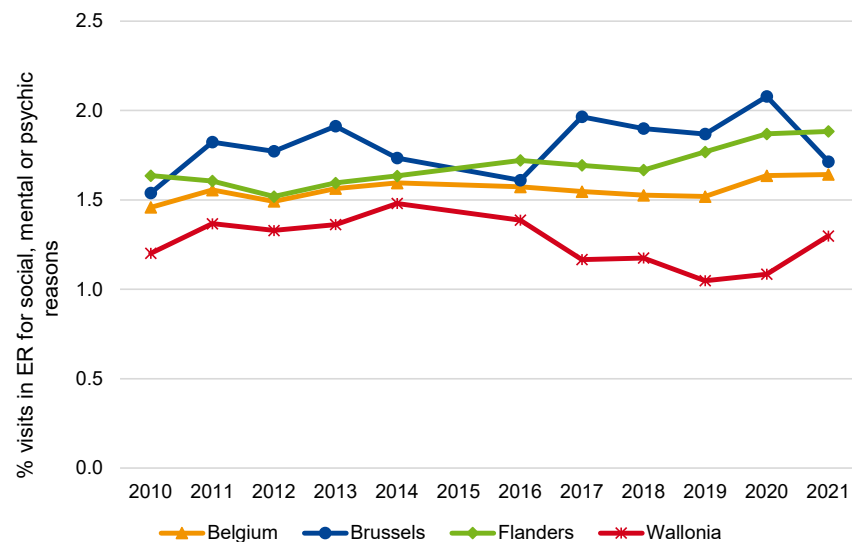


Figure 30 – Percentage of visits in emergency rooms (ER) for suicide attempts (2010-2021)

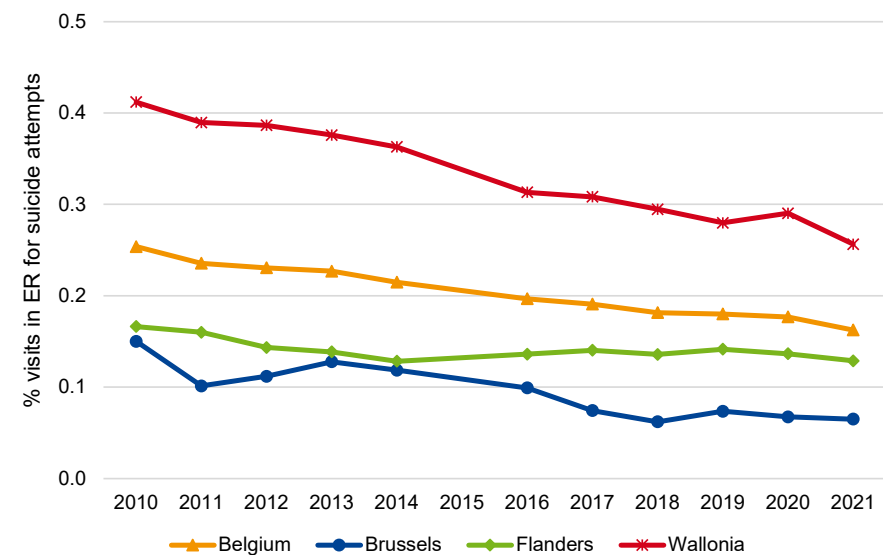




Figure 31 – Percentage of visits in emergency rooms (ER) for social, mental or psychic reasons, or suicide attempts (2010-2021)

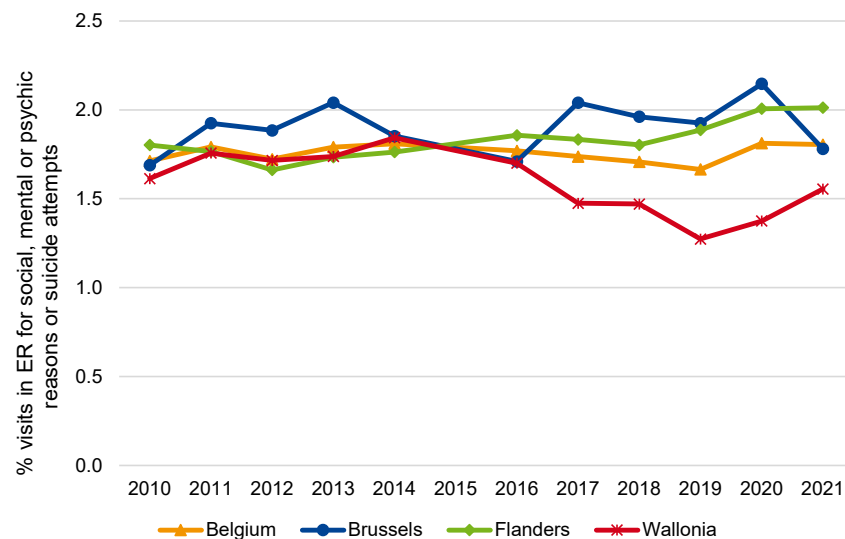
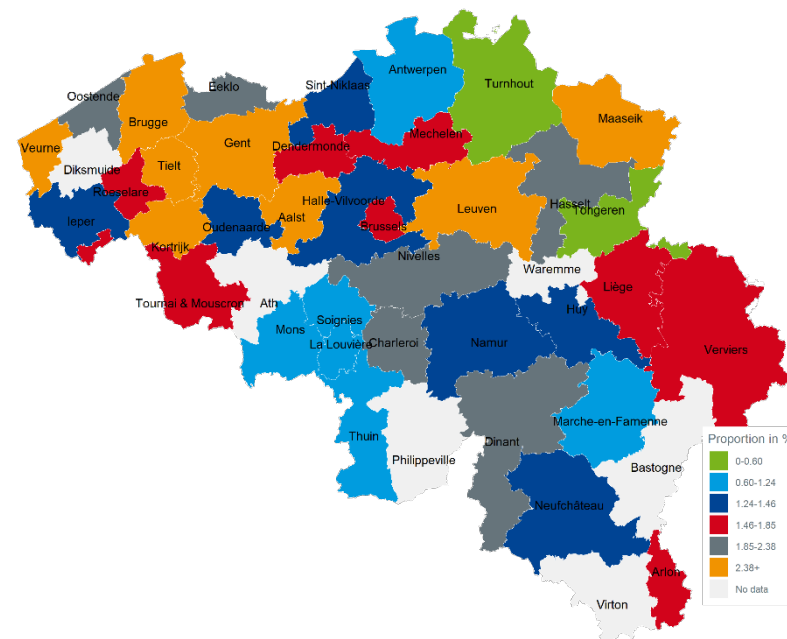


Figure 32 – Proportion (%) of visits in emergency rooms for social, mental or psychic reasons, or suicide attempts by district (2021)



No data for the following districts: Ath, Bastogne, Diksmuide, Philippeville, Virton and Waremm.



Key points

- **The percentage of visits to the Emergency Rooms in general hospitals for mental health related problems – including suicide attempts – is relatively stable over time (1.71% in 2010, 1.80% in 2021).**
- **The percentage of admissions for social, mental or psychic problems is higher in Flanders (1.88%) than in Brussels (1.72%) or Wallonia (1.30%) in 2021.**
- **In 2021, there are more admissions in Wallonia for suicide attempts (0.25%) than in Flanders (0.13%) and Brussels (0.06%).**

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3.5 Antidepressant medication (MH-6, MH-7, MH-8)

3.5.1 Documentation sheet

Description	There are three indicators to assess the appropriateness of antidepressants prescription: 1. MH-6: Use of antidepressants (total DDD/1000 population/day) 2. MH-7: Use of antidepressants (% of adult population, at least once in the year) 3. MH-8: Use of short antidepressant treatment episodes (% of adult population under antidepressant)
Calculation	1. Number of Defined Daily Doses (DDD) of antidepressants (ATC code=N06A) per 1000 inhabitants per day <u>Numerator:</u> Total DDDs of antidepressants delivered per day (=total number of DDD on the year divided by 365 days); <u>Denominator:</u> Number of insured population. 2. Percentage of adults with antidepressants prescribed and delivered <u>Numerator:</u> Number of persons (≥18 years) with at least one delivered prescription of antidepressant; <u>Denominator:</u> Number of insured persons (≥18 years). 3. Percentage of very short antidepressant treatment episodes for adult patients (18 years or older) <u>Numerator:</u> a. Number of adults (≥18 years) with at least 1 antidepressant delivered, for which the treatment episode is less than or equal to 3 months; b. Number of adults (≥18 years) with at least 1 antidepressant delivered, for which the treatment episode is less than or equal to 6 months. <u>Denominator:</u> Number of adults (≥18 years) with at least 1 antidepressant delivered. Both in case a. and b., the percentage is measured each year, except for the first and last available years, which are considered “buffer years” to be able to measure 6 months treatments spreading over two years. A treatment is considered over if no prescription is found 6 months after the last prescription date.
Rationale	The consumption of antidepressant drugs more than doubled in OECD countries between 2000 and 2019.¹ The reasons for this and other increases (e.g. antipsychotics), however, are unclear. Several Belgian reports^{2,3} have pointed out that there is an inappropriate use (wrong indication; wrong duration; wrong type of medication) of the psycho-pharmaceutical drugs which not only causes a risk for public health but also results in unnecessary societal costs. On the other hand, the increased consumption of antidepressant drugs may reflect improved recognition of depression, availability of therapies, evolving clinical guidelines or changes in patient and provider attitudes. Antidepressants are indicated for the treatment of severe depression, panic and anxiety disorder and obsessive compulsive disorder. Yet, to be effective, long-term use (at least 6 months), in combination with high-intensity psychological intervention, is required.⁴ In this report, we will use a proxy to measure adherence to this guideline. Since we have no data about the diagnosis we will consider all treatment episodes less than 3 or 6 months as inappropriate. The inappropriate use will as such include patient groups for which the use of antidepressants is not indicated (e.g. mild depression) and for whom the treatment episode is inappropriate (e.g. major depression with a treatment episode of 1 month). In addition, only the duration of use (i.e. treatment episode) can be estimated. It is assumed that patients to whom a package of drugs is delivered also take all doses included in the package at a uniform defined daily dose (DDD) regimen and at 100% adherence.⁵



	Recent evidence from several countries (England, Scandinavia, Friuli Venezia Giulia region) suggests that the use of antidepressants increased to a greater extent during the COVID-19 pandemic, highlighting the urgent need for mental health interventions and strategies to optimise the use of antidepressants. ⁶⁻⁸
Data source	RIZIV – INAMI (Pharmanet – Farmanet) for MH-6 and MH-7; IMA – AIM (Pharmanet – Farmanet) for MH-8.
Technical definitions	The medications studied are classified into the following ATC class: Antidepressant: N06A. In contrast with data used in the previous Belgian HSPA report, ⁹ data for the indicator MH-8 now include magistral formulae (made by the pharmacist for each individual patient).
International comparability	Only for the DDD antidepressants (ATC code: N06A) per 1000 inhabitants (MH-6) international comparable data are available. ¹ The data used across EU countries varies in terms of types of drugs included, meaning whether or not drugs dispensed in hospitals, non-reimbursed drugs, or OTC drugs are included. Data in Croatia, Czech Republic, Denmark, Estonia, Finland, France, Lithuania, Slovak Republic, Sweden, include drugs dispensed in hospitals, non-reimbursed drugs and OTC drugs. Data include drugs dispensed in hospitals in Germany (since 2018), Italy, Luxembourg (since 2021), Spain (since 2018). The data for Spain refer to inpatient and outpatient consumption for prescribed drugs covered by the national health system (public insurance). Data for Luxembourg only refer to outpatient consumption and include pharmaceuticals delivered in hospitals for outpatient consumption since 2021. Data for Luxembourg are underestimated due to incomplete consideration of products with multiple active ingredients. Data in Portugal include both reimbursed and non-reimbursed products, and OTC products sold in pharmacies. Data in Germany include a portion of prescriptions from hospital pharmacies since 2018. Data for Portugal include both reimbursed and non-reimbursed products and OTC products sold in pharmacies. Data for Slovenia include drugs prescribed to hospital patients at discharge, to be collected in a community pharmacy and drugs dispensed in long-term care facilities, all medicines with a medical prescription (regardless of reimbursement) and OTC drugs with a medical prescription. Data for Finland and Sweden is not restricted to adults only. Only four other countries (Austria, Germany, Luxembourg) used the number of insured persons as the denominator instead of the general population.
Limitations	It is not possible to evaluate the appropriateness of mental health care using these indicators alone, as observed trends in the use of antidepressant drugs are due to several factors. Between 2010 and 2016, data for MH-6 came from IMA – AIM (EPS) instead of Pharmanet – Farmanet. For MH-6, data for 2017 were not available by region, as demographic data linked to Pharmanet – Farmanet are only kept during three years by RIZIV – INAMI.
Dimension	Quality (appropriateness in mental healthcare)
Related indicators	
Reviewer	El Maâti Allaoui (IMA – AIM)



3.5.2 Results

3.5.2.1 DDD antidepressants

Belgium

The consumption of antidepressants (N06A) increased from 69.6 DDDs per 1000 inhabitants per day in 2010 to 86.5 DDDs per 1000 inhabitants per day in 2021.

Analysis by demographic characteristics and socio-economic status

The consumption of antidepressants increased with age, with the highest rates in persons aged 85 years and over (2021: 187.4 DDDs/1000 pop./day). Women had a two-fold higher consumption of antidepressants than men in 2021.

Regional comparison

There are large differences between regions, with a higher consumption in Wallonia (100.1 DDDs/pop./day), then Flanders (82.4) and Brussels (65.7). While the consumption of antidepressants increased progressively in Wallonia and Flanders since 2010, it was constant in Brussels until 2021 when it increased (see Figure 33).

Impact of the COVID-19 pandemic

Based on the data, there does not seem to be an impact of the COVID-19 pandemic on the consumption of antidepressants.

International comparison

This trend of increasing use is also seen internationally (see Figure 34 right hand-side) but Belgium is consistently above the EU-14 and EU-27 averages (2021: 86.2 DDDs/1000 pop./day in Belgium vs 77.1 in EU-14 and 64.2 in EU-27).¹⁰

Table 17 – Defined Daily Doses (DDDs) of antidepressants per 1000 inhabitants per day, by patient characteristics (2021)

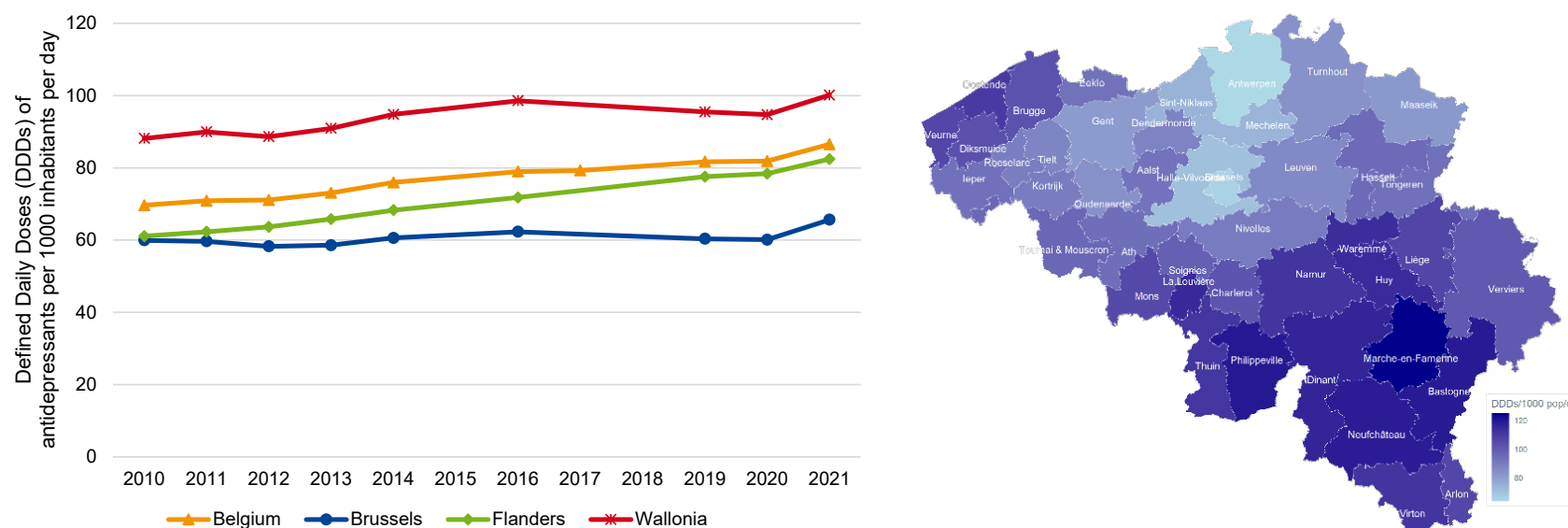
Variable	Category	Total DDDs/ 1000 inhabitants per day
Age (years)	00-14	0.8
	15-34	34.0
	35-49	93.7
	50-64	144.7
	65-74	143.7
	75-84	159.8
	≥85	187.4
Gender	Female	115.0
	Male	57.1
Province	Antwerp	70.7
	Walloon Brabant	90.3
	Bruxelles-Capitale	65.7
	Hainaut	102.8
	Liège	106.4
	Limburg	91.1



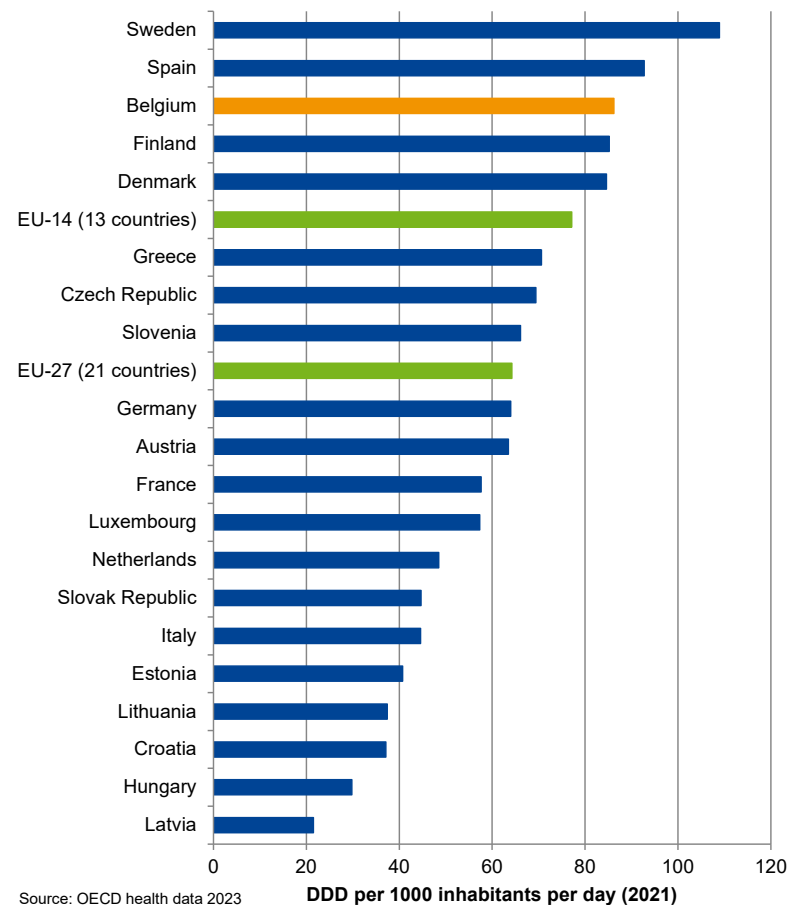
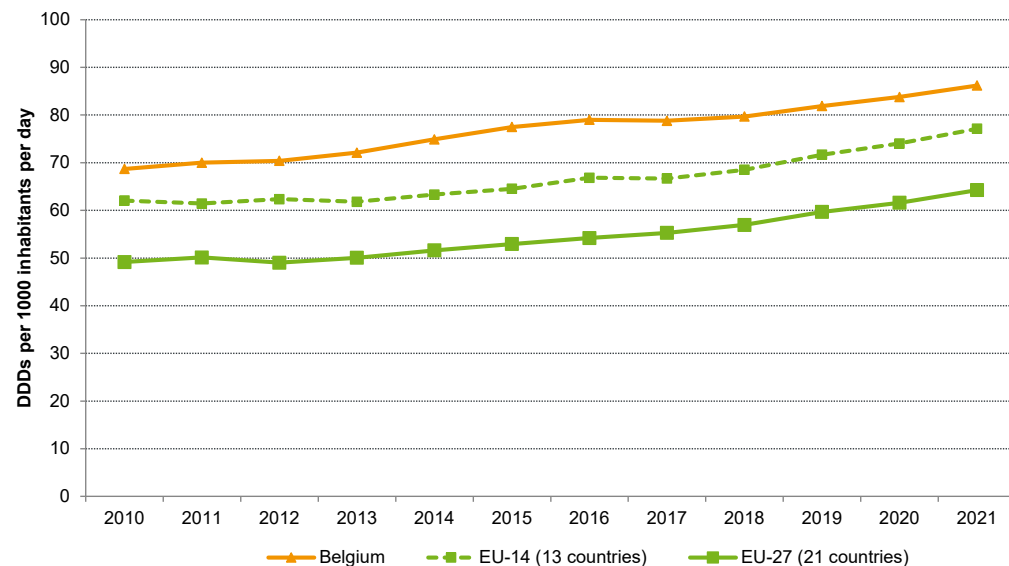
	Luxembourg	117.3
	Namur	113.7
	East Flanders	84.0
	Flemish Brabant	77.6
	West Flanders	97.0
Region	Brussels	65.7
	Flanders	82.4
	Wallonia	100.1
	Belgium	86.5

Source: Pharmanet – Farmanet; calculation: INAMI – RIZIV

Figure 33 – Defined Daily Doses (DDDs) of antidepressants per 1000 inhabitants per day, by patient region (2010-2021) and district (2021)



Source: Pharmanet – Farmanet ; calculation: INAMI – RIZIV

**Figure 34 – DDDs of antidepressants: international comparison (2010- 2021)**

Source: OECD Health statistics 2023



3.5.2.2 *Percentage of adults with antidepressants prescribed and delivered*

Belgium

In contrast with the DDD per 1000 inhabitants per day, the percentage of adults with antidepressants prescribed and delivered remained relatively stable over time, with a slight increase in 2021 (from 13.3% in 2010 to 13.7% in 2021).

Regional comparison

There are, however, large differences between the regions: Brussels: 11.3%; Flanders 12.9%; Wallonia: 16.2%.

Analysis by demographic characteristics and socio-economic status

From Table 18, it is clear that the percentage of adults with antidepressants prescribed and delivered increases with age, from approximately 6% in adults aged 18-34 years to 20% or more in adults aged 75 years or more. The percentage of older people (≥ 75 years old) who received antidepressant medication was 2.5 times higher for individuals staying in nursing homes (47.3%) than those not in nursing homes (19.0%). The percentage of antidepressants prescribed and delivered was higher in women (17.6%)

than in men (9.6%), and in individuals who benefited from the increased reimbursement compared to those who did not (22.5% vs 8.9%).

A recent study using HISlink 2018 reported that individuals with low levels of education (vs those with higher education levels) and those in a higher household income category (vs those in a lower household income category) presented with a higher probability of using antidepressants (18.3% vs 11.7% and 17.3% vs 9.5%, respectively).¹¹ There was also a significant difference in the use of antidepressants among individuals with sufficient level of health literacy (10.8%) and those with insufficient/limited level of health literacy (16.8%). Health literacy constituted one of the possible pathways by which socioeconomic status influenced the use of antidepressants, suggesting that strategies for reducing the use of antidepressants may benefit from considering individuals' level of health literacy. However, the mediated percentages were quite low (income: 10%, education: not significant), which might suggest a shared decision between physician and patients¹¹.

Impact of the COVID-19 pandemic

Based on the data, there does not seem to be an impact of the COVID-19 pandemic on the percentage of adults with antidepressants prescribed and delivered.


Table 18 – Percentage of adults with antidepressants prescribed and delivered, by patient characteristics (2021)

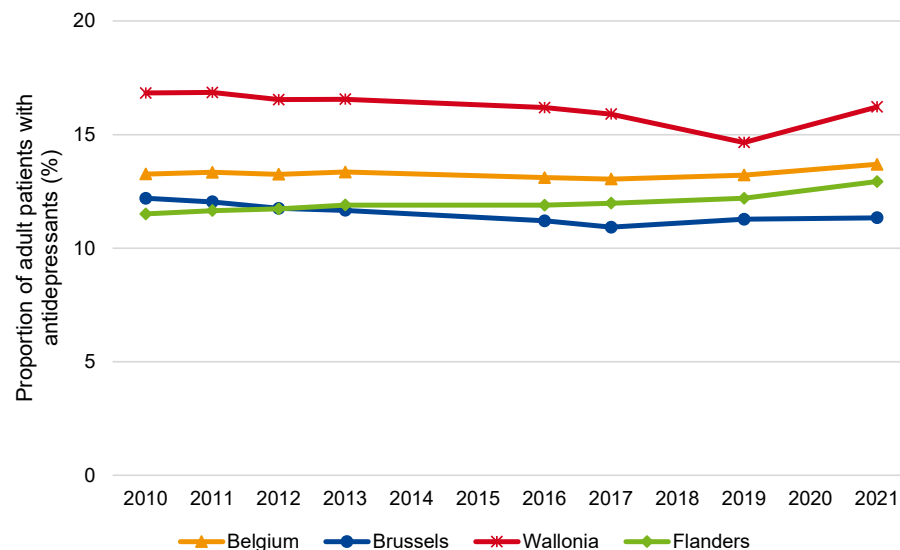
Variable	Category	Percentage with antidepressants
Age (years)	18-34	5.9
	35-49	12.3
	50-64	17.0
	65-74	17.6
	75-84	20.8
	≥85	24.9
Gender	Male	9.6
	Female	17.6
BIM status*	No	8.9
	Yes	22.5
Long term care (≥75 years old)	Institutions	47.3
	No institutions	19.0
Province	Antwerp	11.6
	Walloon Brabant	14.8
	Bruxelles-Capitale	11.3
	Hainaut	16.5
	Limburg	16.0
	Liège	14.3
	Luxembourg	16.4
	Namur	17.1
	East Flanders	13.3
	Flemish Brabant	12.4
	West Flanders	14.2
Region	Brussels	11.3
	Flanders	12.9
	Wallonia	16.2
Belgium		13.7

*BIM status: beneficiary of increased reimbursement.

Source: *Pharmanet – Farmanet*; calculation: *INAMI – RIZIV*



Figure 35 – Percentage of adults (≥18 years) with antidepressants (2010-2021)



Source EPS (IMA – AIM), calculation: INAMI – RIZIV

3.5.2.3 Percentage of very short and short antidepressant therapies

Belgium

The percentage of adults with a very short term antidepressant therapy (<3 months) decreased from 18.2% in 2011 to 12.4% in 2020 (Figure 36). The percentage of adults with a short term antidepressant therapy (<6 months) decreased from 23.7 % in 2011 to 18.3% in 2020.

Regional comparison

The percentages of adults with very short-term and short-term therapies were higher in Brussels (14.7% and 21.6%, respectively) than Wallonia (11.5% and 17.5%, respectively) and Flanders (12.6% and 18.2%, respectively) in 2020.

Analysis by demographic characteristics and socio-economic status

In 2020, the percentage of short therapies is higher in men (<3 months 14.7%; <6 months: 21.5%) than women (<3 months 11.2%; <6 months: 16.6%; see Table 19). The highest percentages of short therapies (<6 months) can be observed among the younger age groups with ≥30% in the age groups 15-29 years.

There are differences in percentages of very short and short antidepressant therapies for patients aged 65 years or older by the type of long term care received: nursing homes (very short: 5.1%; short: 8.2%), home care (very short: 9.3; short: 13.8%) and no long-term care (very short: 10.9%; short: 15.7%). Percentages of very short and short therapies were also higher for adults not entitled to increased reimbursement than for those entitled to increased reimbursement (very-short: 13.1% vs 10.7%; short: 19.2% vs 15.9%).


Table 19 – Percentage of adults with short-term antidepressants delivered, by patient characteristics (2020)

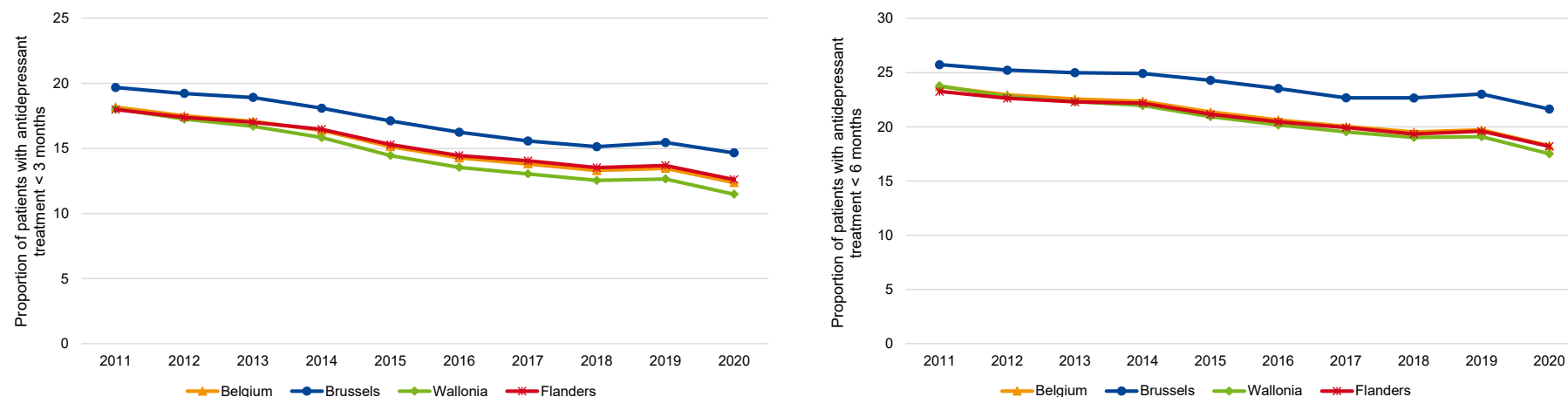
Variable	Category	Numerator (<3 months)	Numerator (<6 months)	Denominator	Percentage with antidepressants < 3 months	Percentage with antidepressants < 6 months
Age (years)	18-19	1590	2440	7189	22.1	33.9
	20-24	5892	8767	25 848	22.8	33.9
	25-29	8317	12 432	38 244	21.7	32.5
	30-34	10 196	15 293	52 443	19.4	29.2
	35-39	11 546	17 346	67 391	17.1	25.7
	40-44	12 685	19 014	84 880	14.9	22.4
	45-49	13 708	20 216	100 810	13.6	20.1
	50-54	14 868	21 691	119 442	12.4	18.2
	55-59	14 599	21 415	133 305	11.0	16.1
	60-64	12 266	17 901	122 364	10.0	14.6
	65-69	10 369	15 075	106 359	9.7	14.2
	70-74	9979	14 434	100 181	10.0	14.4
	75-79	7692	11 231	76 014	10.1	14.8
	80-84	7294	10 626	75 404	9.7	14.1
	85-89	5384	7970	60 175	8.9	13.2
	90+	3433	5095	40 389	8.5	12.6
Gender	Female	89 603	132 551	799 908	11.2	16.6
	Male	60 215	88 395	410 530	14.7	21.5
Entitlement to increased reimbursement	No	111 976	164 719	857 034	13.1	19.2
	Yes	37 738	56 060	352 796	10.7	15.9
Long term care (≥65 years)	Institutions	3978	6420	78 454	5.1	8.2
	Home care	7659	11 375	82 409	9.3	13.8
	No long term care	32 514	46 636	297 659	10.9	15.7
Province	Antwerp	3147	4669	30 204	10.4	15.5
	Walloon Brabant	5479	8164	45 364	12.1	18.0
	Bruxelles-Capitale	7688	11 333	67 127	11.5	16.9
	Hainaut	11 459	16 834	93 662	12.2	18.0
	Limburg	13 497	19 893	111 061	12.2	17.9
	Liège	13 645	20 147	93 089	14.7	21.6
	Luxembourg	17 434	25 046	140 677	12.4	17.8
	Namur	14 254	22 428	134 837	10.6	16.6
	East Flanders	20 447	29 170	159 323	12.8	18.3



	Flemish Brabant	21 609	30 915	164 850	13.1	18.8
	West Flanders	20 276	30 938	165 150	12.3	18.7
Region	Brussels	13 645	20 147	93 089	14.7	21.6
	Wallonia	50 844	77 532	442 682	11.5	17.5
	Flanders	84 446	121 858	669 573	12.6	18.2
Belgium		149 818	220 946	1 210 438	12.4	18.3

Source: IMA – AIM

Figure 36 – Short-term antidepressant use per region: treatment < 3 months (left-hand side) and treatment < 6 months (right-hand side) in 2011-2020



Source: IMA – AIM



Key points

- The delivery of prescribed antidepressant medication increased from 69.6 DDDs per 1000 inhabitants per day in 2010 to 86.5 DDD per 1000 inhabitants per day in 2021, with large differences between regions (higher in Wallonia than in Brussels and Flanders).
- The same increasing trend is observed in all European countries. With 86 DDDs/1000 pop./day, Belgium is above the EU-14 and EU-27 averages of 77 and 64 DDDs/1000 pop./day, respectively.
- Yet, the percentage of adults with antidepressant medication prescribed and delivered was 13.7% in 2021 and remained relatively stable over time, but with large variation between regions (higher in Wallonia than in Brussels and Flanders).
- The proportion of individuals with antidepressants was much higher for older people (≥ 75 years old) in nursing homes (47.3% vs 19.0%).
- The percentage of adults receiving antidepressant therapy for very short periods (< 3 months) was 12.4% in 2020, but the situation is getting better (18.2% in 2011), with higher percentages in Brussels than in Flanders and Wallonia.

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3.6 Number of hospitalisation days in psychiatric hospital wards (/1000 population) (MH-10)

3.6.1 Documentation sheet

Description	Number of hospitalisation days in psychiatric hospital per capita
Calculation	Numerator: Number of hospitalisation days in psychiatric hospital or in psychiatric services of general hospital with at least one overnight. Denominator: Mid-year population
Rationale	This indicator provides contextual information on the utilisation of mental healthcare services outside ambulatory setting. It may reflect differences between regions, such as the health of the population, differing health service delivery models and variations in the availability and accessibility of specialised, residential and/or ambulatory and community-based services. We acknowledge that monitoring psychiatric hospital service use captures only a relatively small proportion of individuals who require mental healthcare services. However, since the reform of 2010 (i.e. art. 107 projects), the organisation of mental healthcare in Belgium (like in other Western countries) is shifting from a model based on 'large isolated institutions' towards a balanced care model. This implies that care is offered and delivered as close as possible to the patient's living environment, and only if necessary in an institution. As such, one may expect a decreasing trend of psychiatric hospitalisation days. ¹
Data source	RPM – MPG from FPS Public Health
Technical definition	The number of days is calculated as the discharge date – admission date. This implies that one-day stays are not included in the calculation. Only data for terminated stays are included. Data is reported based on the region of the patient's residence.



International comparability	This indicator is not included in standardised international indicator sets. Similar indicators are also monitored by the Canadian Health Agency (i.e. mental Illness Patient Days rate) and the Australian Institute of Health and Welfare (i.e. national rate of mental health-related overnight hospitalisations). ^{2, 3}
Limitations	No international comparison. The method used to the number of hospitalisation days is different from the method used in the previous Performance report. ⁴ In the previous report, the number of hospitalisation days excluded the duration of any psychiatric intermediate exits (e.g. weekends). An intermediate psychiatric exit must be followed by an intermediate psychiatric readmission within 30 days, otherwise it should be considered as a new admission. Since 2020, the variables used to calculate exit times should no longer be encoded. As a result, data for intermediate exists might not be reliable from 2020 onwards. For this reason, it was decided to use the total number of psychiatric hospitalisation days, including any potential intermediary exits.
Dimensions	Quality (Appropriateness)
Related indicators	
Reviewers	Nathalie Terryn (FPS Public Health)

3.6.2 Results

Belgium

The number of psychiatric hospitalisation days per 1000 inhabitants decreased from 789 in 2012 to 550 in 2021 in Belgium (see Figure 37).

Analysis by demographic characteristics

In 2021, the number of psychiatric hospitalisations days was higher for men (575 per 1000) than women (515 per 1000), and higher in individuals aged 18-64 years (685 per 1000) than those aged below 18 years (188 per 1000) or above 65 years (472 per 1000).

Regional comparison

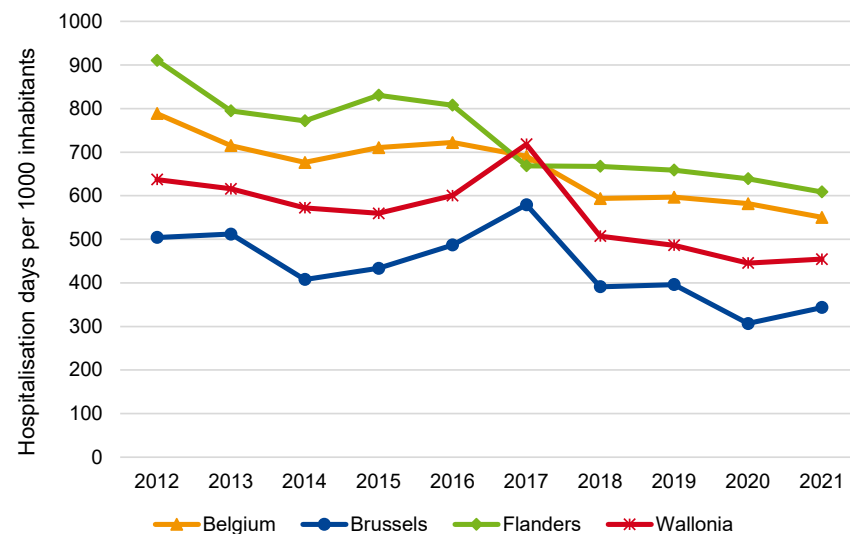
The number of psychiatric hospitalisation days per 1000 inhabitants was higher in Flanders (2021: 609 per 1000) than in Wallonia (2021: 455 per 1000) and Brussels (2021: 344 per 1000) and the decreasing trend in 2012-2021 was similar across regions (~29-33%). In 2017, the number of psychiatric hospitalisations days per capita in Wallonia and Brussels increased by around 20% compared to 2016.

Impact of the COVID-19 pandemic

The COVID-19 pandemic did not seem to have an impact on the decreasing trend in the number of hospitalisation days in psychiatric wards per 1000 inhabitants.



Figure 37 – Number of hospitalisation days in psychiatric hospital or in psychiatric services in general hospital per 1000 inhabitants, by patient region (2012-2021)



Source: FPS Public Health SPSCAE – FOD VVVL (RPM – MPG)

Key points

- In light of the 2010 mental healthcare reforms aiming to make a shift from inpatient mental healthcare towards ambulatory alternatives, the number of psychiatric hospitalisation days decreased from 789/1000 inhabitants in 2012 to 550/1000 in 2021.
- While the number of psychiatric hospitalisation days per capita was higher in Flanders than in Wallonia and Brussels, a decreasing trend was observed across regions.



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3.7 Readmissions within 30 days in psychiatric hospital wards (in the same hospital, % of admissions) (MH-11)

3.7.1 Documentation sheet

Description	Proportion of readmissions within 30 days in psychiatric hospital wards
Calculation	Numerator: Number of readmissions in the same hospital within 30 days after discharge. Denominator: Number of stays in psychiatric hospital (PH) or in psychiatric services of general hospital (PSGH)
Rationale	Hospital readmission rates are commonly used as proxy for relapse or complication following a psychiatric inpatient stay: they can point to premature discharge or lack of coordination with outpatient care or a lack of continuity of care.
Data source	MPG – RPM
Technical definitions	Data is reported based on the region of the patient's residence. Some hospitals have a unique stay number rather than a unique patient number (readmissions are not counted as such). Only hospital stays where the patient was discharged are included.
International comparability	This indicator is currently included in the international mental health comparison from the NHS Benchmarking Network, ¹ it was proposed by the OECD mental care panel. ² The NHS Benchmarking Network defines emergency readmissions as unplanned/unexpected admissions for patients who have been recently discharged from inpatient psychiatric care (typically in the previous 28-30 days) for a problem that is the same or similar to the original complaint for which the patient was treated. ¹ This does not include planned follow up admissions, or a return of patients from a period of leave. Emergency readmissions may occur if a patient was discharged too early or if their support in the community following discharge was inadequate. Emergency admissions are not always avoidable and can reflect a relapse in clinical symptoms and illness triggered by other events. ¹
Limitations	International comparisons for this indicator are limited.
Dimensions	Quality (Appropriateness)
Related indicators	
Reviewer	Nathalie Terryn (FPS Public Health)



3.7.2 Results

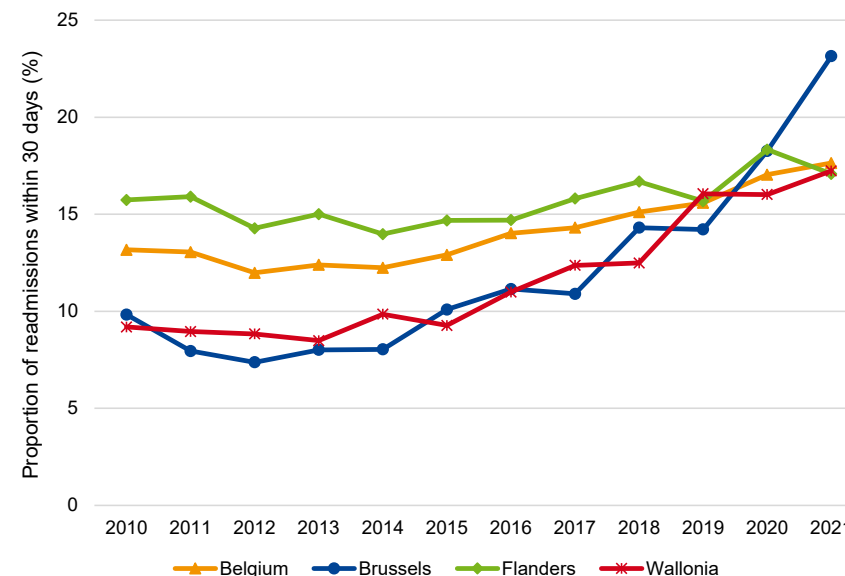
Belgium

The rate of 30 days readmissions in Belgium increased from 13.17% in 2010 to 17.64% in 2021.

Regional comparison

The rate of 30 days readmissions increased across all regions between 2010 and 2021, and especially since 2015 (see Figure 38). Brussels has a higher rate (23.15% in 2021) than Wallonia (17.24%) and Flanders (17.08%). The higher rates of 30 days admissions in Flanders compared to Brussels and Wallonia until the year 2015, come partly from an artefact. Brussels had two psychiatric services of general hospital (out of a total of 19 for both PH and PSGH) that had a unique number for stays instead of a unique number for patient: those hospitals had a nil readmission rate. Wallonia had a similar problem with one psychiatric service of a general hospital (out of a total of 41 for both PH and PSGH). These problems have been resolved from 2016 on. Rates in Brussels increased substantially in the last two years, by 63% between 2019 and 2021.

Figure 38 – 30 days readmission rate in psychiatric hospital or in psychiatric services in general hospital, by patient region (2010-2021)



Source: FPS Public Health (RHM-RPM)

Impact of the COVID-19 pandemic

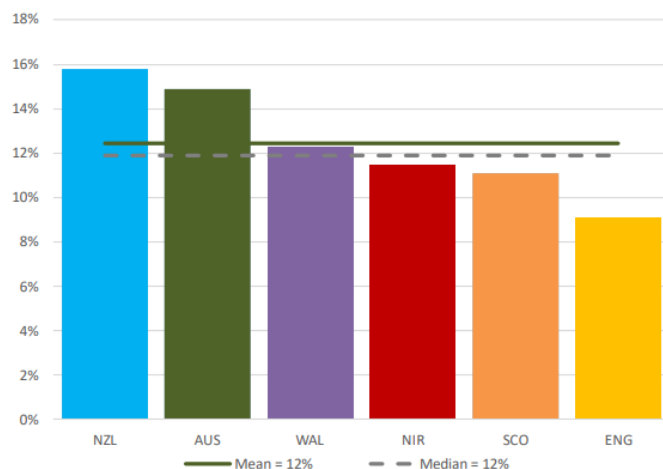
Based on the data available, it not clear what was the impact of the COVID-19 pandemic on readmissions within 30 days in psychiatric hospitals.

International comparison

The NHS Benchmarking Network is setting up an initiative to compare mental health service for adults and older adults; emergency readmissions is in the indicators set. The mean readmission rate among the countries (Australia, New Zealand, Wales, Northern Ireland, Scotland and England) was 12% and the median 12% in 2022 (see Figure 39), which was lower than the rate in Belgium in 2021.



Figure 39 – Unplanned readmission rate for adults in mental healthcare: international comparison (2022)



Source: NHS Benchmarking Network 2022

NZE: New Zealand, AUS: Australia, SCO: Scotland, WAL: Wales, ENG: England, NIR: Northern Ireland.

Key points

- Belgium has a 30 days readmission rate for mental illness of 17.64% in 2021, which is in the range of other similar countries.
- In 2021, Brussels has a higher rate (23.15%) than Wallonia (17.24%) and Flanders (17.08%).

References

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3.8 Number of clinical psychologists registered at RIZIV – INAMI (/10 000) (MH-12)

3.8.1 Documentation sheet

Description	Number of registered clinical psychologists at RIZIV – INAMI per 10 000 population
Calculation	Numerator: Number of registered psychologists at RIZIV – INAMI x 10 000 Denominator: Total end of year Belgian population
Rationale	The number of care providers gives important information on the medical workforce and thus the accessibility of healthcare. Together with the number of graduates, this information can be used for health providers supply planning. People with mental health problems may receive help from a variety of professionals, including psychologists. Following a pilot project in 2019, Belgium's 'mental health master plan' or the reform of "the approach, organisation and funding of front-line mental healthcare" has been implemented on the ground starting in January 2022.¹ The objective of this reform is to maximise mental health and ensure accessible quality mental healthcare with a low-threshold. As part of this reform, a visit to a clinical psychologist or to a clinical remedial educationalist is now directly reimbursed by the health insurance fund. Adults are entitled to maximum 18 individual or group sessions (of which maximum 10 individual sessions) with a psychologist in primary care.² In specialised care for people who require more specific or intensive care because of more serious psychological problems, this increases to an average of 10 individual sessions (maximum 20) and maximum 15 group sessions. Children and adolescents up to 23 years of age are entitled to more sessions in primary care. Only registered psychologists can claim health insurance reimbursement. Psychologists are registered if they have signed an agreement with a care network, which obliges them to participate in supervision, activities and to develop a multidisciplinary approach. Following COVID-19 pandemic, a lot of countries increased the funds available for psychological care or therapies.³ In Belgium, to alleviate the difficulties in accessing psychiatric services during the pandemic, the government provided a 16.7 million euro boost to front-line psychological care for children/adolescents and the elderly, along with measures to "decentralise" care (reimbursement of video consultations, home treatments).⁴
Data source	RIZIV – INAMI annual statistics
Technical definitions	Registered clinical psychologists only include psychologists that have an INAMI – RIZIV number. A clinical psychologist is a professional who has completed formal training in psychology during a five years master's program at a recognised university-level school completed with one year supervised practice.⁵ They are formally licensed as a health profession. Currently, the one year supervised practice is not yet in place. Clinical psychologists apply the science of psychology to prevent, detect and treat (mental) health problems and promote (mental) health either with individuals, groups or their environment. Regional data is based on the region of the clinical psychologist's residence.
International comparability	No international comparison was included as the number of clinical psychologists registered at RIZIV – INAMI in Belgium is not comparable with the total number of psychologists reported by other countries.



Limitations	Data for Belgium were only available for the year 2022.
Dimensions	Accessibility, Health workforce
Related indicators	Medical graduates, Number of practising psychiatrists
Reviewer	Koen Lowet (CM-MC)

3.8.2 Results

Belgium

In 2022, the number of registered clinical psychologists at RIZIV – INAMI was 2891, corresponding to a density of 2.47 per 10 000 inhabitants (see Table 20). In Belgium, among the 14 641 licensed clinical psychologists, 19.75% were registered at RIZIV–INAMI.

Regional comparison

At the regional level, the density of registered clinical psychologists was slightly higher in Wallonia (2.62 per 10 000 inhabitants) than in Flanders (2.42) and Brussels (2.29). The number of psychologists also varied within region (see Figure 40). The share of licensed psychologists who were registered at RIZIV–INAMI was highest in Wallonia (25.30%), than Brussels (19.64%) and Flanders (17.50%).

Furthermore, a recent report indicated that the new primary mental healthcare agreement improved accessibility to psychological care. The average delay time^h to psychological care for patients within the agreement is 8.2 years and the median delay time is 4 years, while the average delay time in Belgium is 10 to 15 years (regardless of the agreement).⁶ Patients who have never received professional treatment before are reached more often through a focal point (i.e. location outside the clinical psychologist or orthopaedist's own practice) compared to those who already received professional treatment before or in the past 12 months. A quarter of vulnerable patients are reached through focal points, and in particular low-socioeconomic patients.⁶

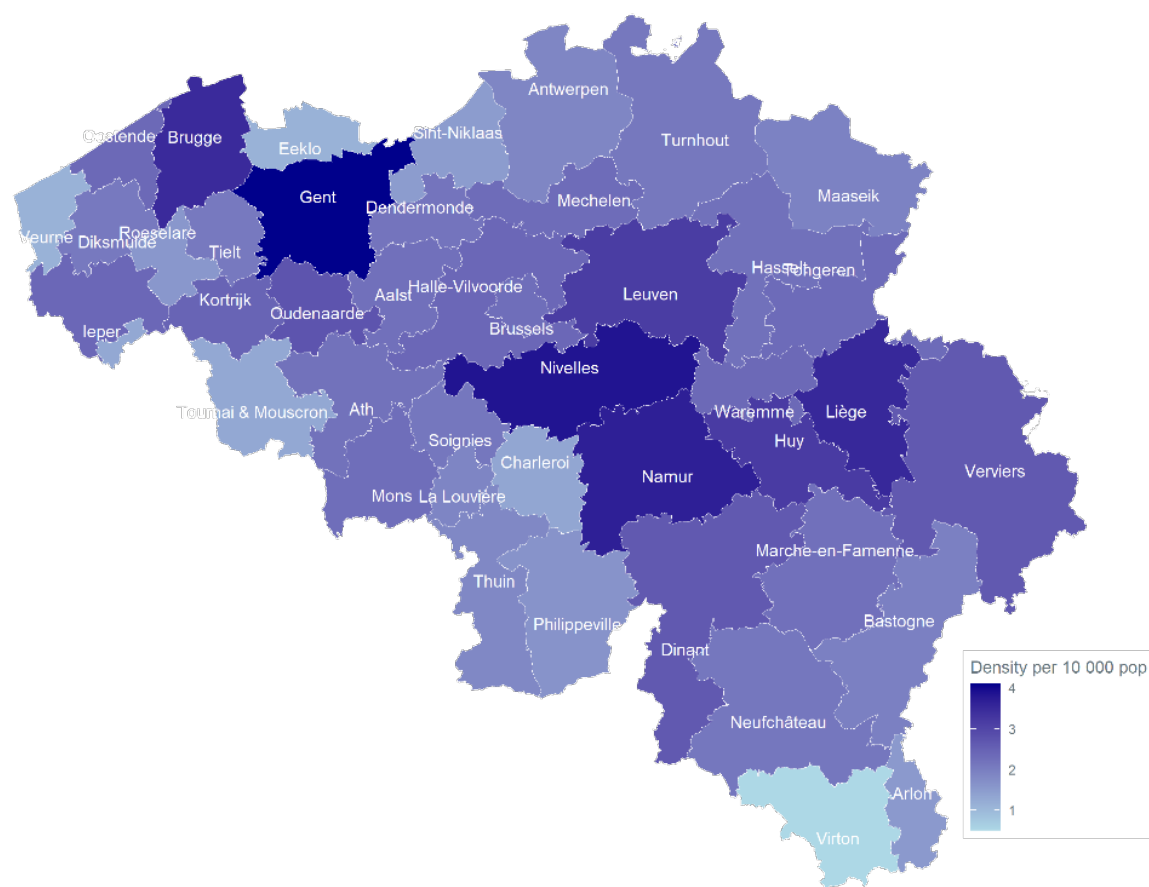
^h The number of years between the first time they experienced mental health problems and the time they enter professional treatment – except for primary care and specialised care treatment.


Table 20 – Number of registered and licensed clinical psychologists (2022)

	Registered at RIZIV–INAMI			Licensed	
	Headcount	Density per 10 000	% of licensed clinical psychologists	Headcount	Density per 10 000
Belgium	2891	2.47	19.75	14 641	12.52
Region					
Brussels	284	2.29	19.64	1446	11.65
Flanders	1642	2.42	17.50	9381	25.48
Wallonia	965	2.62	25.30	3814	3.26
Province					
Antwerp	386	2.02	16.39	2355	12.32
Flemish Brabant	326	2.75	15.73	2073	17.46
West Flanders	301	2.47	24.27	1240	10.16
East Flanders	434	2.78	16.27	2668	17.09
Limbourg	195	2.18	18.66	1045	11.68
Walloon Brabant	160	3.87	21.08	759	18.38
Hainaut	238	1.75	23.82	999	7.36
Liège	356	3.19	27.47	1296	11.62
Luxembourg	51	1.73	24.88	205	6.97
Namur	160	3.19	28.83	555	11.05



Figure 40 – Density of registered psychologists: number of psychologists per 10 000 inhabitants (2022)



Source: INAMI – RIZIV (based on the home address of the psychologist); calculation: KCE



Key points

- The density of registered clinical psychologists was 2.5 per 10 000 population in 2022.
- The density of registered psychologists in 2022 was slightly higher in Wallonia (2.62 per 10 000 pop.) than in Flanders (2.42 per 10 000 pop.) and Brussels (2.29 per 10 000 pop.); however, the region is based on the home address of psychologists, giving little information on the effective workplace.

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4 CARE FOR OLDER PEOPLE

4.1 Long-term care, in homes for older people or at home (% pop aged 65 years and over) (OLD-1 and OLD-2)

4.1.1 Documentation sheet

Description	Proportion of population aged 65 years and over receiving long-term care, in homes for older people (OLD-1) or at home (OLD-2)
Calculation	<u>Numerator</u> : total number of recipients of long-term care, in homes for older people (rest homes or rest and nursing homes) (OLD-1), or at home (OLD-2) (aged 65 years and over) <u>Denominator</u> : total population aged 65 years and over
Rationale	With the ageing of the population, the need for long-term care is expected to continue to grow in the coming decades. According to the demographic projections made by the Belgian Federal Planning Bureau, the share of older persons in the total population (aged 65 or over) is expected to rise from 19.6% in 2022 to 25.1% in 2050.¹ This demographic trend will translate in growing numbers of older people in need of long-term care. Long-term care can be delivered either formally by professionals, or informally by family or friends. In this section we focus on formal care. Formal care can take place either in an institution (such as rest homes and rest and nursing homes) or at home by home nurses. Monitoring the evolution over time of the share of the population receiving formal long-term care is an indicator of the accessibility and sustainability of the long-term care component of the health system.
Data source	IMA-AIM Atlas: https://atlas.ima-aim.be/databanken/
Technical definition	International institutions like OECD, Eurostat and WHO have defined long-term care services as a range of services required by persons with reduced degree of functional capacity (physical or cognitive) and who consequently need help for an extended period of time for their basic and/or instrumental activities of daily living (ADL). ² Basic ADL include but are not limited to bathing and showering, personal hygiene and grooming, dressing, getting to toilet, transferring oneself and feeding oneself. Instrumental ADL include amongst other cleaning and maintaining the house, preparing meals and taking prescribed medications. Help with basic ADL is often combined with basic medical services (such as nursing care), domestic help or help with instrumental activities of daily living (IADL). ³



In the residential sector, **rest homes**ⁱ provide nursing and personal care as well as living facilities to older persons with mainly low to moderate limitations. Older persons who are strongly dependent on care but who do not need permanent hospital treatment are admitted to **rest and nursing homes**.^j Each rest and nursing home has to have a functional link with a hospital.⁴

Note that the technical definition of this indicator has been changed compared to the previous report. In this edition we use the same technical definition as in the IMA-AIM Atlas:

- % beneficiaries of 65 years or over, residing on 31 March in permanent way in “woonzorgcentrum (WZC)”/ “maison de repos et de soins (MRS) - maison de repos pour personnes âgées (MRPA)”
 - Numerator: number of beneficiaries of 65 years or over residing in permanent way in WZC/MRS-MRPA, notably having been attested a lump sum for WZC/MRS-MRPA with the exclusion of lump sums for short stay, for nursing care at home and for day care centre. In practice, the data are based on reimbursed activities between 28 March and 3 April (included).
 - Denominator: number of beneficiaries of 65 years or over present in the database population of IMA-AIM on 30 June of the year X and not deceased between January and March of that same year.
- % beneficiaries of 65 years or over having been attested on 31 March activities of nursing care at home related to a certain level of physical or psychic dependence.
 - Numerator: number of beneficiaries of 65 years or over have been attested on 31 March a lump sum for nursing care at home or toilet and no lump sum for WZC/MRS-MRPA nor for short stay, nor for day care centre. In practice, the data are based on reimbursed activities between 28 March and 3 April (included).
 - Denominator: number of beneficiaries of 65 years or over present in the database population of IMA-AIM on 30 June of the year X and not deceased between January and March of that same year.

ⁱ Dutch: ‘woonzorgcentra’ (WZC) – ‘**woongelegenheden zonder bijkomende erkenning**’; previously called ‘rustoord voor bejaarden’ (ROB)
French: ‘**maison de repos pour personnes âgées**’ (MRPA)

^j Dutch: ‘woonzorgcentra’ (WZC) – ‘**woongelegenheden met bijkomende erkenning**’; previously called ‘rust-en verzorgingstehuis’ (RVT)
French: ‘**maison de repos et de soins**’ (MRS)



The changes in definition with the previous performance reports are as follows. For residential facilities, the previous performance reports included short stays (excluded in IMA-AIM atlas) and did not include the lump sums in WZC/MRS-MRPA for SEP/SLA/Huntington patients (which are included in IMA-AIM atlas). For home nursing care, the previous performance reports included lump sums A, B and C. On top of this our new definition (IMA-AIM atlas definition) adds toilets realised by home nurses in persons who are not billed a lump sum.⁵

International comparability

Data in this field are reported by OECD Health Statistics. As several countries use slightly different methodologies, results are not completely comparable.

The following definitions are applied by OECD:

Long-term care institutions (other than hospitals) “refer to nursing and residential care facilities which provide accommodation and long-term care as a package. They include specially designed institutions or hospital-like settings where the predominant service component is long-term care and the services are provided for people with moderate to severe functional restrictions.”⁶

Long-term care at home “is provided to people with functional restrictions who mainly reside at their own home. It also applies to the use of institutions on a temporary basis to support continued living at home - such as in the case of community care and day care centres and in the case of respite care. Home care also includes specially designed or adapted living arrangements for persons who require help on a regular basis while guaranteeing a high degree of autonomy and self-control.”

Included are:

- Persons who receive long-term care by paid long-term care providers, including non-professionals receiving cash payments under a social programme
- Recipients of cash benefits such as consumer-choice programmes, care allowances or other social benefits which are granted with the primary goal of supporting individuals with long-term care needs based on an assessment of needs

Excluded are:

- Disabled persons of working age who receive income benefits or benefits for labour market integration without long-term care services
- Persons who need help only with instrumental activities of daily living (IADL), that is, receiving only long-term social care.⁷



Limitations	Since the transfer of institutional care for older persons from the federal to the federated level, centralisation of data on the population in homes for older people (rest homes and rest and nursing homes) has been problematic for the years 2019-2020-2021, especially for the Brussels-Capital region.
Dimension	Care for older persons; Accessibility; Sustainability
Related indicators	
Reviewers	EI Maati Allaoui (IMA-AIM)

4.1.2 Results

Belgium

Since the transfer of institutional care for older persons from the federal to the federated level, centralisation of data on the population in institution (rest homes and rest and nursing homes) has been problematic for the years 2019-2020-2021, especially for the Brussels-Capital and Walloon region and thus also for the total Belgian data (see Figure 42). We therefore cannot give a precise figure for Belgium for these years. In what follows we will mainly focus on data for 2018 for people in homes for older people. In 2018 5.7% of the Belgian population aged 65 years or over was in a home for older people.

Data for home care, on the other hand, are complete. This sector was not transferred to the federated levels and RIZIV-INAMI remains the reimbursement institute for the whole country. Data show that in 2021 7.6% of the Belgian population aged 65 years or over received nursing care at home.

Analysis by demographic characteristics

Table 21 shows that the proportion of the population in homes for older people (data for 2018) increases by age. Furthermore more women are in homes for older people than men. Only 1.0% of the 65-74 years old (male or female) stays in homes for older people. This proportion increases to 14.0% (men) and 27.7% (women) for 85+ years. The same trends are observed for recipients of home care (data for 2021), but with slightly smaller differences between men and women.

Table 21 – Long-term care in homes for older people or at home (% pop aged 65 years or over) - by patient characteristics (2018/2021)

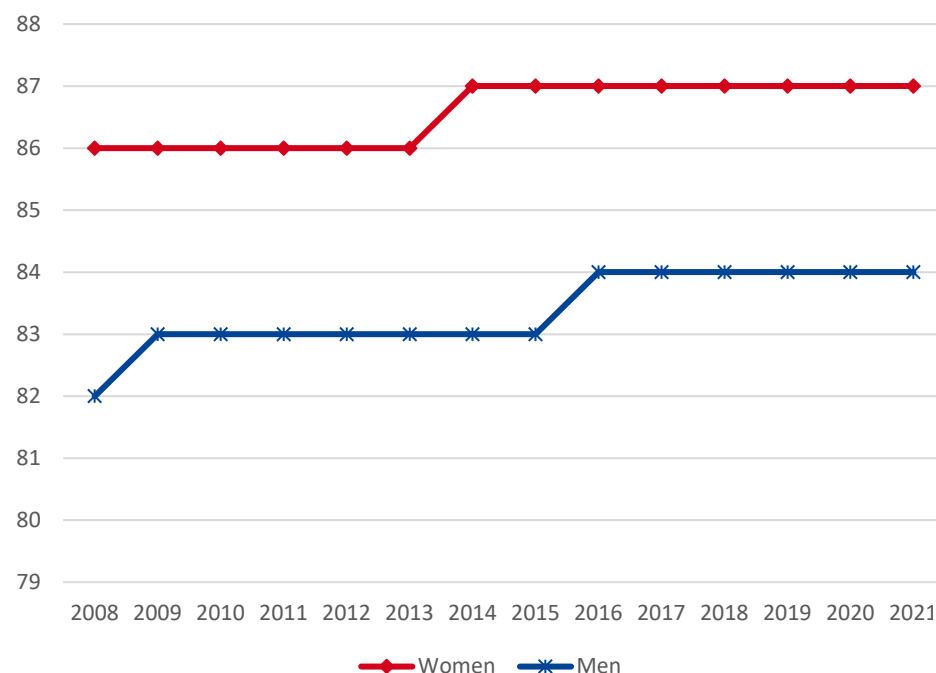
Category	% in institution (2018)	% receiving home care (2021)
65-74 Male	1.0%	2.2%
75-84 Male	3.2%	6.3%
>=85 Male	14.0%	18.6%
65-74 Female	1.0%	2.9%
75-84 Female	5.7%	10.1%
>=85 Female	27.7%	23.8%

Source: IMA-AIM Atlas



Figure 41 shows that the mean age of residents of rest homes and rest and nursing homes got slightly higher over the period 2008-2021, increasing from 86 years for women and 82 years for men in 2008 to 87 years for women and 84 years for men in 2021.

Figure 41 – Evolution of the mean age of persons in rest homes and rest and nursing homes in Belgium, men and women (2008-2021)

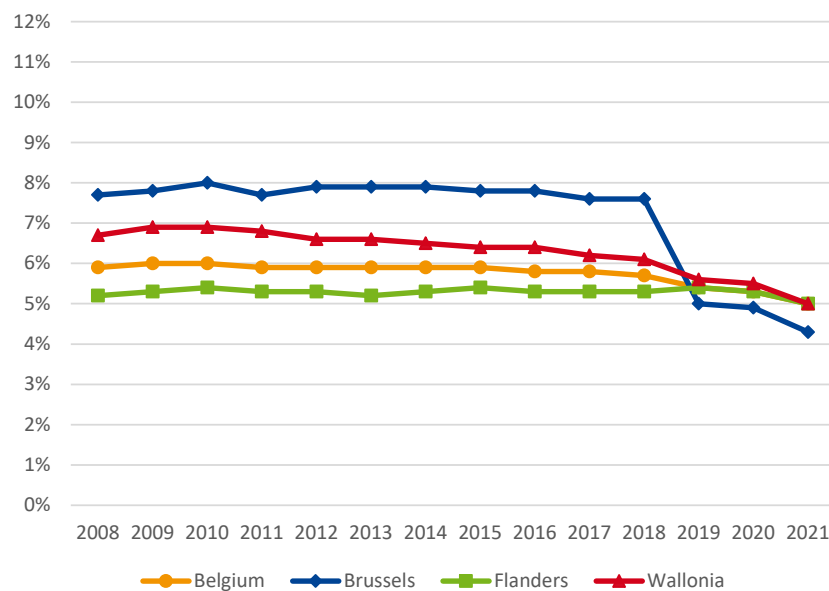
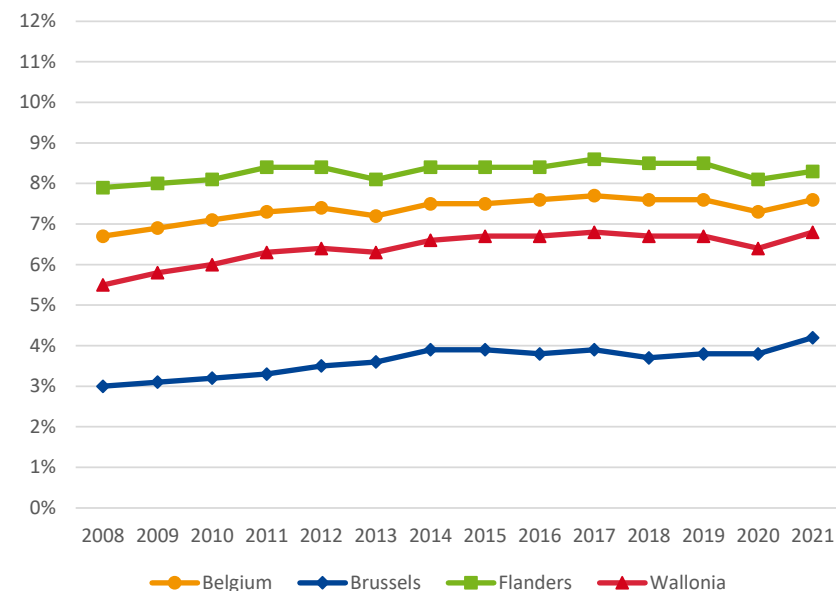


Source: Based on IMA-AIM Atlas

Regional comparison

The data on long-term care in homes for older people are not complete, especially for the Brussels and Walloon region in the years 2019-2020-2021 (see Figure 42), so the drop in those years is only artificial. When we look at 2018, a lower proportion of the population aged 65 years or over stays in homes for older people in Flanders (5.3%), compared to Wallonia (6.1%) and Brussels (7.6%).

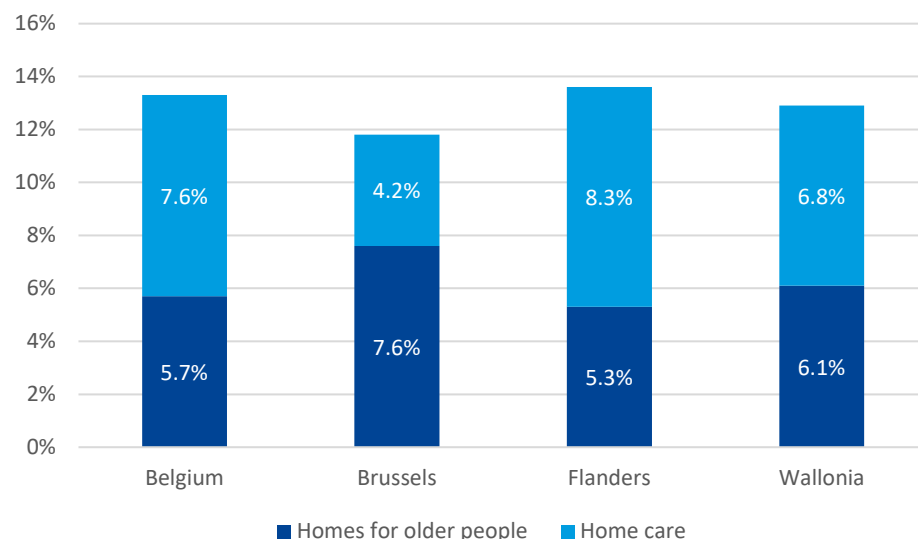
Data on home care, in contrast, are complete and thus give a reliable picture, also for recent years. The highest rate for home care is found in the Flemish region (8.3% of the population aged 65 years or over in 2021), followed by the Walloon region (6.8%) and the lowest rate is found in Brussels-Capital region (4.2%) (see Figure 42). Time evolution shows a steady rate for the years 2018 to 2019, followed by a slight drop for all regions except for Brussels in 2020, and a small increase in all regions in 2021. The slight drop in 2020 likely can be linked to the COVID-19 pandemic.

**Figure 42 – Long-term care in homes for older people or at home (% pop aged 65 years or over) - by region (2008-2021)****Long-term care in homes for older people (A)****Long-term care at home (B)**

Note: Incomplete data for Brussels-Capital region, Walloon region and Belgium in 2019-2020-2021 in Figure A. Data in Figure B are complete. Source: IMA-AIM atlas



Figure 43 – Long-term care in homes for older people or at home (% pop aged 65 years or over) - by region (2018/2021)



Note: Data on homes for older people: 2018. Data on home care: 2021. Source: IMA-AIM atlas

The proportion of the population aged 65 years or over receiving home care is particularly high in the provinces Limburg (11.7%), West-Vlaanderen (9.9%) and Henegouwen (9.8%) and particularly low in Brussel Capital (4.2%), Waals Brabant (4.2%) and Luxemburg (4.3%). For institutional long-term care, the differences are less pronounced between the provinces (see Table 22).

Table 22 – Long-term care in institution or at home (% pop aged 65 years or over) - by region and province (2018/2021)

Category	Proportion ≥65 yrs in institution (2018)	Proportion ≥65 yrs receiving home care (2021)
Flanders	5.3%	8.3%
Wallonia	6.1%	6.8%
Brussels	7.6%	4.2%
Antwerpen	5.4%	6.5%
Brussel-Hoofdstad	7.6%	4.2%
Henegouwen	6.4%	9.8%
Limburg	4.4%	11.7%
Luik	6.3%	4.7%
Luxemburg	6.2%	4.3%
Namen	5.5%	6.8%
Oost-Vlaanderen	5.7%	8.4%
Vlaams-Brabant	5.3%	6.4%
Waals-Brabant	5.4%	4.2%
West-Vlaanderen	5.3%	9.9%

Source: IMA-AIM Atlas



International comparison

International data on long-term care recipients in institutions (other than hospitals) and at home are available from OECD.Stat for the year 2020. However, OECD reports that data on long-term care provision are not available for many countries as these data are difficult to collect. Furthermore, a number of countries use a different methodology for the data reporting, and for a number of countries there is only an estimated value available. We removed these countries from the dataset and the resulting remaining data for the European countries are presented in Figure 44. The data vary largely from one country to another. OECD raises the following points to be considered in the international comparison: ⁶

- Data on long-term care services may be difficult to compare as data for people receiving care outside of public systems are more difficult to collect and may be underreported, resulting in artificially low numbers for countries that rely more on privately-funded care. Countries that rely more on publicly funded long-term care services will show higher numbers.
- The age pyramid of a country could be expected to explain part of the cross-country variation. However, as the data show the proportion within the population aged 65 years or over, one would need to consider e.g. the proportion of the population 80 years or over in the population aged 65 years or over (the higher this proportion the higher the expected long-term care use).
- Cultural norms about who looks after older people (own family or formal care-givers) is also expected to be an important driver of the utilisation of formal long-term care services by older persons.⁶

Data on long term care are not available for Belgium in OECD Stat, but we can compare OECD data with the data of IMA above, at least for the Flanders and Walloon region for LTC in institutions as the data for the region Brussels-Capital are incomplete for 2020. The Flemish and Walloon region rank highest for long-term care in institutions, compared to other European countries. EU-14 average reaches 3.2%, whilst EU-27 average reaches 3.0%.

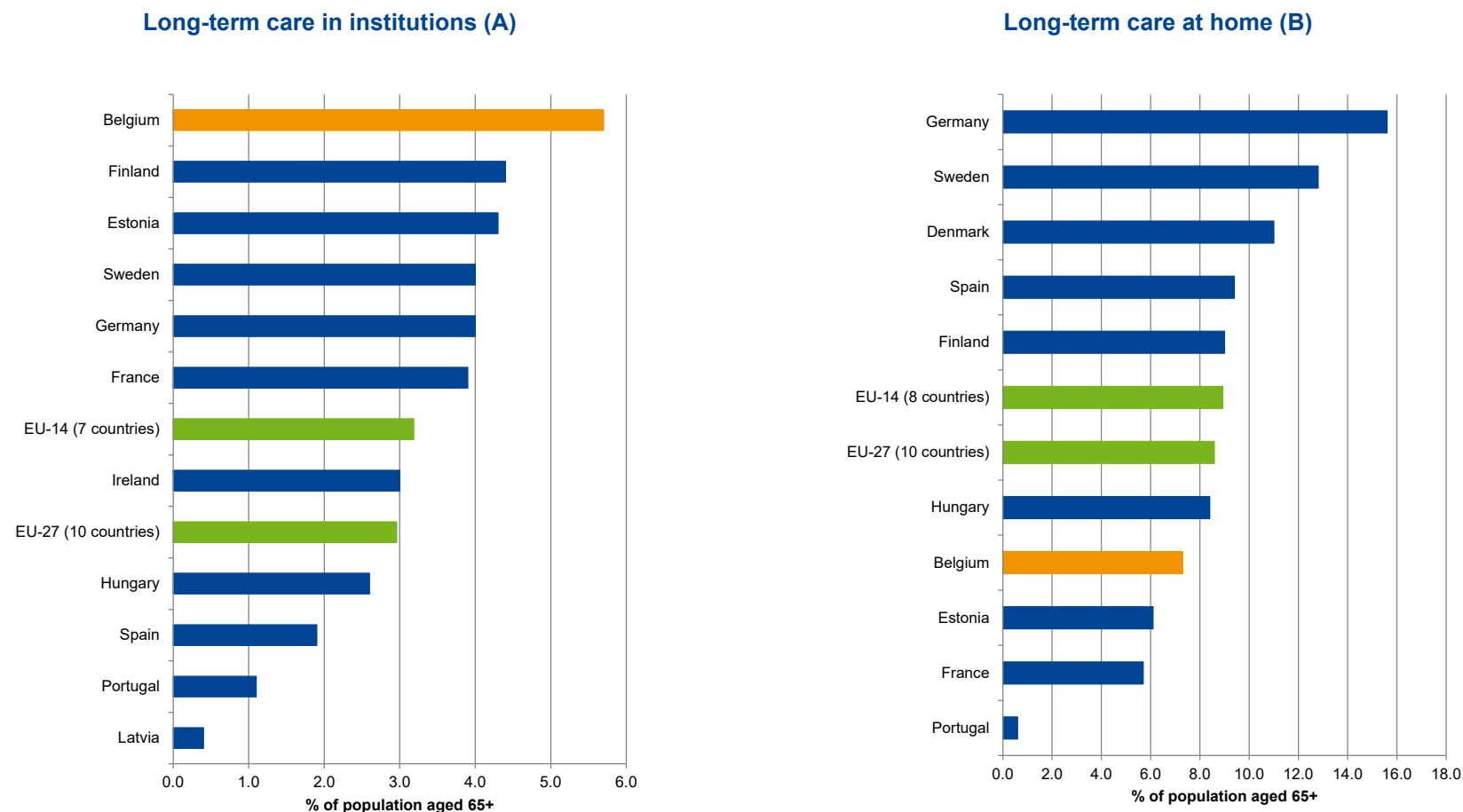
In terms of LTC at home, Belgium ranks rather low compared to other European countries (see Figure 44). EU-14 average for home care reaches 8.9%, whilst EU-27 average reaches 8.6%.

Impact of COVID-19 pandemic

Time evolution shows a steady use of home care for the years 2018 to 2019, followed by a slight drop for all regions except for Brussels in 2020, and a small increase in all regions in 2021. The slight drop in 2020 likely can be linked to the COVID-19 pandemic.



Figure 44 – Long-term care recipients in institutions (A) or at home (B) (% pop aged 65 years or over) - international comparison (2020)



Source: Belgium – LTC in institutions: IMA-AIM atlas (2018), Belgium – LTC at home: IMA-AIM atlas (2020); other countries: OECD Stat 2023 (data for 2020)



Key points

- **A total of 7.6% of people aged 65 years or over received long-term care at home in 2021 in Belgium.**
- **There is considerable geographical variation in home care use, ranging from 4.2% of older persons in the provinces of Brussels-Capital and Waals Brabant to 11.7% in Limburg, 9.9% in West-Vlaanderen and 9.8% in Henegouwen (2021).**
- **Data for 2019-2020-2021 on long-term care in homes for older people is not complete, especially for the Brussels-Capital and Walloon region.**
- **A total of 5.7% of people aged 65 years or over is in home for older people in 2018.**
- **International data are difficult to compare, but based on the available data, Belgium tends to rank high for long-term care in institutions and rather low for long-term care at home compared to other European countries.**

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4.2 Informal carers (% of population aged 50 years and over) (OLD-3)

4.2.1 Documentation sheet

Description	Percentage of the population aged 50 years and over reporting to be informal carer
Calculation	• Numerator: population aged 50 and over reporting to be informal carer • Denominator: population aged 50 and over (included in the survey)
Rationale	Informal carers are defined as people providing help to family members, friends and people in their social network, living in or outside of their household, who require help for Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL). Due to the ageing population the need for long-term care services, both formal and informal, is expected to further increase over the coming decades. However, due to declining family size, increased geographical mobility and rising participation rates of women in the labour market, the availability of informal carers is expected to decline in the coming decades. Informal care is often regarded as a cost-effective way to avoid or delay the need for institutionalisation.¹ However, it should not be overlooked that there are indirect costs linked to informal care, both for individuals as for the state, in terms of forgone employment and possible negative impact on the informal carers' health.² Enabling informal care and supporting informal carers should be seen as a key policy goal in relation to long-term care in the coming decades. Policies that formalise informal care through cash payments, legal rights, social security, and training opportunities can have substantial positive effects on informal caregivers and the receivers of care and can work to incentivise informal caregiving overall.¹
Data source	Data for Belgium: HIS data 2018: Health and society > Informal care: IC_1 Provides informal help or care ³ International data: Health at a Glance 2021 from OECD, ⁴ which is mostly based on SHARE wave 8
Technical definition	HIS (2018): Percentage of the population aged 50 years and over that provides at least once a week non-professional help or care. The question in the survey is posed as follows: "Do you provide care on non-professional basis for one or more persons with age-related conditions, long term illnesses, chronic diseases or handicaps at least once a week?" (Yes/No) The guidelines for this question make it clear that it should concern 1) regular help or care and not occasional help; 2) help with personal care or household activities and 3) help that does not belong to the profession of the person providing the help. SHARE wave 8: Percentage of the population aged 50 years and over reporting to provide informal care at least weekly.
International comparability	Comparison between European countries is possible on the basis of data collected by OECD. However, it must be noted that because of the informal nature of care provided, it is not easy to get comparable data on the number of people caring for family and friends across countries, nor on the frequency of their caregiving. ⁵
Limitations	
Dimension	Care for older persons; Accessibility; Sustainability
Related indicators	
Reviewers	Rana Charafeddine (Sciensano)



4.2.2 Results

Belgium

According to data from the Health Interview Survey (HIS) of 2018, 16.6% of the Belgian population aged 50 and over reports to be informal carer.

Data from HIS are also available for the year 2013 but not presented here as they are not completely comparable. In 2013 the question notably referred only to care provided to persons suffering from long term diseases, chronic diseases or handicaps (and not to persons with age-related conditions more in general).

Analysis by demographic characteristics and socio-economic status

We analysed whether there are differences according to gender, age category or income quintile for the population aged 50+ reporting to be informal carer. These data are displayed in Table 23. We see that women

more frequently report to be informal carer (18.5%) compared to men (14.4%). However, the confidence intervals slightly overlap and there is thus no statistically significant difference.

People in the age category 55-64 years most frequently provide informal care (21.9%), followed by the category 65-74 (16.3%) and 45-54 (14.6%) (see Table 24). We also see that the people in the fifth income quintile most frequently provide informal care (26.0%), followed by the fourth income quintile (17.5%). The differences between the fifth quintile and the first-second-third quintile are statistically significant. The difference between the fourth and the first quintile is also statistically significant.

Regional comparison

The percentage of the population aged 50+ reporting to be informal carer is highest in the Walloon region (18%), lowest in Brussels-Capital region (15%) and in between in the Flemish region (16%) (see Figure 45). The differences however are not statistically significant.

Table 23 – Informal carers (% of population aged 50+) - analysis by gender and income quintile (2018) – HIS

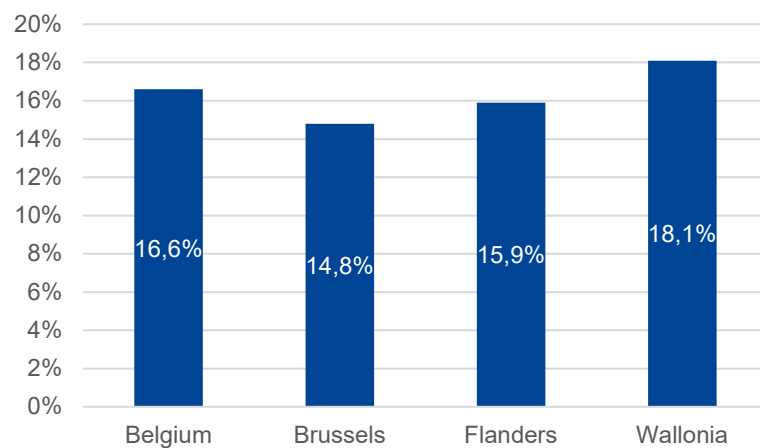
		% of population 50+
Belgium		
Gender	Males	14.4
	Females	18.5
Income levels	First quintile	10.4
	Second quintile	14.7
	Third quintile	15.7
	Fourth quintile	17.5
	Fifth quintile	26.0

Source: Based on HIS (2018)

**Table 24 – Informal carers (% of population) - analysis by age category (2018) – HIS**

		% of population
Age category	15-24	6.8
	25-34	6.5
	35-44	9.8
	45-54	14.6
	55-64	21.9
	65-74	16.3
	75 or over	8.1
All age groups		12.2

Source: Based on HIS (2018)

Figure 45 – Informal carers (% of population aged 50+) (2018) - by region

Source: Based on HIS (2018)



International comparison

The Health at a Glance 2021 report from OECD combines data from different sources. For most of the European countries the data are based on SHARE wave 8. Data for Ireland however were taken from its 2016 census. In the SHARE survey, carers are asked about how often they provided care in the last year; this includes people who provided care either on daily or weekly basis. People caring for disabled children are excluded in SHARE. In the Ireland census all informal carers together are considered.⁴

According to this dataset assembled by OECD 24% of the Belgian population aged 50 years and over reports to provide informal care, either on daily (9%) or weekly (14%) basis (see Figure 46). For comparison, in 2015 this proportion was 20%. With a rate of 24%, Belgium ranks highest across the European countries. Besides Belgium, the highest rates of around or nearby 20% are found in Austria, the Czech Republic and Germany. The average EU-27 (calculated on the basis of 22 countries for which data were available) amounts to 13% (7% daily carers and 6% weekly carers). The lowest rates (less than 10%) are found in Portugal, Greece, Lithuania, Ireland, the Slovak Republic and Latvia. The average EU-14 reaches 14.4%.

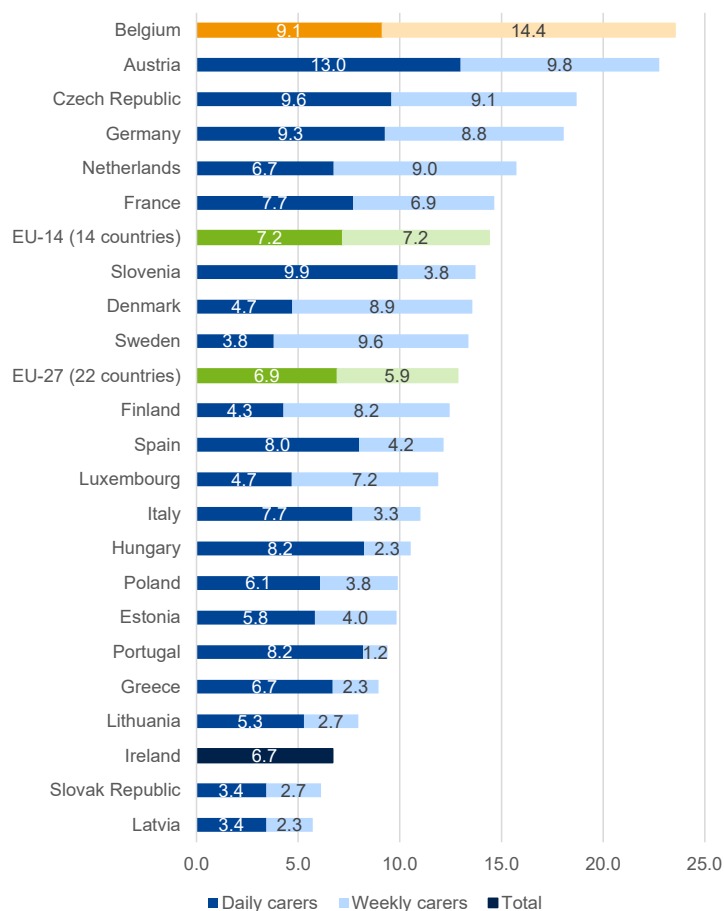
The high share of informal carers in Belgium can be considered a strength for the Belgian health system. However this kind of caregiving has also been associated with a reduction in labour force attachment for caregivers of working age, higher poverty rates and a higher prevalence of mental health problems in caregivers.⁶ One of the support measures in Belgium to prevent these problems is the paid care leave. More information on the support measures for informal caregivers in Belgium can be found in the KCE report n° 223 on the support for informal caregivers.⁷

Impact of COVID-19 pandemic

Since the most recent data are from 2018 (HIS) and 2019-20 (SHARE) it is not clear what could have been the impact from the COVID-19 pandemic on this indicator.



Figure 46 – Informal carers (% of population aged 50+), either on daily or weekly basis (2019 or nearest year) – international comparison



Source: based on OECD (<https://www.oecd-ilibrary.org/sites/0ebfc7c0-en/index.html?itemId=/content/component/0ebfc7c0-en>): SHARE, Wave 8 (2019-20); Census 2016 for Ireland. Note: The definition of informal carers differs for Ireland



Key points

- According to data from HIS, 17% of the Belgian population aged 50 years and over reports to be informal carer, providing help at least once a week.
- The higher the income quintile, the more people aged 50 years and over report to be informal carer. The age group of 55-64 years is the most frequently providing informal care (21.9%).
- According to data from SHARE, 24% of the Belgian population aged 50 years and over reports to provide informal care on daily or weekly basis. This rate is higher than in many other European countries.
- In the future, due to a potentially decreasing number of informal carers and an increasing number of dependents, a shift towards more formal care can be expected.
- Several policy initiatives are needed to temper this shift and to facilitate informal care, taking into account the opportunity cost of informal care concerning labour market participation and health status of the informal caregiver.

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4.3 Number of beds in homes for older people (per 1 000 population aged 65 years and over) (OLD-4)

4.3.1 Documentation sheet

Description	Number of beds in rest homes (<i>woongelegheden zonder bijkomende erkenning–MRPA</i>) and rest and nursing homes (<i>woongelegheden met bijkomende erkenning–MRS</i>) (per 1 000 population aged 65 years and over)
Calculation	Numerator: Number of beds in rest homes and rest and nursing homes for older persons x 1 000 Denominator: Population aged 65 years and over
Rationale	Due to the ageing population there will be an accelerating growth in the need for beds in rest/rest and nursing homes in the coming years. The increase in need could be partly tempered by organising more home care and by using beds by priority for older persons requiring more intensive levels of care. This in turn requires alternative care for persons now institutionalised with low care dependency. ¹ Other alternatives exist, such as service flats, the number of which has grown considerably over the last years. Centers for short stay and day care centres constitute other alternatives with a view to keeping older persons at home and ensuring people can age in conditions of quality and safety.
Data source	Flemish region: Departement Zorg ^{2, 3} Walloon region: Institut wallon de l'évaluation, de la prospective et de la statistique (IWEPS) ⁴ which obtains data from AVIQ ⁵ and from Fachbereich Gesundheit und Senioren, Ministerium der DG, for the German-speaking community Brussels-Capital region: Infor-Homes Bruxelles ⁶ Population data: be.STAT (fgov.be)
Technical definition	<u>Belgian data</u> Rest homes: “woongelegheden zonder bijkomende erkenning” - “maisons de repos pour personnes âgées (MRPA)” Rest and nursing homes: “woongelegheden met bijkomende erkenning” - “maisons de repos et de soins (MRS)” Coma beds: “woongelegheden niet aangeboren hersenletsels (NAH)” - “lits convention lésions cérébrales acquises (CLCA)” <u>OECD data</u> Residential long-term care facilities comprise establishments primarily engaged in providing residential long-term care that combines nursing, supervisory or other types of care as required by the residents. In these establishments, a significant part of the production process and the care provided is a mix of health and social services, with the health services being largely at the level of nursing care, in combination with personal care services. The medical components of care are, however, much less intensive than those provided in hospitals. <u>Inclusion</u> - Long-term nursing care facilities - Other residential long-term care facilities <u>Exclusion</u> - Beds in hospitals dedicated to long-term care - Beds in residential settings such as adapted housing that can be considered as people's home. Data for Belgium on residential long-term care facilities include beds in rest/rest and nursing homes for older persons. Numbers correspond to licensed beds.⁷



International comparability	Data available from OECD Health Statistics
Limitations	
Dimension	Care for older persons; Sustainability
Related indicators	
Reviewers	Annick Vandenhooft (IWEPS), Dalia Fele (Observatoire de la Santé et du Social de Bruxelles)

4.3.2 Results

Belgium

Table 25 shows the historical evolution of the number of beds for Belgium. The number of beds has steadily increased over the period 2011 to 2018. Since 2018 the total number of beds in Belgium has further increased from 144 399 to 148 455 in 2022/21. Still, the number of beds per 1 000 population aged 65 years and over has decreased from 68 to 65 in that period, which means that the population aged 65 years and over has grown proportionately more than the number of beds. Furthermore, whilst the number of beds in rest and nursing homes has increased considerably, the number of beds in rest homes has decreased, as part of the latter type of beds has been requalified as beds in rest and nursing homes.

Table 25 – Number of long-term care beds in homes for older people – 2011-2022

Year	Rest and nursing homes (including coma beds)	Rest homes	Total beds	Beds/1 000 persons ≥65 years
2011	65 477	64 255	129 732	69
2012	68 417	62 775	131 192	68
2013	69 372	63 092	132 464	68

Year	Rest and nursing homes (including coma beds)	Rest homes	Total beds	Beds/1 000 persons ≥65 years
2014	70 335	64 117	134 452	67
2015	72 053	64 923	136 976	67
2016	71 999	67 450	139 449	68
2017	73 173	69 352	142 525	68
2018	74 585	69 814	144 399	68
2022/21	85 569	62 886	148 455	65

Source: 2011-2018 : RIZIV-INAMI ; 2022/21 : Departement Zorg (2022), IWEPS (2022), Infor-Homes Bruxelles (2021)

Regional comparison

The density of beds is lowest in the Flemish region, with 59 beds per 1 000 persons ≥65 years and the Walloon region, with 70 beds per 1 000 persons ≥65 years. This density is remarkably higher in Brussels-Capital region with 104 beds per 1 000 persons ≥65 years (see Table 26 and Figure 47).



Table 26 – Number of long-term care beds in homes for older people - per region (2022/21)

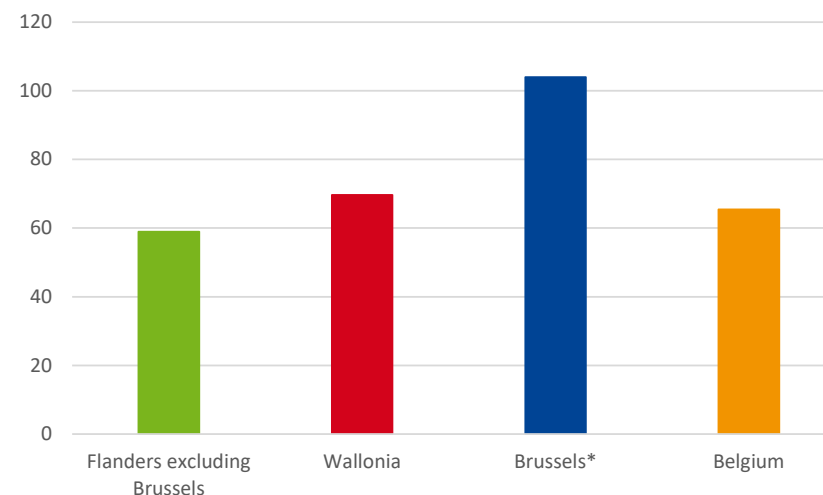
Region	Rest and nursing homes	Rest homes	Total beds	Beds/ 1 000 persons ≥65 yrs
Flemish region (2022)* including beds approved by Vlaamse Gemeenschapscommissie in Brussels	53 306	30 352	83 658	
Flemish region (2022) excluding beds approved in Brussels	52 966	29 673	82 639	58.9
Walloon region (2022)**	25 911	23 264	49 175	69.6
Brussels-Capital region (2021) – including beds approved by COCOM/Iriscare and by Vlaamse Gemeenschapscommissie	6 692	9 949	16 641	103.9
Total Belgium	85 569	62 886	148 455	65.4

* Including "Erkende eenheden en erkenningen in onderzoek"

** Walloon region: German-speaking community included

Sources: Departement Zorg, IWEPS, Infor-Homes Bruxelles

Figure 47 – Number of beds per 1 000 persons ≥ 65 years (2022/21)



Source: Departement Zorg (2022); IWEPS (2022); Infor-Homes Bruxelles (2021)

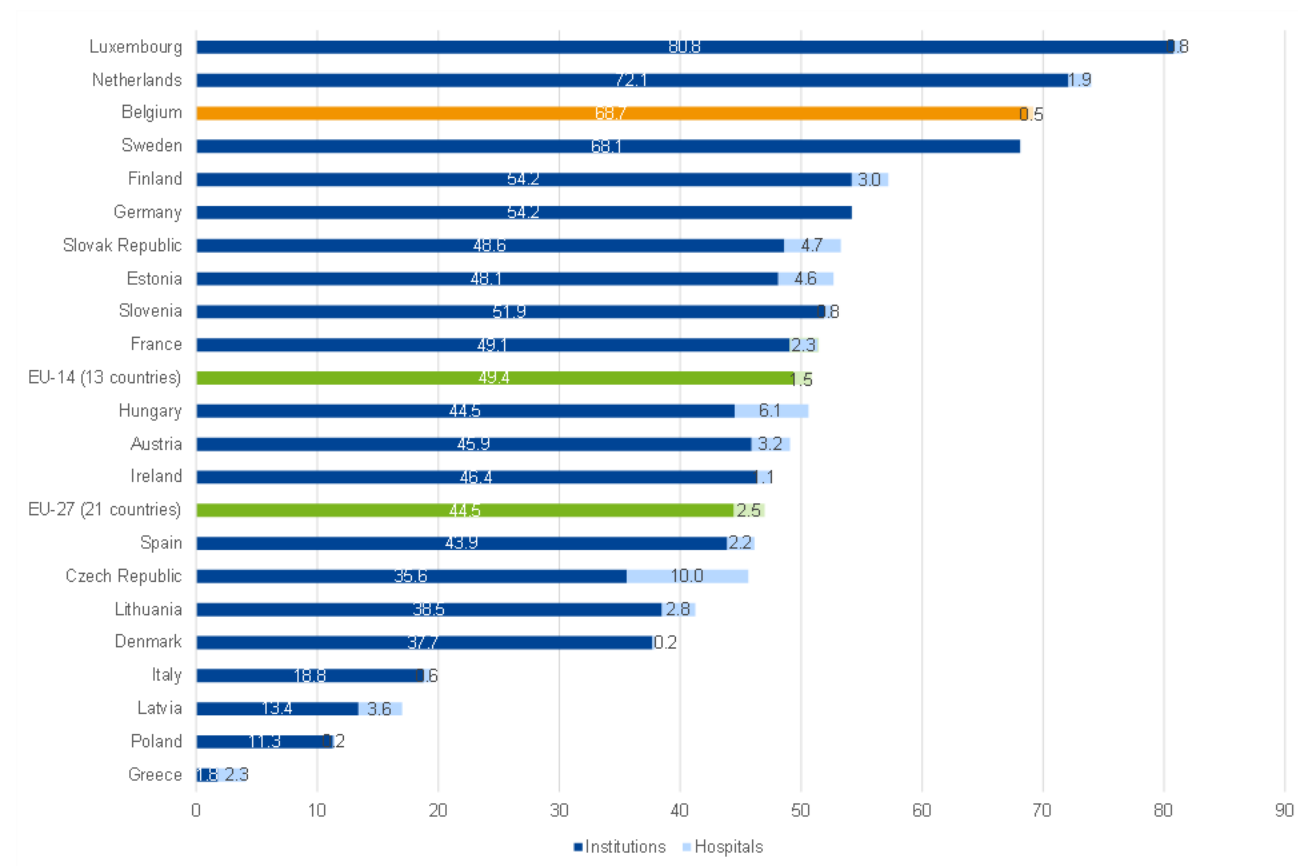
* Brussels-Capital region: including beds recognised by Vlaamse Gemeenschapscommissie and by COCOM/Iriscare

International comparison

International data are not always completely comparable as several countries only include beds in publicly-funded long-term care institutions, while others also include private institutions (both profit and not-for-profit). Still, the available data (see Figure 48) show that on average EU-27 countries had 44.5 long-term care beds in LTC institutions per 1 000 people aged 65 years and over. There is substantial variation between countries. Luxembourg and Netherlands have the highest number of beds with 81 and 72 beds respectively. Belgium ranks third in place, with 69 beds (2019 data). Greece, Poland, Latvia and Italy rank lowest with less than 20 beds per 1 000 people aged 65 years and over.



Figure 48 – Long-term care beds in institutions and hospitals, 2019 (or nearest year) per 1000 population aged 65 years and over – international comparison



Numbers of LTC beds in hospitals are not available in Sweden Source: based on OECD Health Statistics 2021 8



Key points

- In total there were around 148 455 beds in homes for older people in 2022 in Belgium (data on Brussels-Capital region from 2021).
- Belgium has a relatively high number of beds in residential long-term care facilities compared to other OECD countries. The number of beds per 1 000 persons aged 65 years and over reached 69 in 2019, compared to 44.5 beds in EU-27 countries. The density of beds in Belgium dropped slightly to 65 beds per 1 000 population aged 65 years and over in 2022 (data on Brussels-Capital region from 2021).

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4.4 Low care-dependent people in homes for older people (% of residents) (OLD-5)

4.4.1 Documentation sheet

Description	Low care-dependent people, i.e. in category O or A of the Belgian version of the Katz scale, in homes for older people (<i>rest homes–woongelegenheden zonder bijkomende erkenning–MRPA</i> or <i>rest and nursing homes–woongelegenheden met bijkomende erkenning–MRS</i>) (% of residents). Note that persons in category O and A can only stay in rest homes, not in rest and nursing homes.
Calculation	Numerator: number of persons 65+ with a lump sum O or A Denominator: total number of persons 65+ in rest or rest and nursing homes
Rationale	Places in homes for older people should primarily go to dependent persons. In general, people should stay at home as long as possible, where they are in convivial and family environment. For persons with low care-dependency (category O or A of the Katz scale) it can be questioned whether moving to residential facility is the most appropriate option. Home care services can play an important role to prevent too early institutionalisation. Also service flats, centers for short stay and day care centres can play a role as some people may experience social isolation at home. Not seldom however it concerns persons in need of mental healthcare or social lodging who cannot find a place elsewhere and for whom the residential facility is a last resort solution. Solving the issue of persons with low care needs in residential facilities therefore also requires expansion of alternative care options for these persons. For an exploration of policy alternatives we refer to a study performed for the “Observatorium voor Gezondheid en Welzijn van Brussel-Hoofdstad”/“Observatoire de la Santé et du Social de Bruxelles-Capitale”.^{1, 2} The care dependency of persons in nursing or residential facility for older persons is measured on the Katz scale. Persons classified in category O of the Katz scale are: - physically fully independent AND - not demented. Persons classified in category A are: - physically dependent for getting washed and dressed OR - psychically dependent, disoriented in time and space but physically fully independent
Data source	IMA-AIM Atlas ³
Technical definition	Numerator: number of beneficiaries of the target population (=denominator) having been attested lump sum O or A on 31 March* Denominator: number of beneficiaries of 65 years + staying in rest or rest and nursing home for older persons on 31 March* * Considering reimbursed activities between 28 March and 3 April included
International comparability	No international comparability
Limitations	



Dimension	Care for older persons
Related indicators	
Reviewers	El Maati Allaoui (IMA-AIM)

4.4.2 Results

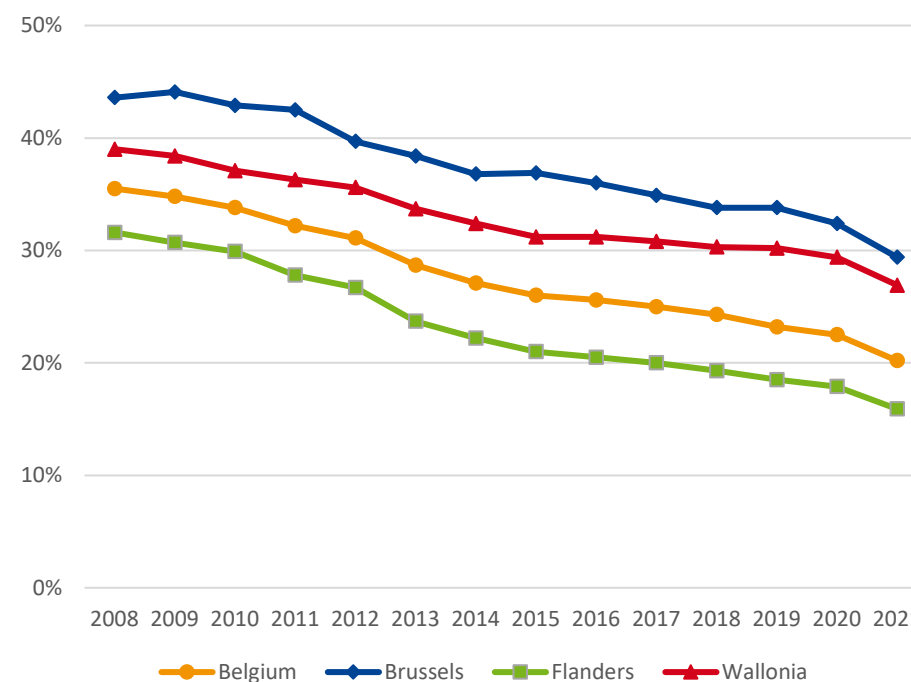
Belgium

Figure 49 and Table 27 show the evolution over time of the proportion of residents of rest and rest and nursing homes by level of dependency. In 2021 20% of residents were in the lowest dependency levels O and A. Over the period 2008-2021, the proportion of residents in level O or A has steadily decreased, from 36% to 20%.

Regional comparison

There is considerable variation between the regions, but in all regions there is a steady decline in the proportion of residents in dependency level O or A. The proportion is highest in Brussels, 29% in 2021, and Wallonia, 27% in 2021. The proportion is lowest in Flanders, 16% in 2021.

Figure 49 – Low care-dependent people (with O/A lump sum) in homes for older people (% of residents) 2008-2021



Source: Based on IMA-AIM Atlas

**Table 27 – Low care-dependent people (with O/A lump sum) in homes for older people (% of residents) 2008-2021**

Care category	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Brussels	44%	44%	43%	43%	40%	38%	37%	37%	36%	35%	34%	34%	32%	29%
Flanders	32%	31%	30%	28%	27%	24%	22%	21%	21%	20%	19%	19%	18%	16%
Wallonia	39%	38%	37%	36%	36%	34%	32%	31%	31%	31%	30%	30%	29%	27%
Belgium	36%	35%	34%	32%	31%	29%	27%	26%	26%	25%	24%	23%	23%	20%

Source: IMA-AIM Atlas

Key points

- **Over the period 2008-2021, the proportion of residents of rest homes and rest and nursing homes with level O or A has steadily decreased, from 36% in 2008 to 20% in 2021 for Belgium. There is considerable variation between the regions: the proportion is highest in Brussels (29%) and Wallonia (27%) and the proportion is lowest in Flanders (16%).**
- **Solving the issue of persons with low care needs occupying places in residential facilities also requires expansion of alternative care options for these persons.**

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4.5 Practicing geriatricians (per 10 000 population aged 65 years and over) (OLD-6)

4.5.1 Documentation sheet

Description	Number of practicing geriatricians per 10 000 population 65+
Calculation	Primary indicator: Number of practising geriatricians per 10 000 population 65+ Numerator : Number of practising geriatricians x 10 000 (end-of-year situation, 31/12) Denominator: End-of-year Belgian population 65+ (1st January t+1) Secondary indicator: Number of practising geriatricians, in FTE per 10 000 population 65+ Numerator: Number of full time equivalent (FTE) practising geriatricians x 10 000 (see also the technical definitions) (end-of-year situation, 31/12) Denominator: End-of-year Belgian population 65+ (1st January t+1) Number of practising geriatricians acceding to the agreement, in FTE per 10 000 population 65+ Numerator: Number of full time equivalent (FTE) practising geriatricians acceding to the agreement (conventionnés / geconventioneerde) x 10 000 (end-of-year situation, 31/12) Denominator: End-of-year Belgian population 65+ (1st January t+1)
Rationale	There is a shortage of geriatricians in our country. The High Council for physicians-specialists and general practitioners has worked on a reform of the studies for specialists in internal medicine. The reformed study trajectory of six years starts with a joint trajectory of 3 years in which every student also acquires experience in geriatrics. Only after these 3 years, a definite choice for subspecialties has to be made. It is hoped that this new approach will motivate more physicians to choose for geriatrics. Furthermore, more RIZIV – INAMI codes were created to improve the remuneration of geriatricians. This indicator is used to monitor the evolution of the geriatric medical workforce, considering that even more geriatricians will be needed in the future because of the ageing population.
Data source	RIZIV – INAMI yearly statistics
Technical definition	Practising physicians: Physicians are considered to be practising (RIZIV – INAMI: “profiles”) if they provided more than 1 (i.e. minimum 2) clinical service(s) (i.e. consultations, visits, technical acts, but not prescriptions) during a given year. Physicians still in training are not counted. RIZIV – INAMI also calculates the number of full-time-equivalent (FTE) practising physicians. Because data on working time is not available, FTE is calculated as the ratio between the individual revenue (determined based on reimbursed RIZIV-INAMI expenditure) of a specialist compared to the P50 (median) revenue/RIZIV-INAMI expenditure of the same specialism between 45-55 years (N.B. all results above 1 are limited to 1).



	Regional analysis is based on the contact address transmitted by the physician to the RIZIV-INAMI. Some of them transmitted the address of their office and others transmitted their personal address. Language / community is based on the language of contact with RIZIV-INAMI (i.e. either Dutch or French-speaking physicians). Some data are also available on the number of German-speaking physicians based on the postal code of the contact address. It should be noted that these German-speaking physicians are included in the Dutch / French-speaking physicians (determined based on the language of contact).
Limitations	FTE are based on RIZIV-INAMI expenditure and not on the actual time of work and should therefore be interpreted with caution, especially for 2020 because the COVID-19 pandemic impacted the median income/reimbursed expenditure and therefore the resulting FTE estimates. In Belgium, geriatricians only works in hospitals. Their distribution therefore depend of the distribution of hospitals.
International comparability	No OECD data are available. Data for G-7 countries (Canada, Japan, Germany, Italy, USA, France, UK) are published in a systematic review of 2017.¹
Dimension	Care for older people; Accessibility
Related indicators	Practising physicians (A-10), Medical graduates (S-4), Foreign-trained physicians (S-14), Physicians aged 55 years and over (S-7)
Reviewers	Antoine Khalil and Pascal Meeus



4.5.2 Results

Belgium

In 2021, there were 425 geriatricians licensed to practise and 377 of them were practising (275.9 in FTE). Almost all of them acceded to the agreement (99%). The number of practising geriatricians per 10 000 population aged 65 years and over is very low compared to other medical specialties (see also A-10) but increased by 23% between 2012 (1.35) and 2021 (1.66). In FTE, the increase between 2012 and 2021 was 22% (see Table 29).

Based on the advice of the Planning Commission – Medical Supply of the FPS Public Health, minimum quotas on geriatrics had been set for the years 2010-2018, i.e. at least 20 medical graduates had to opt for a medical specialisation in geriatrics (see also A-10 for an explanation of the quota system).² In addition, when giving advices on the overall quotas for the year 2022, the Planning Commission – Medical Supply of the FPS Public Health based their proposal on a recommended sub-quota of 29 medical graduates opting for a specialisation in geriatrics (16 in the Flemish Community, 13 in the French Community).³ The observed yearly increase is therefore insufficient compared to these recommendations.

Analyses per demographic characteristics

The share of Dutch-speaking FTE geriatricians is higher than the share of the population of the Flemish community in Belgium (62.4% of FTE geriatricians are Dutch-speaking, 2021 data).

Less than 1% had German as contact language with the RIZIV-INAMI (see Table 28). Only one quarter of geriatricians are aged 55 years and over, which is better than the share of all physicians aged 55 years old and over (38.6%, see also S-7).

Table 28 – Practising geriatricians: demographic characteristics and data by region, 2021

		2021
Age (based on FTE)	% aged 55 years and over	25.6%
	Mean age (FTE)	47.6
Language (based on FTE)	French-speaking*	103.8 (37.6%)
	Dutch-speaking*	172.1 (62.4%)
	Incl. German-speaking**	1.2 (<1%)
Number per 10 000 population aged 65+ by region	Flanders	1.58
	Brussels	2.56
	Wallonia	1.63
FTE per 10 000 population aged 65+ by region	Flanders	1.26
	Brussels	1.33
	Wallonia	1.10

Source: RIZIV – INAMI data, KCE calculation; *Based on the contact language (either French or Dutch); ** Based on the postal code of the contact address.

**Table 29 – Number of geriatricians, Belgium, 2012-2021**

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Licensed to practise	Number	290	297	306	320	332	340	364	385	401	425
	Per 10 000 population 65+	1.48	1.49	1.51	1.55	1.58	1.60	1.68	1.75	1.80	1.87
Practising	Number	265	274	279	289	296	310	326	344	359	377
	Per 10 000 population 65+	1.35	1.37	1.37	1.40	1.41	1.46	1.51	1.56	1.61	1.66
Practising, in FTE	Number	196.4	200.9	202.0	215.1	213.3	222.2	240.5	242.5	264.6	275.9
	Per 10 000 population 65+	1.00	1.01	0.99	1.04	1.02	1.04	1.11	1.10	1.19	1.22
Practising geriatricians acceding to the agreement, in FTE (Conventioned)	Number	192.3	196.8	198.1	210.7	210.0	219.0	236.0	240.2	261.9	273.1
	Per 10 000 population 65+	0.98	0.99	0.98	1.02	1.00	1.03	1.09	1.09	1.18	1.20

Source: RIZIV – INAMI data, KCE calculation; * Based on preferred communication language with RIZIV-INAMI.

Regional comparison

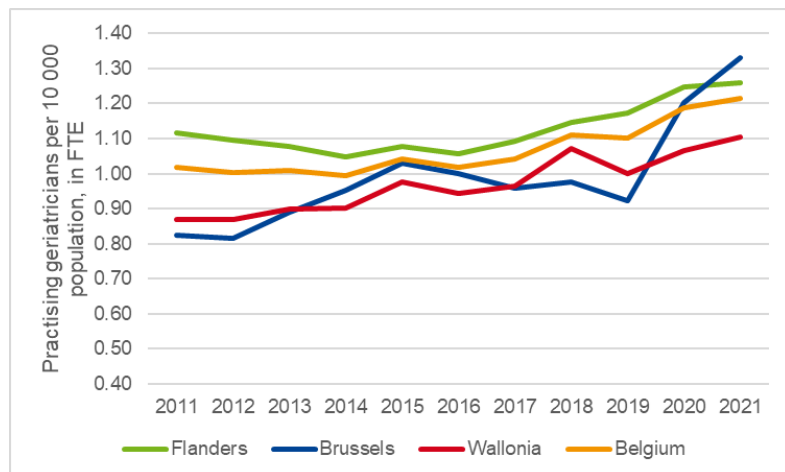
The density of practising geriatricians per 10 000 population aged 65 years and over was higher in Brussels than in Flanders and Wallonia in 2021 (both in head counts and in FTE). This is due to an important increase in Brussels from 2020. Before 2020, Brussels had the lowest density in FTE. The increase in the number of FTE in 2020 can also be due to the way FTE are calculated (which was impacted by the COVID-19 pandemic, see the limitations in the documentation sheet).

By province, only the province of Namur has a density 20% lower than the Belgian density. It should also be noted that all geriatricians in Belgium practise in hospitals. The distribution of geriatricians based on the physician's office (data not available) should therefore be in line with the distribution of hospitals.

The convention rate (share of FTE practising geriatricians that acceded to the agreement) is high (>90%) in all provinces (see Table 30).



Figure 50 – Practising geriatricians per 10 000 population 65+, in FTE, per region, 2011-2021

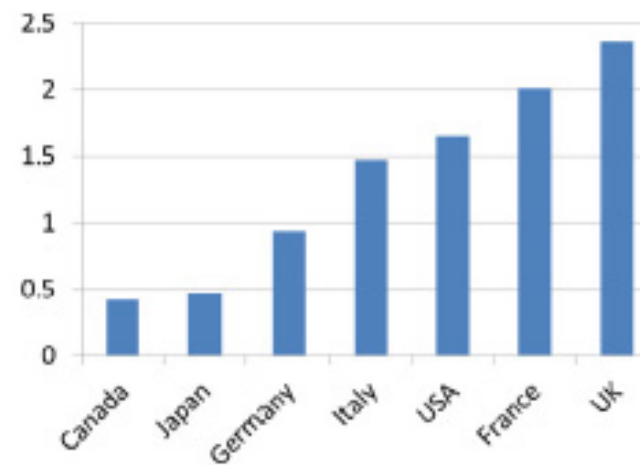


Source: RIZIV – INAMI data, KCE calculation. Orange = 20% variation compared to density for Belgium

International comparison

No recent data are available to compare the density of geriatricians internationally. The only publication we find dates from 2017 and provides data on the G-7 member countries (Canada, France, Germany, Italy, Japan, the United Kingdom and the United States) (see Figure 51).¹ The density ranges from 0.4 (Canada) to 2.4 (U.K.) geriatricians per 10 000 population 65+. Comparing these data with the density per 10 000 population 65+ in Belgium (1.87 licensed to practice; 1.66 practicing, 1.22 FTE practicing), Belgium scores average.

Figure 51 – Geriatricians per 10 000 population 65 and older in the G-7 countries



Source: Morley et al. (2017) ¹

Table 30 FTE practising geriatricians and convention rate, by province, 2021

Provinces	N Practising, in FTE	Density per 10 000 population 65+	Convention rate
Antwerp	41.3	1.10	100.0%
Flemish Brabant	32.4	1.39	93.8%
Walloon Brabant	12.1	1.47	96.1%
West Flanders	37.4	1.29	100.0%
East Flanders	40.1	1.28	100.0%
Hainaut	28.5	1.09	100.0%
Liège	21.9	1.02	98.5%
Limburg	25.4	1.34	100.0%
Luxembourg	6.3	1.22	100.0%
Namur	9.2	0.95	100.0%
Brussels	21.3	1.33	100.0%
Belgium	275.9	1.22	99.0%



Impact of the COVID-19 pandemic

An important increase in the number of practising geriatricians can be observed in Brussels from 2020 (see Figure 50) but the analyses performed here are not sufficient to determine if this could be due to the COVID-19 pandemic. This can mainly be due to the way FTE are calculated (which was impacted by the COVID-19 pandemic, see the limitations in the documentation sheet).

Key points

- **There was a slight increase in number of practising geriatricians per 10 000 population aged 65 years old and over, from 1.35 in 2012 to 1.66 in 2021. The yearly increase was nevertheless insufficient considering the advices of the Planning Commission – Medical Supply.**
- **The density of practising geriatricians per 10 000 population aged 65 years old and over was higher in Brussels than in Flanders and Wallonia in 2021 (both in head counts and in FTE).**
- **Compared to G7 member countries for which data are available, the density of practising physicians per 10 000 population aged 65+ in Belgium is average.**

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4.6 Fall incidents during the last month in homes for older people (% of residents) (OLD-7)

4.6.1 Documentation sheet

Description	Percentage of residents of rest homes and rest and nursing homes who had a fall incident in the previous month (data from Flemish quality indicators in homes for older people)
Calculation	Numerator: number of residents who had at least one fall during the month of May Denominator: total number of residents in the month of May
Rationale	Fall incidents are a common cause of morbidity and mortality in older persons. Persons who fell once, have an increased risk for future fall incidents. It is estimated that one in 10 falls result in a hip fracture or other severe injury, which often lead to functional impairment and even death.^{1 2} The recovery from a fall is strongly related to the functional status of the older person before the fall.³ The functional status of an older person in turn is influenced by the institution's fixation policy. The more mobile the older persons can remain, the less likely they are to fall. The European Injury Database (IDB) showed that falls are a major cause of death (28%) in older people (60+y), particularly in women. Fall injuries lead also to a higher than average hospitalisation rate and an excess share in medical costs due to injuries in this age group.⁴ Due to the ageing population, the incidence of falls, related injuries and healthcare costs are expected to increase.
Data source	- Flemish quality indicators in homes for older people: 2016-2021 data: https://zorgkwaliteit.be/woonzorgcentra⁵ - Health Interview Survey (HIS): data from 2018 on fall incidence in older persons (module 'ongevallen'-'accidents'): https://www.sciensano.be/sites/default/files/ai_report_2018_nl.pdf In the future, data collection on this indicator will be possible by the roll out of BelRAI. BelRAI measures fall incidents as part of the Long-Term Care Facility (LTCF) and Home Care (HC) modules. Currently BelRAI is being implemented but not yet nationally fully operational in all care settings. (http://wiki.belrai.org/nl/)
Technical definitions	Flemish quality indicator projects: - Numerator: number of residents that had at least one fall incident in the month of September - Denominator: number of residents that were present for at least one day in the rest or rest and nursing homes (WZC) in the month of September HIS: - Percentage of the population aged 65 years and over that had a fall incident in the previous 12 months
International comparability	No recent international data available. Some older data (published in 2012 and 2013) are available from the European Services and Health for Elderly in Long TERM Care (SHELTER) project. ^{6, 7}
Limitations	Data on fall incidents in homes for older people are currently only available for Flanders and not for the Walloon or Brussels region.
Dimensions	Care for older persons; Quality (safety)

**Related indicators****Reviewers**

Kathleen Leemans (Vlaams Instituut voor Kwaliteit van Zorg), Chris Rogier (Departement Zorg)

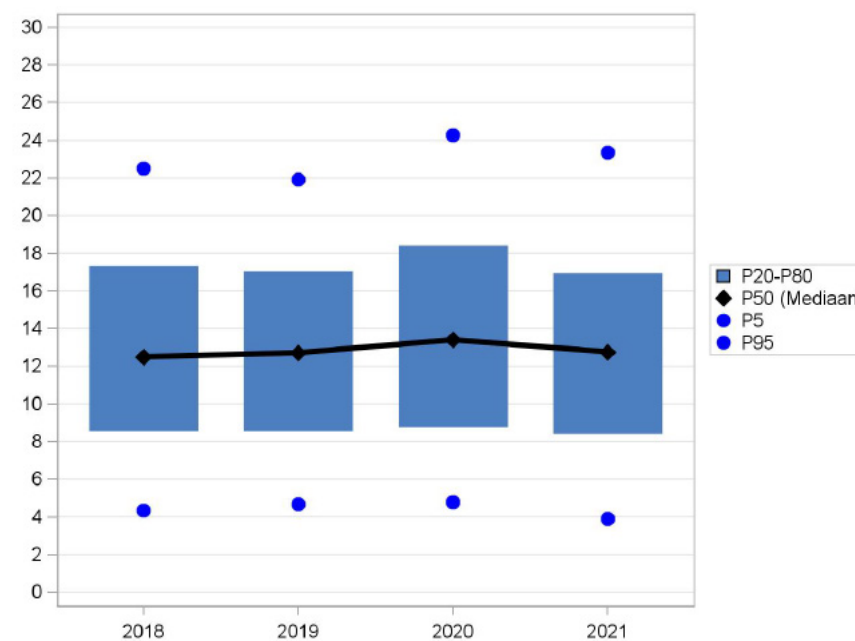
4.6.2 Results

Fall incidents in homes for older people

Flanders region

Data on fall incidents in homes for older persons and nursing homes are only available for the Flemish community, where they are measured in the context of the Flemish Indicator Project. The data from the Flemish region (see Figure 52) show that in 2021 a median of 12.8% of residents in rest or rest and nursing homes had a fall incident during a period of a month. Data from the preceding years (2018-2020) are relatively close to the data from 2021. Data from 2016-2017 show however a slightly lower median of 11.6% and 11.7% (see Figure 53). Time analysis of the average data over the full period 2016-2021 shows an average yearly increase by 0.35% for this indicator.⁵

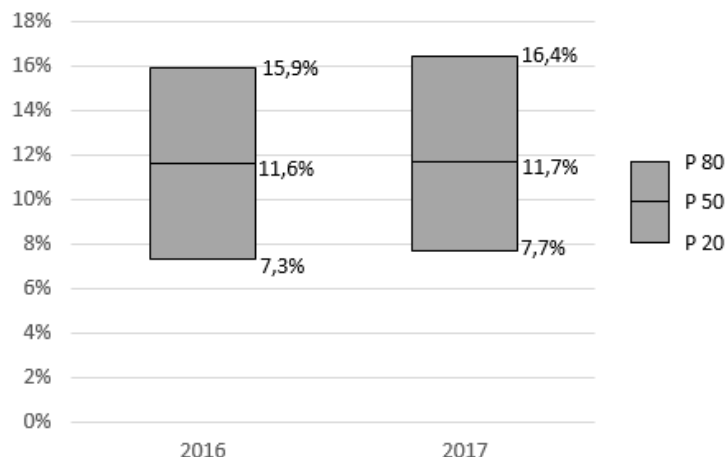
Figure 52 – Fall incidents during the last month in homes for older people (% of residents): one or more fall incidents (2018-2021)



Source: Vlaams Instituut voor Kwaliteit van Zorg. Available from: <https://zorgkwaliteit.be/woonzorgcentra>



Figure 53 – Fall incidents during the last month in homes for older people (% of residents): one or more fall incidents (2016-2017)



Source: Vlaams Instituut voor Kwaliteit van Zorg. Available from: <https://zorgkwaliteit.be/woonzorgcentra>

4.6.2.1 Fall incidents in the population aged 65 years and over

Belgium

Besides these Flemish data on fall incidents in rest or rest and nursing homes, there are Belgian data on fall incidents in older persons overall (regardless of whether they stay at home or in a rest or rest and nursing home). These data on fall incidents in older persons are notably reported in the Health Interview Survey (HIS). The most recent data from HIS, for the year 2018, show that in Belgium, 17.4% of the population aged 65 years and over had a fall incident in the 12 months preceding the interview. The average frequency of falls in this population was 2.4 times.

After correction for age and gender, the fall incidence dropped significantly over the years: from 23.8% in 2008, over 20.3% in 2013, to 17.4% in 2018 (see Figure 54).⁸

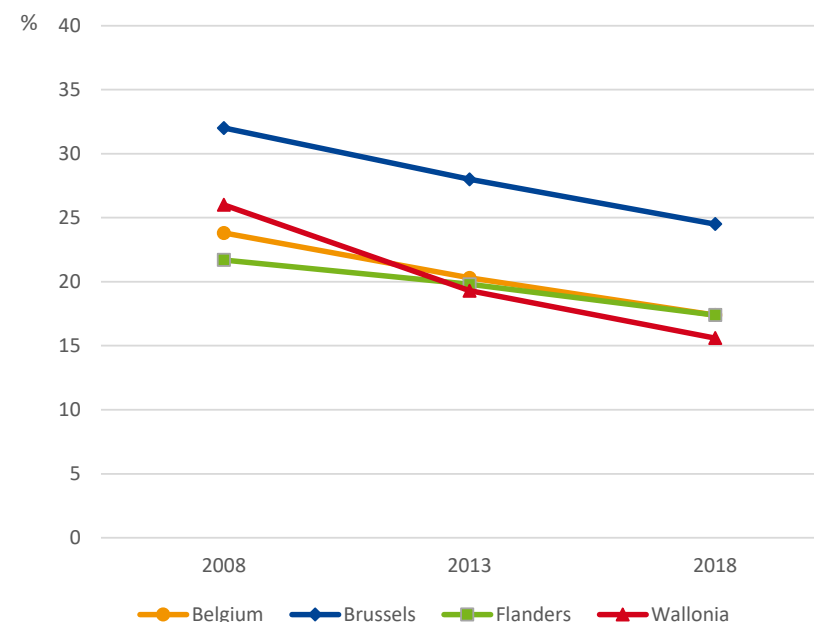
Analysis by demographic characteristics

The percentage of women who had a fall incident in the 12 preceding months (20.9%) is higher than of men (12.8%).

Regional comparison

The fall incidence in the population aged 65 years and over is higher in Brussels-Capital region (24.5%) than in the Flemish region (17.4%) and the Walloon region (15.6%).

Figure 54 – Fall incidents in people aged 65 years and over in 12 months preceding the interview (2008-2013-2018)



Source: Based on HIS



Key points

- **A median of 13% of residents in Flemish homes for older persons and nursing homes had a fall incident in a month time in 2021.**
- **Over time, the fall incidence in older persons (at home or in home for older people) dropped considerably: from 23.8% in 2008, over 20.3% in 2013, to 17.4% in 2018 (data from HIS on fall incidents in people aged 65 years and over in 12 months preceding the interview).**
- **Policy initiatives to prevent fall injuries in older persons should be continued.**

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4.7 Prevalence of pressure ulcers (grade II-IV) in older persons (% of residents) (OLD-8)

4.7.1 Documentation sheet

Description	Prevalence of pressure ulcers (grade II-IV) in residential care (prevalence on one day)
Calculation	Numerator: number of residents in a home for older people with a pressure ulcer of category 2, 3, 4 or undetermined on the reference day Denominator: total number of residents in the home for older people on the reference day
Rationale	Residents of homes for older people (rest or rest and nursing homes) are vulnerable to pressure ulcers, also known as bedsores, especially when they are immobile (wheelchair-bound) or bedridden. The occurrence of pressure ulcers has a serious negative impact on the individual's health and quality-of-life. They are difficult to treat, can lead to complications including infections, and treatment is intensive and costly. Pressure ulcers can be prevented with good quality nursing care. The occurrence of pressure ulcers in homes for older people is one of the quality indicators measured in the Flemish project on quality indicators in homes for older people.^{1, 2}
Data source	One-day measurements within the Flemish project on quality indicators in homes for older people. ^{1, 2}
Technical definitions	The severity of pressure ulcer can be categorized in: • Category 1: non-blanchable erythema • Category 2: partial thickness skin loss (blister/abrasion) • Category 3: full thickness skin loss (superficial pressure ulcer) • Category 4: full thickness tissue loss (deep pressure ulcer)
International comparability	Most recent data from OECD (original source: ECDC, CDC) date from 2016/17 and are therefore not included in this report. ³
Limitations	Data on pressure ulcers in rest homes and rest and nursing homes are only available for Flanders and not for the Walloon or Brussels region.
Dimensions	Quality (Safety); Care for older persons
Related indicators	
Reviewers	Kathleen Leemans (Vlaams Instituut voor Kwaliteit van Zorg), Chris Rogier (Departement Zorg)

4.7.2 Results

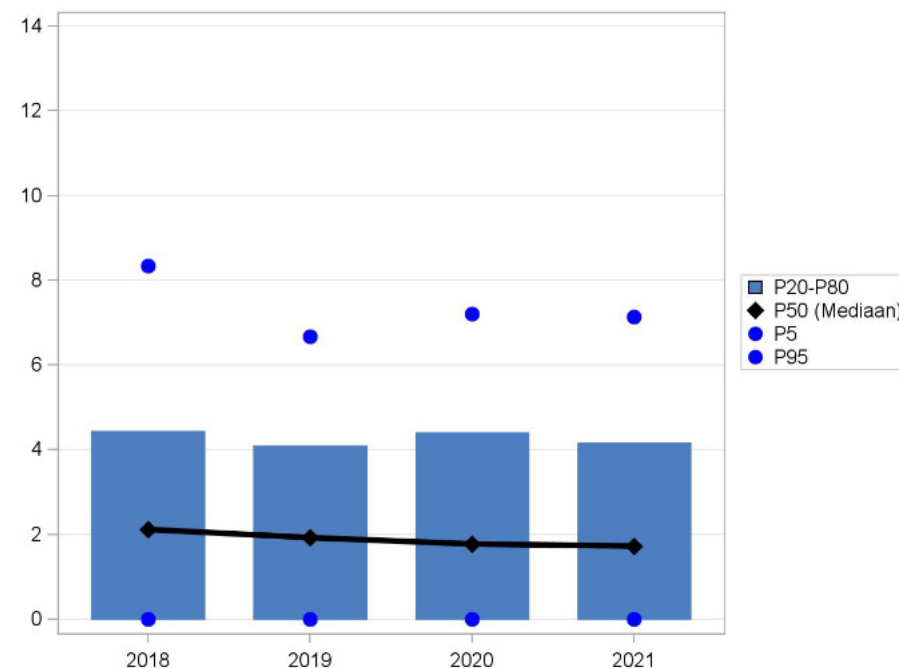
Flanders region

Recent data on decubitus in long-term care for older persons are only available for the Flemish community, where they are measured in the context of the Flemish Indicator Project in the homes for older people. The data are presented in Figure 55 (decubitus category 2 or more) and Figure 56 (decubitus category 2 or more that developed in the home for older people). Pressure ulcers of category 1 are excluded.

On June 1 2021, on average 2.9% of the residents had decubitus category 2 or more, whilst for 1.6% of residents the decubitus developed at the home for older people. The median for decubitus category 2 or more overall (1.7%) is lower than the average (2.9%), which means that the distribution of the data is skewed to the right: there is a cluster of lower scores (many homes have a zero percentage) and a flat tail for the higher scores. The median for decubitus category 2 or more developed at the home is 1.1%; also here the distribution is skewed to the right.

Over the years 2018-2021 we observe a small decrease in the median percentage of residents with decubitus. However, when only considering decubitus that developed in the home, the evolution over time of the median appears more or less stable.

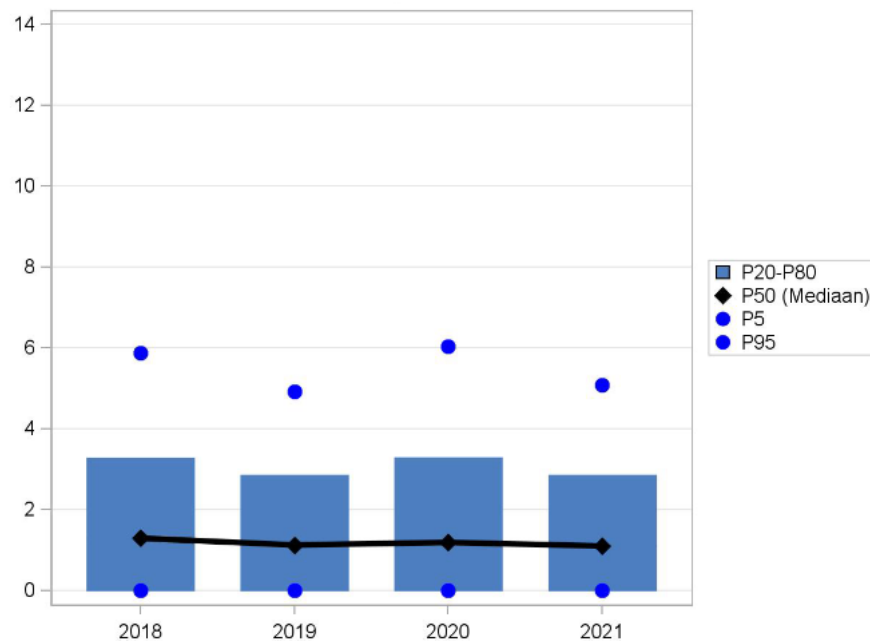
Figure 55 – Prevalence of pressure ulcers (category 2 or more) in homes for older people - Flanders (2018-2021)



Source: Vlaams Instituut voor Kwaliteit van Zorg 4)



Figure 56 – Prevalence of pressure ulcers (category 2 or more) that developed in the home – Flanders (2018-2021)



Source: Vlaams Instituut voor Kwaliteit van Zorg 4

Key points

- Data from Flanders show that on average 2.9% of the residents of a home for older people had a pressure ulcer of category 2, 3, 4 or undetermined in 2021. Only in on average 1.6% of the residents the pressure ulcer developed at the home.

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4.8 Use of anticholinergics in older persons (OLD-10)

4.8.1 Documentation sheet

Description	Percentage of persons aged ≥ 65 years using (or more specifically being delivered) anticholinergic drugs or anti-depressant drugs with anticholinergic effects
Calculation	Percentage of older persons (≥ 65 years) with anticholinergics delivered Numerator 1: Number of older persons (≥ 65 years) being delivered anticholinergic drugs (> 80 DDD yearly) Numerator 2: Number of older persons (≥ 65 years) being delivered antidepressant drugs with anticholinergic effects (> 80 DDD yearly) Denominator: Number of older persons ≥ 65 years
Rationale	Anticholinergic drugs are drugs that reduce acetylcholine activity. Acetylcholine is a neurotransmitter that plays an important role in the nervous system. Anticholinergic drugs can cause side effects like confusion, sedation and orthostatic hypotension. Older adults, especially those with dementia, are more at risk to have confusion and sedation side effects. Because of their side effects especially in older patients, anticholinergic drugs should be avoided as much as possible in this population.¹ The appropriateness of prescribing behaviours by clinicians within the health system can be increased through education and training and the use of guidelines.
Data source	RIZIV-INAMI (based on EPS)
Technical definitions	This list is based on a list of active substances with anticholinergic properties ($n = 41$) identified in drug lists of older adults in Belgium.² Anticholinergic drugs = - N06AA09 * - N06CA01 * - N06AA04 * - N05AH02 - R06AA02 - R06AA52 - N06AA12 * - N05BB01 - N05BB51 - N06AA02 * - N05AA02 - R06AD52 - N06AA10 *



M03BX02
G04BD04
G04BD07
N04AA01
R03BB01
R03AL01
R03AL02
R06AD02
R06AD52
N04BB01
N03AE01
N05BA01
N02AB03
N06AB03 *
N06CA03 *
N05AH03
N02AA05
N06AB05 *
A02BA01
A02BA51
N05AH04
A02BA02
R03DA04
R03DB04
R03DA54
R03DA74
N05CD05
N03AF01
R06AE07
R06AE09
N06AB04 *
N06AB10 *
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N02AA59



N02AA79
N02AA08
N02AA58
A03FA03
N06AA16 *
N05AD01
A07DA03
A07DA05
A07DA53
N06AX11 *
N02AA01
G04BE07
R05DA01
N02AG01
N02AA51
N02AA04
N05AX08
N02AX02
N02AX52
N06AX05 *

N.B. N06 (marked with *) = antidepressant drug with anticholinergic effects.

Note that a threshold is used of >80 DDD as an indicator for chronic use of the drug.

Limitations	Farmanet does not include hospital pharmacies
International comparability	No international data available
Dimension	Care for older persons; Appropriateness / safety
Related indicators	
Reviewers	Cécile Camberlin (KCE)

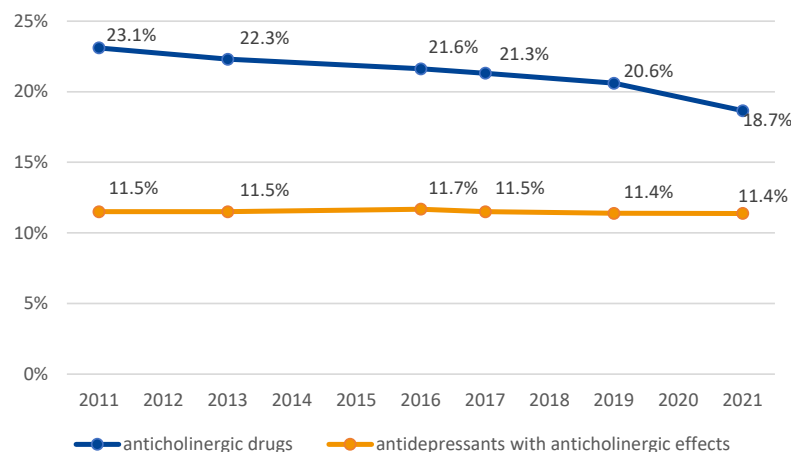


4.8.2 Results

Belgium

In 2021, 18.7% of the population aged 65 years and over was delivered >80 DDD yearly of anticholinergic drugs. Figure 57 illustrates that this indicator has improved since the year 2011 (where it reached 23.1%). Amongst the 18.7% of people aged 65 years and over using anticholinergic drugs, 11.4% used an antidepressant drug with anticholinergic effects.

Figure 57 – Percentage of the Belgian population aged ≥65 years using anticholinergic drugs or antidepressant drugs with anticholinergic effects (>80 DDD): evolution 2011-2021



Source: RIZIV-INAMI (data EPS)

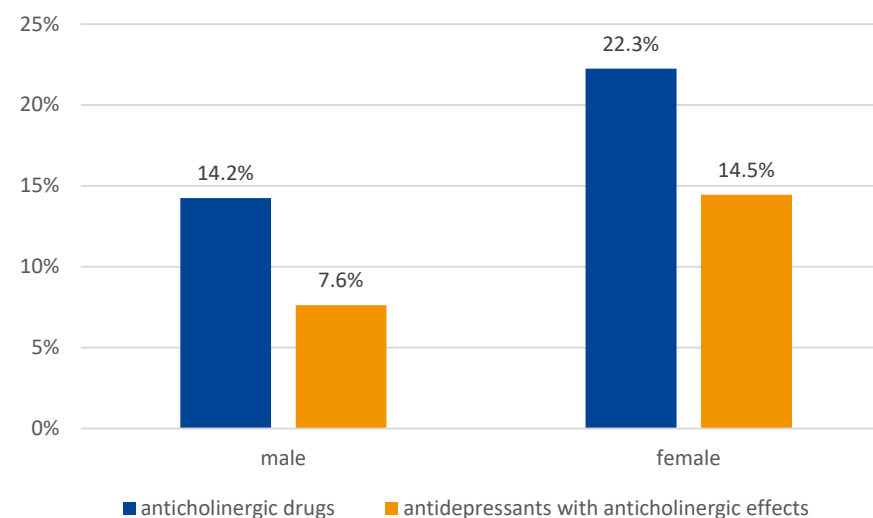
Analysis by demographic characteristics

Women are more likely to use anticholinergic drugs than men: 22.3% of woman aged 65 years and over are prescribed anticholinergic drugs, versus 14.2% of men (see Figure 58).

The use of anticholinergics also increase with age. 24.2% of the population aged 85 years and over used anticholinergic drugs, compared to 16.6% of the population aged 65-74 years (see Figure 59).

Finally, the problem appears most severe in homes for older people (rest homes and rest and nursing homes), where 45.5% of residents aged 75 years and over use anticholinergic drugs, compared to 18.0% in persons aged 75 years and over living at home (Figure 60).

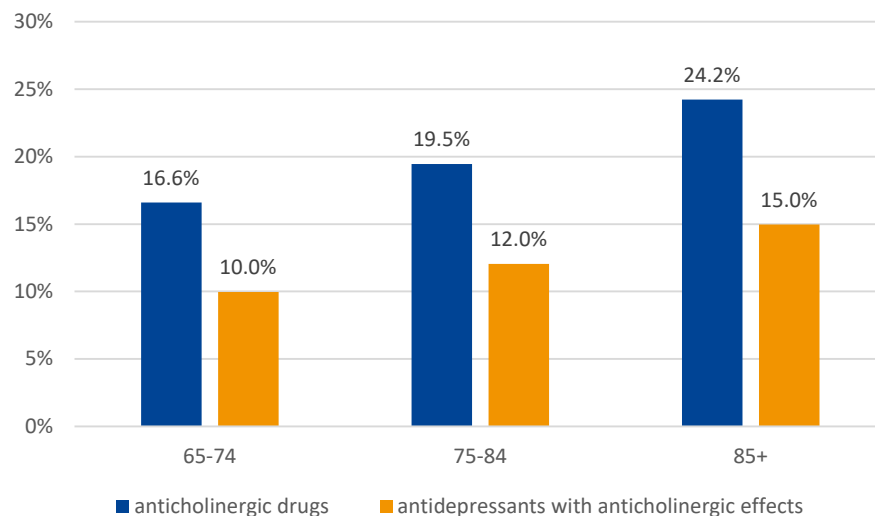
Figure 58 – Percentage of the Belgian population aged ≥65 years using anticholinergic drugs or antidepressant drugs with anticholinergic effects (>80 DDD), by sex (2021)



Source: RIZIV-INAMI (data EPS)

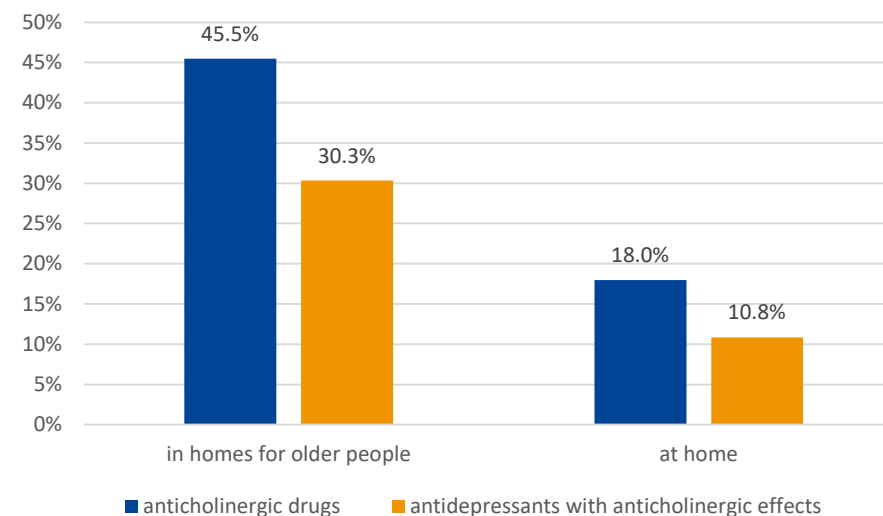


Figure 59 – Percentage of the Belgian population aged ≥ 65 years using anticholinergic drugs or antidepressant drugs with anticholinergic effects (>80 DDD), by age group (2021)



Source: RIZIV-INAMI (data EPS)

Figure 60 – Percentage of the Belgian population aged ≥ 75 years using anticholinergic drugs or antidepressant drugs with anticholinergic effects (>80 DDD), in homes for older people versus at home (2021)



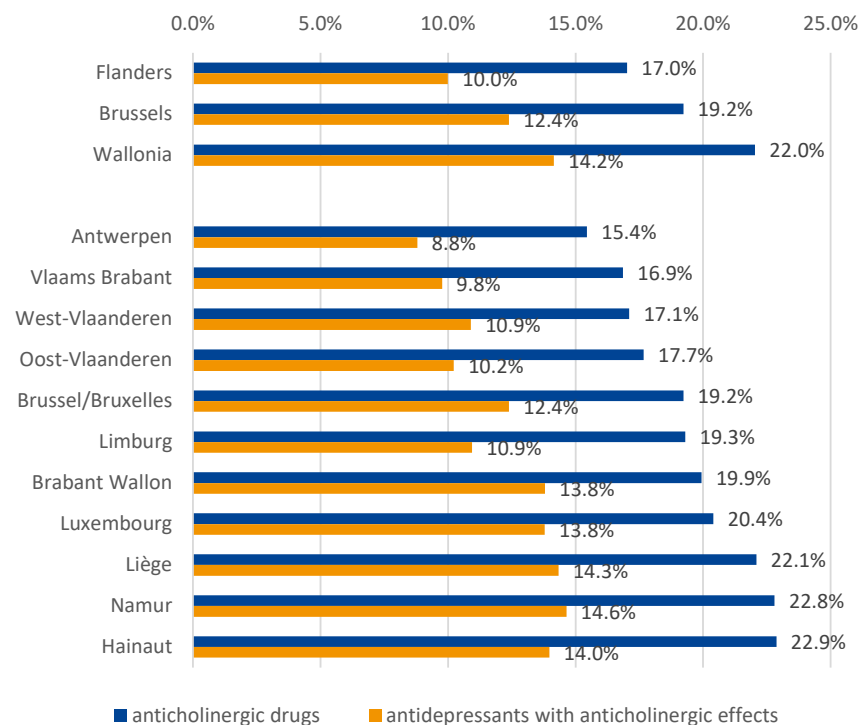
Source: RIZIV-INAMI (data EPS)

Regional comparison

There is some regional variation: use of anticholinergic drugs is highest in Wallonia (22% of population aged 65 years and over), followed by Brussels-Capital (19.2%) and Flanders (17.0%) (see Figure 61).



Figure 61 – Percentage of the Belgian population aged ≥ 65 years using anticholinergic drugs or antidepressant drugs with anticholinergic effects (>80 DDD), by region and province (2021)



Source: RIZIV-INAMI (data EPS)

International comparison

No data are available for international comparison.

Key Points

- Because of their side effects especially in older patients, anticholinergic drugs should be avoided as much as possible in older persons.
- In 2021, 18.7% of the population aged 65 years and over was delivered >80 DDD of anticholinergic drugs, amongst which 11.4% were delivered an antidepressant drug with anticholinergic effects. Women are more likely to use these drugs than men. The problem increases with age and appears most acute in homes for older people, where 45.5% of residents aged 75 years and over use anticholinergic drugs, compared to 18.0% in persons aged 75 years and over living at home. There is also considerable regional variation: use of anticholinergic drugs is highest in Wallonia, followed by Brussels-Capital and Flanders.
- The use of anticholinergic drugs has shown a continuous, though small, improvement since the year 2011. The use of antidepressant drugs with anticholinergic effects has more or less remained stable over time.

References

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2. Klamer T, Wauters M, Azermai M, Durán C, Christiaens T, Elseviers M, et al. A Novel Scale Linking Potency and Dosage to Estimate Anticholinergic Exposure in Older Adults: the Muscarinic Acetylcholinergic Receptor ANTagonist Exposure Scale. Basic & Clinical Pharmacology & Toxicology. 2017;120:582–90.



4.9 Users of antipsychotics (A) and antidepressants (B) in older persons in homes for older people (OLD-11) versus outside homes for older people (OLD-12)

4.9.1 Documentation sheet

Description	OLD-11-12 A: Percentage of older persons (aged 65 years and over) using antipsychotics in homes for older people (OLD-11) versus outside homes for older people (OLD-12) OLD-11-12 B: Percentage of older persons (aged 65 years and over) using antidepressants in homes for older people (OLD-11) versus outside homes for older people (OLD-12)
Calculation	<u>Numerator</u>: OLD-11-12 A: Number of older persons (aged 65 years and over) using antipsychotics, defined as having minimum 1 DDD reimbursed antipsychotics (ATC N05A antipsychotics without magistral preparations, on the basis of deliveries in public pharmacies); OLD-11-12 B: Number of older persons (aged 65 years and over) using antidepressants, defined as having minimum 1 DDD reimbursed antidepressants (ATC N06A antidepressants without magistral preparations, on the basis of deliveries in public pharmacies); <u>Denominator</u>: Number of older persons (aged 65 years and over).
Rationale	Older people with dementia may present behavioral and psychological symptoms which make it difficult to care for them. Antipsychotics are often prescribed in this population to reduce the symptoms. However, given the associated risks, antipsychotics should be avoided as much as possible in this population. In patients with dementia, a higher risk of CVA and sudden death has been documented in the use of different classes of antipsychotics. Non-pharmacologic interventions are the recommended first step for problem behaviour in dementia. Antipsychotic drugs should only be used if the behavior of the patient poses a danger to him/herself or to persons in the environment. If the drugs are used, the duration of treatment should be as short as possible, the dosis as low as possible and the continuation of the treatment should be regularly reviewed.¹
Data source	IMA-AIM atlas
Technical definitions	Antipsychotics = ATC-code N05A without magistral preparations, delivered in public pharmacies (Farmanet/Pharmanet). IMA-AIM Atlas criteria: ≥1 DDD Antidepressants = ATC-code N06A without magistral preparations, delivered in public pharmacies (Farmanet/Pharmanet). IMA-AIM Atlas criteria: ≥1 DDD DDD = DPP*number of reimbursed packages (defined daily dose) DPP = number of day doses per package (dose per package)
International comparability	OECD Health Statistics 2017
Limitations	The presented data are based on Farmanet/Pharmanet (public pharmacies) and do not comprise drugs delivered in hospital pharmacies. Also, since April 2015, drugs delivered to patients in homes for older people have to be tarified per



	unit. Since then, an increasing part of drug consumption is not recorded in Farmanet/Pharmanet, but in the GZSS (Gezondheidszorg – Soins de Santé) database. The presented data may therefore underestimate the total consumption.
Dimension	Care for older persons; Appropriateness of Care; Safety of Care
Related indicators	
Reviewers	El Maati Allaoui (IMA-AIM)

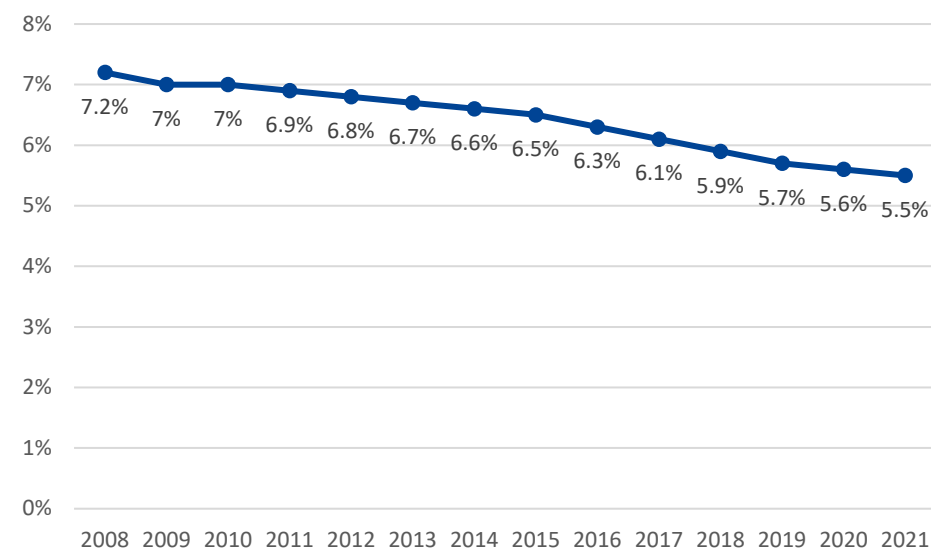
4.9.2 Results

Use of antipsychotics in persons aged 65 years and over

Belgium

In 2021, 5.5% of the population aged 65 years and over used antipsychotic drugs (≥ 1 DDD). Figure 62 illustrates that there has been a continuous downward evolution in this indicator since 2008 (when it reached 7.2%).

Figure 62 – Percentage of the Belgian population aged ≥ 65 years using antipsychotics (≥ 1 DDD): evolution 2008-2021



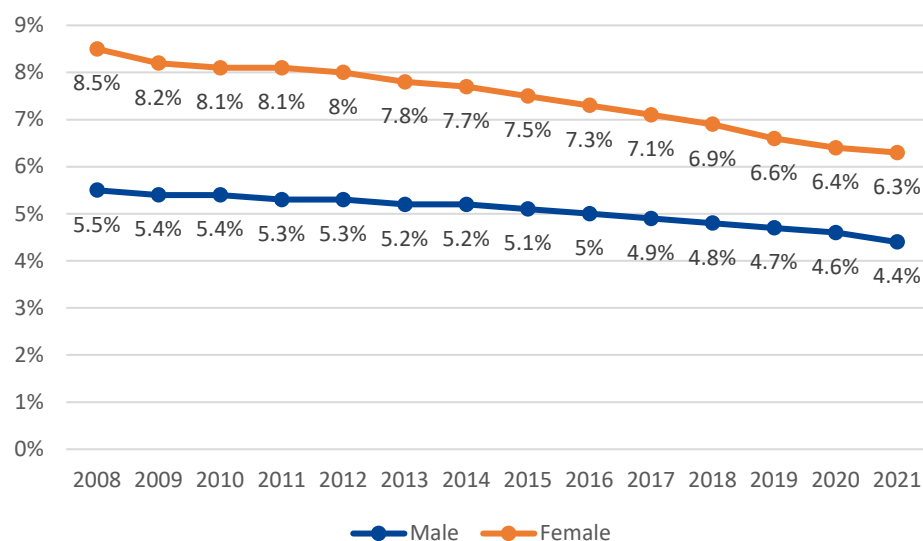
Source: IMA-AIM Atlas



Analysis by demographic characteristics

Women are more likely to be prescribed antipsychotics than men: 7% of women aged 65 years and over versus 5% of men (see Figure 63).

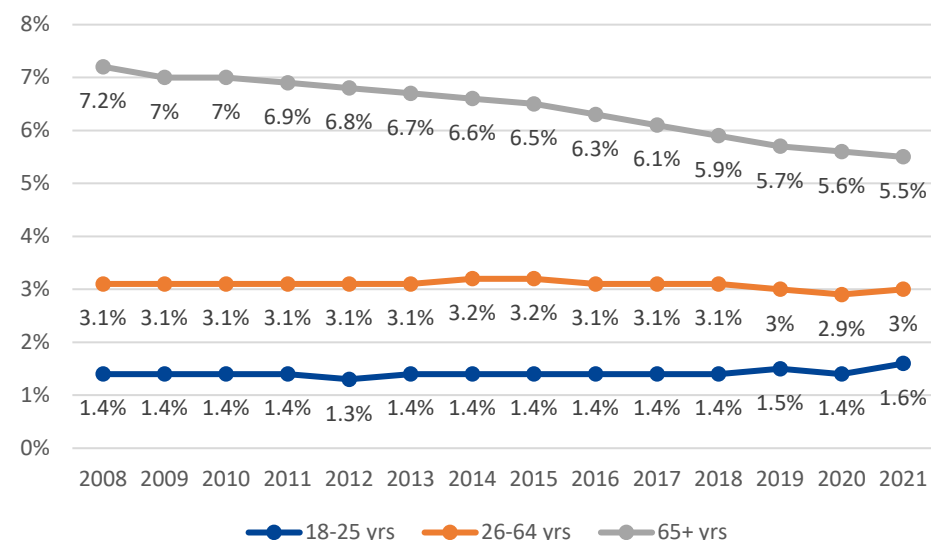
Figure 63– Percentage of the Belgian population aged ≥65 years using antipsychotics (≥1 DDD), by gender (2008-2021)



Source: IMA-AIM Atlas

Prescriptions increase with age. In the age group 26-64 years, 3.0% of the population used antipsychotics (≥1 DDD) in 2021. In the age group 18-25, 1.6% of the population used antipsychotics in 2021. (see Figure 64).

Figure 64 – Percentage of the Belgian population using antipsychotics (≥1 DDD), by age category (2008-2021)



Source: IMA-AIM Atlas

Finally, the problem appears most prominent in homes for older people, where 27.3% of residents aged 65 years and over use antipsychotics, compared to 11.8% of persons living at home and receiving home care and 3.5% of persons not receiving formal long-term care (Figure 65).

An analysis performed in 2023 by Institut Solidaritis (the research and survey institute of the sickness fund Solidaritis)² investigated whether, to some extent, the difference in this consumption of antipsychotics according to residence of the patient, could be explained by a different profile of the patients in those settings. To correct for this possible bias, Institut Solidaritis performed a longitudinal analysis, in which it examined and compared the



situation of a patient cohort at 6 months before their move to a home for older people and at 6 months after their move to the home for older people.

From the analysis of Institut Solidararis, it appears that the use (delivery) of antipsychotics, measured by the number of DDDs, indeed only modestly increases after entering the home for older people (by +8%). When measured by the number of people who get a delivery of minimum 30 DDD in the study period, there is a small increase from a proportion of 10% of the people before the move to the home to 11% after the move to the home (an increase of +14%).

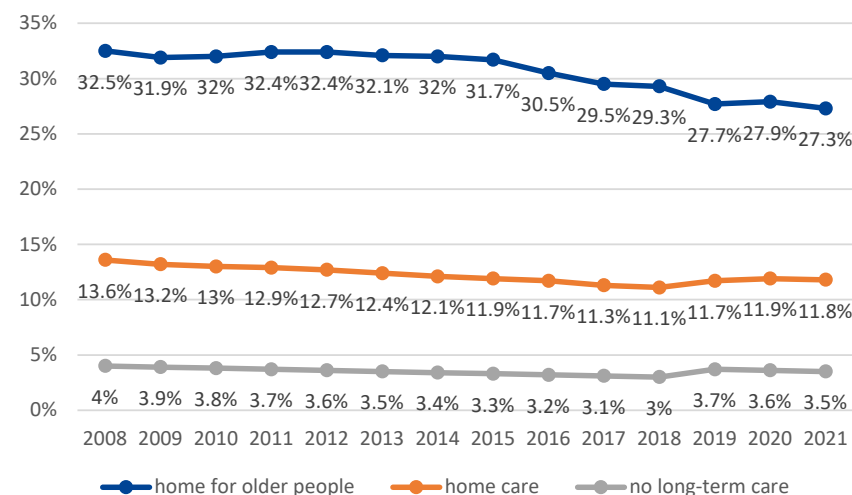
- Based on a previous study carried out by Institut Solidararis in 2013, this increase (of 14%) appears much less pronounced than in the year 2010, in which there was an increase of 34% in number of persons getting a delivery of minimum 30 DDD of antipsychotics, from before to after entering the home.
- Of the 10% of people who took antipsychotics before moving to the home, 43% of them stopped using antipsychotics, and 57% of them continued taking antipsychotics after the move. On top of those continuing antipsychotics treatment (which constitute about half of the people taking antipsychotics after the move), many (the other half) will start using antipsychotics only after the move to the home.

This study of Institut Solidararis shows that the proportion of users of antipsychotics in the population that is moving to the home for older people (shortly before or after the move; 10-11%) comes close to the proportion of users of antipsychotics in the population which receives home care (at home) in the IMA-AIM data (11.8% in Figure 65). The study of Institut Solidararis furthermore shows that there is no drastic increase in the proportion of people taking antipsychotics from close before to close (up to 6 months) after the move to the home for older people.

However, the high proportion of antipsychotics users, of 27.3% in 2021 in homes for older people in the national IMA-AIM data, remains unexplained as it is considerably higher than the proportion of 11% observed in the cohort of Institut Solidararis (6 months after the move to the home). It is not clear how this difference could be explained. There are some differences between the

data sources however. A first difference is that the study from Institut Solidararis only counts those patients with minimum 30 DDD over a 6-month period, whilst IMA-AIM data counts those patients with minimum 1 DDD over a year. This could be one factor explaining the higher percentage in the IMA-AIM data than in the study from Institut Solidararis. Also, the study from Institut Solidararis included patients aged 70+ (compared to 65+ in IMA-AIM data here presented). Another possible explanatory factor can be that the population of the cohort of Institut Solidararis was not representative for the total population in homes for older people. Indeed, the profiles of patients differ between sickness funds. Furthermore Brussels is excluded in the study from Institut Solidararis. Another point could be that the proportion of antipsychotics users further increases the longer the people stay in the home (the study of Institut Solidararis only measured the 6 first months in home for older people). Further analysis is needed to provide deeper insight into this issue.

Figure 65 – Percentage of the Belgian population aged ≥65 years using antipsychotics (≥1 DDD), by use of long-term care (2008-2021)



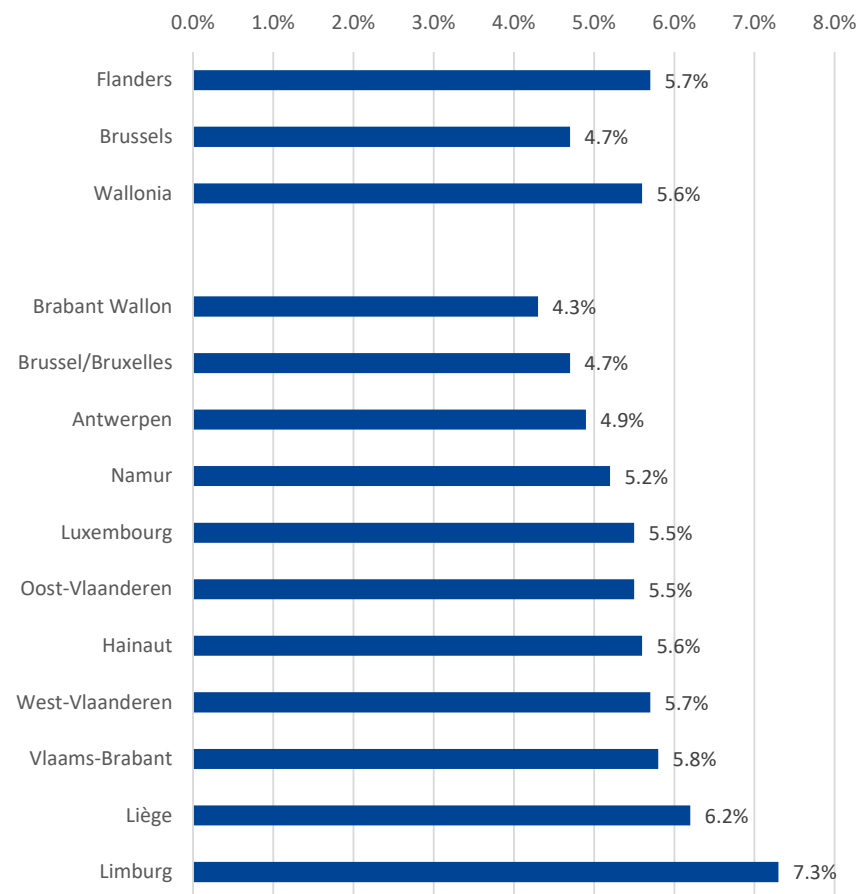
Source: IMA-AIM Atlas



Regional comparison

There is also some regional variation: use of antipsychotics in the population aged 65 years and over is lowest in the province of Brabant Wallon (4.3% of population aged 65 years and over) and highest in the province of Limburg (7.3%) (see Figure 66). Use of antipsychotics in the population aged 65 years and over is lower in Brussels compared to Flanders and Wallonia.

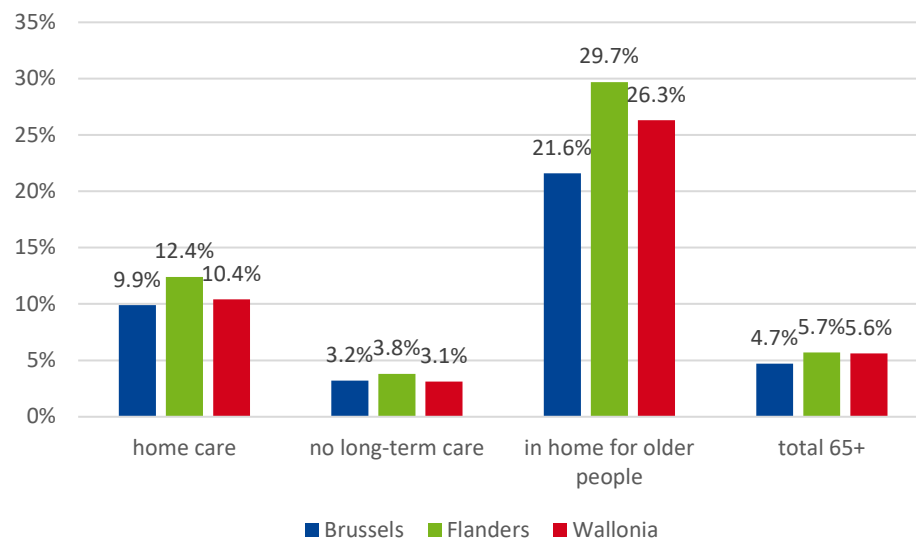
Figure 66 – Percentage of the Belgian population aged ≥65 years using antipsychotics (≥1 DDD), by region and province (2021)



Source: IMA-AIM Atlas



Figure 67 – Percentage of the Belgian population aged ≥ 65 years using antipsychotics (≥ 1 DDD), by region and by type of long-term care (2021)

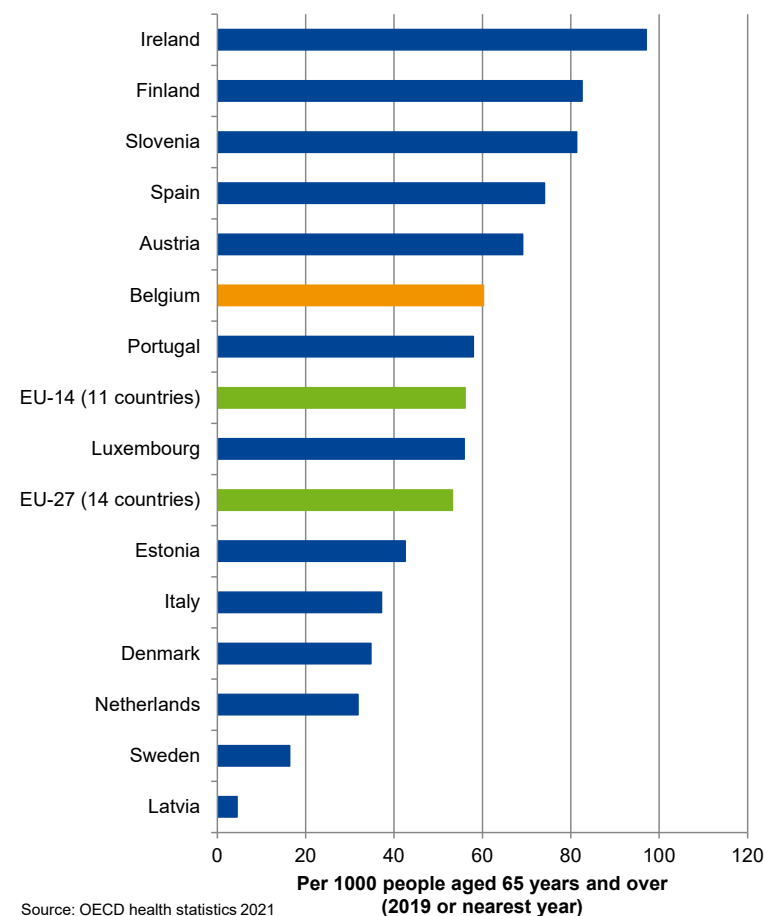


Source: IMA-AIM Atlas

International comparison

Data collected by the OECD on the year 2019 (or nearest year) show that the prescription of antipsychotics to older people varies by more than a factor of two across EU countries (Figure 68). In 2019, Latvia, Sweden and the Netherlands prescribed antipsychotics to fewer than 32 in every thousand people aged 65 years and over. At the other extreme are Ireland, Finland and Slovenia with more than 80 in every thousand people aged 65 years and over being prescribed antipsychotics. Belgium, with 60 people ranks slightly above EU-14 average (of 56) and EU-27 average (of 53). Prescriptions in the female population aged 65 years and over is consistently higher than in the male population (Figure 69).

Figure 68 – People with at least one prescription of antipsychotics in the year, per 1 000 people aged ≥ 65 years, 2019 (or nearest year) (>0 DDD): OECD data

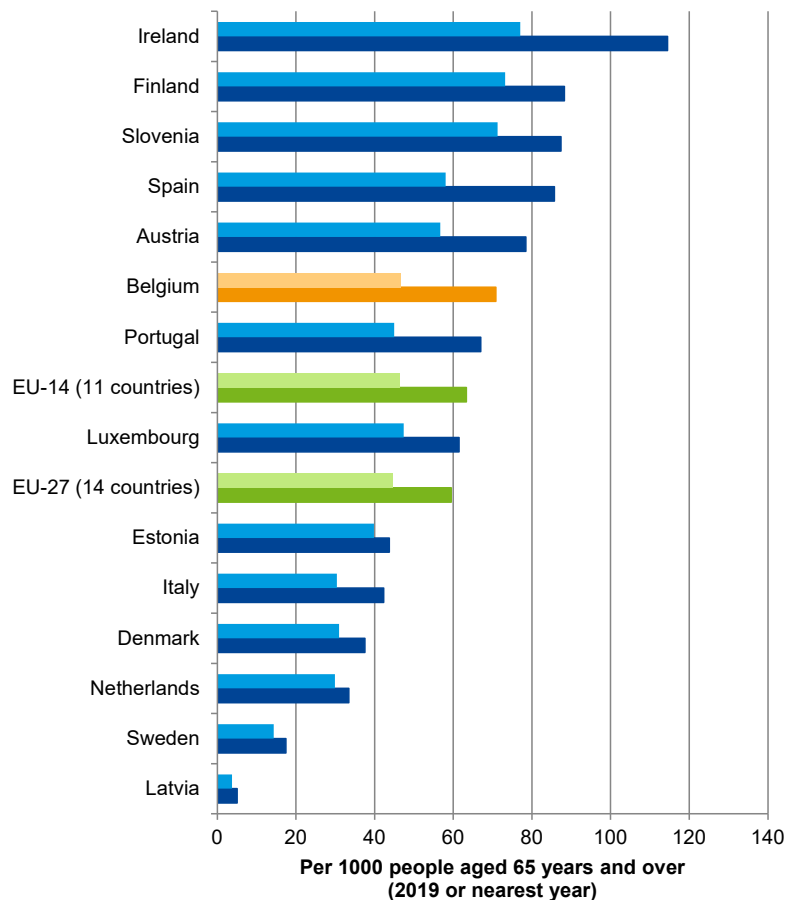


Source: OECD health statistics 2021

Source: OECD Health Statistics 2021 ³



Figure 69 – People with at least one prescription of antipsychotics in the year, per 1 000 people aged ≥65 years, 2019 (or nearest year) (>0 DDD): OECD data – by gender



Source: OECD health statistics 2021

men women

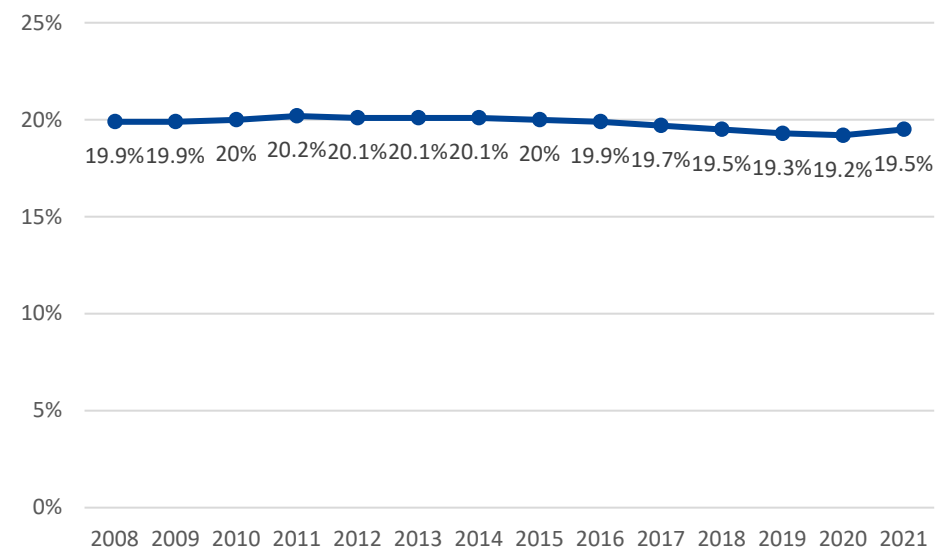
Source: OECD Health Statistics 2021 ³

Use of antidepressants in the population aged 65 years and over

Belgium

In 2021 19.5% of the Belgian population aged 65 years and over used antidepressants. This percentage stayed more or less stable since 2008 (see Figure 70).

Figure 70 – Percentage of the Belgian population aged ≥65 years using antidepressants (≥1 DDD): evolution 2008-2021



Source: IMA-AIM Atlas

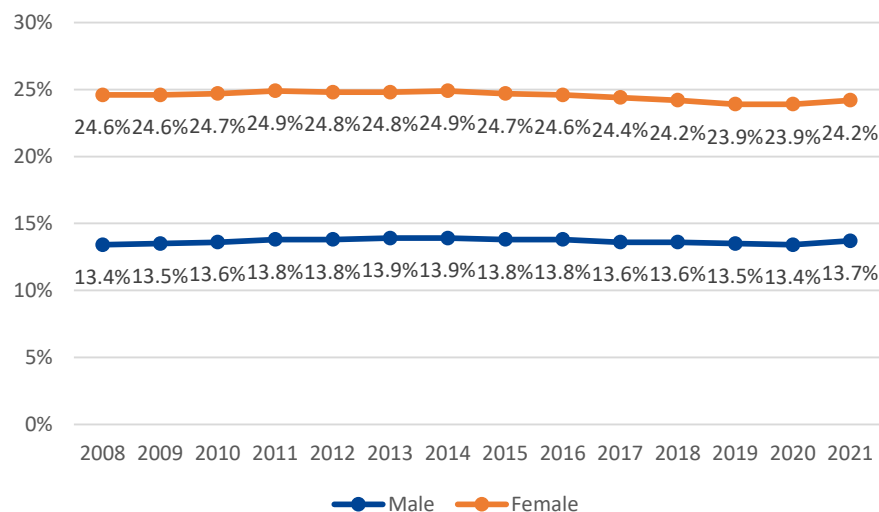


Analysis by demographic characteristics

More women use antidepressants than men. In 2021 24.2% of women aged 65 years and over used antidepressants, compared to 13.7% of men aged 65 years and over (see Figure 71). The percentage taking antidepressants is considerably higher in the older age group (65 years and over) compared to the younger age groups (see Figure 72).

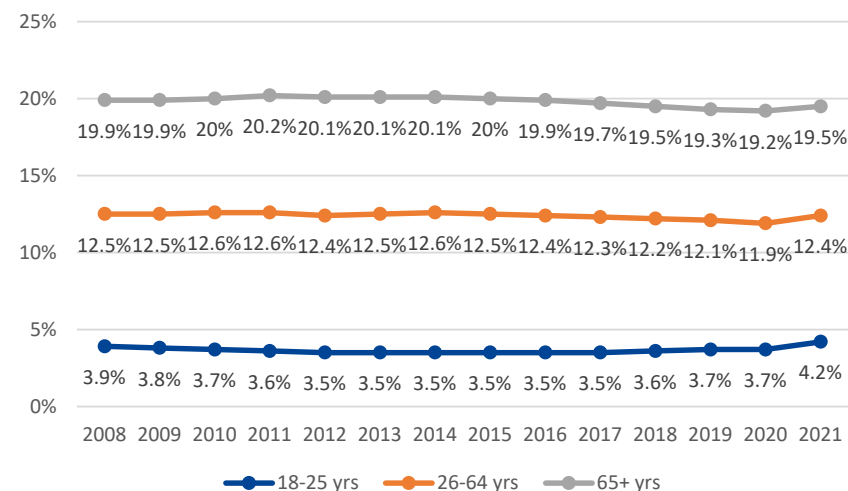
Use of antidepressants in the older age group is highest in homes for older people (48.3% of residents in 2021) (see Figure 73). Use of antidepressants is lower in the group of persons receiving home care (33.5%) and receiving no formal long-term care (16.1%).

Figure 71 – Percentage of the Belgian population aged ≥ 65 years using antidepressants (≥ 1 DDD), by gender (2008-2021)



Source: IMA-AIM Atlas

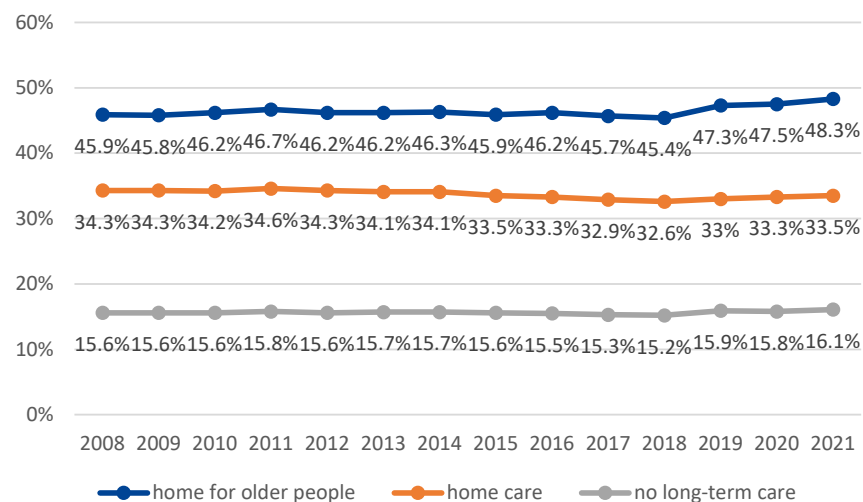
Figure 72 – Percentage of the Belgian population using antidepressants (≥ 1 DDD), by age category (2008-2021)



Source: IMA-AIM Atlas



Figure 73 – Percentage of the Belgian population aged ≥65 years using antidepressants (≥1 DDD), by use of long-term care (2008-2021)

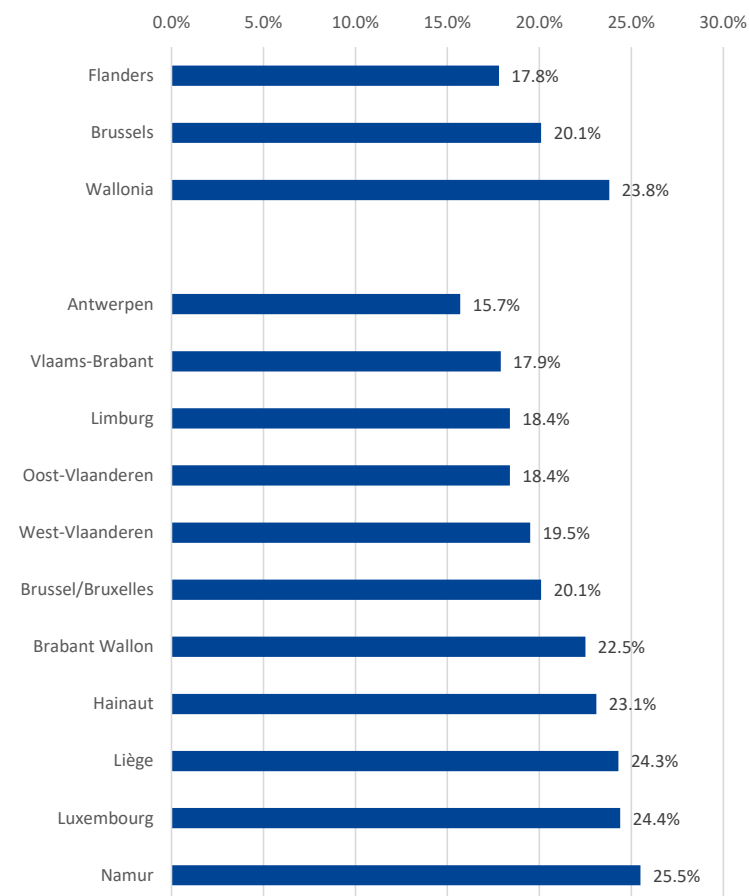


Source: IMA-AIM Atlas

Regional comparison

The use of antidepressants in the population aged 65 years and over is highest in Wallonia (23.8%) and lowest in Flanders (17.8%) (see Figure 74). Antidepressants use in the population aged 65 years and over is highest in the province of Namur (25.5%) and lowest in the province of Antwerpen (15.7%).

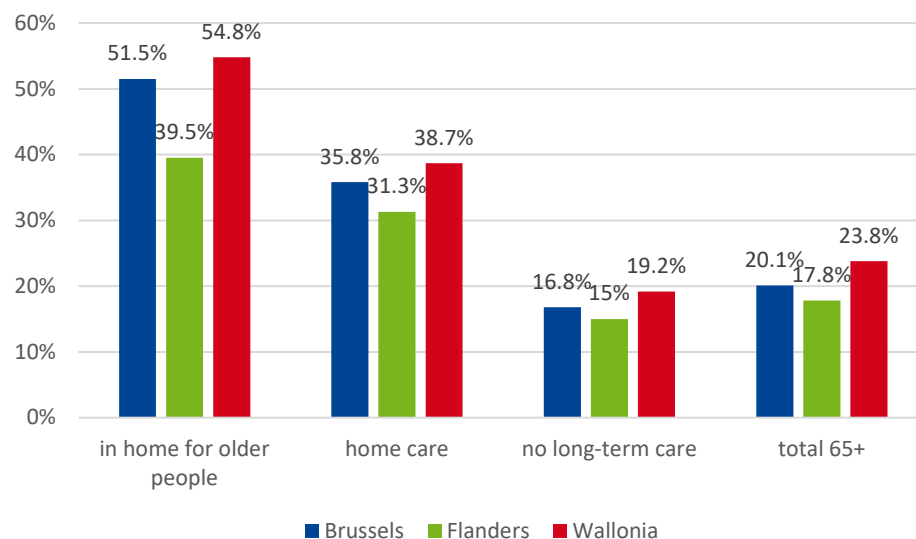
Figure 74 – Percentage of the Belgian population aged ≥65 years using antidepressants (≥1 DDD), by region and province (2021)



Source: IMA-AIM Atlas



Figure 75 – Percentage of the Belgian population aged ≥ 65 years using antidepressants (≥ 1 DDD), by region and by type of long-term care (2021)



Source: IMA-AIM Atlas

International comparison

No international data on use of antidepressants in older people are available.

Key points

Antipsychotics in population aged 65 years and over

- Antipsychotics are often prescribed in people with dementia presenting behavioral and psychological symptoms in order to reduce these symptoms. However, given the associated risks, antipsychotics should be avoided as much as possible in this population. Non-pharmacologic interventions are the recommended first step for problem behaviour in dementia.
- In 2021, 5.5% of the population aged 65 years and over used antipsychotic drugs (≥ 1 DDD). There has been a continuous downward evolution in this indicator since 2008 (where it reached 7.2%).
- More woman aged 65 years and over use antipsychotics than men.
- The problem is particularly severe in homes for older people, where 27.3% of residents (aged 65 years and over) use antipsychotics, compared to 11.8% of persons living at home and receiving home care and 3.5% of persons not receiving formal long-term care.
- There is also some regional variation: antipsychotics use is lowest in the province of Brabant Wallon (4.3% of population aged 65 years and over) and highest in the province of Limburg (7.3%).
- OECD data show that Belgium scores close to the EU-14 and EU-27 average for prescription of antipsychotics in older persons. Prescriptions and use in Sweden and Latvia are less than half compared to Belgium.

Antidepressants in population aged 65 years and over

- In 2021 19.5% of the Belgian population aged 65 years and over used antidepressants (≥ 1 DDD). This percentage stayed more or less stable since 2008.



- **More women use antidepressants than men. In 2021 24.2% of women aged 65 years and over used antidepressants, compared to 13.7% of men aged 65 years and over.**
- **Use of antidepressants in the older age group is highest in homes for older people (48.3% of residents takes antidepressants in 2021). Use of antidepressants is lower in the group of persons receiving home care (33.5%) and those not receiving formal long-term care (16.1%).**
- **Antidepressants use in the population aged 65 years and over is highest in the province of Namur (25.5%) and lowest in the province of Antwerpen (15.7%).**

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2. Willaert D, Maron L, J V. Consommation de médicaments en maison de repos: une analyse longitudinale. Une actualisation de l'étude de 2013. Institut Solidaris; 2023. Available from: https://www.institut-solidaris.be/wp-content/uploads/2023/06/Etude-Solidaris_Consommation-de-medicaments-en-maison-de-repos.pdf
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4.10 Polypharmacy among the elderly (OLD-13)

4.10.1 Documentation sheet

Description	Proportion of the insured population aged 65 years and older, using 5 or more drugs of >80 DDD per year.
Calculation	Health Interview Survey Numerator: number of people aged 65 years and older, using at least five different drugs in the past 24 hours Denominator: number of people aged 65 years and older Pharmanet Numerator: number of insured people aged 65 years and older, using 5 or more drugs of >80 DDD per year. Denominator: number of insured people aged 65 years and older
Rationale	Chronic diseases are highly prevalent among the older population and often require multiple medications for optimal management. There are however many consequences of polypharmacy. Aside from increased direct medical costs, patients are at higher risk for adverse drug reactions, drug interactions, non-adherence, diminished functional status, and various geriatric syndromes.¹ Although the use of multiple drugs is widely referred to as polypharmacy, no consensus exists on what number should define the term. In the literature, polypharmacy has often been defined as taking at least five medicines concurrently. Alternately, polypharmacy has also been defined as the consumption of more medicines than clinically indicated or the consumption of medicines that are not clinically indicated.² Information on inappropriate medicine use is however not considered here.



Primary data source	Belgian Health Interview Survey (BHIS), Sciensano (https://www.sciensano.be/fr/projets/enquete-de-sante) ³ Pharmanet
Source of results	Sciensano, Health Information RIZIV-INAMI
Technical, definitions, and limitations	In the Belgian HIS, polypharmacy is defined as taking at least five medicines in the past 24 hours. Respondents are asked during a face-to-face interview whether they have taken any medicines during the last 24 hours. The respondent then has to show the medicines that he/she has taken during the past 24 hours, if possible with the package. The interviewer records the brand names and national codes of all medicines. In the definition of polypharmacy, only the official medicines listed in the Annotated Medicines Registry published by the Belgian Centre for Pharmacotherapeutic Information (BCFI – CBIP) are considered. The BHIS relies on self-reported data and is therefore subject to recall bias. The analyses of the Pharmanet data are performed by the Cell Appropriate Care of the RIZIV-INAMI in the context of the evaluation of medical practice variations. RIZIV – INAMI evaluated the consumption of 5 or more drugs of >80 DDD per year among the insured population aged 65 years and older. This indicator is proposed here as a proxy for polypharmacy since it deviates from the commonly adopted definition of polypharmacy in two distinct ways: 1) it mainly focuses on drugs for chronic diseases (> 80 DDD), and 2) it evaluates the use of medicine on an annual basis, instead of daily. Moreover, Pharmanet includes only reimbursed medicines, which exclude some important drugs like certain anti-inflammatory drugs and benzodiazepines.
International comparability	Comparison of national data with other countries is difficult/impossible because of important differences in definitions of polypharmacy, study designs and years, data collection methods, definitions of medicine and of time period used to count the number of medicines.
Reviewers	Johan Van der Heyden, Health Information, Sciensano Delphine Beauport, RIZIV-INAMI Pascal Meeus, RIZIV-INAMI



4.10.2 Results

Since the results of the HIS 2023 are not yet available, we use data from the Belgian Health Interview Survey (HIS) 2018 and an alternative source for more recent data. RIZIV – INAMI (Pharmanet) evaluated the consumption of 5 or more drugs of >80 DDD per year among the insured population aged 65 years and older in 2022. Pharmanet includes only reimbursed drugs, which exclude some important drugs like certain anti-inflammatory drugs and benzodiazepines.

HIS—Health Interview Survey

In the HIS 2018, the mean age of the study population aged 65 and older (N=2383) was 75.5 years (range: 65-101). The majority were women (58.2%), aged 65-79 years (73.6%)^k. The mean number of medicines used per person was 3.7 (range: 0-19). 15.6% did not take any medicines during the past 24 hours. 32.4% was in the polypharmacy group (mean number of medicines: 7.3), of which 7.9% was in the excessive polypharmacy group (≥ 9 drugs in the past 24 hours) (mean number of medicines: 10.8).

In the univariate analysis, we observed a gradient in the prevalence of polypharmacy (Table 31) in function of age (although there was no further increase after the age of 85 years) and a higher prevalence in the lower educational levels. Compared to 2013, we observed an increase in polypharmacy in 2018, but compared to the levels of 2004 and 2008 there is no difference. No differences in polypharmacy were observed by region and gender.

^k All means and proportions are weighted to match the population distribution.

**Table 31 – Proportion of the population aged 65 years and older reporting having taken 5 or more different medicines during the last 24 hours, 2018.**

		N	Crude % (95%CI)	OR (crude)
Year of survey	2018	2383	34.2 (31.6-36.8)	1.29 (1.08-1.53)
	2013	2020	27.4 (24.6-30.2)	-
	2008	2778	32.6 (29.9-35.3)	1.28 (1.07-1.55)
	2004	3446	32.6 (30.3-34.9)	1.38 (1.15-1.66)
Gender	Male	795	35.4 (31.6-39.3)	—
	Female	1588	33.3 (30.0-36.6)	0.91 (0.73-1.13)
Age group	65-69	693	25.8 (21.3-30.3)	—
	70-74	596	28.7 (24.3-33.2)	1.16 (0.85-1.57)
	75-79	421	38.5 (32.5-44.6)	1.80 (1.27-2.56)
	80-84	337	46.3 (38.9-53.6)	2.47 (1.70-3.60)
	85+	336	41.1 (33.8-48.4)	2.01 (1.37-2.94)
Region	Flanders	980	34.4 (30.9-38.0)	—
	Brussels	503	33.7 (28.8-38.5)	0.97 (0.74-1.26)
	Wallonia	900	33.9 (29.6-38.3)	0.98 (0.76-1.26)
Education level	No degree / Primary	382	45.1 (38.3-51.9)	2.23 (1.58-3.15)
	Secondary inferior	507	38.2 (32.5-43.9)	1.68 (1.22-2.31)
	Secondary superior	621	32.2 (27.5-37.0)	1.29 (0.96-1.74)
	Superior education	818	26.9 (22.8-31.0)	—

Source: Health Interview Survey, Sciensano, Belgium³



Pharmanet

Table 32 summarizes the Pharmanet estimates for the period 2022. The percentage of the insured population aged 65 and over that used in the past year 5 or more different drugs of >80 DDD, was 42% in 2022. Overall, polypharmacy was higher in men, in age groups 80 to 94 years old, in the Walloon Region, and among people with preferential reimbursement entitlement (“verhoogde tegemoetkoming”, “intervention majorée”). Differences between districts reached more than 30% between Antwerpen (36.4%) and La Louvière (49.5%) (Figure 76).

Polypharmacy concerned more than 50% of the insured population aged 80 to 94 years old in 2022, this is more than registered by the BHIS in 2018 (Figure 77). Figure 77 also shows that the coefficient of variations between districts is high for younger age groups making the case for an important potential for improvement for younger age groups. Polypharmacy is stable between 2019 and 2022 (Figure 78).

Table 32 – Percentage of the insured population aged 65+ using 5 or more drugs of >80 DDD per year, 2022

2022		Both sexes	Male	Female
TOTAL		42%	43%	40%
Age group	65-69	31%	33%	29%
	70-74	39%	42%	37%
	75-79	47%	49%	45%
	80-84	51%	52%	50%
	85-89	53%	53%	53%
	90+	42%	47%	48%
Region	Flanders	41%		
	Brussels	37%		
	Wallonia	45%		
Reimbursement entitlement	Preferential	51%		
	Non-preferential	39%		



Figure 76 – Difference from the national mean of the insured population aged 65+ using 5 or more drugs of >80 DDD per year, by district, 2022



Figure 77– Standardized percentage of the insured population aged 65+ using 5 or more drugs of >80 DDD per year and coefficient de variations between districts, by age group, 2022

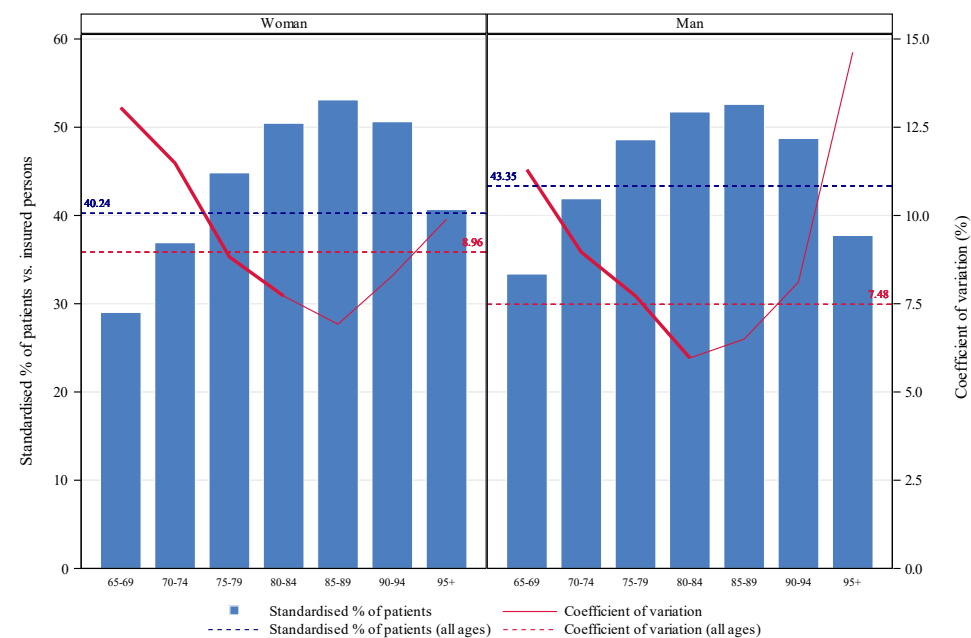
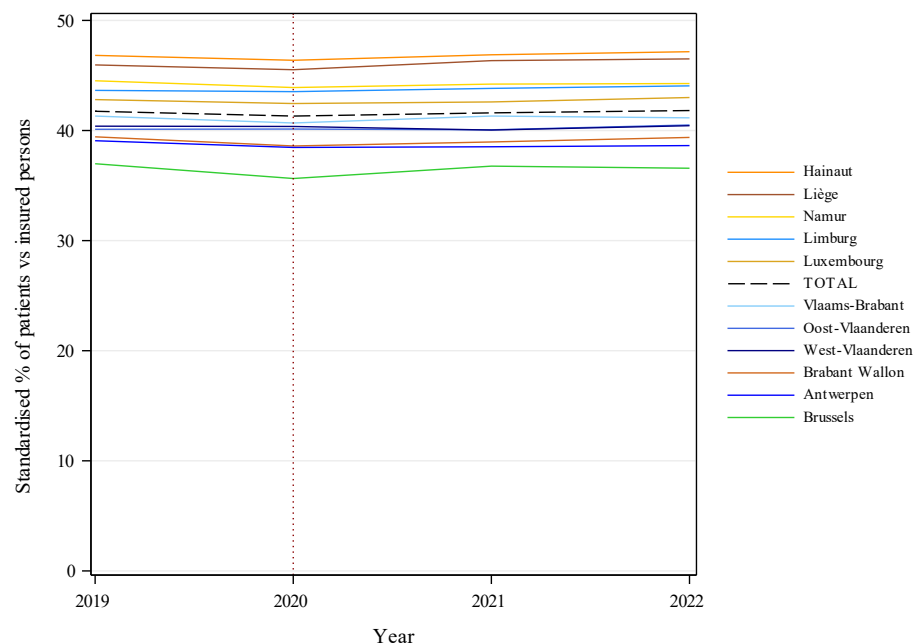




Figure 78 – Evolution of the standardized percentage of the insured population aged 65+ using 5 or more drugs of >80 DDD per year, by province, 2019-2022



Impact of COVID-19 pandemic

No impact of the COVID-19 pandemic was observed on polypharmacy.

Key points

- The percentage of the insured population aged 65 and over that used in the past year 5 or more different drugs of >80 DDD was 42% in 2022.
- The percentage is increasing with age and reaches more than 50% from 80 years old.
- The prevalence of polypharmacy is higher among people with a lower educational level.
- Important variations among districts in younger age groups show the potential for improvements in those age groups.
- The percentage was stable between 2019 and 2022 indicating no impact of the COVID-19 pandemic.

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5 END-OF-LIFE CARE

5.1 Cancer patients who received palliative care at the end of their life (EOL-1)

5.1.1 Documentation sheet

Description	Cancer patients who received palliative care at the end of their life (% of cancer patients with poor prognosis who died)
Calculation	Numerator: Number of cancer patients who received palliative care (in usual place of residence or in hospital) (regardless of time period) Denominator: Number of patients diagnosed with cancer with poor prognosis who died within the studied time period
Rationale	The 2002 WHO definition states that “palliative care is an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual”. In Belgium, many structures and services for palliative patients have been developed over the years. Palliative networks were created in 1997, with the aim to develop palliative care culture, to organize trainings for caregivers, to coordinate actions between organisations and services, and to evaluate the palliative services. In the home setting, palliative home care teams support caregivers and facilitate the care for the palliative patient who wishes to stay at home. A “palliative lump sum” (so called “forfait”) is offered during two months, to cover supplementary costs created by the palliative care. Furthermore, the palliative patient at home does not have to pay any personal contribution when treated by nurses, physiotherapists and general practitioners. Finally, palliative day care centres can offer some relieve to the patients’ supporting families. In the hospital setting, two types of palliative care structures were set up. First, approximately 400 specialised (SP)-palliative beds are clustered in small Palliative Care Units (PCU). Second, the palliative function has been developed in all hospitals in order to provide tailored care for palliative patients not staying in a PCU. A similar palliative function has been created in nursing homes.¹
Data source	Belgian Cancer Registry (BCR), linked with IMA-AIM data
Technical definitions	It is currently not possible to identify all palliative patients in administrative databases or in registries. Therefore, the indicator has been restricted to patients diagnosed with cancer that have a poor prognosis (based on relative survival probability) and deceased during the study period. <u>Inclusion criteria</u> Incidence years: 2006-2020 Tumour selection based on the Pallcare project ² : combination of topography and morphology according to Eurocare-4 ³⁻⁴, and Eurocare-5 ⁵ • Chronic tumours (5-yr RS <50%) ○ Head and neck ○ Nasal cavities and sinuses ○ Small intestine ○ Multiple myeloma ○ Ovary and uterine adnexa



- Chronic myeloid leukaemia
 - Acute lymphatic leukaemia
- Acute tumours (1-yr RS <50%)
 - Lung, bronchus and trachea
 - Pleura
 - Oesophagus
 - Stomach
 - Gallbladder and biliary tract
 - Liver, primary
 - Pancreas
 - Acute myeloid leukaemia
 - Brain

Patients deceased before July 1st, 2021

Age at diagnosis ≥18 years

Exclusion criteria

Patients with more than one invasive tumour (until 2020)

Patients without a Belgian residence at time of diagnosis

Patients without national social security number

Patients for whom no IMA data of the year of death were available (=4.1%)

Maximum 3 years of follow-up

Analyses were limited to patients who died before January 1st of the third year following the year of incidence. For example: patients diagnosed in 2006 were included in case they died in 2006, 2007 or 2008; patients diagnosed in 2007 were included in case they died in 2007, 2008 or 2009, etc.

These cohorts were defined to assure that for every diagnosis, a similar follow-up period could be taken into account, and to avoid bias by varying length of the follow-up period.

Palliative care

Palliative care as identified in IMA-AIM data includes: patients receiving the lump sum for palliative care at the usual place of residence, patients reimbursed for visits of the general practitioner or nurse within a palliative setting, patients hospitalized in palliative units, or hospitalized patients reimbursed for visits of multidisciplinary palliative care teams (the latter only if it concerns visits from the palliative home care team; visits from palliative support teams from within the hospital cannot be defined in the IMA-AIM data).

Limitation

The true proportions may be underestimated as patients may receive palliative care without nomenclature codes being registered.

Cause of death is unknown: it is assumed that the patients died from their cancer, and hence can benefit from palliative care at the end of their life. Nevertheless, this is probably not 100% accurate (patients dying from other causes).

No information on terminally ill patients apart from the oncology setting.



International comparability	This is not an international indicator. Some results are available in national reports or in specific scientific articles.
Dimensions	End-of-life care; Accessibility
Related indicators	
Reviewers	Cindy De Gendt (BCR), Lien Van Walle (BCR)

5.1.2 Results

Analysis of national data revealed that in the year 2020 on average 56.8% of the cancer patients who died in this year (and were diagnosed during 2018-2020) received palliative care. A slight increase in the use of palliative care services was seen since 2008 (48.0%) (see Table 33). A subanalysis by tumour type (acute versus chronic tumour) showed a higher proportion receiving palliative care in patients with acute tumours compared to patients with chronic tumours (58.9% vs 41.9% of patients who died in 2020 respectively, see Table 33). The increase in palliative care over time was mostly seen in the acute tumour group; in the chronic tumour group, no evolution over time is observed.

Results by specific tumour type showed substantial differences in the use of palliative care within the two broad categories. For example, within the group of patients with acute tumours, the proportion of patients receiving palliative care ranged from 31.7% for acute myeloid leukaemia to 67.5% for brain cancer (see Table 34). Also, the proportion of patients receiving palliative care is generally lower in haematological tumours, both in acute and chronic types.

A higher proportion of cancer patients receiving palliative care was seen in Flanders (61.8%) compared to the two other regions (48.5% in Brussels and 50.4% in Wallonia) (see Table 35).


Table 33 –Cancer patients who received palliative care at the end of their life, by year of death (2008-2020) (maximum 3 years of follow-up)

	All Tumours			Acute Tumours			Chronic Tumours		
	Total	Receiving palliative care		Total	Receiving palliative care		Total	Receiving palliative care	
	N	n	%	N	n	%	N	n	%
2008	9597	4604	48.0	8385	4098	48.9	1212	506	41.7
2009	9455	4538	48.0	8243	4024	48.8	1212	514	42.4
2010	9873	4807	48.7	8614	4320	50.2	1259	487	38.7
2011	9950	4982	50.1	8770	4505	51.4	1180	477	40.4
2012	10059	5133	51.0	8813	4620	52.4	1246	513	41.2
2013	10120	5195	51.3	8906	4677	52.5	1214	518	42.7
2014	10048	5449	54.2	8882	4943	55.7	1166	506	43.4
2015	9876	5267	53.3	8677	4741	54.6	1199	526	43.9
2016	9773	5252	53.7	8614	4750	55.1	1159	502	43.3
2017	9472	5072	53.5	8326	4596	55.2	1146	476	41.5
2018	9409	4934	52.4	8299	4496	54.2	1110	438	39.5
2019	9467	5151	54.4	8335	4631	55.6	1132	520	45.9
2020	9643	5478	56.8	8449	4978	58.9	1194	500	41.9
Total	126742	65862	52.0	111313	59379	53.3	15429	6483	42.0

Note: To assure a similar follow-up period for every included patient, deaths occurring in 2006 and 2007 were excluded. Deaths occurring in 2021 were also excluded, as no diagnoses were studied for that year.

Source: BCR linked to IMA-AIM data

**Table 34 –Cancer patients receiving palliative care at the end of their life – by tumour type (all patients, maximum 3 years of follow-up) (2006-Jun2021)**

	Total	Receiving palliative care	
	N	n	%
Acute			
• Oesophagus	7435	3537	47.6
• Stomach	9875	4997	50.6
• Liver, primary	6657	3377	50.7
• Gallbladder and biliary Tract	3567	1900	53.3
• Pancreas	16271	10016	61.6
• Lung, bronchus and trachea	68069	34662	50.9
• Pleura	2523	1637	64.9
• Brain	6826	4608	67.5
• Acute myeloid leukaemia	3677	1167	31.7
Chronic			
• Head and Neck	7238	3095	42.8
• Small Intestine	1011	470	46.5
• Nasal cavities and sinuses	535	274	51.2
• Ovary and uterine adnexa	4269	2218	52.0
• Multiple Myeloma	3056	823	26.9
• Acute lymphatic leukaemia	138	35	25.4
• Chronic myeloid leukaemia	894	202	22.6
Total	142041	73018	51.4

Source: BCR linked to IMA-AIM data


Table 35 –Cancer patients who received palliative care at the end of their life by region (year of death=2020, incidence years 2018-2020 included)

	All Tumours			Acute Tumours			Chronic Tumours		
	Total	Receiving palliative care		Total	Receiving palliative care		Total	Receiving palliative care	
	N	n	%	N	n	%	N	n	%
Brussels	721	350	48.5	623	310	49.8	98	40	40.8
Flanders	5537	3423	61.8	4896	3117	63.7	641	306	47.7
Wallonia	3385	1705	50.4	2930	1551	52.9	455	154	33.8
Total	9643	5478	56.8	8449	4978	58.9	1194	500	41.9

Source: BCR linked to IMA-AIM data. Note that the region corresponds to the region of the residence of the patient at time of diagnosis.

In the financing of palliative care, patients are recognized as palliative patient when they have a life expectancy between 24 hours and three months. With this definition, patients are often recognized too late as palliative patient. Since the second half of 2018, a new definition was published in the law to identify a palliative patient at an earlier stage, based on fragility. This new definition is based on the Palliative Care Indicator Tool (PICK) scale, in which the first question is “Would you be surprised if your patient would die in the coming 6 to 12 months?”.⁶ This new definition, however, is not yet used in the financing of palliative care. One exception: from November 2022 a new nomenclature fee was introduced, notably for advance care planning discussions with palliative care patients. Identification of eligible patients for these discussions is based on the PICK scale.



Key points

- **Analysis of national data shows that 57% of the cancer patients who died in 2020 received palliative care. This percentage has increased over the years.**
- **There is variation in palliative care according to the tumour type. Patients with haematological tumours appear to receive less palliative care compared to other cancer patients.**
- **A higher proportion of cancer patients received palliative care in Flanders (62%) compared to Wallonia (50%) and Brussels (49%).**
- **Data from abroad is lacking for international comparison.**

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5.2 Cancer patients who died within one week after start of palliative care (EOL-2)

5.2.1 Documentation sheet

Description	Cancer patients who died within one week after start of palliative care (% of cancer patients with poor prognosis who received palliative care and died)
Calculation	Numerator: Number of patients who started palliative care and died within one week after start of palliative care Denominator: Total number of patients diagnosed with cancer with poor prognosis who died in the studied time period and who received palliative care
Rationale	The start of palliative care is sometimes postponed until patients are in a terminal phase of the disease. This can point out either problems of accessibility of end-of-life-care, and/or that the decision to start palliative care was made too late.
Data source	Belgian Cancer Registry (BCR), linked with IMA-AIM data
Technical definitions	It is currently not possible to identify all palliative patients in administrative databases or in registries. Therefore, the indicator has been restricted to patients diagnosed with cancer that have a poor prognosis (based on relative survival probability) and deceased during the study period. <u>Inclusion criteria</u> Incidence years: 2006-2020 Tumour selection based on the Pallcare project ¹ : combination of topography and morphology according to Eurocare-4 ²⁻³, and Eurocare-5 ⁴: see EOL-1 Patients deceased before July 1st, 2020 Age at diagnosis ≥18 years <u>Exclusion criteria</u> Patients with more than one invasive tumour (until 2020) Patients without a Belgian residence at time of diagnosis Patients without national social security number Patients for whom no IMA data of the year of death were available (=4.1%) <u>Maximum 3 years of follow-up</u> Analyses were limited to patients who died before January 1st of the third year following the year of incidence. For example: patients diagnosed in 2006 were included in case they died in 2006, 2007 or 2008; patients diagnosed in 2007 were included in case they died in 2007, 2008 or 2009, etc. These cohorts were defined to assure that for every diagnosis, a similar follow-up period could be taken into account and to avoid bias by varying length of the follow-up period. <u>Palliative care</u> Palliative care as identified in IMA-AIM data includes: patients receiving the lump sum for palliative care at the usual place of residence, patients reimbursed for visits of the general practitioner or nurse within a palliative setting, patients hospitalized in palliative units, or hospitalized patients reimbursed for visits of multidisciplinary palliative care teams (the latter only if it concerns



	visits from the palliative home care team; visits from palliative support teams from within the hospital cannot be defined in the IMA-AIM data)..
Limitation	The true proportion may be underestimated as a patient may receive palliative care without nomenclature codes being registered. The cause of death is unknown: it is assumed that patients died from their cancer, and hence could benefit from palliative care at the end of their life. Nevertheless, this is probably not 100% correct (patients dying from other causes). No information on terminally ill patients apart from the oncology setting.
International comparability	This is not an international indicator. Some results are available in national reports or in specific scientific articles.
Dimensions	End-of-life care; Accessibility
Related indicators	
Reviewers	Cindy De Gendt (BCR), Lien Van Walle (BCR)

5.2.2 Results

Analysis by the Belgian Cancer Registry shows that over the period 2008-2020 18.7% of the cancer patients who received palliative care services, died within one week after the start of palliative care (see Table 36). Since 2013 the indicator stays below 19%.

The BCR also performed a sub analysis, differentiating between acute versus chronic tumours and by specific tumour type (see Table 37). On average no large differences were found between the group of acute versus the group of chronic tumour types (18.7% versus 19.3% respectively). However, the proportion of patients who died within one week after the start of palliative care differed substantially according to the specific tumour types, ranging from 11.6% in patients with brain cancer to 32.2% in patients

with chronic myeloid leukaemia. Furthermore, the proportion was consistently higher in haematological tumours in comparison to other tumour types (27.3% in acute myeloid leukaemia, 27.0% in multiple myeloma, 20.0% in acute lymphatic leukaemia, 32.2% in chronic myeloid leukaemia).

Evolution over time (2008-2020) for acute tumours showed a slightly decreasing trend. For chronic tumours the numbers are too low to assess a possible trend (see Table 36).

Some differences were observed between the regions (see Table 38). A lower proportion of patients who died within one week after start of palliative care was noted in Flanders (16.7%) compared to Brussels (22.3%) and Wallonia (21.6%).



Table 36 –Cancer patients receiving palliative care who died within one week after start of palliative care - by year of death (2008-2020) (deaths in 2006, 2007 and 2021 excluded, maximum 3 years of follow-up)

	All Tumours			Acute Tumours			Chronic Tumours		
	Patients with palliative care	Died within one week		Patients with palliative care	Died within one week		Patients with palliative care	Died within one week	
	N	n	%	N	n	%	N	n	%
2008	4604	955	20.7	4098	837	20.4	506	118	23.3
2009	4538	886	19.5	4024	795	19.8	514	91	17.7
2010	4807	969	20.2	4320	868	20.1	487	101	20.7
2011	4982	944	18.9	4505	863	19.2	477	81	17.0
2012	5133	1000	19.5	4620	890	19.3	513	110	21.4
2013	5195	975	18.8	4677	888	19.0	518	87	16.8
2014	5449	957	17.6	4943	856	17.3	506	101	20.0
2015	5267	989	18.8	4741	890	18.8	526	99	18.8
2016	5252	975	18.6	4750	887	18.7	502	88	17.5
2017	5072	877	17.3	4596	788	17.1	476	89	18.7
2018	4934	890	18.0	4496	801	17.8	438	89	20.3
2019	5151	892	17.3	4631	786	17.0	520	106	20.4
2020	5478	1019	18.6	4978	927	18.6	500	92	18.4
Total	65862	12328	18.7	59379	11076	18.7	6483	1252	19.3

Source: BCR linked to IMA-AIM data



Table 37 – Cancer patients receiving palliative care who died within one week after start palliative care - by tumour type (all patients incidence years 2006-2020, maximum 3 years of follow-up)

	Patients with palliative care	Died within one week	
	N	n	%
Acute	65901	12341	18.7
• Oesophagus	3537	670	18.9
• Stomach	4997	963	19.3
• Liver, primary	3377	780	23.1
• Gallbladder and biliary Tract	1900	380	20.0
• Pancreas	10016	1863	18.6
• Lung, bronchus and trachea	34662	6601	19.0
• Pleura	1637	231	14.1
• Brain	4608	534	11.6
• Acute myeloid leukaemia	1167	319	27.3
Chronic	7117	1372	19.3
• Head and Neck	3095	574	18.6
• Small Intestine	470	100	21.3
• Nasal cavities and sinuses	274	46	16.8
• Ovary and uterine adnexa	2218	358	16.1
• Multiple Myeloma	823	222	27.0
• Acute lymphatic leukaemia	35	7	20.0
• Chronic myeloid leukaemia	202	65	32.2
Total	73018	13713	18.8

Source: BCR linked to IMA-AIM data



Table 38 –Cancer patients receiving palliative care who died within one week after start of palliative care - by region (year of death=2020, incidence years 2018-2020 included)

	All Tumours			Acute Tumours			Chronic Tumours		
	Patients with palliative care	Died within one week		Patients with palliative care	Died within one week		Patients with palliative care	Died within one week	
	N	n	%	N	n	%	N	n	%
Brussels	350	78	22.3	310	69	22.3	40	9	22.5
Flanders	3423	573	16.7	3117	522	16.7	306	51	16.7
Wallonia	1705	368	21.6	1551	336	21.7	154	32	20.8
Total	5478	1019	18.6	4978	927	18.6	500	92	18.4

Source: BCR linked to IMA-AIM data



Key points

- **The start of palliative care very close to the time of death is an indicator of the (in)appropriateness of timing of palliative care.**
- **In nearly one out of five patients with cancer who received palliative care, palliative care started in a very late phase (i.e. one week or less before death) (18.6% in 2020). The majority of patients received palliative care for more than one week.**
- **Substantial variation between different tumour types regarding start of palliative care in a very late phase was observed, with brain tumours (11.6%) and chronic myeloid leukaemia (32.2%) as the extremes. A generally higher percentage of start of palliative care very close to the time of death was observed in patients with haematological tumours.**
- **A lower proportion of patients who died very shortly after the start of palliative care was found in the Flanders (16.7%) compared to Brussels (22.3%) and Wallonia (21.6%).**

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5.3 Cancer patients who received chemotherapy in the last 14 days of life (EOL-3)

5.3.1 Documentation sheet

Description	Patients with cancer receiving chemotherapy in the last 14 days of life (% of cancer patients with poor prognosis who died)
Calculation	Numerator: number of patients receiving chemotherapy in the last 14 days of life Denominator: number of patients diagnosed with cancer with poor prognosis that died within the studied time period
Rationale	The main goal of palliative care is to improve - or at least maintain - quality of life in patients near their death. In this way burdensome curative treatments, such as active cancer treatment in case of oncological patients, are stopped and the main focus of therapy becomes alleviation of pain and other symptoms. This indicator measures the aggressiveness of care in the last days of life of cancer patients.
Data source	Belgian Cancer Registry (BCR), linked with IMA data
Technical definitions	It is currently not possible to identify all palliative patients in administrative databases or in registries. Therefore, the indicator has been restricted to patients diagnosed with cancer who have a poor prognosis (based on relative survival probability) and deceased during the study period. <u>Inclusion criteria</u> Incidence years: 2006-2020 Tumour selection based on the Pallcare project ¹ : combination of topography and morphology according to Eurocare-4 ²⁻³, and Eurocare-5 ⁴: see EOL-1 Patients deceased before July 1st, 2021 Age at diagnosis ≥18 years <u>Exclusion criteria</u> Patients with more than one invasive tumour (until 2020) Patients without a Belgian residence at time of diagnosis Patients without national social security number Patients for whom no IMA data of the year of death were available (=4.1%) <u>Maximum 3 years of follow-up</u> Analyses were limited to patients who died before January 1st of the third year following the year of incidence. For example: patients diagnosed in 2006 were included in case they died in 2006, 2007 or 2008; patients diagnosed in 2007 were included in case they died in 2007, 2008 or 2009, etc. These cohorts were defined to assure that for every diagnosis a similar follow-up period could be taken into account and to avoid bias by varying length of the follow-up period. <u>Chemotherapy</u> Drug (ATC) selection: ATC category L01, minus some products that are (predominantly) used in non-oncological settings (e.g. methotrexate (Ledertrexate), celecoxib (Celebrex), everolimus (Certican, Afinitor), Alemtuzumab (MabCampath)).



Limitation	The true proportion is probably higher than the presented results, as patients treated within clinical trials can receive chemotherapy provided by the sponsoring company and therefore it will not be detected within reimbursement (IMA-AIM) data. No information on aggressiveness of care in terminally ill patients not suffering from cancer. Very diverse agents (i.e. ATC L01 all together) are included in the analyses, with varying toxicity-profile and way of administration (orally versus IV).
International comparability	This is not an international indicator. Some results are available in national reports or in specific scientific articles.
Dimension	End-of-life care; Quality (appropriateness)
Related indicators	
Reviewers	Cindy De Gendt (BCR), Lien Van Walle (BCR)

5.3.2 Results

An average of 10.5% of the cancer patients who died in the period between 2008 and 2020, received chemotherapy in the last 14 days of their life (see Table 39). The proportion was slightly higher in patients with chronic tumour types compared to patients with acute tumour types (13.5% versus 10.1%). More variation is noted between the individual tumour types: the proportion of patients who received chemotherapy in the last 14 days of life ranged from 3.8% for brain cancer to 35.5% for acute lymphatic leukaemia and chronic myeloid leukaemia and 33.2% for acute myeloid leukaemia (see Table 40). Generally higher percentages are observed in patients with haematological tumours.

A slightly higher proportion of patients received chemotherapy just before death in Wallonia compared to Brussels and Flanders (12.3% vs 11.1% and 9.5%, respectively).



Table 39 –Patients who received chemotherapy in the last 14 days of life - by year of death (deaths in 2006, 2007 and 2021 excluded, maximum 3 years of follow-up)

	All Tumours			Acute Tumours			Chronic Tumours		
	Total	N with chemotherapy in the last 14 days of life		Total	N with chemotherapy in the last 14 days of life		Total	N with chemotherapy in the last 14 days of life	
	N	n	%	N	n	%	N	n	%
2008	9597	1048	10.9	8385	902	10.8	1212	146	12.0
2009	9455	1033	10.9	8243	876	10.6	1212	157	13.0
2010	9873	1167	11.8	8614	995	11.6	1259	172	13.7
2011	9950	1116	11.2	8770	961	11.0	1180	155	13.1
2012	10059	1118	11.1	8813	925	10.5	1246	193	15.5
2013	10120	1061	10.5	8906	872	9.8	1214	189	15.6
2014	10048	1005	10.0	8882	860	9.7	1166	145	12.4
2015	9876	913	9.2	8677	775	8.9	1199	138	11.5
2016	9773	834	8.5	8614	693	8.0	1159	141	12.2
2017	9472	956	10.1	8326	788	9.5	1146	168	14.7
2018	9409	1092	11.6	8299	915	11.0	1110	177	15.9
2019	9467	995	10.5	8335	849	10.2	1132	146	12.9
2020	9643	1021	10.6	8449	858	10.2	1194	163	13.7
Total	126742	13359	10.5	111313	11269	10.1	15429	2090	13.5

Source: BCR linked to IMA-AIM data

**Table 40 –Patients receiving chemotherapy in the last 14 days of life by tumour type (all patients 2006-2020, maximum 3 years of follow-up)**

	Total	n with chemotherapy	
	N	n	%
Acute	124900	12768	10.2
• Oesophagus	7435	589	7.9
• Stomach	9875	577	5.8
• Liver, primary	6657	374	5.6
• Gallbladder and biliary Tract	3567	175	4.9
• Pancreas	16271	1512	9.3
• Lung, bronchus and trachea	68069	7941	11.7
• Pleura	2523	116	4.6
• Brain	6826	262	3.8
• Acute myeloid leukaemia	3677	1222	33.2
Chronic	17141	2324	13.6
• Head and Neck	7238	835	11.5
• Small Intestine	1011	50	5.0
• Nasal cavities and sinuses	535	34	6.4
• Ovary and uterine adnexa	4269	495	11.6
• Multiple Myeloma	3056	544	17.8
• Acute lymphatic leukaemia	138	49	35.5
• Chronic myeloid leukaemia	894	317	35.5
Total	142041	15092	10.6

Source: BCR linked to IMA-AIM data

**Table 41 –Patients who received chemotherapy in the last 14 days of life - by region (year of death=2020, incidence years 2018-2020 included)**

	All Tumours			Acute Tumours			Chronic Tumours		
	Total	N with chemotherapy in the last 14 days of life		Total	N with chemotherapy in the last 14 days of life		Total	N with chemotherapy in the last 14 days of life	
	N	n	%	N	n	%	N	n	%
Brussels	721	80	11.1	623	74	11.9	98	6	6.1
Flanders	5537	525	9.5	4896	443	9	641	82	12.8
Wallonia	3385	416	12.3	2930	341	11.6	455	75	16.5
Total	9643	1021	10.6	8449	858	10.2	1194	163	13.7

Source: BCR linked to IMA-AIM data

Key points

- The administration of chemotherapy during the last days of life of patients dying from cancer is an indicator of the aggressiveness of care.
- Belgian data demonstrate that at least one out of ten cancer patients received chemotherapy in the last 14 days of life (average of 10.5% of the cancer patients who died in the period between 2008 and 2020).
- Substantial variation in the administration of chemotherapy in the last 14 days of life is observed between different tumour types, with generally higher percentages in patients with haematological tumour types in comparison to other tumour types.

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5.4 Death at usual place of residence (at home or in residential care) (EOL-4)

5.4.1 Documentation sheet

Description	Percentage of cancer patients dying at their usual place of residence (at home or in residential care) (% of cancer patients with poor prognosis who died)
Calculation	Numerator: number of patients who died at home or in residential care Denominator: number of patients diagnosed with cancer who died within the studied time period
Rationale	Studies show that most people prefer to die at home. ¹ In order to meet patients' preferences, palliative care services in Belgium are being oriented towards a more home-focused approach with maximum support for patients and relatives to stay at home, or in a home-replacing environment (e.g. a home for older people).
Data source	Belgian Cancer Registry (BCR), linked with IMA data
Technical definitions	It is currently not possible to identify all palliative patients in administrative databases or in registries. Therefore, the indicator has been restricted to patients diagnosed with cancer who have a poor prognosis (based on relative survival probability) and deceased during the study period. <u>Inclusion criteria</u> Incidence years: 2006-2020 Tumour selection based on the Pallcare project ²: combination of topography and morphology according to Eurocare-4 ³-⁴, and Eurocare-5 ⁵: see EOL-1 Patients deceased before July 1st, 2021 Age at diagnosis ≥18 years <u>Exclusion criteria</u> Patients with more than one invasive tumour (until 2020) Patients without a Belgian residence at time of diagnosis Patients without national social security number Patients for whom no IMA data of the year of death were available (=4.1%) <u>Maximum 3 years of follow-up</u> Analyses were limited to patients who died before January 1st of the third year following the year of incidence. For example: patients diagnosed in 2006 were included in case they died in 2006, 2007 or 2008; patients diagnosed in 2007 were included in case they died in 2007, 2008 or 2009, etc. These cohorts were defined to assure that for every diagnosis, a similar follow-up period could be taken into account and to avoid bias by varying length of follow-up period. <u>Place of death</u> Dying at home and in residential care: derived from the reimbursement of (pseudo)nomenclature codes.



- Dying in the hospital: derived from the hospitalisation information as obtained from the IMA-AIM HOSP database. Of note, this database aggregates detailed administrative reimbursement data on hospitalisation level through an internally validated algorithm.⁶ One-day hospitalisations were not taken into account as hospitalisations.

To determine the place where the patient died, the algorithm of the Pallcare project was used. The place of death was determined using the following priority:

- Date of death = end date/date of medical act¹
 - End date for hospitalisation equals the day of death
 - End date for residential care equals the day of death
 - Home nursing at day of death
- Date of death – 1 = end date/date of medical act
 - End date for residential care one day before day of death
 - Home nursing one day before day of death
 - End date for hospitalisation one day before death
- Date of death – 2 or 3 = end date/date medical act
 - End date for residential care two or three days before death
 - Home nursing two or three days before death
- Home nursing during last week before death

Limitation	There is no data on end-of-life care for terminally ill patients without the diagnosis of cancer.
International comparability	This is not an internationally reported indicator. Some results are available in national reports or in specific scientific articles.
Dimensions	End-of-life care; Quality (patient centeredness); Quality (Effectiveness)
Reviewers	Cindy De Gendt (BCR), Lien Van Walle (BCR)

¹ End dates of hospital or residential care and home nursing acts until a week after death (due to administrative errors) are considered as on the date of death.



5.4.2 Results

Over the period 2008-2020 the majority of cancer patients in the analysis died in the hospital (63.4%), 23.0% died at home and 6.0% died in residential care (see Table 42). Over the period 2008-2019, the proportion of cancer patients who died at home was more or less stable. In 2020 however there was an increase to 28.6% (from 22.6% in 2019), likely linked to the COVID-19 pandemic. Furthermore, from 2019 onwards it seems that data on deaths in residential care setting are not complete; we notice both a decrease in deaths in residential care and an increase in deaths in undefined place since that year.

Although 2020 is an atypical year, also in that year a continuation of some trends can be observed. First, the proportion of patients who died at home was lower in patients with chronic tumour types (19.4%) compared to acute tumour types (29.9%) (see Figure 79). Second, analysis of place of death per region showed a discrepancy between Brussels and the two other regions: in Brussels, fewer people died at home (19.1% vs 30.8% in Flanders and 27.1% in Wallonia) and more people were admitted to a hospital at time of death (66.0% vs 54.7% and 57.8% respectively) (see Figure 80).

Remarkably, in the year 2020 nearly no deaths occurred in residential care in Flanders. For 14.4% of deaths however the place of death is undefined (in Flanders).

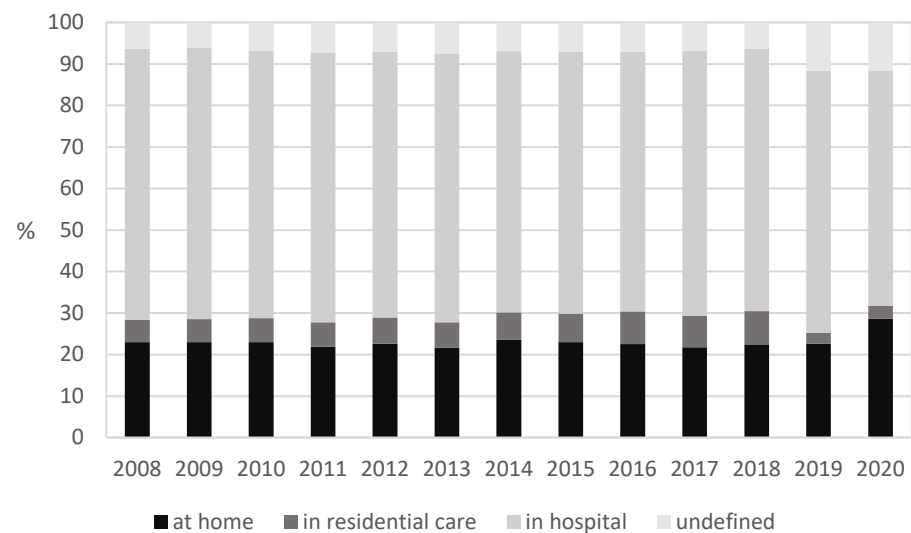
Table 42 – Place of death in cancer patients (2008-2020) by year of death, all tumours (deaths in 2006, 2007 and 2021 excluded, maximum 3 years of follow-up)

	Total	Died at home		Died in residential care		Died in hospital		Place of death undefined	
	N	n	%	n	%	n	%	n	%
2008	9597	2204	23.0	517	5.4	6270	65.3	606	6.3
2009	9455	2175	23.0	522	5.5	6190	65.5	568	6.0
2010	9873	2271	23.0	573	5.8	6351	64.3	678	6.9
2011	9950	2178	21.9	587	5.9	6465	65.0	720	7.2
2012	10059	2271	22.6	638	6.3	6433	64.0	717	7.1
2013	10120	2197	21.7	615	6.1	6554	64.8	754	7.5
2014	10048	2362	23.5	665	6.6	6325	63.0	696	6.9
2015	9876	2273	23.0	672	6.8	6236	63.1	695	7.0
2016	9773	2204	22.6	763	7.8	6112	62.5	694	7.1
2017	9472	2062	21.8	718	7.6	6050	63.9	642	6.8
2018	9409	2110	22.4	757	8.1	5942	63.2	600	6.4
2019	9467	2142	22.6	247	2.6	5975	63.1	1103	11.7
2020	9643	2762	28.6	298	3.1	5464	56.7	1119	11.6
Total	126742	29211	23.0	7572	6.0	80367	63.4	9592	7.6

Source: BCR linked to IMA-AIM data



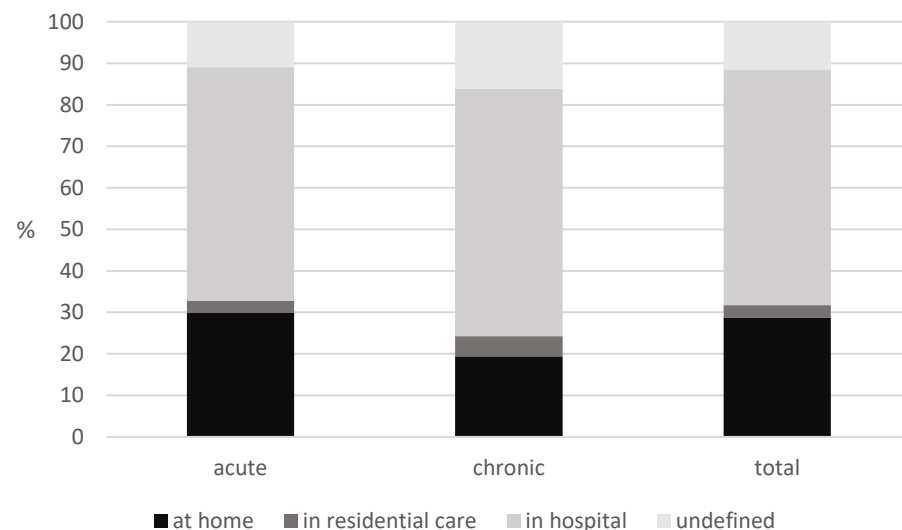
Figure 79 – Place of death in cancer patients (2008-2020) by year of death, all tumours (deaths in 2006, 2007 and 2021 excluded, maximum 3 years of follow-up)



Source: BCR linked to IMA-AIM data



Figure 80 – Place of death of patients diagnosed with an acute versus chronic tumour type (year of death=2020, incidence years 2018-2020 included)

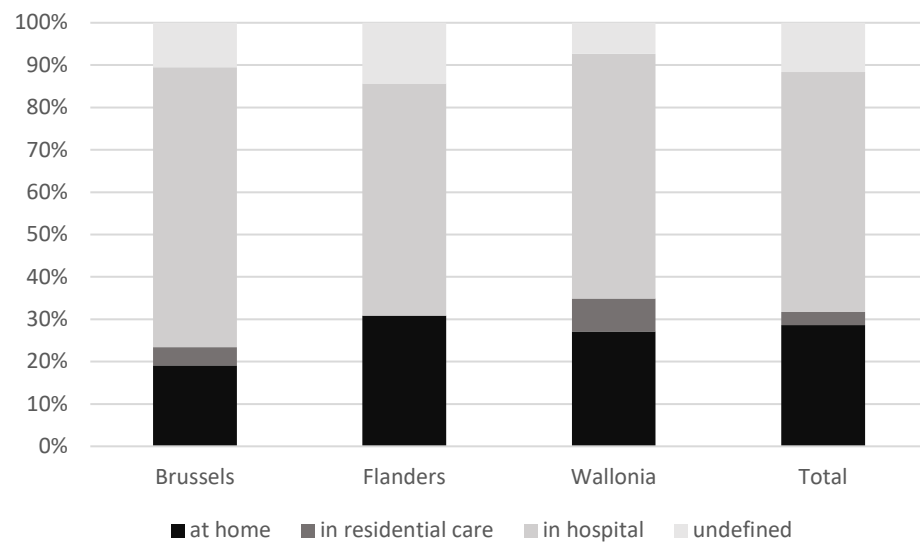


Source: BCR linked to IMA-AIM data

Table 43 – End of life: Place of death, by Region, all tumours (year of death=2020, incidence years 2018-2020 included)

	Total	Died at home		Died in residential care		Died in hospital		Place of death undefined	
	N	N	%	N	%	N	%	N	%
Brussels	721	138	19.1	31	4.3	476	66.0	76	10.5
Flanders	5537	1707	30.8	3	0.1	3031	54.7	796	14.4
Wallonia	3385	917	27.1	264	7.8	1957	57.8	247	7.3
Total	9643	2762	28.6	298	3.1	5464	56.7	1119	11.6

Source: BCR linked to IMA-AIM data

**Figure 81 – Place of death, by region, all tumours (year of death=2020, incidence years 2018-2020 included)**

Source: BCR linked to IMA-AIM data



Key points

- **The majority of cancer patients, about two out of every three, dies in the hospital. Around 23% of the patients die at home. Around 7% of the patients die in residential care.**
- **Over the period 2008-2019, there is a more or less stable trend in deaths at home, but in 2020 there is an increase from 23 to 29% of deaths at home. This increase is likely a consequence of the COVID-19 pandemic.**
- **In 2020, in patients with chronic tumour types the proportion of patients who died at home was lower compared to patients with acute tumour types (19.4% versus 29.9%).**
- **There is some regional variation in the place of death. In Flanders generally more people die at home (30.8% in 2020) compared to Wallonia (27.1%) and Brussels (19.1%).**

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