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

1.1.1 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** Numerator: Total DDDs of antidepressants delivered per day (=total number of DDD on the year divided by 365 days); Denominator: Number of insured population. **2. Percentage of adults with antidepressants prescribed and delivered** Numerator: Number of persons (≥18 years) with at least one delivered prescription of antidepressant; Denominator: Number of insured persons (≥18 years). **3. Percentage of very short antidepressant treatment episodes for adult patients (18 years or older)** Numerator: 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. Denominator: 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 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)

1.1.2   Results

1.1.2.1   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

Figure 1).

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 2 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]

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

Table 1 – 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

Region	West Flanders	97.0
	Brussels	65.7
	Flanders	82.4

	Wallonia	100.1
	Belgium	86.5

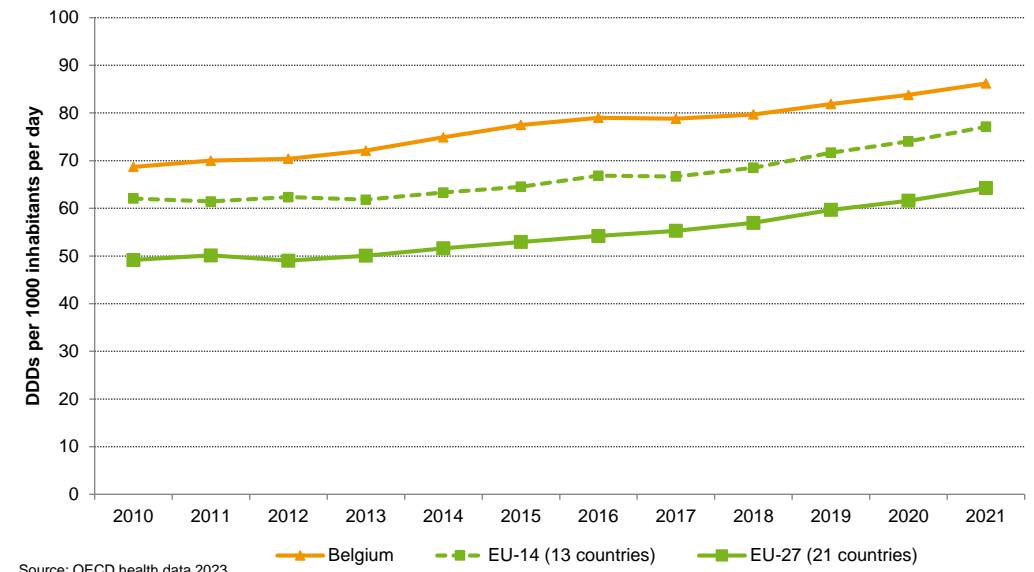*Source: Pharmanet – Farmanet; calculation: INAMI – RIZIV*

Figure 1 – Defined Daily Doses (DDDs) of antidepressants per 1000 inhabitants per day, by patient region (2010-2021) and district (2021)
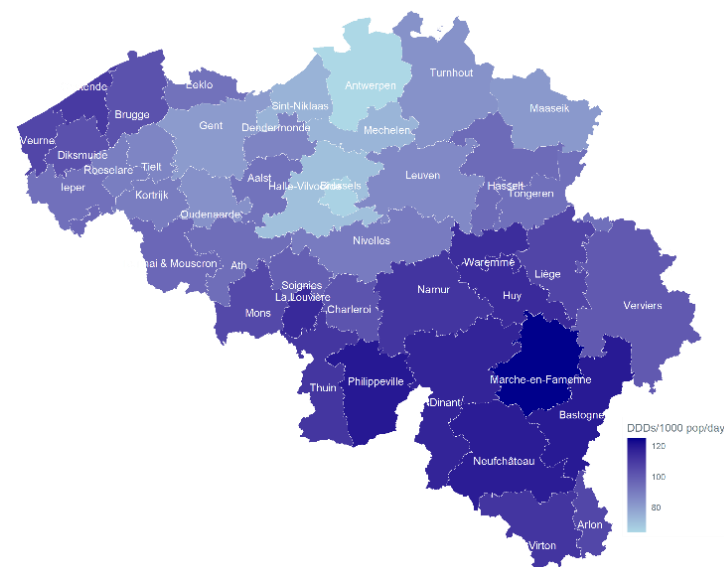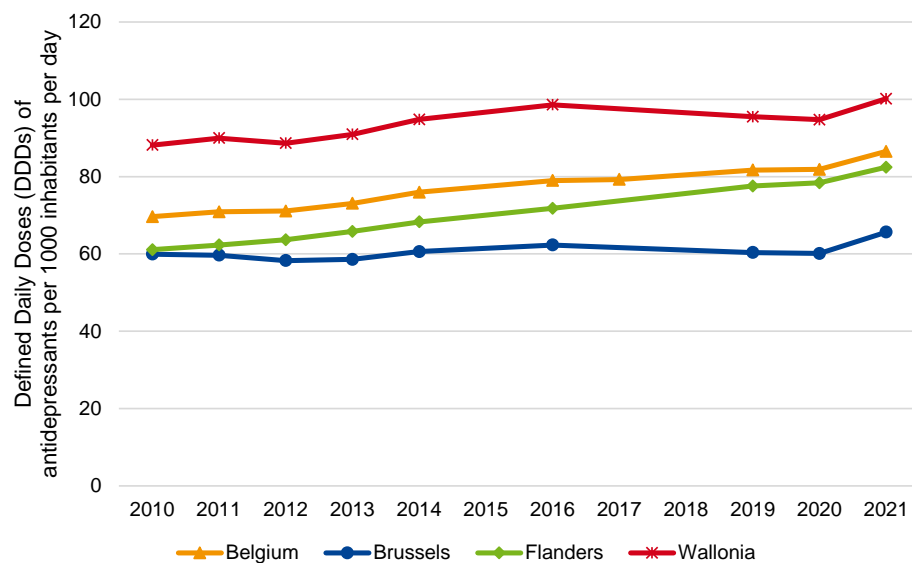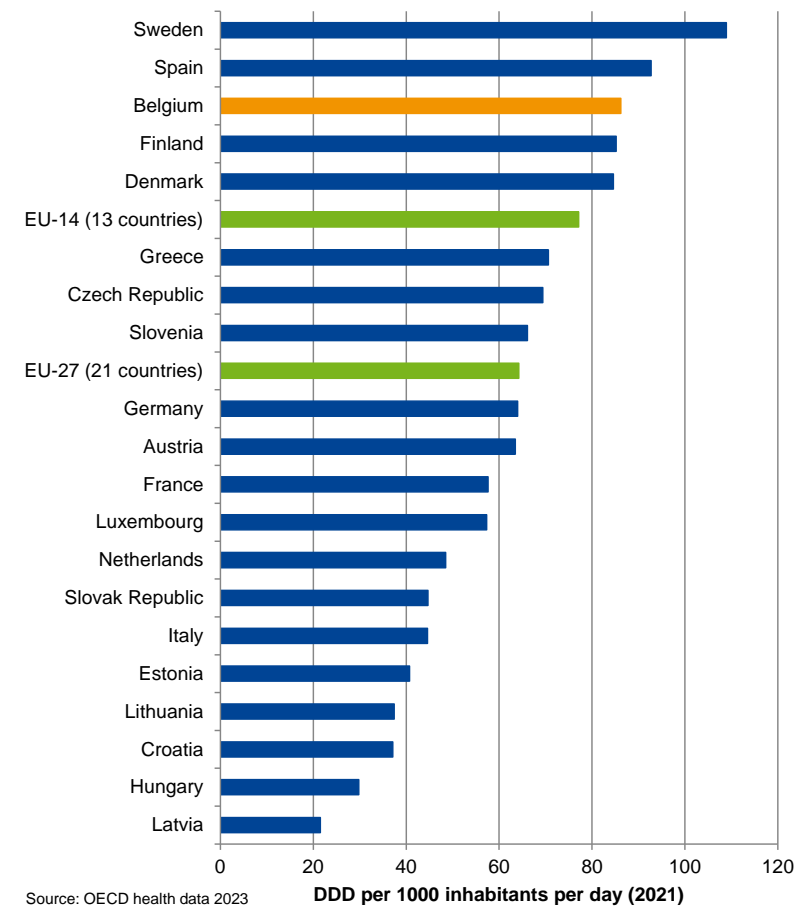

Source: Pharmanet – Farmanet ; calculation: INAMI – RIZIV

Figure 2 – DDDs of antidepressants: international comparison (2010- 2021)

Source: OECD health data 2023

Source: OECD health data 2023

Source: OECD Health statistics 2023

1.1.2.2 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 2, 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 beneficiated 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 patients[11].

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 2 – 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 3 – Percentage of adults (≥18 years) with antidepressants (2010-2021)
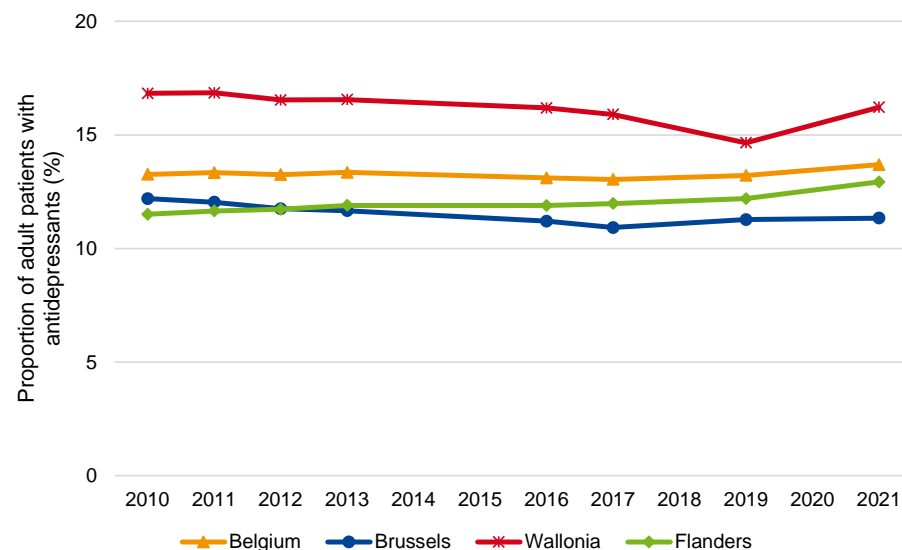
Source EPS (IMA – AIM), calculation: INAMI – RIZIV

1.1.2.3 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 4). 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 3). 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 3 – 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 4 – Short-term antidepressant use per region: treatment < 3 months (left-hand side) and treatment < 6 months (right-hand side) in 2011-2020
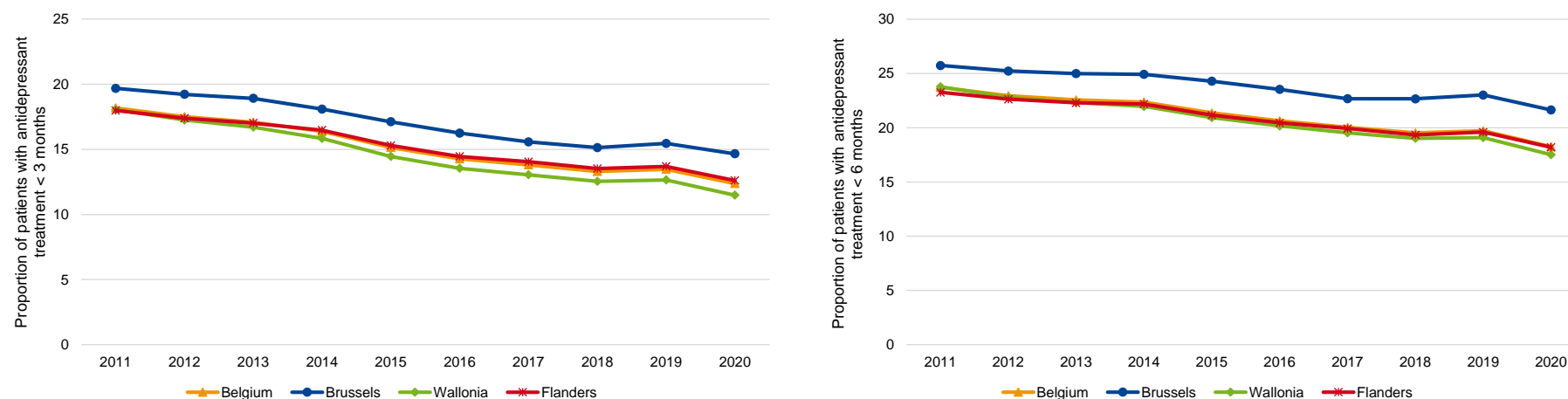
Source: IMA – AIM

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.**

References

1. OECD. Health at a Glance 2021. 2021.

2. Superior Health Council. De impact van psychofarmaca op de gezondheid met een bijzondere aandacht voor ouderen. Brussel: Hoge Gezondheidsraad; 2011. nr. 8571

3. Casteels M, Danckaerts M, De Lepeleire J, Demyttenaere K, Laekman G, Luyten P, et al. Het toenemend gebruik van psychofarmaca: visietekst werkgroep metaforum Leuven. Leuven: KULeuven; 2010. Metaforum

4. Karyotaki E, Smit Y, Cuijpers P, Debauche M, De Keyser T, Habraken H, et al. The long-term efficacy of psychotherapy, alone or in combination with antidepressants, in the treatment of adult major depression Good Clinical Practice (GCP). Brussels: Belgian Health Care Knowledge Centre (KCE); 2014 02/10/2014. KCE Reports 230 Available from:

https://kce.fgov.be/sites/default/files/page_documents/KCE_230_Depression_Report.pdf

5. Cleemput I, Devos C, Devriese S, Farfan-Portet M-I, Van de Voorde C. Principles and criteria for the level of patient cost sharing: Reflections on value-based insurance. Health Services Research (HSR). Brussels: Belgian Health Care Knowledge Centre (KCE); 2012. KCE Reports 186 Available from: https://kce.fgov.be/publication/report/principles-and-criteria-for-the-level-of-patient-cost-sharing-reflections-on-valu

6. Pazzagli L, Reutfors J, Lucian E, Zerial G, Perulli A, Castelpietra G. Increased antidepressant use during the COVID-19 pandemic: Findings from the Friuli Venezia Giulia region, Italy, 2015-2020. Psychiatry Res. 2022;315:114704.

7. Tiger M, Wesselhoeft R, Karlsson P, Handal M, Bliddal M, Cesta CE, et al. Utilization of antidepressants, anxiolytics, and hypnotics during the COVID-19 pandemic in Scandinavia. Journal of Affective Disorders. 2023;323:292-8.

8. Rabeea SA, Merchant HA, Khan MU, Kow CS, Hasan SS. Surging trends in prescriptions and costs of antidepressants in England amid COVID-19. Daru. 2021;29(1):217-21.

9. Devos C, Cordon A, Lefèvre M, Obyn C, Renard F, Bouckaert N, et al. Performance of the Belgian health system – Report 2019. Health Services Research (HSR). Brussels: Belgian Health Care Knowledge Centre (KCE); 2019 04/2019. KCE Reports 313 Available from: https://kce.fgov.be/sites/default/files/atoms/files/KCE_313C_Performance_Belgian_health_system_Report.pdf

10. OECD. OECD Health Statistics 2018 [Web page]. [updated 8 November 2018; cited 22 November 2018]. Available from: http://www.oecd.org/els/health-systems/health-data.htm

11. Berete F, Charafeddine R, Demarest S, Van der Heyden J. hisLINK - Mediating effect of health literacy on the relationship between socioeconomic status and health(-related) outcomes. Brussels, Belgium: Sciensano; 2023. D/2023.14.440/48 Available from: https://www.sciensano.be/sites/default/files/hislink_-_preliminary_report_mediation_analysis_final.pdf