



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

1.1.1 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 *



R05DA04
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)

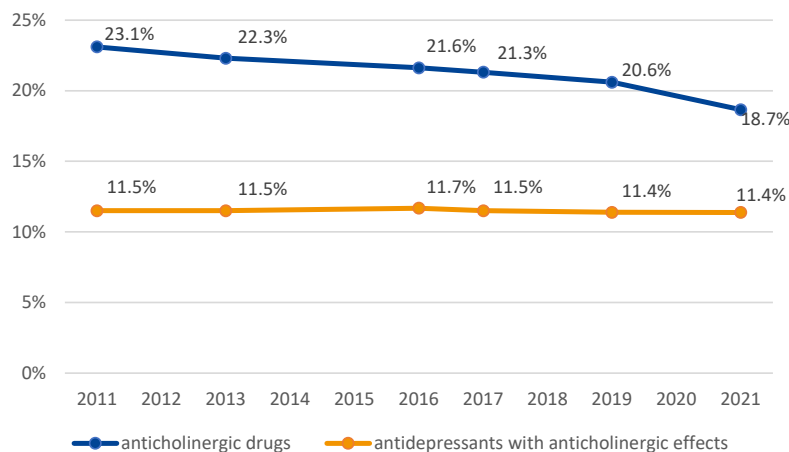


1.1.2 Results

Belgium

In 2021, 18.7% of the population aged 65 years and over was delivered >80 DDD yearly of anticholinergic drugs. Figure 1 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 1 – 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)

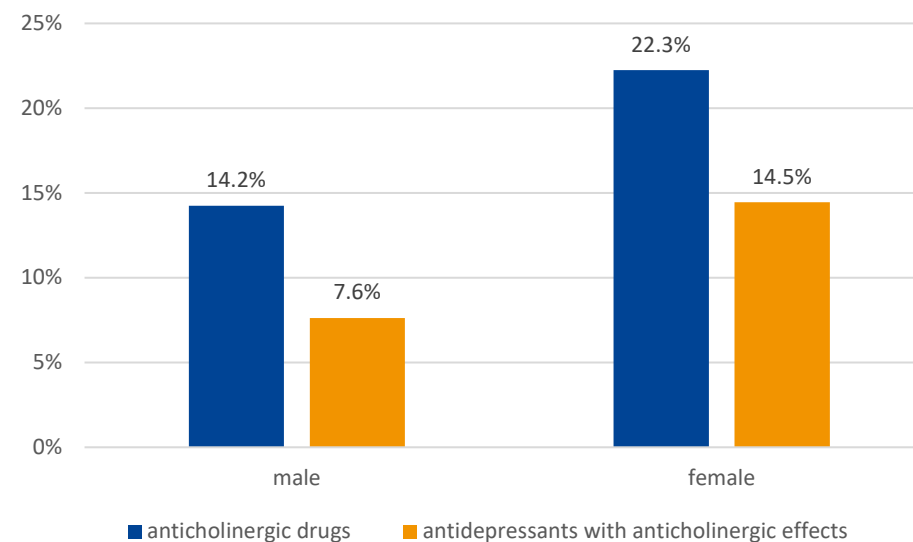
Analysis by demographic characteristics

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 2).

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 3).

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 4).

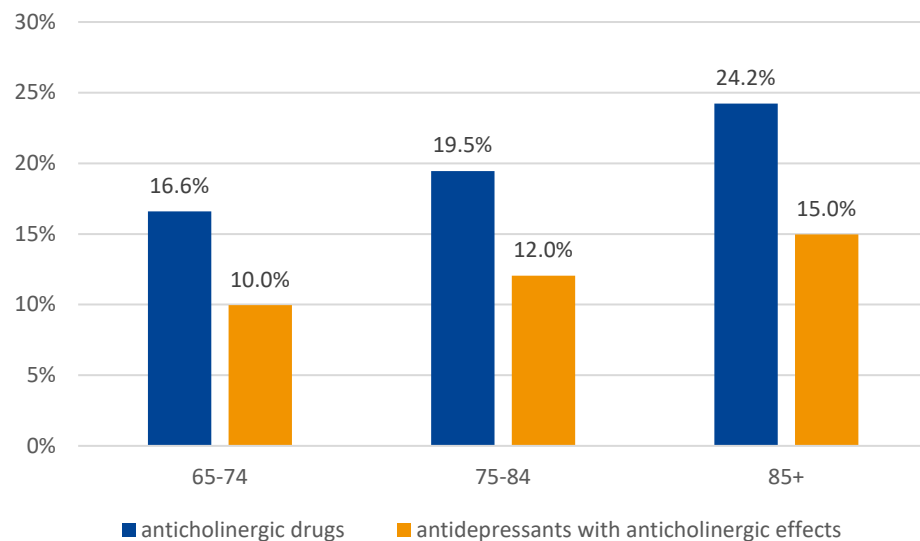
Figure 2 – Percentage of the Belgian population aged ≥65 years using anticholinergic drugs or antidepressant drugs with anticholinergic effects (>80 DDD), by sex (2021)



Source: RIZIV-INAMI (data EPS)

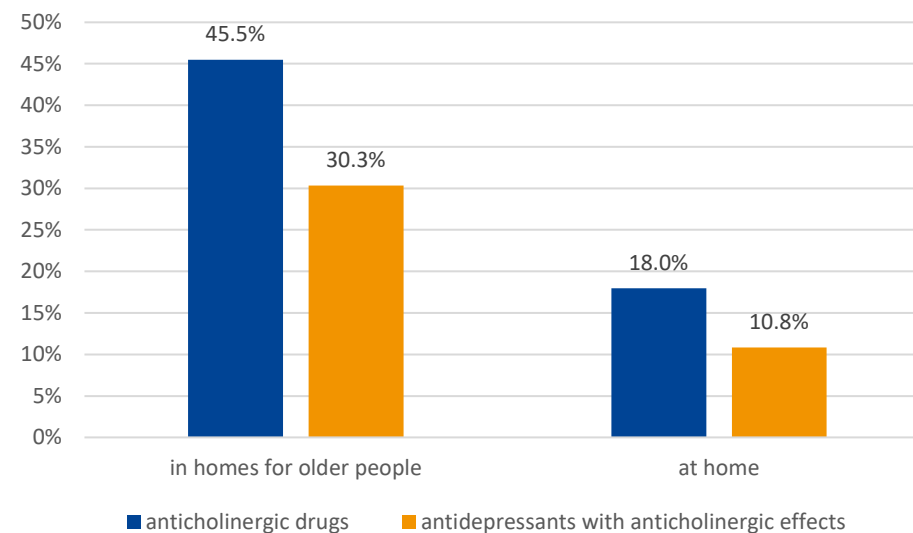


Figure 3 – Percentage of the Belgian population aged ≥65 years using anticholinergic drugs or antidepressant drugs with anticholinergic effects (>80 DDD), by age group (2021)



Source: RIZIV-INAMI (data EPS)

Figure 4 – 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)



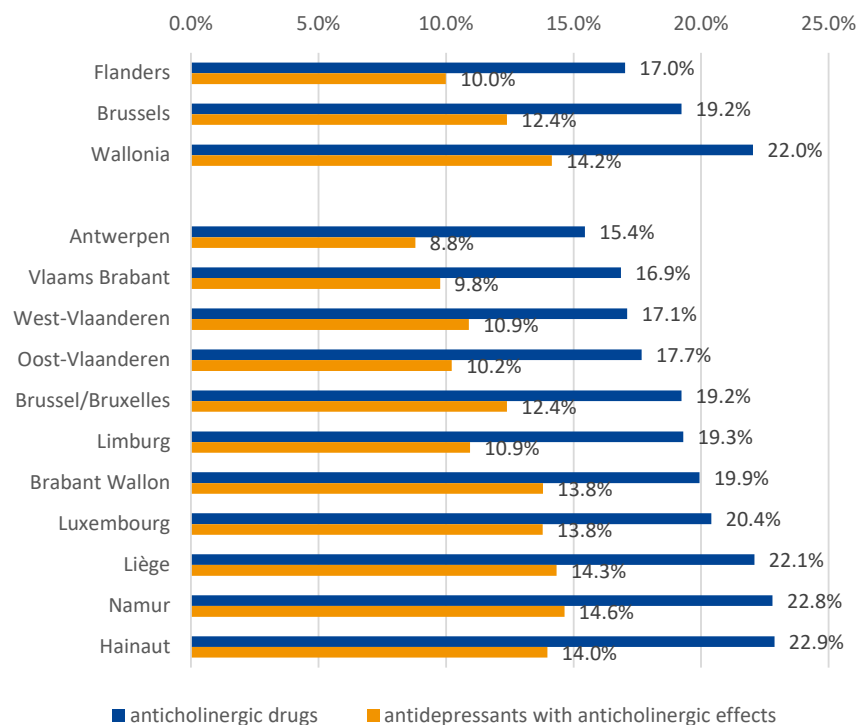
Source: RIZIV-INAMI (data EPS)

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 5).



Figure 5 – 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

1. Farmaka. Polyfarmacie bij ouderen juli 2013 - kernboodschappen [Web page].2013. Available from: <https://www.farmaka.be/frontend/files/publications/files/polyfarmacie-bij-ouderen-deel-1-lb.pdf>
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.