



12.9. Prescription of anticholinergics in the elderly (ELD-10)

12.9.1. Documentation sheet

Description	Percentage of persons aged ≥ 65 years prescribed anticholinergic drugs or antidepressant drugs with anticholinergic effects
Calculation	Percentage of elderly (≥ 65 years) with anticholinergics prescribed Numerator 1: Number of elderly (≥ 65 years) prescribed anticholinergic drugs (> 80 DDD) Numerator 2: Number of elderly (≥ 65 years) prescribed antidepressant drugs with anticholinergic effects (> 80 DDD) Denominator: Number of elderly ≥ 65 years
Rationale	Because of their side effects especially in older patients, anticholinergic drugs should be avoided as much as possible in the elderly. ¹ 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. 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	EPS
Technical definitions	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

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

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

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

Appropriateness / safety

Related performance indicators

Keywords

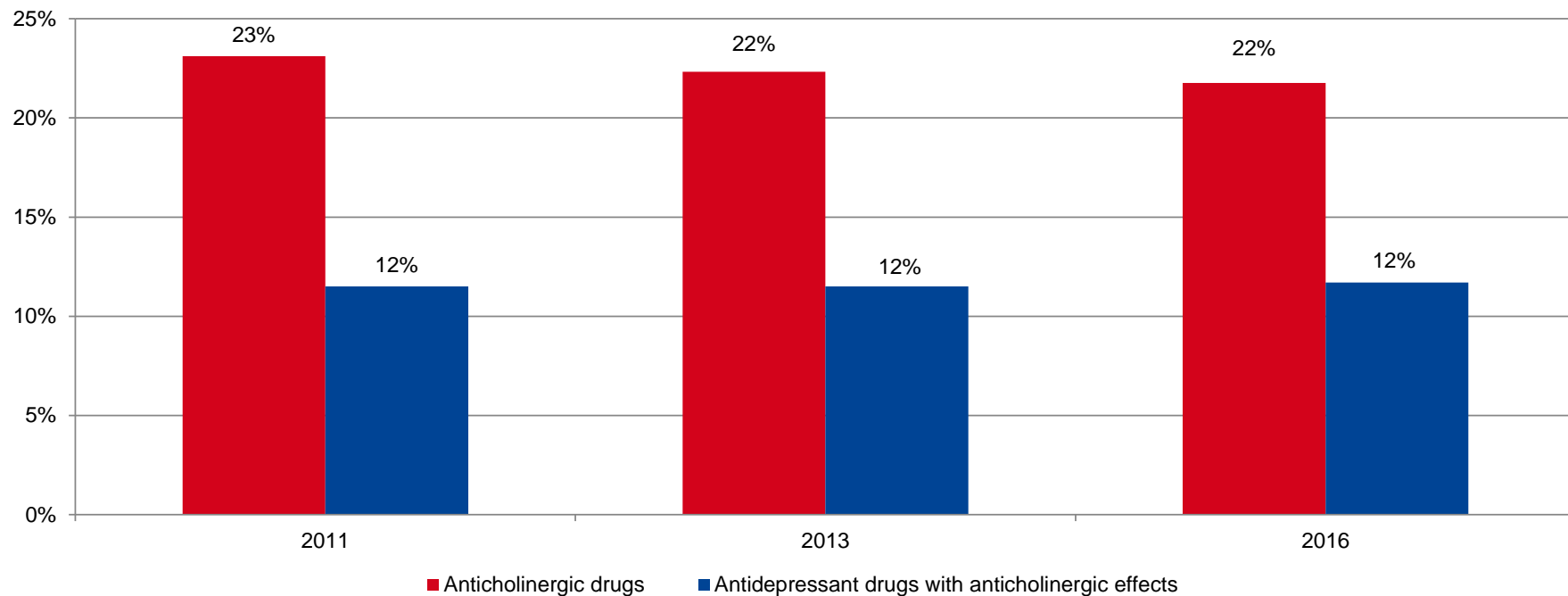


12.9.2. Results

In 2016, 22% of the population over 65 years was prescribed >80 DDD of anticholinergic drugs, amongst which 12% were prescribed an antidepressant drug with anticholinergic effects. Figure 182 illustrates that this indicator has not shown any improvement over the years 2011-2013-2016. Women are more likely to be prescribed these drugs than men: 25% of women over 65 years are prescribed anticholinergic drugs, versus 17%

of men (see Figure 183). Prescriptions also increase with age, 29% of the population over 85 years was prescribed anticholinergic drugs, compared to 19% of the population aged 65-74 years (see Figure 184). There is also some regional variation: prescriptions are highest in Wallonia (26% of population over 65 years), followed by Brussels-Capital (24%) and Flanders (20%) (see Figure 185). Finally, the problem appears most acute in institutions, where 52% of residents over 75+ are prescribed anticholinergic drugs, compared to 22% in persons 75+ living at home (Figure 186).

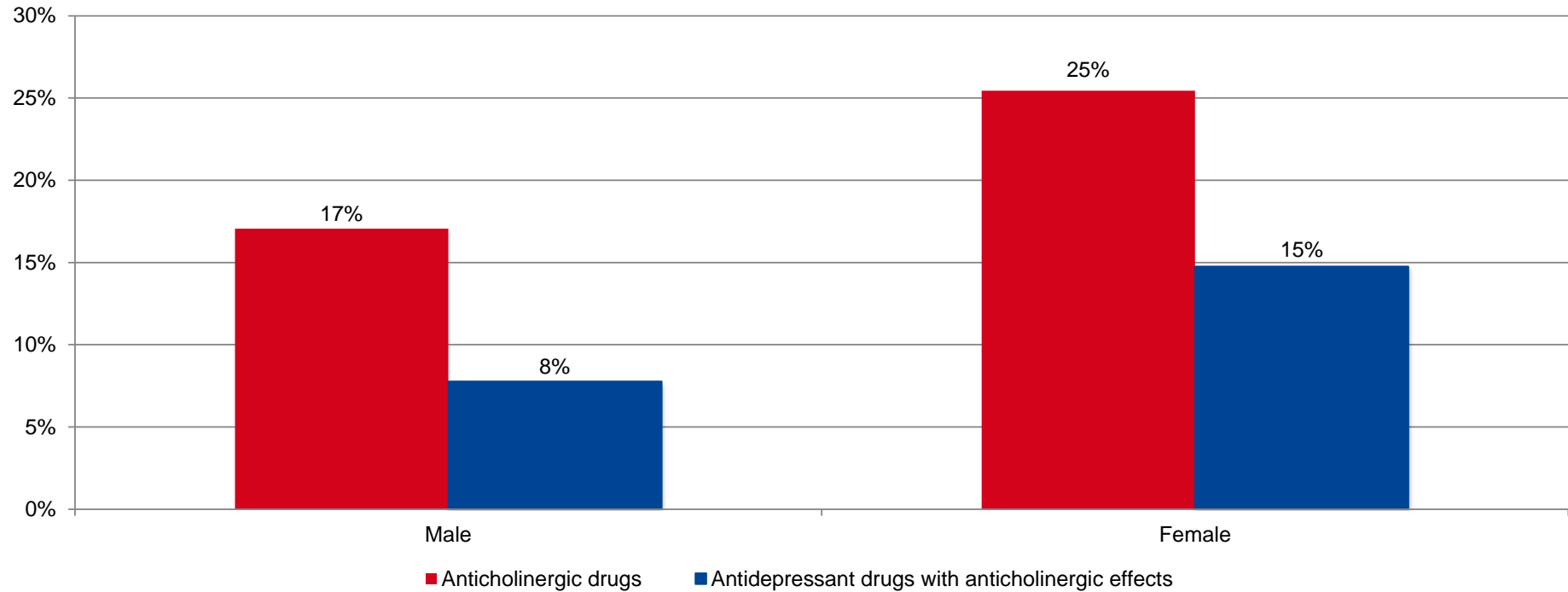
Figure 182 – Percentage of the Belgian population aged ≥65 years prescribed anticholinergic drugs or antidepressant drugs with anticholinergic effects (>80 DDD): evolution 2011-2013-2016



Source: RIZIV – INAMI (data EPS)



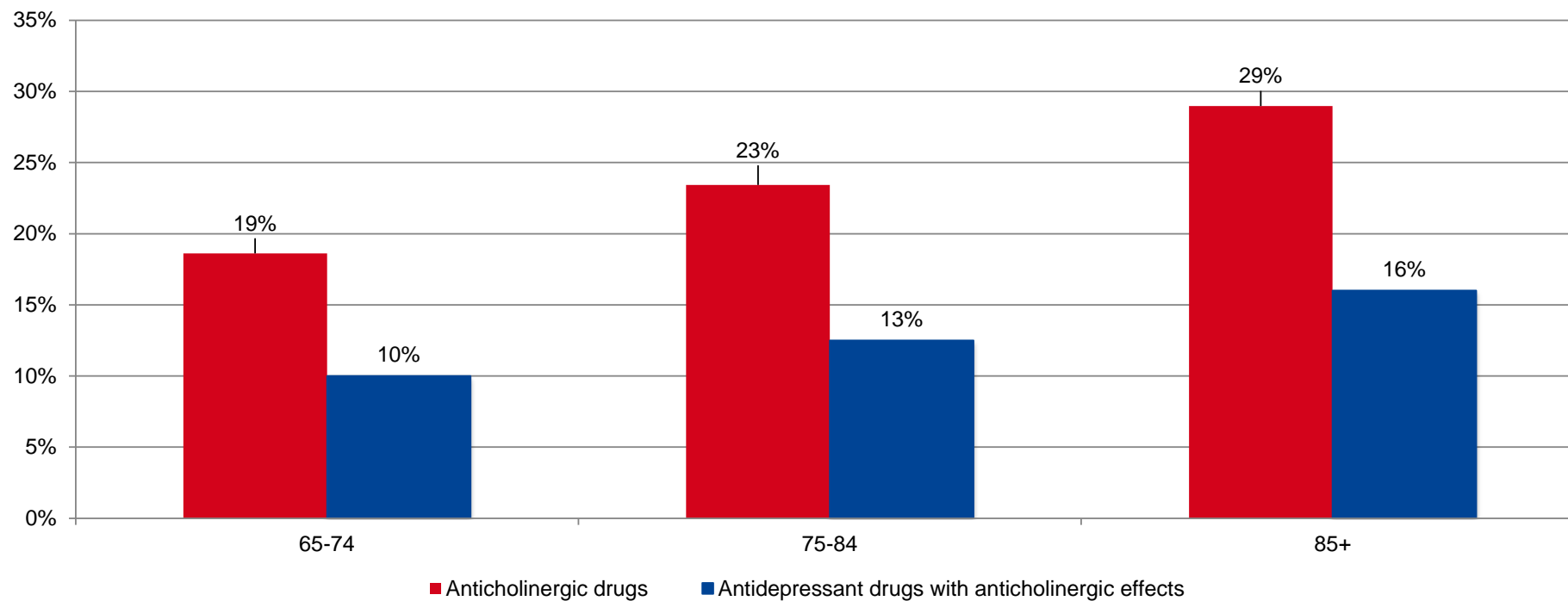
Figure 183 – Percentage of the Belgian population aged ≥ 65 years prescribed anticholinergic drugs or antidepressant drugs with anticholinergic effects (>80 DDD), by gender (2016)



Source: RIZIV – INAMI (data EPS)



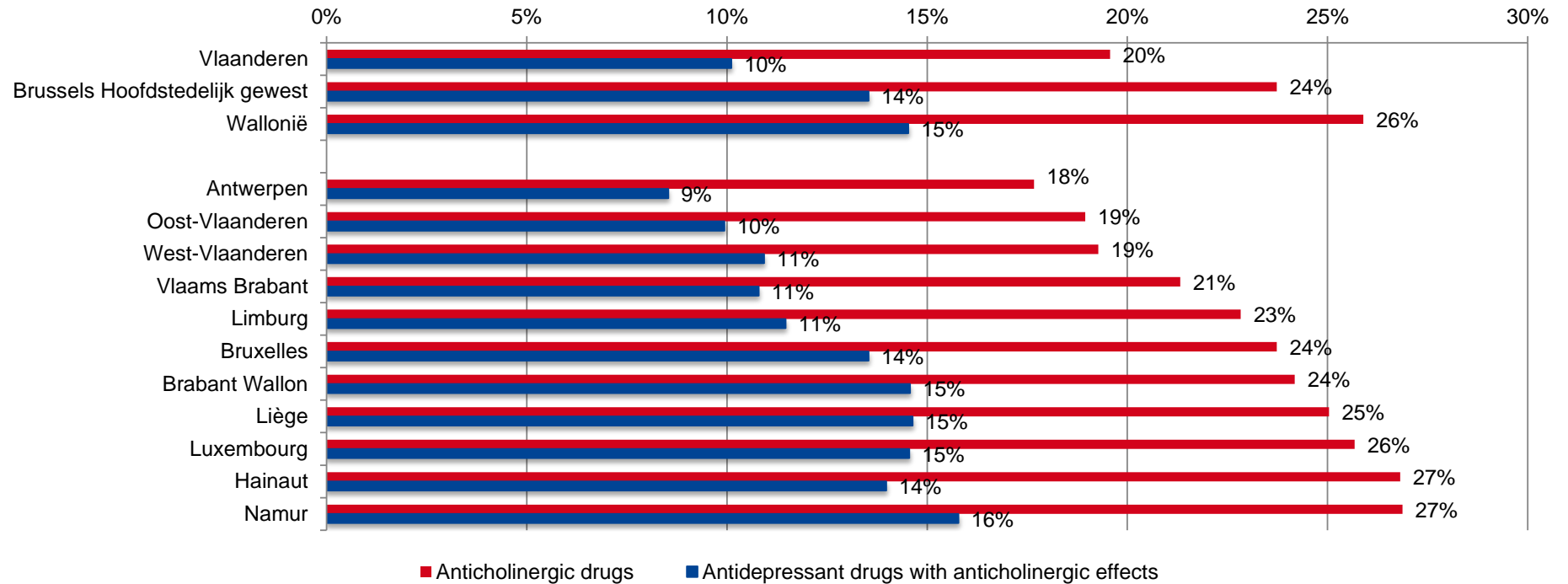
Figure 184 – Percentage of the Belgian population aged ≥ 65 years prescribed anticholinergic drugs or antidepressant drugs with anticholinergic effects (>80 DDD), by age group (2016)



Source: RIZIV – INAMI (data EPS)



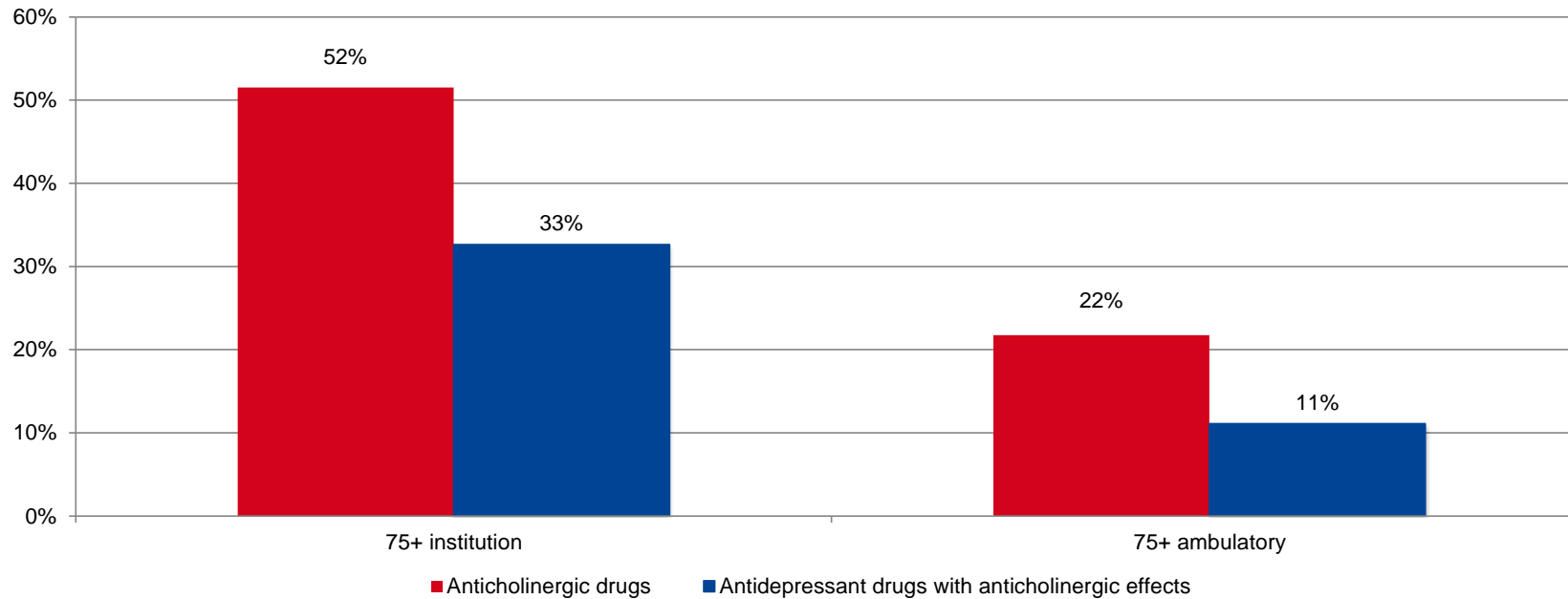
Figure 185 – Percentage of the Belgian population aged ≥ 65 years prescribed anticholinergic drugs or antidepressant drugs with anticholinergic effects (>80 DDD), by region and province (2016)



Source: RIZIV – INAMI (data EPS)



Figure 186 – Percentage of the Belgian population aged ≥75 years prescribed anticholinergic drugs or antidepressant drugs with anticholinergic effects (>80 DDD), institution versus ambulatory (2016)



Source: RIZIV – INAMI (data EPS)

- Because of their side effects especially in older patients, anticholinergic drugs should be avoided as much as possible in the elderly.
- In 2016, 22% of the population over 65 years was prescribed >80 DDD of anticholinergic drugs, amongst which 12% were prescribed an antidepressant drug with anticholinergic effects. Women are more likely to be prescribed these drugs than men. The problem appears most acute in institutions, where 52% of residents over 75+ are prescribed anticholinergic drugs, compared to 22% in persons 75+ living at home. There is also considerable regional variation.

- **This indicator has not shown any improvement since 2011.**

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, Azermay 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.