

1.1. Appropriate follow-up of people living with diabetes (QA-1, QA-2)

1.1.1. Documentation sheet

Description	Quality of people living with diabetes' follow-up based on different criteria
Calculation	<p>Numerator: Number of people living with diabetes identified through their drugs prescription who received the five following tests in the past 15 months:</p> <ul style="list-style-type: none">• at least two records of HbA1c• at least one record of lipid profile• at least one record of microalbuminuria• at least one record of serum creatinine• at least a consultation by an ophthalmologist <p>Denominator: number of people living with any type of diabetes identified through their drugs prescription.</p>
Rationale	<p>Diabetes is a chronic condition that occurs when the body is unable to regulate excessive glucose levels. If left undiagnosed or poorly controlled, it can result in serious complications, including blindness, kidney failure and lower limb amputation. Diabetes increases the risks of cardiovascular diseases.¹ In Belgium, diabetes prevalence is increasing over time, with 6.8% of the Belgian population having a known diabetes diagnosis in 2021. Because according to Sciensano more than one in three people with diabetes do not know they have the disease, the true prevalence of diabetes can therefore be estimated to around 10%.²</p> <p>All people living with type 1 diabetes are on insulin while most people living with type 2 diabetes do not receive insulin, but they may be on a treatment which may or may not include insulin; overall 5-10% of all people living with diabetes are suffering from type 1 diabetes. The majority of people living with type 2 diabetes do not receive insulin.</p> <p>According to the RIZIV – INAMI 2019 feedback on GPs practice, for people living with diabetes, it is recommended to measure “at least twice a year the level of glycated haemoglobin (HbA1c), every 3 months fasting glycaemia, and once a year the microalbuminuria and the lipid profile”.¹ It is also recommended that an ophthalmologist performs a dilated fundus examination once a year to detect ocular complications at an early stage. These recommendations were then reviewed with experts to create an indicator permanently available in the Atlas of the IMA-AIM. After this review, the glycaemia measurement was removed and serum creatinine measurement was added (as also recommended in the 2012 RIZIV-INAMI Performance report of GP practice)².</p>
Data source	AIM – IMA
Technical definitions	<p>Numerator:</p> <ul style="list-style-type: none">• Test 1 HbA1c: billing code 540750-540761, 571830-571841 (measure of glycated haemoglobin in haemolysate) at least twice over the 15 months period;

Test 2 Lipid profile: total cholesterol (billing codes: 540271-540282) AND HDL (billing codes: 540293-540304) AND triglycerides (billing codes: 541376-541380); OR LDL (billing codes: 542231-542242) at least once over the 15-months period;

- **Test 3 Albumin measurement:** billing codes to check microalbuminuria (543712-543723, 433554-433565) or total protein measurement (125532-125543) to check proteinuria, at least once over the 15 months period;
- **Test 4 Serum creatinine:** billing codes 540330-540341 at least once over the 15 months period;
- **Test 5 (ophthalmology):** ophthalmologist consultation (all billing codes of the article 14h OR (billing codes: 102012, 102535 and specialist qualification code: 037, 370, 371, 374, 378 or 397) at least once over the 15 months period;

Denominator: People living with diabetes selected on Pharmanet: class ATC A10 drugs prescription.

Two distinct subgroups are considered :

- **Adults living with diabetes under insulin (ATC=A10A):** people aged ≥ 18 years and A10A outpatient prescription >37.5 DDDs (N.B.: for insulin: 1 DDD = 40 IU^a).

Adults living with diabetes receiving glucose-lowering drugs other than insulin (ATC=A10B) and almost no insulin (ATC=A10A): people aged ≥ 18 years and A10B outpatient prescription ≥ 270 DDDs per year and $0 \leq$ A10A outpatient prescription < 37.5 DDDs per year. This group includes all oral antidiabetics but also incretin mimetics (GLP1-agonists, code A10BJ) which are a non-insulin injectable solutions.

International comparability

Four of the included tests (not creatinine) were selected as indicators in the early phases of the OECD quality indicators project³ but have been abandoned in the recent phases because of the poor availability of data in the majority of countries.⁴ Hence, there is no international comparison available for this composite indicator.

Target: no target has been set for this composite indicator but it should be noted that in 2021, a report of the World Health Organization has proposed some targets to reduce the global burden of diabetes mellitus by 2030, including global targets of 80% on the proportion of persons with glycaemic control (HbA1c $< 8\%$) and blood pressure control (BP $< 140/90$) among diagnosed people.⁵

Limitations

People living with diabetes controlled with diet only are not identified. Moreover, for people receiving glucose-lowering drugs other than insulin, it is possible that some of them take e.g. metformin to lose weight instead of stabilising a diabetes.

It should also be noted that the selection of these tests was based on the 2019 RIZIV-INAMI feedback to the GPs concerning the quality of follow-up of patients with diabetes¹, then reviewed by experts to be incorporate in the AIM – IMA atlas (see also the section on “rationale”). According to the 2018 guidelines of the American Diabetes Associations,⁶ for diabetes type 1 people (expected in the “under insulin” subgroup), microalbuminuria and serum creatinine are nevertheless only recommended for diabetes duration over 5 years.^b Additionally, according to these

^a https://www.whooc.no/atc_ddd_index/?code=A10AD01 N.B.: Because some patients have a much lower daily dose than 40 UI, those who started taking insulin at the end of a year might be excluded.

^b «At least once a year, assess urinary albumin (e.g., spot UACR) and eGFR in people with type 1 diabetes with duration of ≥ 5 years, in all people with type 2 diabetes, and in all people with comorbid hypertension. B»6. American Diabetes Association. Standards of Medical Care in Diabetes-2018 Abridged for Primary Care Providers. Clin Diabetes. 2018;36(1):14-37.

	guidelines, for some people, ophthalmologic consultations are not needed on a yearly base. ^c This must be kept in mind when assessing the performance based on the global indicator on all 5 tests. Results per test must also be considered.
Dimension	Appropriateness of care and Continuity of Care
Related indicators	Diabetes follow-up within a convention/passport/care trajectory (% of adults) (QC-4, QC-5)
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1.1.2. Results

Belgium

The composite endpoint of all five tests being evaluated as a quality indicator for follow-up of diabetes was only 42.7% in 2021 for adult living with diabetes and under insulin (which is worse than in 2011, when it was 47.3%, see Figure 2) and 16.9% (improving, as in 2011 it was 14.1%) for the adult living with diabetes and receiving glucose-lowering drugs other than insulin (Figure 1).

According to some experts, these low results can in part be explained by the fact that not all these five tests are recommended for every diabetic patient in some recent guidelines. In the 2018 ADA guidelines,⁶ for patients with type 1 diabetes, microalbuminuria and serum creatinine are for example only recommended for diabetes duration over 5 years and the consultation to an ophthalmologist could be considered every two years for some patients. Results per test must therefore also be considered.

Recommendations for glycosylated haemoglobin (2x HbA1C), cholesterol level and serum creatinine measures were followed properly in adult living with diabetes and under insulin (Figure 1): 85.0%, 91.2% and 96.6% of them were measured with these respective tests in the last 15 months (last results

available for 2021). For the other tests, the proportions of patients with a yearly measurement were lower over the same period: i.e. check for microalbuminuria (66.7%) and ophthalmological consultations (60.8%). Nevertheless, as stated above, some guidelines do not recommend these 3 latest tests yearly for some diabetic patients (especially type 1 with a diabetes duration inferior to 5 years).

Recommendations are followed less properly for adult living with diabetes and receiving glucose-lowering drugs other than insulin (under oral antidiabetics or taking glucagon-like peptide-1 analogues): while serum creatinine is tested in 93.6% of these patients, cholesterol level in 89.0% and glycosylated haemoglobin in 70.9%, the other tests are monitored in less than half of the patient population: microalbuminuria (33.6%) and ophthalmological consultation (44.7%). While the low rate concerning ophthalmological consultations can in part be explained by the fact that some guidelines considered a consultation every 2 years could be appropriate for some patients, the low rate of the albumin measurements are less explained because the subgroup of adult living with diabetes and receiving glucose-lowering drugs other than insulin mainly concerns type 2 diabetes, for which a yearly test is recommended.

^c «Adults with type 1 diabetes should have an initial dilated and comprehensive eye examination by an ophthalmologist or optometrist within 5 years after the onset of diabetes. B » ; « People with type 2 diabetes should have an initial dilated and comprehensive eye examination by an ophthalmologist or optometrist at the time of the diabetes diagnosis. B »; «If there is no evidence of retinopathy for one or more annual eye exam and glycemia is well controlled, then exams every 1–2 years may be considered. If any level of diabetic retinopathy is present, subsequent dilated retinal examinations should be repeated at least annually by an ophthalmologist or optometrist. If retinopathy is progressing or sight-threatening, then examinations will be required more frequently. B »6. Ibid.

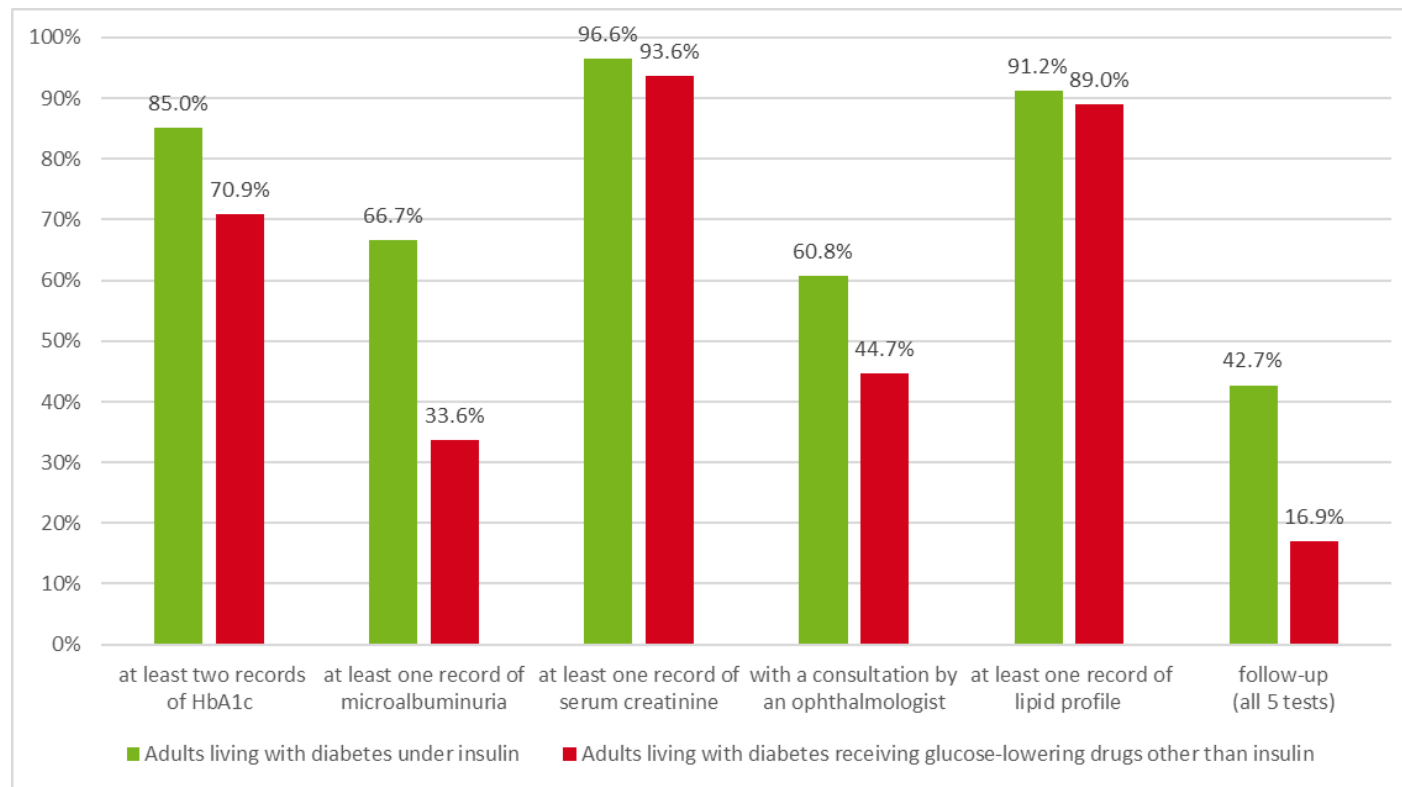
Regional comparison

Regional differences are small but for adults living with diabetes and under insulin, results are slightly worst in Wallonia and for adults living with diabetes receiving glucose-lowering drugs other than insulin, a better follow-up is observed in Brussels (Figure 2). Some variation per district can also be observed (see Figure 5).

Impact of COVID-19 pandemic

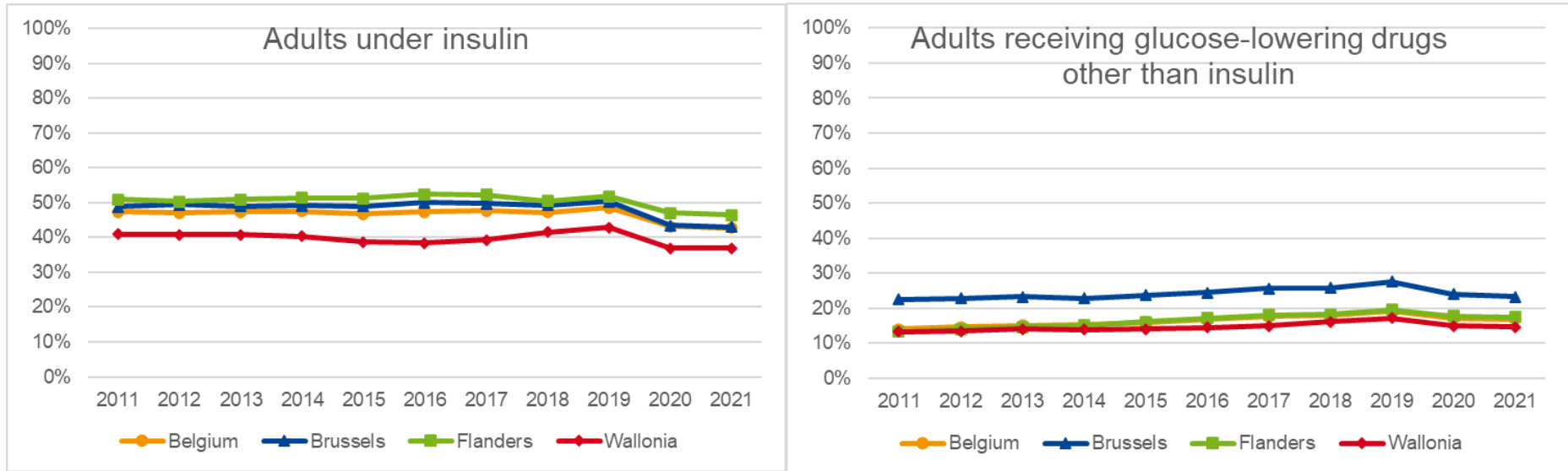
Unknown, but due to selection and prioritisation of patients during the pandemic, some people living with diabetes might have had their yearly consultation to the ophthalmologist postponed or cancelled. A decrease is observed in 2020 (43.1%) and 2021 (42.7%) compared to 2019 (48.5%) for adults living with diabetes under insulin.

Figure 1 – Proportion of people living with diabetes getting the combination of five tests over 15 months, details per test in 2021 in Belgium



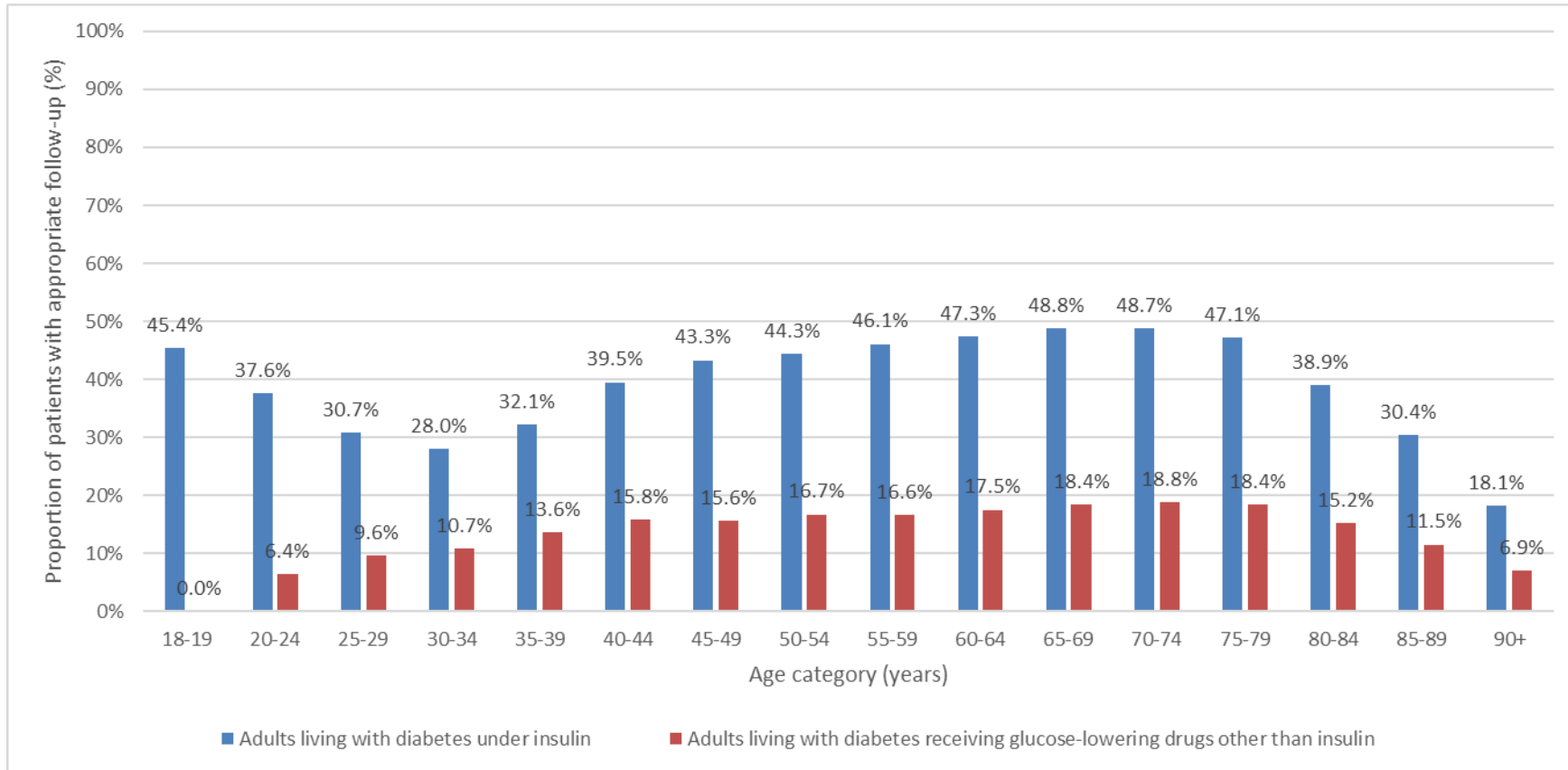
Source: IMA – AIM

Figure 2 – Proportion of people living with diabetes getting the combination of five tests over 15 months, details per region (2011-2021)



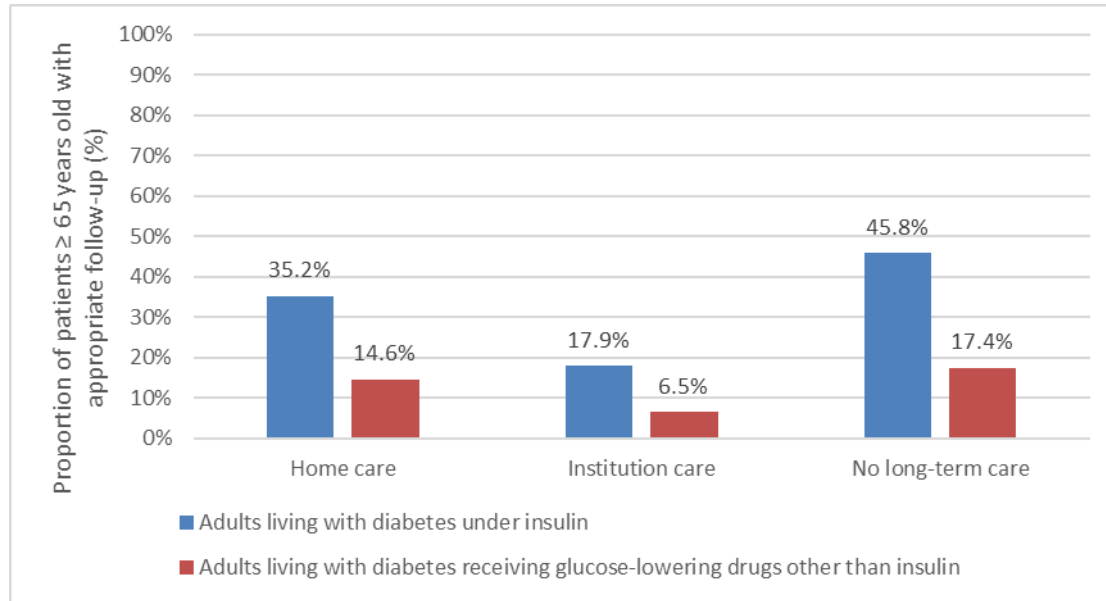
Source: IMA – AIM

Figure 3 – Proportion of people living with diabetes getting appropriate follow-up by age (2021)



Source: IMA - AIM

Figure 4 – Proportion of people aged 65 or over living with diabetes

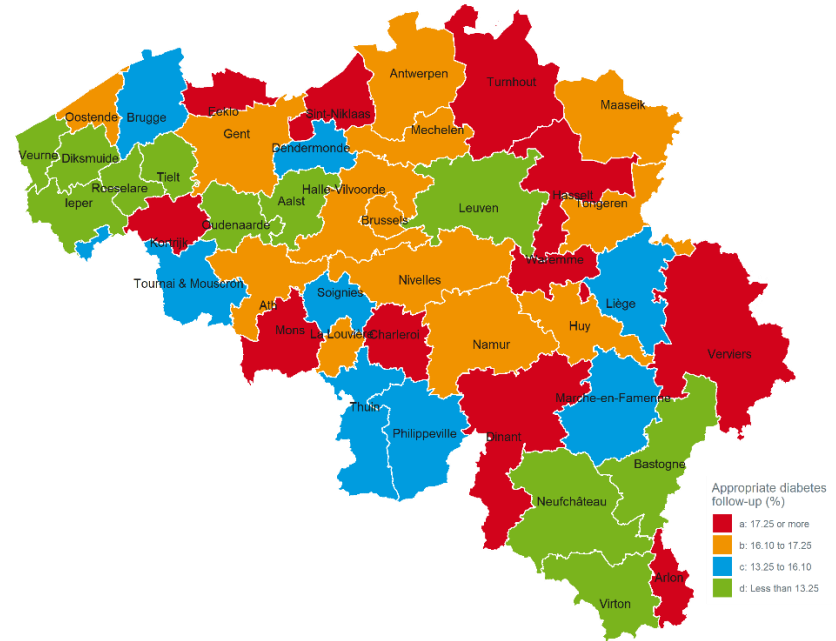
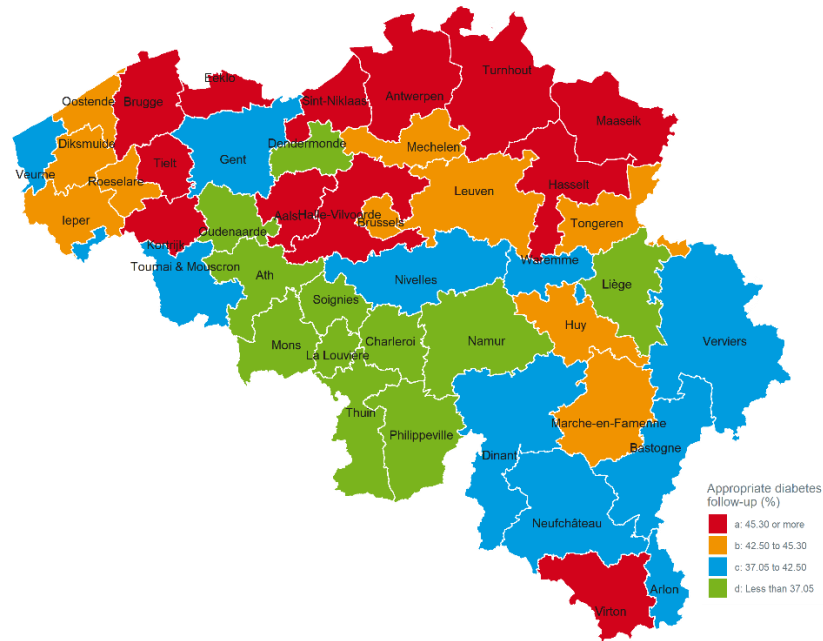


Source: IMA – AIM

Figure 5 – Proportion of people living with diabetes getting the combination of five tests over 15 months, details per districts in 2021 (%)

Adults under insulin

Adults receiving glucose-lowering drugs other than insulin



Source: IMA – AIM

Key points

- The five tests selected to assess the quality of diabetes follow-up are performed for 42.7% of the adults living with diabetes under insulin; the rates in 2020 (43.1%) and 2021 (42.7%) are lower than in previous years, i.e. from 2011 (47.3%) to 2019 (48.5%).
- For adults living with diabetes receiving glucose-lowering drugs other than insulin, the coverage of the five tests combined is much lower, i.e. 16.9%. Although the 2020 (17.2%) and 2021 (16.9%) rates are lower than those in 2019 (19.3%), an improvement compared to 2011 (14.1%) is nevertheless observed.
- Regional differences are small but for adults living with diabetes under insulin, results are slightly worst in Wallonia and for adult living with diabetes receiving glucose-lowering drugs other than insulin, a better follow-up is observed in Brussels.
- The low rates for the five tests combined can in part be explained by the fact that not all these five tests are recommended for every people living with diabetes in some recent guidelines. In the 2018 ADA guidelines,⁶ yearly microalbuminuria and serum creatinine measurements in patients with type 1 diabetes (i.e. mainly patients in the subgroup under insulin) are for example only recommended from diabetes duration over 5 years and consultations to an ophthalmologist could be considered every 2 years for some patients. Results per test must therefore also be considered.
- For adult living with diabetes and under insulin, the serum creatinine (96.6%), cholesterol measures (91.2%) and the glycated haemoglobin (85.0%) are very well covered while the annual consultations with an ophthalmologist (60.8%) and microalbuminuria measurements (66.7%) are less frequent. Nevertheless, as stated above, some guidelines do not recommended these 3 latest tests yearly for some people living with diabetes (especially with type 1 diabetes of a duration inferior to 5 years).
- For adult living with diabetes and receiving glucose-lowering drugs other than insulin, the serum creatinine (93.6%), cholesterol

measures (89.0%) and glycated haemoglobin (70.9%) are well covered, albumin measurement and ophthalmological consultations are performed yearly in less than half of the patient population. While the low rate concerning ophthalmological consultation can in part be explained by the fact that some guidelines considered a consultation every 2 years was appropriate for some patients, the low rate of albumin measurement is less explained by these new guidelines because the subgroup of adult living with diabetes and receiving glucose-lowering drugs other than insulin mainly concerns type 2 diabetes, for which a yearly test is recommended whatever the diabetes duration.

References

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