



2. QUALITY OF CARE: APPROPRIATENESS OF CARE

2.1. Appropriate follow-up of diabetic patients (QA-1, QA-2)

2.1.1. Documentation sheet

Description	Quality of diabetic patients follow-up based on different criteria
Calculation	Numerator: Number of diabetic patients who received the five following tests in the past 15 months: <ul style="list-style-type: none">- at least two records of HbA1c- at least four records of glycaemia measurement- at least one record of lipid profile- at least one record of microalbuminuria- at least a consultation by an ophthalmologist Denominator: number of patients with any type of diabetes identified through their drugs prescription.
Rationale	<p>Diabetes is a chronic disease characterised by high levels of glucose in the blood. People with diabetes are at greater risk of developing cardiovascular diseases such as heart attack and stroke if the disease is left undiagnosed or poorly controlled. They also have higher risks of sight loss, foot and leg amputation, and renal failure. ¹ In Belgium, prevalence of diabetes in adults aged 20-79 years is estimated to be 6.1% in 2017. ²</p> <p>All type 1 diabetic patients are on insulin while most type 2 diabetic patients may be on a treatment which may or may not include insulin; overall 5-10% of all diabetic patients are suffering from type 1 diabetes, while type 2 diabetes make out the majority of the other diabetics. The majority of the type 2 diabetics do not receive insulin.</p> <p>In diabetics, it is recommended to measure at least twice a year the level of glycated haemoglobin (HbA1c), every 3 months the glycemia, and once a year the microalbuminuria and to make a lipid profile. It is also recommended that an ophthalmologist performs a dilated fundus examination once a year to detect ocular complications at an early stage. ³</p>
Primary data source	IMA data
Indicator source	KCE calculation
Technical definitions	Numerator: Test 1: HbA1c : nomenclature code 540750-540761, 571830-571841 (measure of glycated haemoglobin in haemolysate) at least twice over the period Test 2: lipid profile: (LDL (billing codes: 542231-542242) AND HDL (billing codes: 540293-540304) AND triglycerides (billing codes: 541376-541380, 572272-572283)) OR (total cholesterol (billing codes: 540271-540282) AND HDL AND triglycerides) at least once over the period Test 3: albumin measurement (billing codes: 543712-543723, 433554-433565) to check microalbuminuria or total protein measurement (billing codes: 125532-125543) to check proteinuria, at least once over the period ⁴ Test 4: glycaemia (120050-120061, 125053-125064) at least 4 times over the period ⁵ Test 5 (ophthalmology): ophthalmologist consultation (billing codes: 102012, 102535 and specialist qualification code: 037, 370, 371, 374, 378 or 397) at least once over the period



	<p>These tests have been selected for the feedback to the GPs concerning diabetic patients follow-up.^c Denominator: Diabetics selected on Pharmanet: class ATC A10 drugs prescription. Two distinct subgroups are considered : 1) Insulin-dependent diabetic patients (ATC=A10A): A10A prescription >37.5 DDDs. 2) Non-insulino-dependent diabetic patients (ATC=A10B): A10B prescription ≥ 270 DDD (and $0 \leq A10A < 270$ DDD). For this subgroup, an inferior age limitation was set at 50 years to exclude patients taking metformin to lose weight instead of stabilizing a diabetes. Compared to our previous report,⁶ the micro-albuminuria testing was reintroduced instead of creatinine, lipid profile and glycemia measurement added, and the DDD for the denominators adapted.</p>
Limitations	Patients with diabetes controlled with diet only are not identified.
Dimensions	Appropriateness of care, and Continuity of Care
International	These indicators were selected in the early phases of the OECD quality indicators project ⁷ but have been abandoned in the recent phases because of the poor availability of data in the majority of countries. ⁸ Hence, there are no international comparison available for this indicator.

2.1.2. Results

Recommendations for glycosylated haemoglobin and cholesterol level monitoring measures are followed properly in diabetics under insulin (Figure 15): 88.5% and 90.5% of them were measured with these respective tests in the last 15 months (last results available for 2016). The three other tests are less properly followed over the same period: check for microalbuminuria (71.2%), ophthalmological consultation (68.2%) and glucose measures (56.9%).

Recommendations are followed less properly by diabetics not under insulin (under oral antidiabetics or taking glucagon-like peptide-1 analogues) aged 50 and over: while cholesterol level is tested in 86.5% of the patients and glycosylated haemoglobin in 72.8% of them, the three other tests are monitored in less than half of the patient population: ophthalmologist consultation (47.8%), glucose measurement (42.9%) and proteinuria (34.2%).

The composite endpoint of all five tests being evaluated as a quality indicator for follow-up of diabetes was only 30.2% in 2016 for insulin-dependent

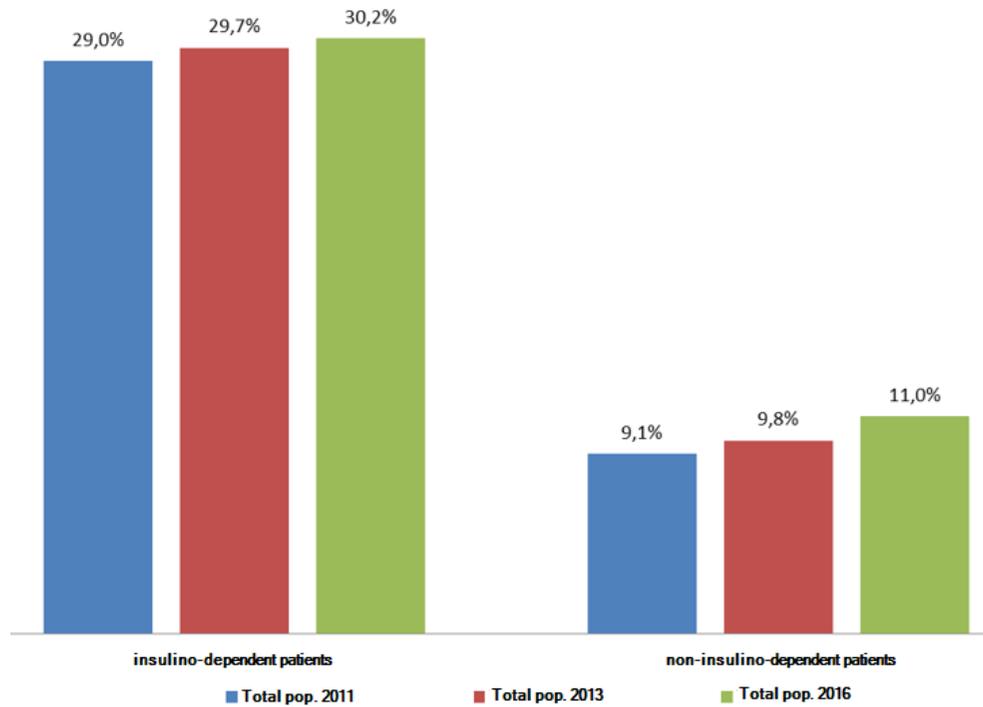
patients, (coming from 29.0% in 2011, cf, Figure 14) and 11.0% (also improving, since in 2011 it was 9.1%) for the non-insulino-dependent patients, which is lower than the quality indicator used in the 2015 report (67.8 and 43.4% respectively, for 2013)⁶. However in the previous evaluation, the primary quality indicator was only based on a composite three tests (HbA1c, creatinine, and annual follow-up by ophthalmologist). Moreover in the current composite quality indicator (consisting the parameters: HbA1c, glycaemia, microalbuminuria testing, lipids and ophthalmology evaluation), the previously used parameter of creatinine was removed and replaced by microalbuminuria testing. Reality in clinical practice probably is that annual microalbuminuria testing is much less frequently performed than the annual check of creatinine. This, together with the fact that the current composite indicator contains 5 tests, instead only 3 previously, very likely is the reason for the lower overall performance observed in this report.

Regional differences are small, but a bit bigger between some provinces (Figure 17).

^c <https://www.inami.fgov.be/fr/professionnels/sante/medecins/qualite/feedback/Pages/default.aspx>



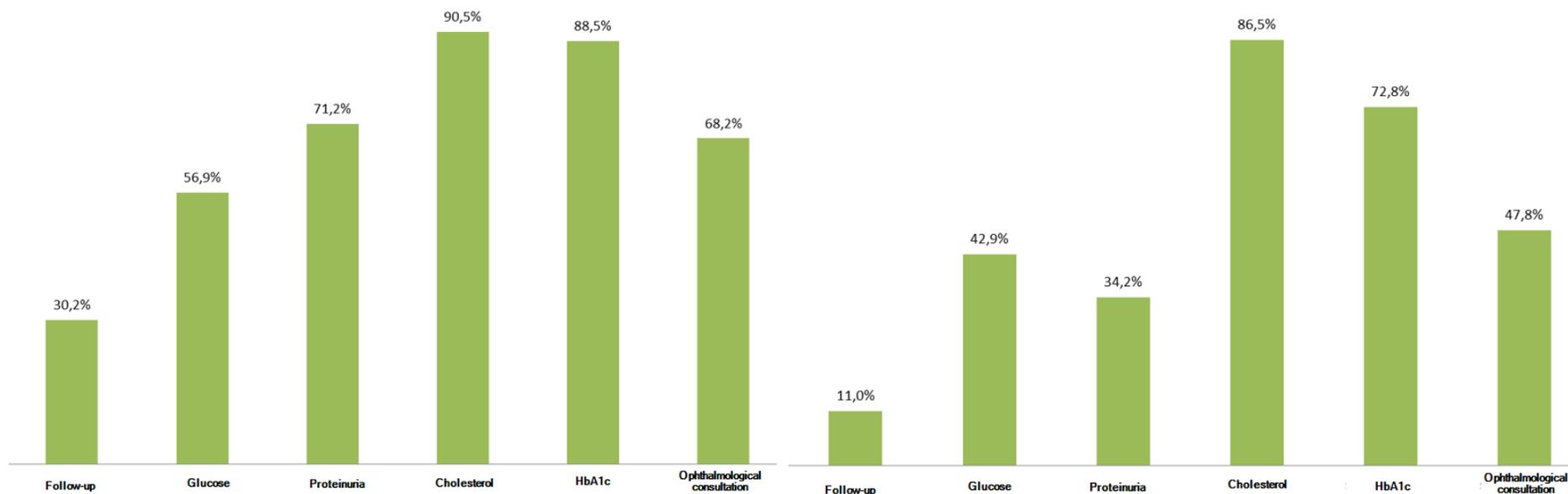
Figure 14 – Proportion of diabetic patients getting the combination of five tests over 15 months): insulin-dependent patients (left) vs 50+ non-insulin-dependent patients (right)



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



Figure 15 – Follow-up of diabetic patients: five tests for patients under insulin (left) and patients not under insulin (right) in 2016

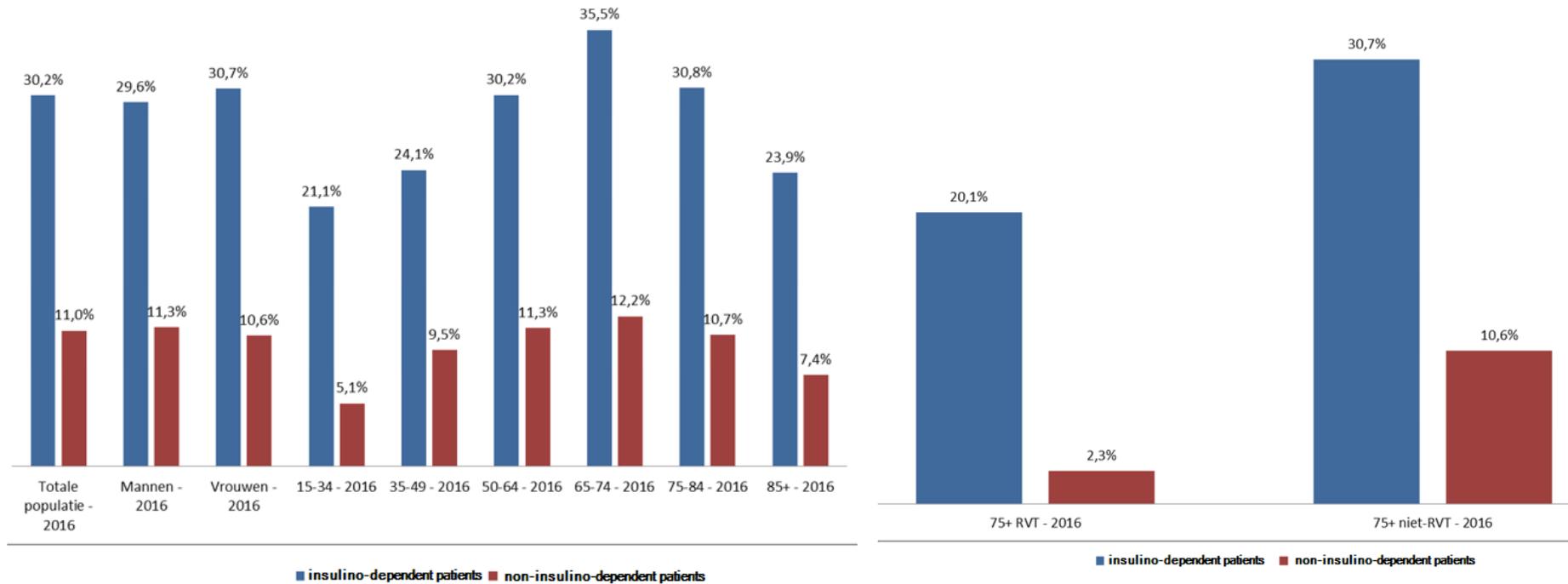


Source: IMA – AIM (EPS), calculation: INAMI – RIZIV

There is no difference in follow-up between male and female, and patients aged 65-74 years are the most compliant (Figure 16, left). Patients aged 75 or over in a nursing home have a smaller proportion of patients have the 5 tests than the patients not in nursing home: the difference between the two is important and for both insulin-dependent patients and non-insulin-dependent patients (Figure 16, right).



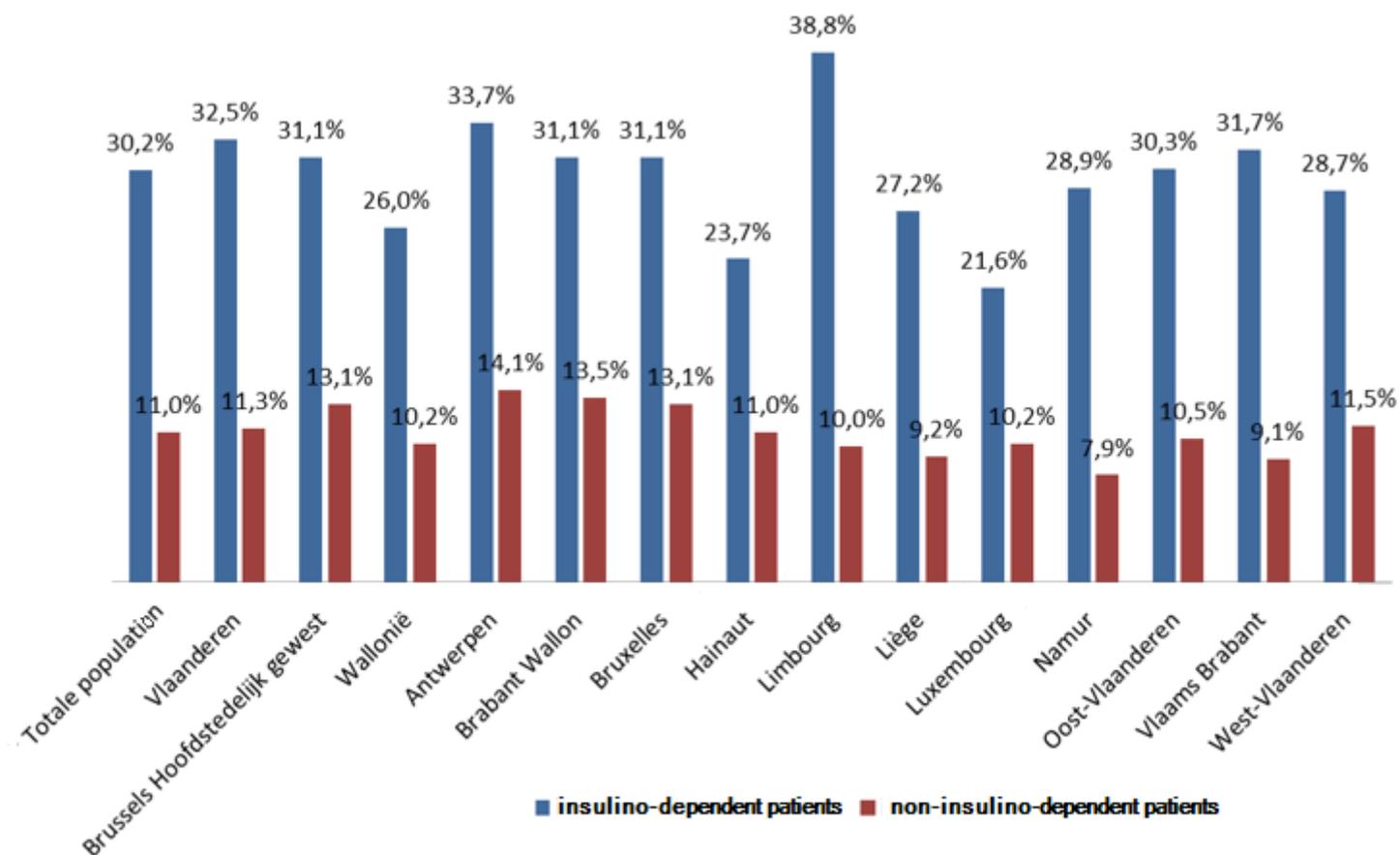
Figure 16 – Proportion of diabetic patients getting the combination of five tests within 15 months by age category (left) and for patients 75+ in nursing house or not (2016)



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



Figure 17 – Proportion of diabetic patients getting the combination of five tests within 15 months by region and province (2016)



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



Key points

- **The five tests selected to assess the quality of diabetes follow-up are done for 30.2% of the diabetic patients under insulin; this rate is much lower than in the previous report, where only 3 tests had been selected (glycated haemoglobin and creatinine measurements as well as an annual visit with an ophthalmologist). The glycated haemoglobin and cholesterol measures are very well covered, but the annual consultations with an ophthalmologist, microalbuminuria and glucose measurements are less frequent.**
- **For the diabetic population not depending on insulin, the coverage of the five tests combined is much lower: 11.0%, again mainly due to a lower coverage of the annual visit with an ophthalmologist, proteinuria (microalbuminuria) and glucose.**
- **Patients aged 75+ years have a better follow-up at home than in nursing home for both subgroups.**
- **Regional differences are small for both subgroups population; differences can be bigger at the provincial level.**

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