



## 15. PROPORTION OF ADULT DIABETICS (UNDER INSULIN) WITHIN A PASS/PRE-CARE TRAJECTORY, A CARE TRAJECTORY OR A CONVENTION (% OF PATIENTS, 18+) (QC-4) & PROPORTION OF ADULT DIABETICS (RECEIVING GLUCOSE-LOWERING DRUGS OTHER THAN INSULIN) WITHIN A PASS/PRE-CARE TRAJECTORY, A CARE TRAJECTORY OR A CONVENTION (% OF PATIENTS, 50+) (QC-5)

### 15.1. Documentation sheet

<b>Description</b>	<p>QC-4 Proportion of adult diabetics (under insulin) registered in a pass/pre-care trajectory, a care trajectory or a convention<sup>o</sup> (% of patients, 18+)</p> <p>QC-5 Proportion of adult diabetics aged 50 years and older (receiving glucose-lowering drugs other than insulin and almost no insulin, (hereafter abbreviated as “receiving glucose-lowering drugs other than insulin”) registered in a pass/pre-care trajectory, a care trajectory or a convention (% of patients, 50+)</p>
<b>Calculation</b>	<p><b>QC-4 Proportion of adult diabetics (under insulin) registered in a pass/pre-care trajectory, a care trajectory or a convention (% of patients, 18+)</b></p> <ul style="list-style-type: none"> <li>• Numerator: number of diabetic patients (≥ 18 years) under insulin with any type (I and II) diabetes registered in a pass/pre-care trajectory, a care trajectory or a convention.</li> <li>• Denominator: number of patients (≥ 18 years) under insulin with any type (I and II) diabetes identified through their drugs prescription.</li> </ul> <p><b>QC-5 Proportion of adult diabetics aged 50 years and older (receiving glucose-lowering drugs other than insulin) registered in a pass/pre-care trajectory, a care trajectory or a convention (% of patients, 50+)</b></p> <ul style="list-style-type: none"> <li>• Numerator: number of diabetic patients (≥ 50 years) receiving glucose-lowering drugs other than insuline with any type (I and II) diabetes registered in a pass/pre-care trajectory, a care trajectory or a convention.</li> <li>• Denominator: number of patients (≥ 50 years) receiving glucose-lowering drugs other than insuline with any type (I and II) diabetes identified through their drugs prescription.</li> </ul>
<b>Rationale</b>	<p>To optimize care provided to diabetic patients, several measures have been implemented in Belgium by the RIZIV – INAMI.</p> <ul style="list-style-type: none"> <li>• Diabetes pass/pre-care trajectory (<i>passeport diabète / modèle (ou protocole) de soins pour le suivi de patients diabétique de type 2, connu sous le vocable de « prétrajet diabète» - diabetespas / zorgmodel (of zorgprotocol) voor de opvolging van een patiënt met diabetes mellitus type 2, bekend als « voortraject diabetes »</i>):</li> </ul>

<sup>o</sup> From a legal point of view, the correct translation should be “agreement”. Nevertheless, to facilitate the identification of what it means by a Belgian expert, we decided to choose the term “convention”, which is more commonly used.



- Diabetes pass set up in Belgium in 2003. Removed and replaced by the pre-care trajectory for patients with type 2 diabetes since the 1<sup>st</sup> February 2016.
- Inclusion criteria: patients with diabetes type II under diet or oral antidiabetics; patients should have a global medical record followed by their general practitioner.
- Aims: to improve the education of patients and those around them (information on treatment, management of complications...), to stimulate the patients involvement through information on periodic examinations and to support the communication between the patient and various care providers.
- Advantages for patients: 2 consultations partially reimbursed by year with dieticians and 2 consultations partially reimbursed with podiatrist each year (only if the patient is at high risk of foot wound).
- Diabetes pass has been replaced by the pre-care trajectory for patients with type 2 diabetes in order to better manage patients with type 2 diabetes not registered in a care trajectory for chronic care or in a convention. Advantages for patients are almost the same: 2 consultations reimbursed by year with dieticians and 2 with podiatrist. Some patients<sup>p</sup> in the pre-care trajectory are eligible for reimbursement of consultations with specialist in diabetes for education (dieticians, pharmacist, nurses, physiotherapists...). A maximum of 4 consultations per patient per year is reimbursed.
- Care trajectory for patients with type 2 diabetes (*trajet de soins diabète type 2 - Zorgtrajecten diabetes type 2*):
  - Set up in Belgium in September 2009 (modified in 2018).
  - Inclusion criteria: patients with diabetes type II under insulin or incretinomimetics or diabetes type 2 insufficiently controlled by oral antidiabetics; patient not be registered in a convention; patient should have a global medical record followed by their general practitioner and should undertake to consult their general practitioner at least twice by year and their endocrinologist at least one by year.
  - Aims: to improve follow-up and collaboration between patients, general practitioner and medical specialist.
  - Advantages for patients: all consultations totally reimbursed with general practitioner and endocrinologist; free access to consultations with nurses specialised in diabetes for education (information on lifestyle, treatments, follow-up); free self-control material only for those on injectable therapy (150 dipsticks/6 months, glucometer), 2 consultations partially reimbursed by year with dieticians and 2 consultations partially reimbursed by year with podiatrist (only if the patient is at high risk of foot wound).
  - Since the 1<sup>st</sup> May 2018, reimbursement rules for patients with type 2 diabetes in care trajectory has been modified. It affects consultations in diabetes for education, reimbursement of self-control material and reimbursement of consultations with specialists. Patients registered in a care trajectory for type 2 diabetes under insulin or under incretinomimetics are fully reimbursed for their self-control material. Each patients can benefit from 5 consultations in diabetes for education per year and once 5 supplementary consultations. At least one of them should be delivered at home. Sickness funds do not paid lump sum fee for endocrinologists anymore when patients are also registered in a diabetes convention.
- Convention with specialised centres for diabetes self-management and other specific support programs such as for diabetic patients with foot wounds (*conventions INAMI – RIZIV overeenkomsten*):

<sup>p</sup> Inclusion criteria: patients with type 2 diabetes registered in the pre-care trajectory; patients with age 15-69 years and a cardiovascular risk defined as BMI>30 and/or having high blood pressure; GP's prescription for consultation for diabetes education.



- Set up in Belgium in 1986 (modified in 2008 and 2016).
- Inclusion criteria: patients with type 1 or type 2 diabetes under at least 2 insulin injections by day and with a serious medical condition or patients with type 2 diabetes under at least 3 insulin injections by day; patients with gestational diabetes; patients aged more than 16 years old; ambulatory patients or hospitalized; patients with a global medical record followed by their general practitioner. Usually, patient with type 2 diabetes registered in a care trajectory are not followed in specialised hospital.
- Aims: to organize a multidisciplinary management of diabetic patients in specialised hospital centers in order to support the education of patients and those around them, the patient's involvement in their periodic examinations and the communication between the patient and various care providers.
- Advantages for patients: integration in a full revalidation process including free self-control material and multidisciplinary consultations. Since the application of the new convention the 1<sup>st</sup> July 2016, in addition to the usual standard equipment a new measuring equipment (sensor for self-monitoring of glucose) is reimbursed for patients with type 1 diabetes.

Because the registration in a diabetes pass/pre-care trajectory, care trajectory or convention is volunteer, the percentage of patients registered in at least one of the three systems of registration is an indicator of the patient's participation in this public investment.

<b>Primary source</b>	<b>data</b>	IMA - AIM data
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<b>Indicator source</b>	KCE calculation
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**Technical definitions**

Two distinct groups of diabetics patients are considered (selection on Pharmanet: class ATC A10 drugs prescription)

- **Adult diabetics under insulin (ATC=A10A):** patients aged  $\geq 18$  years and A10A outpatient prescription  $>37.5$  DDDs.
- **Adults diabetics receiving glucose-lowering drugs other than insuline (ATC=A10B) and almost no insuline (ATC=A10A):** patients aged 50 years and older and A10B outpatient prescription  $\geq 270$  DDDs per year and  $0 \leq A10A$  outpatient prescription  $<37.5$  DDDs per year. This group includes all oral antidiabetics but also incretin mimetic (GLP1-agoniste, code A10BJ) which is a non-insulin injectable solution. For this group of patients, an inferior age limitation was set at 50 years to be sure to discard people taking e.g. metformin to lose weight instead of stabilizing a diabetes.

For these 2 groups of diabetics patients (under insulin or receiving other glucose-lowering drugs), we identified patients registered in at least one of the three systems of registration. Adult diabetics (under insulin or receiving other glucose-lowering drugs) registered in a care trajectory, a convention, or a diabetes pass/pre-care trajectory are identified through the following nomenclature code:

- **Diabetes pass/pre-care trajectory:** 102852, 109594. On February 1, 2016, the description of the code 102852 «Use of a diabetes pass by the GP » was replaced by «Follow-up of a patient with type 2 diabetes according to the pre-care trajectory / care protocol established by the Insurance Committee ». The code 109594 was introduced in 2016 for the follow-up, in medical house (*maisons médicales - medische huizen*) of a patient with type 2 diabetes according to the pre-care trajectory / care protocol established by the Insurance Committee.
- **Diabetes care trajectory:** 107015, 107030, 107052, 107074. These codes concern the fixed fees for GPs and other medical specialists, respectively, for year 1 and for years 2, 3 and 4, respectively.
- **Diabetes convention:** 770033, 770055, 770070, 771573, 771595, 772450, 772461, 773113, 773231, 773253, 773275, 773393, 773496, 773592, 774115, 774130, 774152, 775456, 775471, 788756, 788771, 788793, 788815, 788830, 788852, 788874, 788896, 788911, 788933, 788955,



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785573, 785595, 785610, 785632, 785654, 785676, 785691, 785713, 785735, 785750, 785772, 785794, 785816, 785831, 785853, 785875, 785890, 785912, 785934, 785956, 789751, 789773, 789795, 789810, 789832, 789854, 789876, 789891, 789913, 789935

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**Limitations** Underestimated denominator (only diabetic with medication); process indicator (which provide no information on outcome); risk of misclassification, notably risk that some patients under insulin since a few days were considered as patients receiving glucose-lowering drugs; risk of misclassification or omission of certain RIZIV - INAMI codes that refer to a pass/pre-care trajectory, care trajectory or a convention.

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**International comparability** Not applicable

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**Related indicators** “Appropriate diabetes follow-up”

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**Review** Reviewed by Astrid Lavens, Sciensano, Scientist in Health services research (diabetes)

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**Dimensions** Continuity (Management/Coordination); Ambulatory care; Link specialist and GP; Chronic care

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## 15.2. Results

A total of 156 328 diabetic patients under insulin ( $\geq 18$  years) and a total of 226 046 diabetic patients receiving other glucose-lowering drugs than insulin ( $\geq 50$  years) were identified in 2019 through their drugs prescription (see Table 27 and Table 28). This number does not consider the diabetic patients without medication (e.g. patients diagnosed with diabetes but only under diet or non-diagnosed patient). Globally, 91.0% of the identified **diabetic patients under insulin** had at least one registration in a diabetes care model (pass/pre-care trajectory, care trajectory or convention, see Table 27) in 2019. A large majority of these patients registered in a diabetes care model had a convention (82.7%), while 35.5% and 3.1% had a care trajectory or a pass/pre-care trajectory respectively.<sup>q</sup> The proportion of **patients receiving other glucose-lowering drugs than insulin** having at least one registration in a diabetes care model was only 26.2% (see Table 28). Just over half of them had a care trajectory (57.8%), just under half of them had a pass/pre-care trajectory (43.0%), and only a few had a convention (2.6%).<sup>r</sup>

### Analysis by demographic characteristics and socio-economic status

#### • Gender & Age group

The proportion of **diabetic patients under insulin** with at least one registration in a diabetes care model is quite similar for men (91.8%) and women (90.0%, see Table 27). The same observation can be done among **diabetic patients receiving other glucose-lowering drugs than insulin** with at least one registration in a diabetes care model (26.4% for men and 25.9% for women, see Table 28).

The proportion of **diabetic patients under insulin** with at least one registration in a diabetes care model is the highest in the 18-24 years (96.1%) and remains superior to 80% until 94 years old. Afterwards, the proportion decrease to 58.7% in the 95+ age group (Table 27). The proportion of **diabetic patients receiving other glucose-lowering drugs than insulin** who have at least one registration in a diabetes care model decreases regularly from 28.0% in the first 50-74 age group to reach 12.7% in the 95+ age group (Table 28).

Among the 65 years old and plus, the proportion of diabetic patients with at least one registration in a diabetes care model is lower for patients in institutions (e.g. in nursing homes) compared to patients receiving home care and patients without long-term care (defined as not in institution and without receiving home care), **both for patients under insulin and receiving other glucose-lowering drugs than insulin** (see Table 27 and Table 28).

#### • Socio-economic status

Adult patients (18 years or +) **under insulin** with entitlement to increased reimbursement have slightly less often a registration than patients without this financial support (89.5% vs 91.9%, see Table 27). Conversely, the proportion of **diabetic patients receiving other glucose-lowering drugs than insulin** with at least one registration in a diabetes care model is higher with entitlement to increased reimbursement (27.5%) than without increased reimbursement (25.7%, see Table 28).

<sup>q</sup> Total is not 100% since some patients have more than one registration in a diabetes care model.

<sup>r</sup> Total is not 100% since some patients have more than one registration in a diabetes care model.



**Table 27 – Proportion of diabetic patients under insulin within a pass/pre-care trajectory, a care trajectory or a convention, by patient characteristics (2019)**

		Patients having a at least ONE OF THE THREE systems of registration			Patients having a PASS/PRE-CARE TRAJECTORY	Patients having a CARE TRAJECTORY	Patients having a CONVENTION
		Numerator	Denominator	Proportion	Proportion	Proportion	Proportion
<b>Belgium</b>		142 227	156 328	<b>90.98%</b>	2.50%	28.98%	67.51%
<b>Region</b>	<b>Brussels</b>	13 883	15 988	<b>86.83%</b>	3.62%	21.22%	69.74%
	<b>Flanders</b>	80 839	87 333	<b>92.56%</b>	2.47%	32.27%	66.70%
	<b>Wallonia</b>	47 505	53 007	<b>89.62%</b>	2.22%	25.91%	68.18%
<b>Gender</b>	<b>Female</b>	66 082	73 416	<b>90.01%</b>	2.50%	29.62%	65.79%
	<b>Male</b>	76 145	82 912	<b>91.84%</b>	2.51%	28.42%	69.03%
<b>Age groups</b>	<b>18-24</b>	3 163	3 290	<b>96.14%</b>	1.00%	0.82%	95.62%
	<b>25-49</b>	22 638	24 107	<b>93.91%</b>	1.85%	8.79%	87.69%
	<b>50-74</b>	76 385	82 504	<b>92.58%</b>	2.64%	29.89%	69.02%
	<b>75-84</b>	28 134	31 356	<b>89.72%</b>	2.82%	38.87%	57.30%
	<b>85-94</b>	11 413	14 230	<b>80.20%</b>	2.42%	42.33%	43.06%
	<b>95+</b>	494	841	<b>58.74%</b>	3.21%	34.60%	25.56%
<b>Long term care (65 years or +)</b>	<b>Nursing care at home</b>	13 276	14 900	<b>89.10%</b>	2.26%	41.05%	55.07%
	<b>Institutions</b>	5 876	8 072	<b>72.79%</b>	2.30%	32.51%	44.98%
	<b>No LT care</b>	58 708	64 362	<b>91.22%</b>	2.81%	36.16%	61.30%
<b>Increased reimbursement (18 years or +)</b>	<b>No</b>	89 828	97 794	<b>91.85%</b>	2.18%	27.96%	69.23%
	<b>Yes</b>	52 399	58 534	<b>89.52%</b>	3.04%	30.70%	64.64%

Source: IMA data, KCE calculation



**Table 28 – Proportion of diabetic patients aged 50 years and older receiving other glucose-lowering drugs than insulin with a diabetes pass/pre-care trajectory, a care trajectory or a convention, by patient characteristics (2019)**

PATIENTS RECEIVING OTHER GLUCOSE-LOWERING DRUGS THAN INSULIN (50 years or more)							
		Patients having a at least ONE OF THE THREE systems of registration			Patients having a PASS/PRE-CARE TRAJECTORY	Patients having a CARE TRAJECTORY	Patients having a CONVENTION
		Numerator	Denominator	Proportion	Proportion	Proportion	Proportion
<b>Belgium</b>		59 273	226 046	<b>26.22%</b>	11.29%	15.15%	0.68%
<b>Region</b>	<b>Brussels</b>	4 301	18 686	<b>23.02%</b>	8.94%	14.37%	0.63%
	<b>Flanders</b>	41 031	124 894	<b>32.85%</b>	14.98%	18.25%	0.78%
	<b>Wallonia</b>	13 941	82 466	<b>16.91%</b>	6.22%	10.64%	0.56%
<b>Gender</b>	<b>Female</b>	25 194	97 152	<b>25.93%</b>	11.54%	14.69%	0.52%
	<b>Male</b>	34 079	128 894	<b>26.44%</b>	11.10%	15.50%	0.81%
<b>Age groups</b>	<b>18-24</b>	-	-	-	-	-	-
	<b>25-49</b>	-	-	-	-	-	-
	<b>50-74</b>	43 543	155 648	<b>27.98%</b>	11.32%	16.92%	0.73%
	<b>75-84</b>	12 566	52 459	<b>23.95%</b>	11.63%	12.46%	0.60%
	<b>85-94</b>	3 078	17 260	<b>17.83%</b>	10.02%	7.86%	0.57%
	<b>95+</b>	86	679	<b>12.67%</b>	9.57%	3.39%	0.15%
<b>Long term care (65 years or +)</b>	<b>Nursing care at home</b>	3 443	13 369	<b>25.75%</b>	10.88%	14.75%	1.51%
	<b>Institutions</b>	694	5 372	<b>12.92%</b>	6.96%	5.75%	0.67%
	<b>No LT care</b>	33 226	132 631	<b>25.05%</b>	11.48%	13.77%	0.57%
<b>Increased reimbursement (18 years or +)</b>	<b>No</b>	40 929	159 284	<b>25.70%</b>	11.04%	14.85%	0.63%
	<b>Yes</b>	18 344	66 762	<b>27.48%</b>	11.87%	15.87%	0.82%

Source: IMA data, KCE calculation

### Analysis by region and district

A slight difference was noticed between the three regions and the type of diabetes care model concerning **diabetic patients under insulin** (see Table 27). The use of care trajectory is higher in Flanders (32.3%) compared with Brussels (21.2%) and Wallonia (25.9%) while the use of diabetes pass/pre-care trajectory is higher in Brussels (3.6%) compared with the two other regions (2.5% in Flanders and 2.2% in Wallonia).

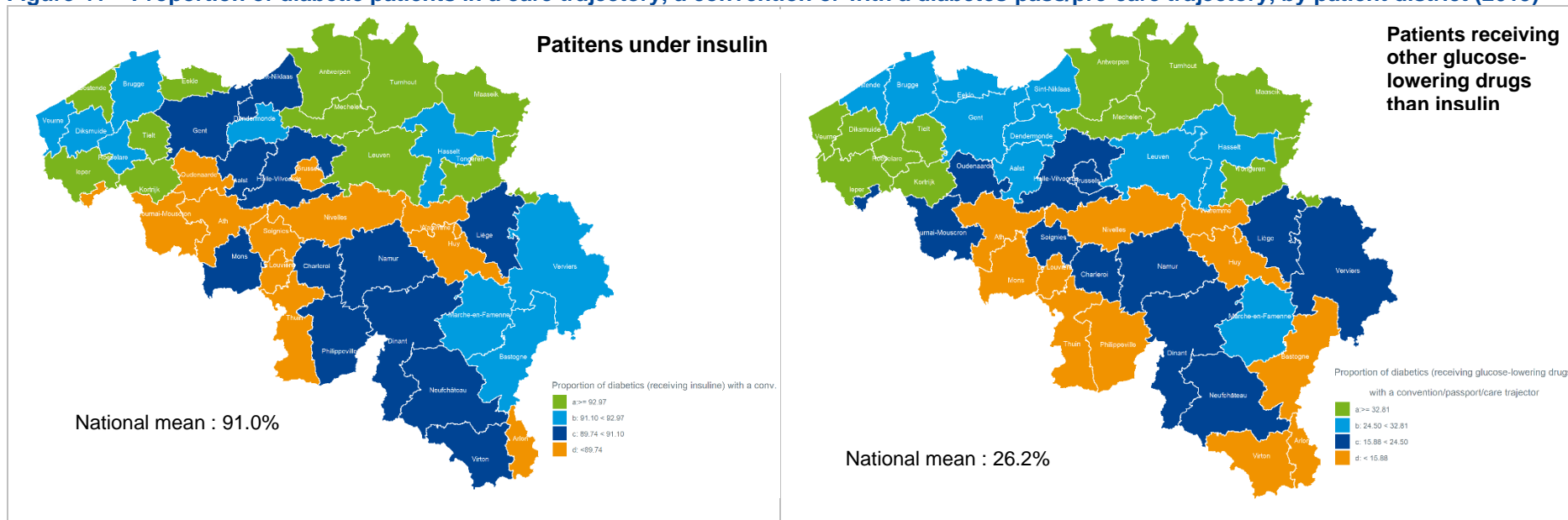
The proportion of **patients receiving other glucose-lowering drugs than insulin** with at least one registration in a diabetes care model is higher in Flanders (32.9%) than in Brussels (23.0%) and Wallonia (16.9%) and this difference is found for the three types of registration (see Table 28).

An analysis by district shows that Waremmе has the lowest proportion of **diabetic patients under insulin** with at least one registration in a diabetes care model (85%) while Mechelen and Tielт have the highest (95%, see Figure 41).



For patients receiving other glucose-lowering drugs than insulin, Waremmé is the district with the lowest proportion of patients with at least one registration in a diabetes care model (8.1%) while Roeselare has the highest (54.3, see Figure 41).

Figure 41 – Proportion of diabetic patients in a care trajectory, a convention or with a diabetes pass/pre-care trajectory, by patient district (2019)



Source: IMA data. KCE calculation.

### Trend over time by region

The proportion of **diabetic adults under insulin** with at least one registration in a diabetes care model was stable during the 2014-2019 period (see Figure 42). Conventions which exist since 1986 are the kind of registration more often used. Care trajectories started in September 2009,

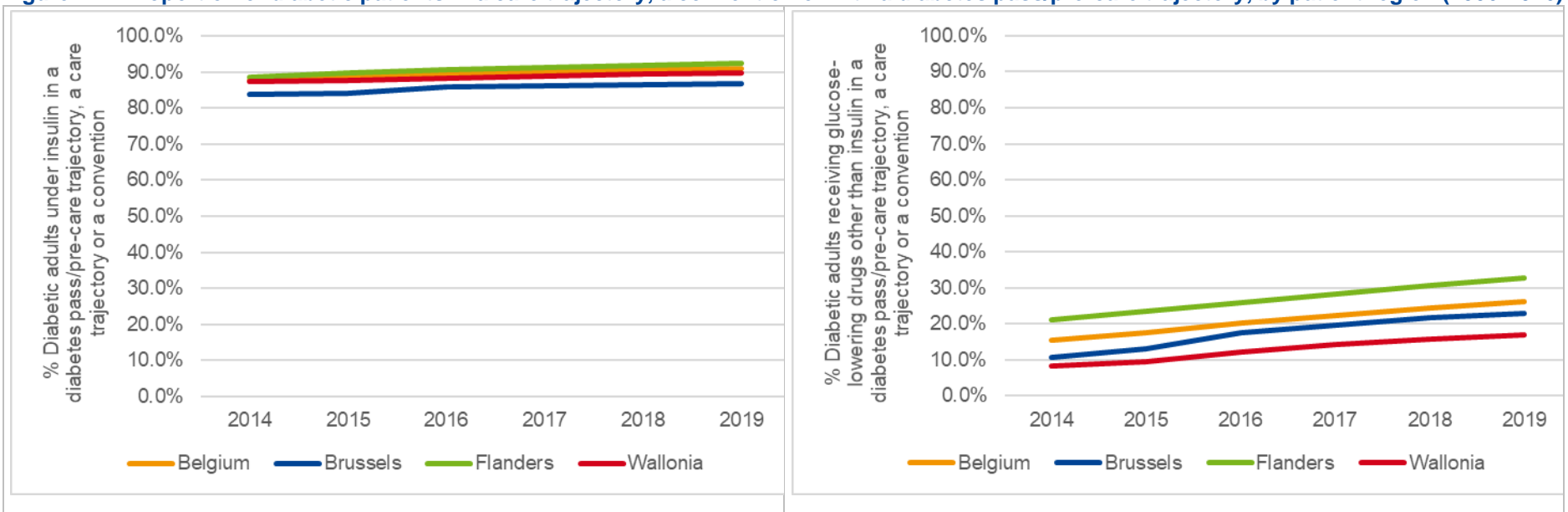
increased progressively and reached 29% of patients under insulin in 2019 (see Figure 43).

The proportion of diabetic patients **receiving other glucose-lowering drugs than insulin** with at least one registration in a diabetes care model is low but slightly increased during the 2014-2019 period (Figure 42), especially concerning patients with a care trajectory (see Figure 43).

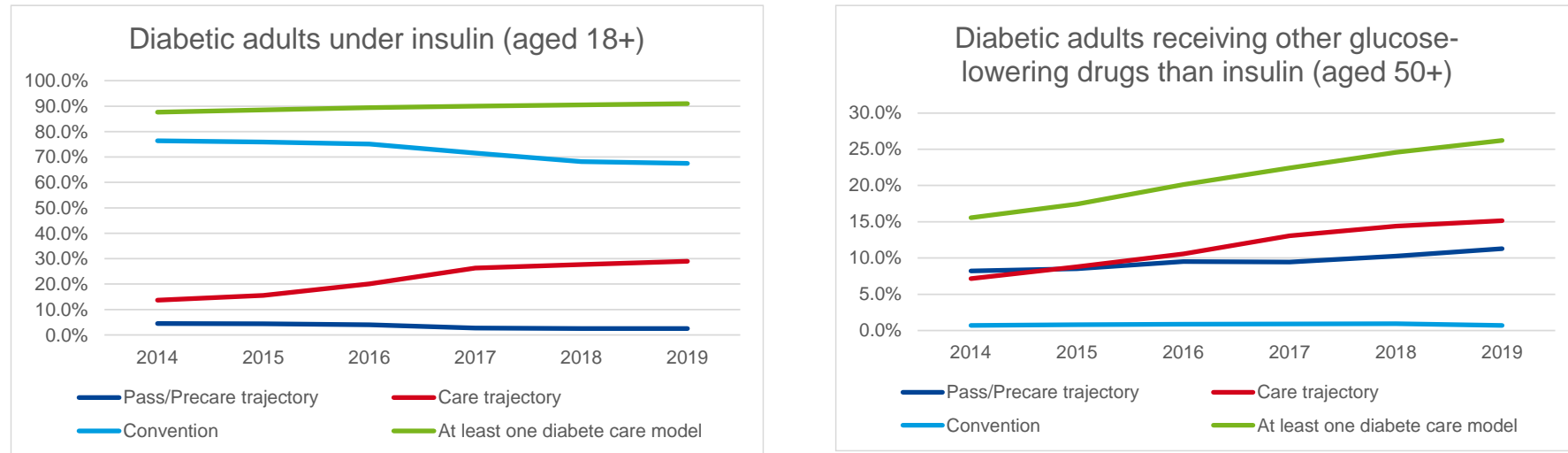




Figure 42 – Proportion of diabetic patients in a care trajectory, a convention or with a diabetes pass/pre-care trajectory, by patient region (2006-2016)



Source: IMA data. KCE calculation.

**Figure 43 – Evolution in the proportion of patients in a diabetes care model, per care model (2014-2019)**

Source: IMA data, KCE calculation



### Key points

- The proportion of diabetic adults with at least one registration in a diabetes care trajectory, a diabetes convention or a diabetes pass/pre-care trajectory is relatively high among patient under insulin (90.98%). A large majority of patients under insulin registered in a diabetes care model have a convention (82.7%). In another way, a low proportion of patients receiving other glucose-lowering drugs than insulin has at least one registration in a diabetes care model (26.2%), a little more than half having a care trajectory and almost another half a pass/pre-care trajectory.
- The proportion of diabetic patients with at least one registration in a diabetes care model decrease with age both for patients under insulin and adults receiving other glucose-lowering drugs than insulin but remain superior to 80% for patients under insulin up to 94 years old (and then decrease to 58.7% for the 95+)
- Among the 65 years old and plus, the proportion of diabetic patients with at least one registration in a diabetes care model is lower in institutions (e.g. in nursing homes) compared to home care and no long term care, both for patients under insulin and receiving other glucose-lowering drugs than insulin.
- Patients under insulin with lower socio-economic level (measured by entitlement to increased reimbursement) have slightly less often a registration. Conversely, Patients receiving other glucose-lowering drugs than insulin with lower socio-economic level have slightly more often a registration.
- The proportion of patients with at least one registration in a diabetes care model is similar between regions for patients under insulin and is higher in Flanders for patients receiving other glucose-lowering drugs than insulin (32.9%) compared with the two other regions (16.9% for Wallonia and 23.0% for Brussels).
- A positive trends over time can be noticed for patients receiving other glucose-lowering drugs than insulin. The proportion of patients under insulin with at least one registration in a diabetes care model is quite stable since 2014 but care trajectories increased (both for patients under insulin and patients under other glucose-lowering drugs than insulin).