



## 8.2. Medical graduates (S-4)

### 8.2.1. Documentation sheet

<b>Description</b>	Medical graduates per 100 000 population
<b>Calculation</b>	Numerator: number of students graduating every year from medical faculties in Belgium (Belgian diploma). Denominator: total population (number of inhabitants)
<b>Rationale</b>	<p>Maintaining a sufficient stock of doctors to guarantee the accessibility and quality of care requires investment in training new doctors, taking into account that it takes at least 8 years to train a general practitioner<sup>dd</sup> and 10-13 years to train a medical specialist. Some European countries opt for strong recruitment strategy to recruit trained physicians from abroad.<sup>1</sup> The World Health Organization adopted in May 2010 “The Global Code of Practice on the International Recruitment of Health Personnel”<sup>2</sup> to promote a more ethical recruitment of health personnel and to encourage countries to achieve greater “self-sufficiency” in the training of health workers.</p> <p>The number of new medical graduates (inflow), taken together with the number of practising physicians (current situation) and the proportion of practising physicians above 55 years old (a proxy of the outflow within ten years) are thus important indicators of the sustainability of the health system.</p> <p><b>Medical training (6 years):</b> Becoming medical doctor (MD) in Belgium means following basic medical training consisting of a bachelor's and a master's degree (3 years each).<sup>ee</sup> The bachelor's degree + master's degree lead to the MD degree, the starting point for the advanced master's degree (see post-graduate training). After this 6-year cycle, students receive their physician's diploma, a licence to practice (visa/visum) delivered by the Federal Ministry of Public Health and a RIZIV – INAMI number (allowing reimbursement of the medical practice by the compulsory health insurance). To have access to the profession, they also have to be registered in their provincial Medical College (Ordre des Médecins / Orde der artsen). A filter has been introduced in the basic medical training, i.e. an entrance examination, to allow a certain correspondence between the number of students graduating in Medicine and the quotas for access to specialization (see below).</p> <p><b>Post-graduate training (3- 7 years):</b> To be recognized as specialists (in general medicine or in another specialty), graduated physicians have to follow an additional training of three to seven years, depending on the specialty. There are 42 recognized specialties, including general medicine<sup>ff</sup>. Specialization is restricted to a limited number of candidates (system of quota), who have to submit a training plan.</p> <p>The federal government decided in 1997 on a system of quota (i.e. a restriction of RIZIV – INAMI numbers according to federal quotas for access to specialization) to limit the number of medical practitioners in the health care sector. The system became effective in 2004, that is, after all students who had enrolled before the government decision could complete their training. Since the training of doctors is a competence of the Communities, federal quotas were then subdivided between Flanders and the Wallonia-Brussels Federation, proportionally to population size. For French-speaking universities, the quotas were 356 in 2012, 390 in 2013, 410 in 2014 and 492 per year from 2015 to 2017 and 2019-2020. For Flemish universities,</p>

<sup>dd</sup> General practitioners have the possibility to begin their 3 years post-graduate training the last year of their basic training.

<sup>ee</sup> The master's degree in medicine was revised from 4 years (240 ECTS credits) to 3 years (180 ECTS credits) in 2014-2015. This means that in academic year 2017-2018, the last cohort of students of the four-year master's degree in medicine graduated as did the first cohort of students of the three-year master's degree ('double cohort').

<sup>ff</sup> <https://www.health.belgium.be/fr/sante/professions-de-sante/medecins-dentistes-et-pharmaciens/medecins-specialistes>



	<p>the quotas were 534 in 2012, 585 in 2013, 615 in 2014 and 738 per year from 2015 to 2017 and 2019-2020. The objective was to limit the total number of physicians working in the curative sector and to reduce gradually the existing discrepancy in medical density between the communities.<sup>3</sup> However, the legislator has provided for a smoothing mechanism which provides that, in the event of a one-off overrun, the quota may be increased by one year, provided that the quota is reduced by another year thereafter. This smoothing method, valid until 2018, also allowed to postpone unfilled quotas to the following years.<sup>4</sup></p> <p>Some specific specializations, i.e. data management, forensic medicine and occupational medicine, fall outside the overall quota ('out of quotas') as these are not financed through the compulsory health insurance.</p> <p>In Belgium, the system of quota only applies for medical doctors with a Belgian diploma.</p> <p>In addition, physicians in Belgium are authorised to practise medicine if their diploma has been stamped by the competent authorities and if they are registered on the list of the Order of Physicians.</p>
<b>Data source</b>	Federal database of health care professionals ("Cadastre/Kadaster"), Federal Public Service Health, Food Chain Safety and Environment OECD Health statistics
<b>Technical definitions</b>	The number of medical graduates and the number of foreign-trained doctors is based on the number of "visa/visum" delivered by the Federal Public Service Public Health, which are registered in the federal cadastre. Only the first "visa/visum" delivered to practise medicine is taken into account.
<b>Limitations</b>	<b>Medical graduates per 100 000 population:</b> this indicator also includes medical graduates from foreign countries, completing their medical training (and post-graduate training) in Belgium, but leaving Belgium afterwards.
<b>International comparability</b>	<b>Medical graduates per 100 000 population:</b> international comparability is partially limited due to methodological differences (some countries exclude foreign graduates while other countries, such as Belgium, include them).
<b>Dimension</b>	Sustainability of the health system
<b>Related indicators</b>	Number of practising physicians Number of practising physicians above 55+ years old

### 8.2.2. Results

#### Number of new medical graduates with a Belgian diploma

In 2017, a total of 1685 students graduated from medical schools in Belgium (see Table 65), i.e. a higher number of graduates than expected due to the implementation of the system of quota. The number of medical graduates with a Belgian diploma is almost the same for the French community (840 in 2017 vs 492 according to the quotas) and the Flemish community (845 in 2017 vs 735 according to the quotas, see Table 65). There is a higher proportion of female medical graduates with a Belgian diploma than male ones (respectively 59.7% and 40.3%, see Table 65) and it is quite stable

over the time. Globally, 87.4% of these students have the Belgian nationality (see Table 65).



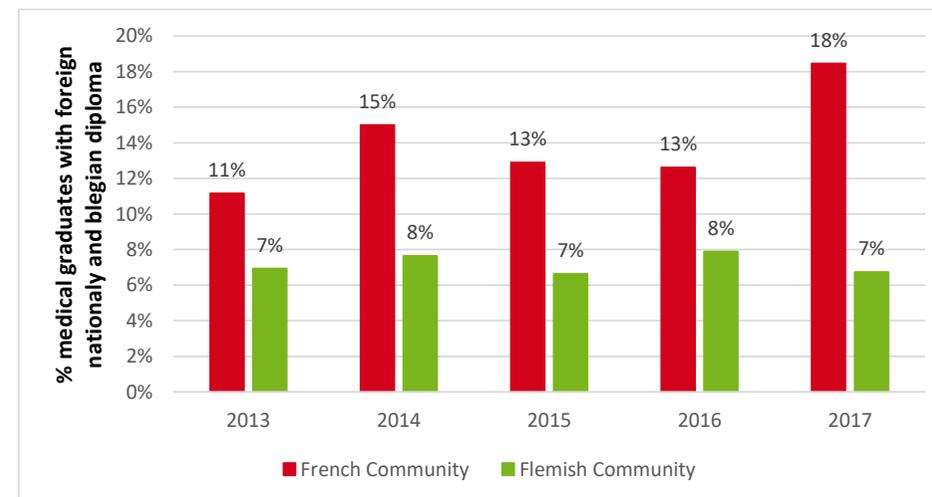
**Table 65 – Number of medical graduates with a Belgian diploma, by Community and by characteristics (2013-2017)**

Year (SPF)	2013	2014	2015	2016	2017	
<b>Belgium</b>	1 180	1 293	1 358	1 625	1 685	
<b>Community</b>	<b>French community</b>	430 (36.4%)	573 (44.3%)	605 (44.6%)	737 (45.4%)	840 (49.9%)
	<b>Flemish community</b>	750 (63.6%)	720 (55.7%)	753 (55.4%)	888 (54.6%)	845 (50.1%)
<b>Gender</b>	<b>Female</b>	737 (62.5%)	781 (60.4%)	832 (61.3%)	965 (59.4%)	1 006 (59.7%)
	<b>Male</b>	443 (37.5%)	512 (39.6%)	526 (38.7%)	660 (40.6%)	679 (40.3%)
<b>Belgian nationality</b>	<b>Yes</b>	1 080 (91.5%)	1 152 (89.1%)	1 230 (90.6%)	1 462 (90%)	1 474 (87.4%)
	<b>No</b>	100 (8.5%)	141 (10.9%)	128 (9.4%)	163 (10%)	211 (12.6%)

Source : SPF SPSCAE-FOD VVVL, Cadastre

The pattern of medical graduates with a Belgian diploma and a foreign nationality highly differs by community: a stable proportion of 7% for the Flemish Community, and an increasing proportion up to 18% for the French Community in 2017 (see Figure 101). This higher percentage can partly be explained by a high proportion of French (from France) graduates in the French Community (higher than the proportion of Dutch (from the Netherlands) graduates in the Dutch community), but also by a higher variety of other nationalities in the French Community (Morocco, Luxembourg...).

**Figure 101 – Percentage of foreign medical graduates with Belgian diploma<sup>99</sup>, by Community (2013-2017)**



Source: SPF SPSCAE-FOD VVVL, Cadastre; KCE calculation

Based on a study published in 2015, it has been highlighted that the proportion of French students is steadily increasing, reaching 12.50% in 2013-2014. The proportion of Luxembourg students fluctuates around 1%. The proportion of students of other European nationalities is gradually increasing, reaching 5.13% in 2013-2014. The proportion of students of non-European nationality fluctuates and seems to increase, from 4.86% in 2009-2010 to 7.40% in 2013-2014. <sup>4</sup>

<sup>99</sup> Number of “visa/visum” delivered to people with a foreign nationality divided by the total number of “visa/visum” (Belgian and foreigners).



### Number of physicians with a foreign diploma receiving a visa in Belgium

In addition to the number of medical graduates and physicians **with a Belgian diploma**, “visa/visum” are delivered to physicians **with a foreign diploma**.

New visas delivered annually to foreign medical doctors rose from 78 before 2004 to 430 in 2008. Before 2004, the inflow originated largely from the neighbouring countries (France, the Netherlands and Germany) and to a lesser extent from Spain and Italy. Since 2004, the largest group of immigrant doctors comes from the Eastern part of the European Union (Poland and Romania).

In 2017, a total of 436 physicians with a foreign diploma received a visa in Belgium (see Table 66). Since 2015, the number of visa delivered to physicians with a foreign diploma decreases. Only 6.7% of these physicians are Belgian (see Table 66).

**Table 66 – Number of physicians with a foreign diploma receiving a visa (2013-2017)**

Physicians with a foreign diploma receiving a visa (SPF)		2013	2014	2015	2016	2017
<b>Total physician with a Foreign diploma receiving a visa</b>		455	534	566	495	436
<b>Belgian nationality*</b>	<b>Yes</b>	17 (3.7%)	28 (5.1%)	30 (5.3%)	29 (5.7%)	29 (6.7%)
	<b>No</b>	438 (96.3%)	506 (94.9%)	536 (94.7%)	466 (94.3%)	407 (93.3%)

Source: SPF SPSCAE-FOD VVVL, Cadastre; KCE calculation; \*Belgian nationality at the time of the data extraction

### International comparison

Compared to the medical density reported by other European countries, i.e. on average 14.2 medical graduates per 100 000 inhabitants, Belgium is slightly below (12.1 medical graduates per 100 000 inhabitants, data 2015 – see Table 67). According to more recent data, the number of medical graduates with a Belgian diploma per 100 000 inhabitants will probably exceed the European average. The decrease in 2004 is the effect of the system of quotas which was decided in 1997, and implemented for the first time in 2004.<sup>5</sup> Due to the use of the smoothing possibility (see rationale documentation sheet), the numbers of medical graduates has gradually increased to exceed in 2015 the density of 2003 (see figure 102).

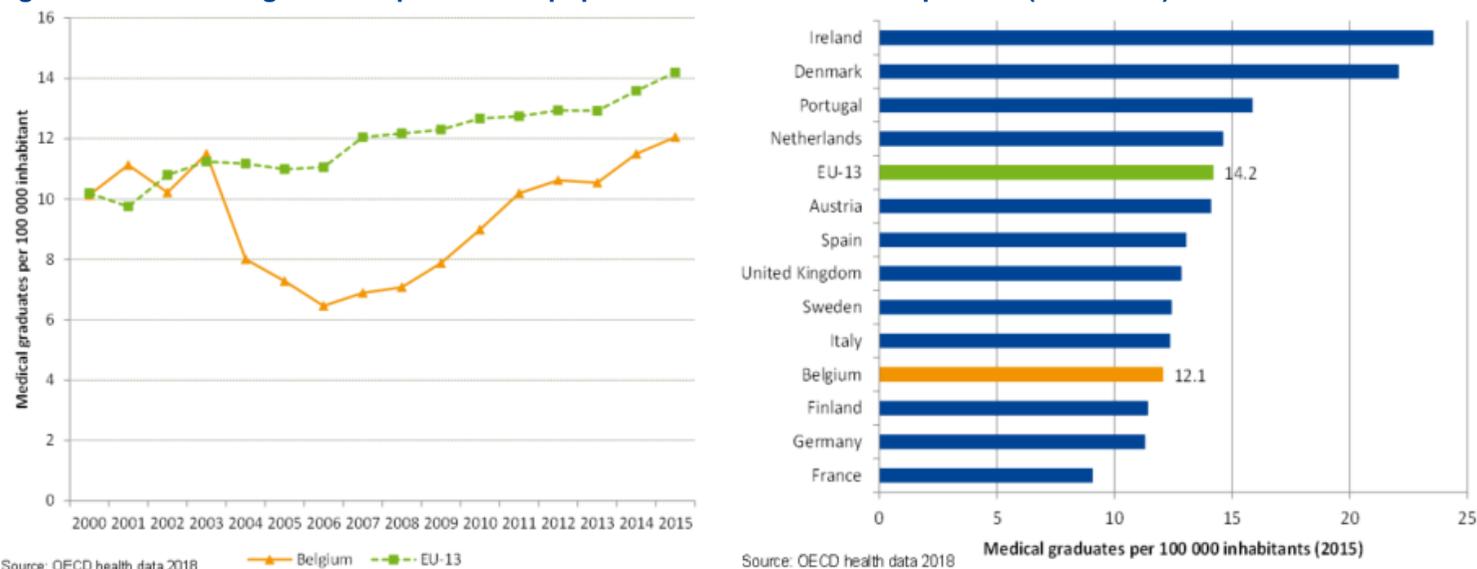


**Table 67 – Number of medical graduates with a Belgian diploma per 100 000 inhabitants (2000-2017)**

Year (OECD)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Medical graduates with a Belgian diploma (per 100 000 population)	10.1	11.1	10.2	11.5	8.0	7.3	6.5	6.9	7.1	7.9	9.0	10.2	10.6	10.5	11.5	12.1	14.2	14.8

Source: OECD Health Statistics 2018<sup>hh</sup>

**Figure 102 – Medical graduates per 100 000 population: international comparison (2000-2015)<sup>ii</sup>**



Source: OECD health data 2018  
 Source: OECD Health Statistics 2018

Source: OECD health data 2018

<sup>hh</sup> Data extracted from OECD Health Statistics 2018 are slightly different from original data source from SPF-FOD Cadastre.

<sup>ii</sup> Because of the lack of data from other European countries, 2015 is taken as the reference in the calculation.



### Key points

- **In 2017, a total of 1685 students graduated from medical school in Belgium (14.8 per 100 000 population).**
- **The density of 12 medical graduates per 100 000 population is below the EU-13 average of 14 per 100 000 population (based on 2015 data) but will probably exceed this number in the future.**
- **A decrease in the number of new graduates was observed in 2004 due to the implementation of the system of quotas. Progressively, the limits of the quotas were enlarged allowing the training of higher numbers of medical students. Moreover, the smoothing technique allowed a flexibility leading universities to exceed the limits imposed by the quotas year after year.**
- **The pattern of foreign medical graduates with a Belgian diploma highly differs by community: a remaining stable proportion around 7% in the Flemish Community, and an increasing proportion up to 18% in 2017 in the French Community.**

### References

- [1] OECD. Health at a Glance 2017: OECD Indicators. Paris: 2017.
- [2] WHO. Global Code of Practice on the International Recruitment of Health Personnel World Health Organization (WHO); 2010.
- [3] Gerkens S F-PM-I, Desomer A, Stordeur S, De Waroux M, Van de Voorde C, Van de Sande S, Leonard C. The Belgian Health System in 2010. Health Services Research (HSR). Brussels: Belgian Health Care Knowledge Centre (KCE); Belgian Health Care Knowledge Centre (KCE); 2010. Health Systems in Transition (KCE reports 138C)
- [4] Cellule Planification de l'offre des professions des soins de santé. Médecins : mobilités internationales. Service public fédéral Santé publique, Sécurité de la chaîne alimentaire et Environnement, Direction générale Soins de santé; 2015.
- [5] Roberfroid D SS, Camberlin C, Van de Voorde C, Vrijens F, Léonard C. Physician workforce supply in Belgium: current situation and challenges. Health Services Research (HSR). Brussels: Belgian: Health Care Knowledge Centre (KCE); 2008. KCE reports 72C