



1.1. Nursing graduates with a Belgian diploma per 100 000 population (new inflow) (S-8)

1.1.1. Documentation sheet

Description	Nursing graduates with a Belgian diploma per 100 000 population (new inflow)
Calculation	<p>Numerator: Number of students graduating every year from nursing schools (both Bachelor and non-Bachelor: all nursing students who have obtained a recognised qualification required to become a licensed nurse are counted) in Belgium (End-of-year situation 31/12).</p> <p>Denominator: Total population (End-of-year situation, January T+1)</p>
Rationale	<p>Maintaining the number of nurses requires investments in training new nurses as well as investments in the attractiveness of the nursing profession. Many industrialized countries have taken measures to expand the number of students in nursing education programmes in response to concerns about current or anticipated shortages of nurses. Increasing investment in nursing education is particularly important as the nursing workforce is ageing in many countries and the baby-boom generation of nurses approaches retirement.¹ Also in Belgium several policy measures were taken to increase the number of nursing graduates such as Project 600 which offers employees of the healthcare sector the opportunity to study nursing with maintenance of their salary.² Measures were also taken to improve the attractiveness of the profession, such as the agreement decided on July 2020 to revalue salaries (the so-called Ific system, a new salary grid upgrading a.o. the salaries of new entrants)³ and to improve working conditions. A working group has also been set up to reflect on task differentiation, task delegation and task transfer.⁴</p>
Data source	<p>Federal database of health care professionals (“Cadastre/Kadaster”), Federal Public Service Health, Food Chain Safety and Environment (FPS Public Health).</p> <p>OECD Health statistics for the international comparison.</p>
Technical definitions	<p>A nursing graduates is a person who has been trained to carry out nursing tasks. Nursing graduates have successfully completed a three-year (3.5 years since 2016 in the French community) advanced vocational training course (A2 or HBO-5 leading to obtain a diploma degree) or a three-year (before 2016) / four-year (since 2016) Bachelors’ programme Nursing training course (A1 or bachelor leading to obtain a bachelor degree).</p> <p>The number of nursing graduates is based on the number of “visa/visum” delivered by the FPS Public Health, which are registered in the federal cadastre. Only the first “visa/visum” delivered is taking into account (which differs from OECD data, see below).</p> <p>Data were extracted on 16 December 2022. As the database is constantly being updated and corrected, there may be differences in data depending on the date of extraction.</p>
International comparability	<p>International comparability is limited, as educational pathways to become a nurse vary and registration practices for new graduates may differ between countries. Some countries cannot exclude midwife graduates from nurses graduates (e.g. Spain: include midwife graduates)</p> <p>It should also be noted that small differences appeared between Belgian data provided by the FPS Public Health and OECD data. This is due to a difference of definition, i.e. OECD data concern the number of students who have obtained a recognised qualification in nursing in a given year and is based on the number of diploma (basis diploma or specialisation) and not on the number of first “visa/visum” delivered.</p>



Limitations	This indicator also counts nursing graduates with a foreign nationality or residing abroad and it is possible that some of them leave Belgium after having completed their nursing training in Belgium. It should be noted that for some nursing graduates, the country origin of the diploma is unknown. These nurses are not included here. They are considered in the nursing graduates with a foreign diploma.
Dimension	Sustainability – workforce capacity
Related indicators	Practising nurses (A-11); nursing graduates (S-8), nurses following the bachelor routes (S-9); nurses aged 50 years old and over (S-10), foreign-trained nurses (S-16), projection of the number of nurses active in the healthcare sector (S-22)
Reviewers	Van den Heede Koen, Mahieu Timothée

1.1.2. Results

Belgium

In 2021, a total of 5304 students graduated from nursing schools in Belgium (i.e. 45.8 per 100 000 population). While the number of nursing graduates with a Belgian diploma^a increased between 2010 and 2018 (from 4102 to 6446 respectively), a decline was observed in 2019 (3806) due to the extension of studies decided in 2016 (from 3 to 4 years to obtain the bachelor degree A1 and from 3 to 3.5 in the French community to obtain a diploma degree A2). The number then gradually increased again but remained below the 2018 level (see Table 1 and Figure 1).

Analysis by demographic characteristics

There is a higher proportion of female graduates with Belgian diploma than male graduates (respectively 85.6% and 14.4% in 2021, see Table 1) and these proportions remain stable over the time. While 89.6% of nursing graduates resided in Belgium in 2021, 18.7% of them did not have the Belgian nationality. The share of nursing graduates with a foreign nationality

increased over time (see Table 1), with an increase of 10.4 percentage points between 2010 and 2021.

Regional comparison

More students graduate from nursing schools in the Flemish Community than in the French Community (59.3% vs 40.7%, see Table 1) but expressed per 100 000 population, results are similar between both communities (see Figure 1), except in 2019 where the drop was more important in the French Community. This can be due to the fact that the French Community extended both studies for a bachelor degree (A1) and a diploma degree (A2) while the Flemish Community only extended studies to obtain a bachelor degree (A1).

The pattern of nursing graduates combining a foreign nationality and a Belgian diploma highly differs by community: with a proportion around 1-4% up to 2019 and around 7% in 2020-2021 in the Flemish Community, and a proportion of 16.2% in 2010 rising to 35.4% in 2021 in the French Community (see Figure 2). In 2021, most of them had the French nationality in nursing schools of the French Community (82.7%) while in the Flemish community, 43.2% originated from India and 31.4% from the Netherlands. It

^a The term diploma is a generic term to refer to a certificate awarded by an educational establishment to show that someone has successfully completed

a course of study. When related to a diploma level (in comparison with Bachelor degree), the symbol A2 will systematically be added.



should be noted that before 2019 (i.e. between 2010-2018), no nursing graduates originated from India.

When the place of residence is under scrutiny, one can observe that around only 1% of the nursing graduates in the Flemish Community reside in another country while in the French Community, this share increased from

1.1% in 2011 to 21.9% in 2021, with most of them residing in France (see Figure 3).

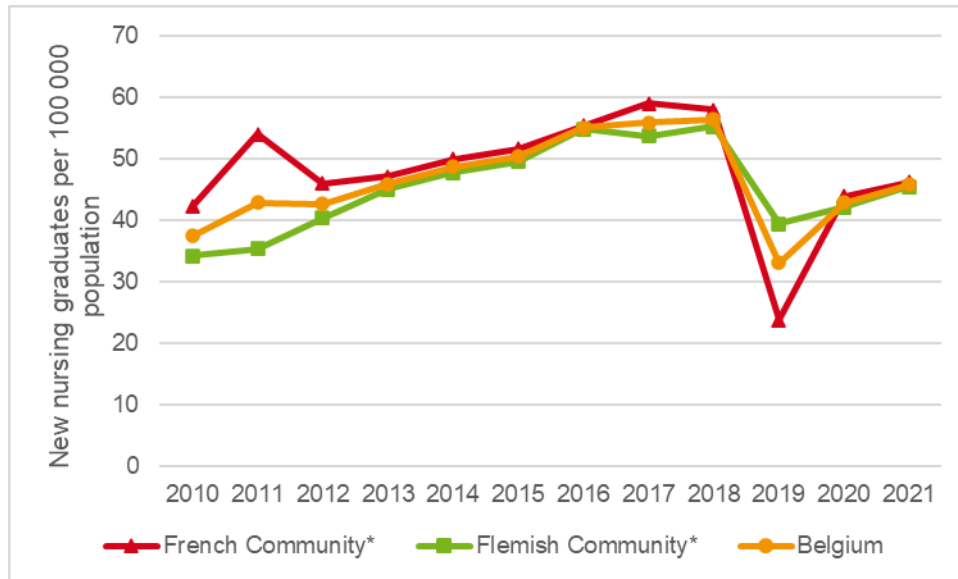
Table 1 – Number of nursing graduates with a Belgian diploma, by Community and by characteristics (2013-2017)

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019****	2020	2021	
Belgium	4102	4735	4734	5121	5460	5682	6239	6358	6446	3806	4942	5304	
Per 100 000 population	37.46	42.91	42.65	45.93	48.71	50.43	55.1	55.89	56.39	33.12	42.89	45.79	
Community*	French community	1867 (45.5%)	2401 (50.7%)	2057 (43.5%)	2120 (41.4%)	2261 (41.4%)	2349 (41.3%)	2531 (40.6%)	2709 (42.6%)	1104 (29%)	2041 (41.3%)	2157 (40.7%)	
	Flemish community	2235 (54.5%)	2334 (49.3%)	2677 (56.5%)	3001 (58.6%)	3199 (58.6%)	3333 (58.7%)	3708 (59.4%)	3649 (57.4%)	3774 (58.5%)	2702 (71%)	2901 (58.7%)	3147 (59.3%)
Gender	Female	3450 (84.1%)	4024 (85%)	4025 (85%)	4348 (84.9%)	4636 (84.9%)	4767 (83.9%)	5283 (84.7%)	5441 (85.6%)	5479 (85%)	3238 (85.1%)	4141 (83.8%)	4539 (85.6%)
	Male	652 (15.9%)	711 (15%)	709 (15%)	773 (15.1%)	824 (15.1%)	915 (16.1%)	956 (15.3%)	917 (14.4%)	967 (15%)	568 (14.9%)	801 (16.2%)	765 (14.4%)
Belgian Nationality**	Yes	3757 (91.6%)	4216 (89%)	4251 (89.8%)	4561 (89.1%)	4807 (88%)	4834 (85.1%)	5348 (85.7%)	5494 (86.4%)	5537 (85.9%)	3369 (88.5%)	4108 (83.1%)	4298 (81%)
	No	339 (8.3%)	509 (10.7%)	481 (10.2%)	552 (10.8%)	644 (11.8%)	828 (14.6%)	860 (13.8%)	852 (13.4%)	894 (13.9%)	429 (11.3%)	821 (16.6%)	992 (18.7%)
	Unknown	6 (0.1%)	10 (0.2%)	2 (0%)	8 (0.2%)	9 (0.2%)	20 (0.4%)	31 (0.5%)	12 (0.2%)	15 (0.2%)	8 (0.2%)	13 (0.3%)	14 (0.3%)
Place of residence***	Residence in Belgium	0 (0%)	1730 (36.5%)	4509 (95.2%)	4829 (94.3%)	5112 (93.6%)	5177 (91.1%)	5690 (91.2%)	5858 (92.1%)	5924 (91.9%)	3578 (94%)	4528 (91.6%)	4753 (89.6%)
	Residence abroad	0 (0%)	27 (0.6%)	189 (4%)	254 (5%)	301 (5.5%)	412 (7.3%)	490 (7.9%)	449 (7.1%)	460 (7.1%)	199 (5.2%)	374 (7.6%)	503 (9.5%)
	Unknown	4102 (100%)	2978 (62.9%)	36 (0.8%)	38 (0.7%)	47 (0.9%)	93 (1.6%)	59 (0.9%)	51 (0.8%)	62 (1%)	29 (0.8%)	40 (0.8%)	48 (0.9%)

Source: FPS Public health, Cadastre; *Based on (1) the community delivering the professional agreement. If not available, based on (2) diploma language. If not available based on (3) contact language **At the time of data extraction (16 December 2022); ***At the end of the visa year (31 December); ****The decrease in the number of nursing graduates in 2019 is due to the extension of the studies to obtain a bachelor degree (from three years to four years).



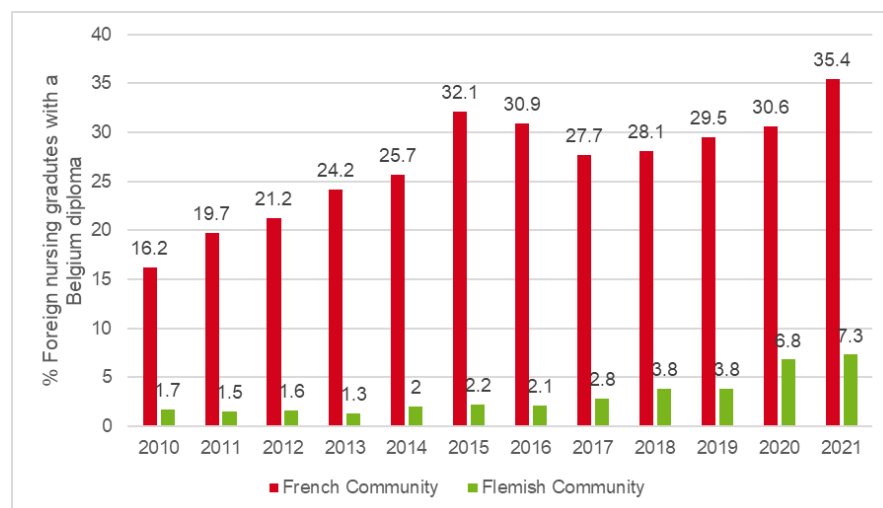
Figure 1 – Nursing graduates with a Belgian diploma per 100 000 population, Belgium and per Community (2010-2021)



Source: FPS Public health, Cadastre; KCE calculations *There is no longer a census of the population per community. These figures are therefore based on a proxy, using the distribution key between the Flemish Community and the French Community, set at 59.68% and 40.32% respectively in the Royal Decree of 14 August 2021 on physician quotas.

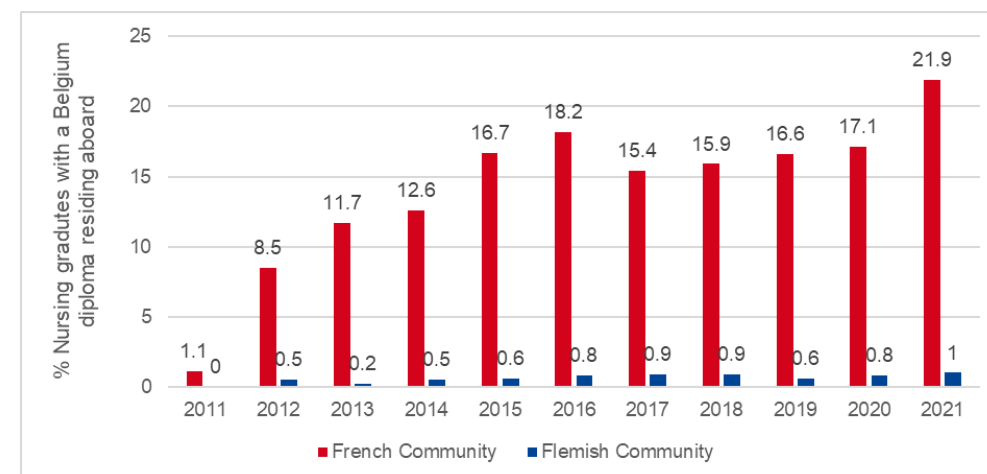


Figure 2 – Nursing graduates with a foreign nationality and a Belgian diploma, by Community (2013-2017)



Source: FPS Public health, Cadastre; KCE calculations

Figure 3 – Nursing graduates with a Belgian diploma and residing abroad, by Community (2011-2021)



Source: FPS Public Health, Cadastre; KCE calculations

International comparison

Belgium is clearly above the European averages of nursing graduates per 100 000 population, except during the drop of 2019 (see Figure 4).

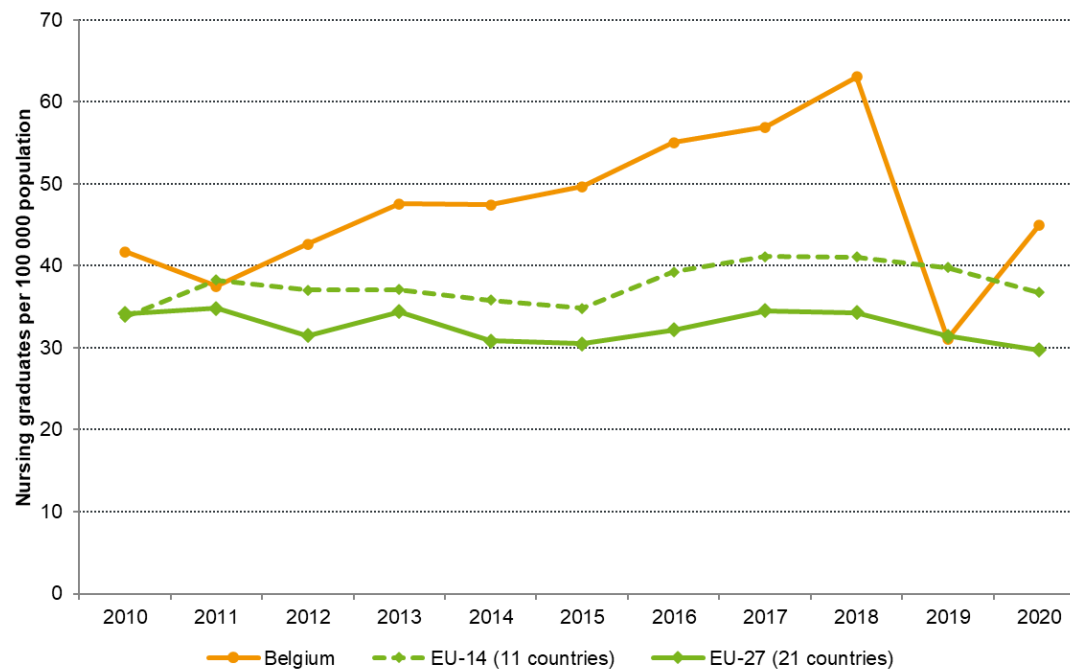
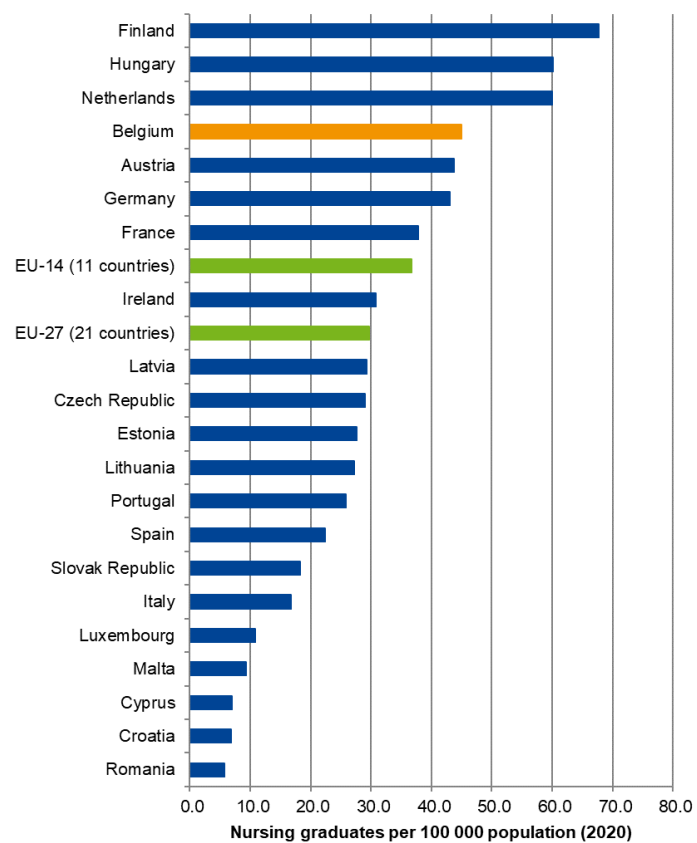
Table 2 – Density of nursing graduates with Belgian diploma (2010-2021) in Belgium, OECD data

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Belgium	41.69	37.51	42.63	47.54	47.42	49.68	55.03	56.90	63.03	31.06	45.01
EU-14 (11 countries in 2020)	33.76	38.26	37.03	37.08	35.79	34.81	39.27	41.11	41.06	39.79	36.73
EU-27 (21 countries in 2020)	34.19	34.80	31.48	34.39	30.86	30.49	32.20	34.53	34.27	31.44	29.73

Source: OECD Health Statistics 2023



Figure 4 – Nursing graduates per 100 000 population: international comparison (2010-2020)^b



Source: OECD Health statistics 2023

^b Because of the lack of data from other European countries in 2021, 2020 is taken as the reference.



Impact of COVID-19 pandemic

The number of nursing graduates is lower in 2020 and 2021 than in the 2014-2018 period. The analysis currently does not allow us to determine whether fewer people are entering nursing programmes due to the COVID-19 pandemic, given that those graduating in 2021 began their studies before the pandemic. However, the lower number of graduates could be due to a higher number of people having left the programme during the pandemic but more data are needed to confirm this. It is also possible that the prolongation of studies had a negative impact on the number of people beginning nursing programmes.

Key points

- In 2021, a total of 5304 students were graduated from nursing schools in Belgium. The decline observed in 2019 due to the extension of studies has not been caught up and levels remain below those of 2014-2018 (6446 nursing graduates in 2018).
- The density of 45.0 nursing graduates per 100 000 population is above the EU-14 average of 36.7 and the EU-27 average of 29.7 per 100 000 population (based on 2020 data).

- **The proportion of foreign students in the French Community is substantial (35.4% based on nationality and 21.9% based on the place of residence, 2021 data) and is increasing (+19.2 and +20.8 percentage points respectively compared to 2010). A very small proportion of students have a foreign nationality in the Flemish Community but the trend is also increasing (7.3% in 2021, 3.8% in 2019 and 1.7% in 2010). Less than 1% of nursing graduates in the Flemish community reside in another country.**
- The lower number of nursing graduates in 2020-2021 compared to the 2014-2018 period could be due to a higher number of people having left the programme during the COVID-19 pandemic but more data are needed to confirm this. It is also possible that the prolongation of studies had a negative impact on the number of people beginning nursing programmes.

References

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