



## 1.1. Nursing students following the bachelor route (% of nursing graduates, new inflow) (S-9)

### 1.1.1. Documentation sheet

<b>Description</b>	<p><b>Primary indicator:</b> Nursing students following the bachelor route (% of nursing graduates, new inflow)</p> <p><b>Secondary indicators:</b>          Professionally active nurses on the Belgian labour market with a bachelor's degree (% of professionally active nurses on the Belgian labour market, stock)          Practising nurses with a bachelor's degree (% of practising nurses, stock)</p>
<b>Calculation</b>	<p><b>Primary indicator:</b> Nursing students following the bachelor route (% of nursing graduates, new inflow)</p> <ul style="list-style-type: none"> <li>Numerator : Number of nursing graduates with a Belgium diploma and a bachelor degree (new inflow)</li> <li>Denominator: Total number of nursing graduates with a Belgium diploma (new inflow)</li> </ul> <p><b>Secondary indicators:</b> Percentage of professionally active nurses on the Belgian labour market and of practising nurses with a bachelor's degree (stock)</p> <ul style="list-style-type: none"> <li>Numerator: Number of professionally active nurses on the Belgian labour market and of practising nurses in the health sector with a bachelor's degree (stock)</li> <li>Denominator: Total number of professionally active nurses on the Belgian labour market and of practising nurses in the health sector (stock)</li> </ul>
<b>Rationale</b>	<p>In many countries, including Canada, Australia, New Zealand, Norway, Spain, Philippines, and many countries in South America, the standardized entry into professional nursing is obtaining a diploma with a bachelor degree. In other countries such as the United States, Belgium,<sup>1</sup> The Netherlands, the United Kingdom, and Sweden, other (lower educational) entry levels exist besides the Bachelor degree entry-level. Nevertheless, a solid evidence base shows that better patient outcomes are associated with higher educated nurses. A landmark US-study showed that each 10% increase in the proportion of Bachelor-degree trained nursing staff was associated with 5% lower odds on patient mortality after taking into account how sick the patients were and other characteristics of hospitals that had been shown to be associated with mortality rates, including physician qualifications.<sup>2</sup> Replications in other countries with differently organized and financed health care (among which a multi-country European study) yielded remarkably similar findings.<sup>3</sup> These research findings plead for policy recommendations and adoption of measures aiming for a sufficiently educated nursing workforce. In the US, for instance, the Institute of Medicine (IOM) recommended in its report on 'The Future of Nursing'<sup>4</sup> to move to a nurse workforce comprising 80% of nurses with a Bachelor's degree by 2020 (compared to slightly more than 50% in 2010).</p> <p>In Belgium, policy makers did not (yet) formulated such targets but the above evidence suggests the importance of at least monitoring the educational level of nurses over time and encouraging the training and the employment of nurses with a bachelor degree.</p>
<b>Data source</b>	<p><b>Primary indicator:</b> Federal database of health care professionals ("Cadastre/Kadaster"), Federal Public Service Health, Food Chain Safety and Environment (FPS Public Health)</p> <p><b>Secondary indicators:</b> PlanCad for nurses 2004-2009, 2016, 2017 and 2004-2018<sup>5-8</sup> (see also A-11 data sources for the 2010-2015 estimates)</p>
<b>Technical definitions</b>	<p>A nursing graduate 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). 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</p>



into account. 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.

A nurse is considered as professionally active when he/she is registered as self-employed person into National Institute for the Social Security of the Self-employed (NISSE) database or when he/she is registered as salaried worker into National Social Security Office (NSSO) database with at least 0.1 full time equivalent (FTE) per year. The threshold of 0.1 FTE per year has been established by the working group on nurses within the Planning Unit for the Supply of Healthcare Professions of the FPS Public Health.<sup>8</sup>

Practising nurses are defined as nurses active in the health sector. A nurse is considered as active in the health sector when he/she is registered as self-employed into NISSE database and had provided a minimum level of services per year (at least 10% of the activity level of a full time self-employed, i.e. 817 services in 2018 based on RIZIV-INAMI nomenclature) or when she/he is registered as salaried worker into NSSO database with at least 0.1 full time equivalent (FTE) per year and is working for an active employer in the health sector.<sup>8</sup>

<b>Limitations</b>	The number of professionally active nurses and practising nurses in 2010-2015 and 2019-2022 are based on estimates (see data sources). Practising nurses does not necessarily work as nurses (e.g. nurses who have switched to an administrative job in a hospital or a management position are also counted)
<b>International comparability</b>	No recurrent systematic data collection exists internationally.
<b>Dimension</b>	Sustainability – workforce capacity
<b>Related indicators</b>	Practising nurses (A-11), nursing graduates (S-8), 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)
<b>Reviewers</b>	Van den Heede Koen, Mahieu Timothée, Christelle Durand

## 1.1.2. Results

### 1.1.2.1. Nursing students following the bachelor route (% of nursing graduates, new inflow)<sup>a</sup>

#### Belgium

Table 1 shows that the percentage of nursing students in Belgium following the bachelor route was quite stable between 2010 (55.5%) and 2018

(56.5%) and then decreased in 2019 (45.1%), which could be due to the prolongation of the bachelor programme from 3 to 4 years in 2016. In 2021, the percentage of nursing graduates holding a bachelor's degree was 48.8% in Belgium, which remain below 2018 level (see Table 1).

#### Analysis by demographic characteristics

There is a higher proportion of female graduates with Belgian diploma than male graduates for both diploma levels (A1: 85.1% and A2: 85.7%, see Table 2). The share of nursing graduates with a Belgian diploma and the

<sup>a</sup> 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.



Belgian nationality is higher for nursing graduates with a bachelor degree (A1: 88.9% than with a diploma degree (A2: 73.5%).

### Regional comparison

The share of nursing students following the bachelor route is higher in the French community than in the Flemish community during the 2010-2021 period (see Table 1 and Figure 1). In 2021, respectively 58.7% and 42% of the nursing graduates in the French community and in the Flemish community had a bachelor degree (see Table 1). The discrepancies

observed in 2019 is due to the extension of studies (all diploma levels in the French community and only bachelor's studies in the Flemish community).

### Impact of COVID-19 pandemic

It is difficult to determine if the drop in the share of nursing graduates following the bachelor route observed in 2020 and 2021 compared to 2018 is due to the extension of studies or to the COVID-19 pandemic.

**Table 1 – Nursing graduates with Belgian diploma (2010-2021), per community and per diploma level (new inflow)**

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>French community</b>	Bachelor (A1)	1069 (57.3%)	1559 (64.9%)	1308 (63.6%)	1296 (61.1%)	1436 (63.5%)	1475 (62.8%)	1633 (64.5%)	1752 (64.7%)	1679 (62.8%)	901 (81.6%)	1126 (55.2%)	1266 (58.7%)
	Diploma (A2)	798 (42.7%)	838 (34.9%)	749 (36.4%)	824 (38.9%)	825 (36.5%)	873 (37.2%)	898 (35.5%)	957 (35.3%)	992 (37.1%)	203 (18.4%)	915 (44.8%)	890 (41.3%)
	Unknown	0 (0%)	4 (0.2%)	0 (0%)	0 (0%)	0 (0%)	1 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0%)	0 (0%)	1 (0%)
	<b>Total</b>	<b>1867</b>	<b>2401</b>	<b>2057</b>	<b>2120</b>	<b>2261</b>	<b>2349</b>	<b>2531</b>	<b>2709</b>	<b>2672</b>	<b>1104</b>	<b>2041</b>	<b>2157</b>
<b>Flemish Community</b>	Bachelor (A1)	1209 (54.1%)	1265 (54.2%)	1447 (54.1%)	1595 (53.1%)	1633 (51%)	1769 (53.1%)	1941 (52.3%)	1781 (48.8%)	1966 (52.1%)	815 (30.2%)	1216 (41.9%)	1321 (42%)
	Diploma (A2)	1025 (45.9%)	1067 (45.7%)	1230 (45.9%)	1406 (46.9%)	1566 (49%)	1563 (46.9%)	1764 (47.6%)	1868 (51.2%)	1807 (47.9%)	1887 (69.8%)	1683 (58%)	1826 (58%)
	Unknown	1 (0%)	2 (0.1%)	0 (0%)	0 (0%)	0 (0%)	1 (0%)	3 (0.1%)	0 (0%)	1 (0%)	0 (0%)	2 (0.1%)	(0%)
	<b>Total</b>	<b>2235</b>	<b>2334</b>	<b>2677</b>	<b>3001</b>	<b>3199</b>	<b>3333</b>	<b>3708</b>	<b>3649</b>	<b>3774</b>	<b>2702</b>	<b>2901</b>	<b>3147</b>
<b>Total Belgium</b>	Bachelor (A1)	2278 (55.5%)	2824 (59.6%)	2755 (58.2%)	2891 (56.5%)	3069 (56.2%)	3244 (57.1%)	3574 (57.3%)	3533 (55.6%)	3645 (56.5%)	1716 (45.1%)	2342 (47.4%)	2587 (48.8%)
	Diploma (A2)	1823 (44.4%)	1905 (40.2%)	1979 (41.8%)	2230 (43.5%)	2391 (43.8%)	2436 (42.9%)	2662 (42.7%)	2825 (44.4%)	2799 (43.4%)	2090 (54.9%)	2598 (52.6%)	2716 (51.2%)
	Unknown	1 (0%)	6 (0.1%)	0 (0%)	0 (0%)	0 (0%)	2 (0%)	3 (0%)	0 (0%)	2 (0%)	0 (0%)	2 (0%)	1 (0%)
	<b>Total</b>	<b>4102</b>	<b>4735</b>	<b>4734</b>	<b>5121</b>	<b>5460</b>	<b>5682</b>	<b>6239</b>	<b>6358</b>	<b>6446</b>	<b>3806</b>	<b>4942</b>	<b>5304</b>

Source: FPS Public health, Cadastre

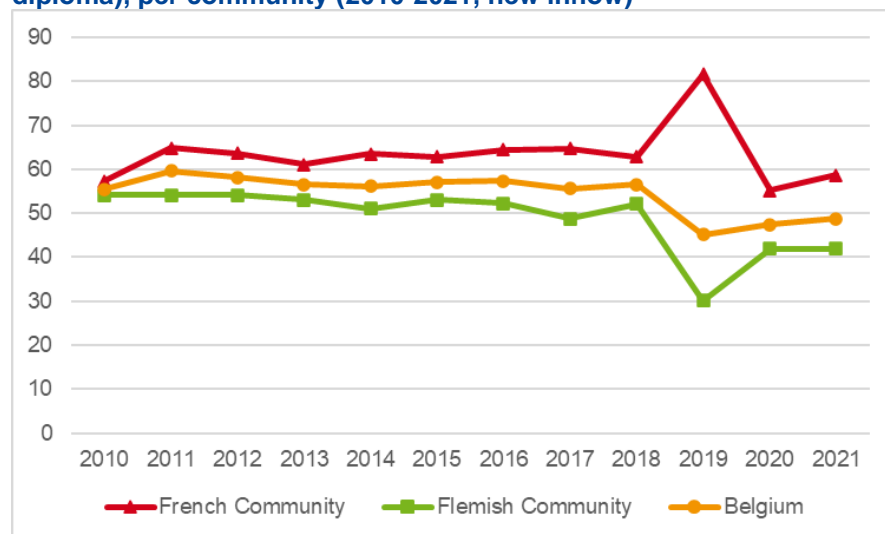


**Table 2 – Nursing graduates with a Belgian diploma, per diploma level and per characteristics (new inflow)**

		Bachelor degree (A1)	Diploma degree (A2)
<b>Gender</b>	Female	2211 (85.5%)	2327 (85.7)%
	Male	376 (14.5%)	389 (14.3%)
<b>Belgian Nationality</b>	Yes	2301 (88.9%)	1197 (73.5%)
	No	282 (10.9%)	709 (26.1%)
	Unknown	4 (0.15%)	10 (0.37%)

Source: FPS Public health, Cadastre, KCE calculations

**Figure 1 – Nursing graduates with bachelor degree (A1, Belgian diploma), per community (2010-2021, new inflow)**



Source: FPS Public health, Cadastre, KCE calculations



### 1.1.3. Percentage of professionally active nurses on the Belgian labour market and of practising nurses with a bachelor degree (stock)

In 2018, there were 148 782 professionally active nurses on the Belgian labour market in Belgium (see Table 3) and 126 496 practising nurses

working in the health sector (see Figure 2). Among those, 56.5% and 54.9% respectively had a bachelor degree A1. These proportions remain quite stable since 2009 (see Table 5 and Figure 6). The percentage of practising nurses with a bachelor degree is higher in Brussels (66.3% in 2018) than in other regions (52.2% in Flanders and 56.3% in Wallonia in 2018) (see Figure 2).

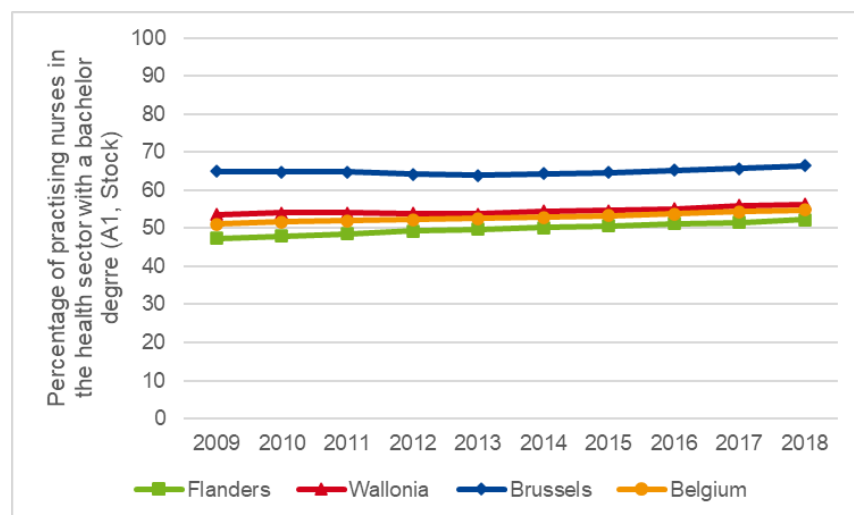
**Table 3 – Professionally active nurses on the Belgian labour market, per type of diploma (2009, 2016, 2018)**

		2009*		2016**		2018**	
		N	%	N	%	N	%
<b>Total in Belgium</b>		126 473	100%	143 470	100%	148 782	100%
<b>Type of diploma</b>	Bachelor (A1)	72 684	57.5%	79 357	55.3%	84 010	56.5%
	Diploma (A2)	47 620	37.6%	50 290	35.1%	52 929	35.6%
	Assistant in hospital care***	5 949	4.7%	3 624	2.5%	2828	1.9%
	Foreign diploma or unknown diploma	220	0.2%	10 199	7.1%	9015	6.1%

Source: \*PlanCad nurses 2014<sup>6</sup>; \*\*PlanCad nurses 2016.<sup>6</sup>; PlanCad nurses 2004-2018<sup>8</sup> \*\*\*This diploma was interrupted in 1996.



**Figure 2 – Percentage of practising nurses with a bachelor degree (Stock), per region and Belgium (2010-2018)**



Source: PlanCad nurses 2004-2018<sup>8</sup>

### Key points

- **The percentage of nursing graduates with a bachelor's degree in Belgium was stable between 2010 and 2018 (around 56%) and decreased in 2019 (45.1%) due to the extension of studies. In 2021, the percentage observed before the extension of studies was not recovered and was 48.8%.**
- **The share of nursing graduates following a bachelor degree is higher in the French community (58.7% in 2021) than in the Flemish community (42.0% in 2021).**

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