



5.2 Health workforce capacity

Health workforce capacity is defined as the system's capacity to provide and maintain (in the future) a sufficient and qualified health workforce. This includes indicators on:

- Inflow: the number of new graduates (S-4 for physicians, S-8 for nurses), their specialisation (S-5 for physicians, and S-9 for nurses) and the share of foreign workers (S-14 for physicians, S-16 for nurses);
- Outflow: the share of the workforce that will retire in the near future (S-7 for physicians, S-10 for nurses);
- Potential (future) shortages: projections of the supply and the demand (S-18 and S-19 for GPs, S-22 for nurses), proxies of the workforce's well-being and satisfaction (R-1), proxies of absenteeism (R-2), and the number of nurses vacancies in hospitals (R-3). The latter three are currently developed in the resilience chapter (see section 8.3).

Physicians

In Belgium, a quota system limiting access to specialisation (so after the basic medical training) was decided in 1997, with the first effect observed in 2004. To meet these quotas, specific measures were also taken by the federated entities to limit the number of medical graduates (see the technical sheet for details). However, despite the introduction of this system, the number of **medical graduates (S-4)** has risen more than what was foreseen by the quotas. In 2021, the number of students graduating from Belgian medical schools almost doubled compared to 2010 and exceeded the overall quota for access to specialisation by 674 students (1 904 medical graduates against a quota of 1 230 for 2021, with a higher surplus in the French Community than in the Flemish Community). Among these medical graduates, the share of medical graduates with a Belgian diploma who had a foreign nationality differed greatly from one community to the other, with a share of between 4% and 7% in the Flemish Community (78% of them coming from the Netherlands in 2021) and an increasing share of up to 20% in the French Community in 2020 (half of them coming from France).

To ensure a number of medical graduates more in line with the quotas, additional measures were taken, and an entrance exam combined with a *numerus fixus* is now implemented in both communities, limiting the number of students starting medical studies.⁶⁶

It should however be noted that, based on an analysis of future needs, quota have now been increased (from 1 230 in 2019 to 2 073 for 2029).⁶⁷

Compared to EU-14 and EU-27 averages, the density of medical graduates in Belgium followed a similar pattern between 2010 and 2015 but from 2016 the density in Belgium was slightly higher. In 2021, Belgium had 2.3 more medical graduates per 100 000 population than the average for the EU-14 countries and 1.3 more per 100 000 population than the EU-27 average. It should be noted, however, that many foreign medical students (mainly from France), seeking to avoid the difficulties of access to medical studies in their own country, complete their studies in Belgium and then return to their country. This is mainly a problem in the French community. For this reason, the French community has now set a limit in the percentage of people living abroad who are admitted to basic medical training.

The recruitment of **foreign-trained physicians (S-14)** also allows to maintain a sufficient number of physicians in a country. In the "Global Code of Practice on the International Recruitment of Health Personnel", the World Health Organization (WHO), however, encourages countries to achieve greater "self-reliance" in the training of health personnel.

In 2021, about 13% of all licensed to practice physicians in Belgium held a foreign diploma (9 526 foreign-trained physicians among 72 660 physicians licensed to practice); half of them came from France, The Netherlands and Romania. Overall, an increase of 5.3 percentage points was observed compared with 2010. Compared with other EU countries, the proportion of foreign-trained physicians licensed to practice in Belgium remained slightly below the EU-14 average (12.7% vs 14.9% in 2020) but was above the EU-27 average (12.7% vs 11.4% in 2020). However, this proportion relates to physicians who are licensed to practice and not to practising physicians. The proportion is lower if we only look at practising physicians. Indeed, based on data from the PlanCad, only 6.4% of practising physicians in Belgium had a foreign diploma in 2021 (no international data available).



It should also be highlighted that orienting new graduates as GPs was an important objective these recent years and the efforts (such as the sub-quotas on GPs defined by the federated entities) have produced effects. The percentage of **medical graduates becoming GPs** (S-5) increased from 26.3% in 2011 to 38.3% in 2021. The most important impact was observed in the French community (based on the contact language). The percentage of French-speaking medical graduates becoming GPs is now higher than the percentage of Dutch-speaking medical graduates becoming GPs (40.7% vs 35.9% in 2021), while it was the contrary up to 2018.

Moreover, the proportion of GPs aged 55 years and over has decreased although this proportion remained large (44.6% in 2021). Other medical specialties with a **proportion of physicians aged 55 years and over** greater than 40% in 2021 were medical specialists in rheumatology (46.1%), in Ear-Nose-Throat (ENT) (41.2%), in radiology (41.0%), and in nuclear medicine (40.2%). For these medical specialties, the proportion was increasing over time. Compared to other countries, although the overall proportion of physicians aged 55 and over (in headcounts) has been decreasing since 2016, the proportion observed in Belgium (43.3%) remained higher than the EU-14 (35.1%) and EU-27 (37.4%) averages (based on 2020 data). Vigilance is therefore still required to ensure that the inflow of new physicians will be sufficient to replace those who will retire in the coming years and to respond to any growing demand.

Results from the microsimulation model PROMES showed an expected increase in the number of contacts with GPs in Belgium: from around 51.3 million contacts in 2022 up to 57.3 million in 2033, that is an average annual

increase of 1%. Between 2022 and 2027, an increase of the **number of contacts with GPs (demand) (S-18)** of 3.4% is projected for Belgium (3.2% in Brussels, 3.6% in Wallonia and 3.4% in Flanders). During roughly the same period (2021-2026), the **number of practising GPs (supply) (S-19)** in Belgium is expected to increase from 12 554 to 13 089, that is an increase of 4.3%. The number of practising GPs is predicted to increase by 4.3% between 2021 and 2026 in the French community and by 4.2% in the Flemish community. However, these increases in the number of practising GPs do not translate into an increase in the number of FTEs for which a drop of 8.6% is expected in the French community and of 7.1% in the Flemish community. Nevertheless, between 2026 and 2031, an increase is expected in the number of FTEs in the Flemish community (and a smaller decrease in the French community). From 2031 onwards, FTEs are expected to increase even more than headcounts (because the GPs will be, on average, younger).

Taking into account the new quotas for 2029 (see above), the number of practising GPs at the Belgian level is expected to increase by 13.3% between 2031 and 2036 and by 14.7% between 2036 and 2041) while FTEs are expected to increase by respectively 14.2% and 16.9%. Unfortunately, these long-term projections cannot be compared with projections on the number of contacts with GPs, which are only available for short / medium horizons.


Table 11 – Sustainability: Indicators on workforce capacity - Physicians

(ID) Indicator	Score	Belgium	Period	Flanders	Wallonia	Brussels	Source	EU-14	EU-27	
Inflow										
S-4	Medical graduates (/100 000 population)	↗	16.4	2021	-	-	-	FPS Public Health		
			16.6	2020	-	-	-	OECD	14.3	15.3
S-5	Medical graduates becoming GP (% of those with medical specialisation)	+	38.3%	2021	35.9% (NL)	40.7% (FR)	RIZIV-INAMI			
S-14	Foreign-trained physicians (% of those licensed to practice)	↗	13.1%	2021	-	-	-	FPS Public Health		
			12.7%	2020	-	-	-	OECD	14.9%	11.4%
Outflow										
S-7	Physicians aged 55+ (% practising), headcounts	+	43.3%	2020				OECD	35.1%	37.4%
	In FTE, based on contact language		38.6%	2021	36.3% (NL)	41.7% (FR)	RIZIV-INAMI			
	In FTE, based on region of contact				37.0%	42.8%	40.8%			
Potential shortage in the future (see also R-1)										
S-18	Projection of the number of contacts with GPs (Demand), evolution in %	↗	+3.4%	2022-2027	+3.4%	+3.6%	+3.2%	Federal Planning Bureau		
			+6.3%	2027-2032	+6.4%	+6.3%	+5.1%			
S-19a	Projection of the number of practising GPs (Supply), evolution in %	↗	+4.3%	2021-2026	+4.2%		+4.3%	Planning Commission of medical supply		
			+3.9%	2026-2031	+6.2%		+0.8%			
S-19b	Projection of the number of FTE practising GPs (Supply), evolution in %	↘	-7.6%	2021-2026	-7.1%		-8.6%	Planning Commission of medical supply		
			+0.1%	2026-2031	+1.7%		-2.5%			
Assessment S-18/S-19										

Good (●), average (●) or poor (●) results, globally stable (ST), improving (+) or trend not evaluated (empty).
For contextual indicators (no evaluation): upwards trend (↗), stable trend (→), downwards trend (↘), no trend (C).



Nurses

In 2021, a total of 5 304 students graduated from nursing schools in Belgium. A decrease can be observed in 2019 due to the extension of the length of the studies and in 2021, the number remained lower than in 2014-2018 (6 446 nursing graduates in 2018). This should be monitored in the future, as it is possible that the combination of longer studies and the possible deterioration in the perception of the profession due to the COVID-19 pandemic could have a negative impact on the number of new nursing graduates in the future.

Compared to other countries; the density of **45.0 nursing graduates per 100 000 population (S-8)** in Belgium was above the EU-14 average of 36.7 and the EU-27 average of 29.7 per 100 000 population (based on 2020 data to allow for comparison with a sufficient number of countries). Nevertheless, this comparison is biased by the substantial proportion of foreign students who usually leave Belgium after they graduate. The proportion of foreign students was substantial in the French Community (35.4% based on nationality and 21.9% based on the place of residence, 2021 data) and was increasing (+19.2 and +20.8 percentage points respectively compared to 2010). A smaller proportion of students had a foreign nationality in the Flemish Community, but the trend was also increasing (7.3% in 2021, 3.8% in 2019 and 1.7% in 2010).

The extension of the length of the studies also impacted the **percentage of nursing graduates with a bachelor's degree (S-9)^m** in Belgium and in 2021, the percentage was below the level observed between 2010 and 2018 (48.8% compared with around 56%). This share was higher in the French community (58.7% in 2021) than in the Flemish community (42.0% in 2021). This needs to be monitored to ensure a sufficient share of nurses with a high education level for the forthcoming years.

^m Among all nursing graduated with a diploma degree (3/3.5 years) or a bachelor's degree (4 years))

ⁿ including diploma with unknown country of origin (and from 1.2% in 2010 to 3.9% in 2021 by excluding diploma with unknown country of origin).

The proportion of **foreign-trained nurses** among all nurses licensed to practice (**S-16**) in Belgium (4.2% in 2021) was much lower than the proportion of foreign-trained physicians (13.1% in 2021) but this share was increasing over time (from 1.5% in 2010 to 4.2% in 2021ⁿ). Compared to other EU countries, the proportion of foreign-trained nurses licensed to practice in Belgium was similar to the European averages (EU-14 and EU-27) in 2020 but the increase between 2010 and 2020 was more important in Belgium than EU averages (+2.7 percentage points in Belgium, +2.1 percentage points for EU-14 and +0.6 percentage points for EU-27).

Concerning the share of nurses that will retire in the near future, the proportion of **practising nurses aged 50° years and over** in Belgium increased between 2004 and 2018, from 14.0% to 32.1% (+18.1 percentage points). This can either be seen as a need to invest in new recruits or as a sign of longer availability on the labour market (retirement at later age). Older nurses that remain active in the health sector nevertheless usually rather perform administrative tasks.

The **number of FTEs nurses active in the health sector (practising nurses) (S-22)** is expected to increase by 5 198 FTEs (4.6%) between 2023 and 2028. The number of FTEs nurses active in the hospital sector is expected to increase by 2 554 FTEs (3.7%) between 2023 and 2028, which is insufficient to ensure sustainable safe patient-to-nurse ratios in hospitals as defined by KCE report 325.⁶⁰ The number of FTEs nurses active in nursing homes is expected to increase by 1 292 FTEs (6.7%) between 2023 and 2028 and the number of FTEs nurses active in the home care sector is expected to increase by 1 242 FTEs (6.3%) between 2023 and 2028. No forecast of future demand is available to compare these supply forecasts with.

^o Because nurses usually retire earlier than physicians (often around 60 years old) or change for more administrative tasks at the end of their carriers, a threshold of 50 years old was chosen instead of 55 years old.



Conclusion

Efforts to improve workforce capacity have had a positive impact, but vigilance is still needed as the number of contacts with GPs (demand) is expected to grow faster than the number of FTE practising GPs (supply) in the short to medium term. In addition, the proportion of physicians aged 55 and over remained high overall and increased in some specialties such as rheumatologists and ENT specialists.

For nurses, based on projections up to 2028, the number of FTE practising nurses is expected to increase, but not enough in the hospital sector to ensure sustainable safe patient to nurse ratio as defined in KCE report 325

(assuming constant policy).⁶⁰ There is also a potential shortage in nursing homes to ensure sufficient quality standards, but this needs to be further investigated.

It will also be important to assess and monitor whether the increase in the length of nursing studies or the COVID-19 pandemic has a lasting negative impact on the number of new nursing students. In particular, a decline was observed concerning the number of nursing students following the bachelor route.

Table 12 – Sustainability: Indicators on workforce capacity - Nurses

(ID) Indicator		Score	Belgium	Period	Flanders	Wallonia	Brussels	Source	EU-14	EU-27
Inflow										
S-8	Nursing graduates (/100 000 population)	↘	45.8	2021				FPS Public Health		
			45.0	2020				OECD	36.7	29.7
S-9	Nursing students following the bachelor route (% of new graduates)	■	48.8%	2021	42.0%		58.7%	FPS Public Health		
S-16	Foreign-trained nurses (% of those licensed to practice)	↗	4.2%	2021				FPS Public Health		
			4.1%	2020				OECD	5.3%	4.7%
Outflow										
S-10	Nurses aged 50+ (% practising nurses), Based on the region	↗	32.1%	2018				FPS Public Health		
	32.8%				30.1%	33.8%				
	Based on the language of the diploma				34.2% (NL)	28.9% (FR)				
Potential shortage in the future (see also R-1, R-2, R-3)										
S-22 NEW	Projection of the number of FTE practising nurses (Supply), evolution in %	●	+4.6%	2023-2028	+4.2%		+5.1%	Planning Commission of medical supply		
			+4.9%	2028-2033	+4.9%		+5.0%			

Good (●), average (●) or poor (●) results, globally stable (ST), improving (+) or trend not evaluated (empty).
For contextual indicators (no evaluation): upwards trend (↗), stable trend (→), downwards trend (↘), no trend (C).