



1.1. Number of hospital bed closures due to staff absenteeism or force majeure (R-2)

1.1.1. Documentation sheet

Description	<p>Primary indicator Share of hospital beds that are closed due to staff absenteeism or force majeure</p> <p>Secondary indicators Number of hospital bed closures due to staff absenteeism or force majeure Number of ICU bed closures due to staff absenteeism or force majeure Share of ICU beds that are closed due to staff absenteeism or force majeure</p>
Calculation	<p>Number of hospital bed closures due to staff absenteeism or force majeure: sum of the number of ICU beds and non ICU beds that are closed due to staff absenteeism or force majeure and not available for the hospitalisation of (COVID-19 or non COVID-19) patients, as registered daily by hospitals.</p> <p>Number of ICU bed closures due to staff absenteeism or force majeure: number of ICU beds that are closed due to staff absenteeism or force majeure and not available for the hospitalisation of (COVID-19 or non COVID-19) patients, as registered daily by hospitals.</p> <p>Share of hospital beds that are closed due to staff absenteeism or force majeure: numerator = number of hospital bed closures due to staff absenteeism or force majeure; denominator = total number of licensed beds in general hospitals.</p> <p>Share of ICU beds that are closed due to staff absenteeism or force majeure: numerator = number of ICU bed closures due to staff absenteeism or force majeure; denominator = total number of ICU beds in general hospitals.</p>
Rationale	<p>Shortage of staff resulting from absenteeism of healthcare professionals, in particular nurses working in hospital services, is known to be both a consequence of the COVID-19 crisis and an obstacle to quality of care in COVID-19 times.^{1,2} Although nursing shortages were reported in most industrialised countries before the crisis, the COVID-19 pandemic amplified the issue. In Belgium, absences of health professionals have been quantified in limited contexts but no administrative comprehensive are available.³ To quantify the hospital staff absences and their evolution during the COVID-19 pandemic, the number of hospital bed closures due to staff absenteeism or force majeure is used as a proxy.</p>
Data source	<p>FPS Public Health (Incident Crisis Management System (ICMS))⁴</p>
Technical definitions	<p>Number of hospital bed closures: since October 2021, as part of the daily data registered in the context of surge capacity plans, hospitals must register the number of (ICU and non ICU) hospital beds (except bed types A, a, Sp, M, MIC, N, n, NIC) that are “closed due to staff absenteeism or force majeure and not available for the hospitalisation of (COVID-19 or non COVID-19) patients”. Data are available from 22 November 2021 to 31 December 2022.</p> <p>Total number of ICU beds: the total number of ICU beds corresponds to the number of licensed ICU beds in November 2020.⁵ This includes both ICU beds for COVID-19 patients and ICU beds for other patients. Although this number slightly varies overtime, it is here maintained constant at its level of November 2020 (Belgium = 1 992; Brussels = 269; Flanders = 1 071; Wallonia = 652).</p> <p>Total number of beds: the total number of hospital beds corresponds to the number of licensed beds (except bed-indices A, A1, A2, M, NIC, S1, S2, S3, S4, S5 and S6) in general hospitals in November 2021 (data FPS Public Health). Although this number slightly varies overtime, it is here maintained constant at its level of November 2021 (Belgium = 39 643; Brussels = 5 414; Flanders = 21 916; Wallonia = 12 313).</p>



International comparability	N.A.
Limitations	<p>Data on closed beds are not available before November 2021.</p> <p>Since 28 June 2021, ICMS data are no longer registered on weekends and public holidays. The last available data are imputed to replace the missing data. Therefore, the number of beds closed are systematically the same on Friday, Saturday and Sunday.</p> <p>From 14 May 2022 to 14 September 2022, due to a cyber-attack, data are missing for all hospitals of one province.</p> <p>Flawed or biased recording of closure of both ICU and non-ICU beds by hospitals in ICMS cannot be ruled out.</p>
Dimension	Resilience; Sustainability
Related indicators	R-3 Number of nursing vacancies in hospitals
Reviewers	Stijn De Kesel (FPS Public Health)

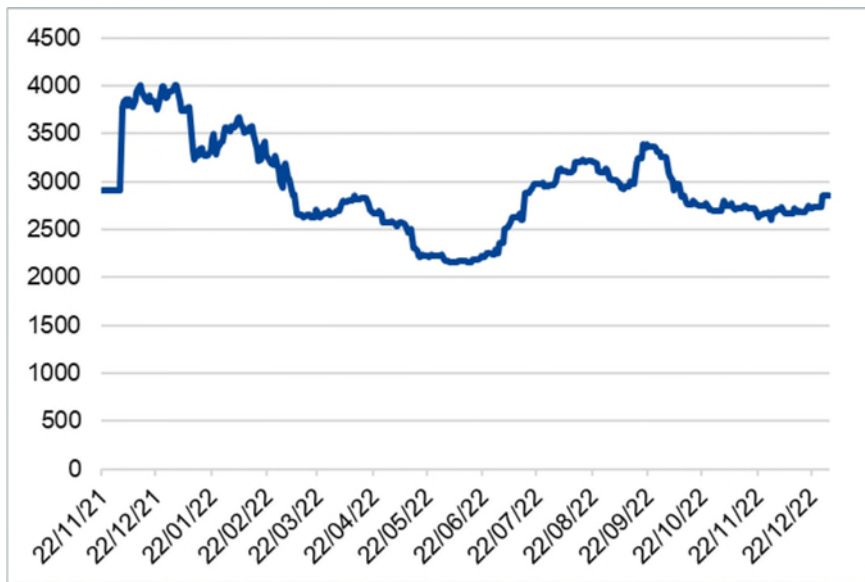


1.1.2. Results

Belgium

In January 2022, more than 4 000 hospital beds were closed in Belgium due to staff absences or force majeure (Figure 1). This number decreased over time and reached a minimum of 2 153 in June 2022. After that, the number of closed beds increased, up to 3 396 in September 2022 and then stabilised around 2 700 closed beds.

Figure 1 – Number of hospital bed closures due to staff absenteeism or force majeure, Belgium



The number of closed ICU beds (Figure 2) followed a similar evolution. From 193 closed ICU beds on 1 January 2022, it decreased to 161 in June 2022 before increasing again, with a maximum of 215 ICU beds closed in

September 2022. It stabilised around 160 ICU closed beds at the end of 2022.

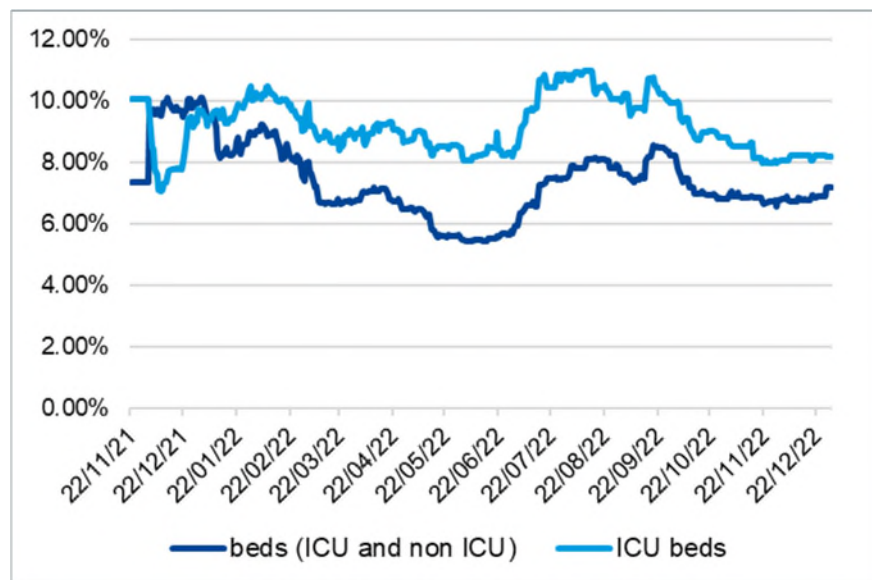
Figure 2 – Number of ICU bed closures due to staff absenteeism or force majeure, Belgium



In relative terms, more ICU beds were closed than other beds (Figure 3). Although they followed a similar trend, the share of ICU beds closed due to absenteeism or force majeure was systematically higher than the share of all hospital beds (ICU and non ICU) closed for the same reasons (except at the beginning of the registration period, but this can be attributed to registration difficulties). In September 2022, more than 10% of the licensed ICU beds were closed. This percentage was around 8% during the same period, when all types of beds are considered.



Figure 3 – Share of hospital beds and share of ICU beds that are closed due to staff absenteeism or force majeure



Regional comparison

At the regional level, the share of ICU beds that were closed due to staff absenteeism or force majeure was larger in Brussels than in the other regions (Figure 5). In January 2022 in Brussels, more than one out of five ICU beds was closed due to staff absenteeism or force majeure. This share was never smaller than 14% during the entire year 2022.

Except during the Summer 2022, the share of closed ICU beds was the smallest in Flanders. In that region, the share of closed beds ranged between 4.8 % and 10.5% over the period (22 November 2021 to 31 December 2022). In Wallonia, it ranged between 5.2% and 12.9%.

For hospital beds in general (Figure 4), we do not observe such a regional difference.

The number of closed beds due to staff absenteeism or force majeure was more stable over time in Brussels and Wallonia than in Flanders (Figure 6). This is also true for ICU beds (Figure 7): in September 2022, the number of closed ICU beds almost doubled in Flanders, while it remained largely unchanged in Brussels and Wallonia.

Figure 4 – Share of hospital beds that are closed due to staff absenteeism or force majeure, Belgium and regions

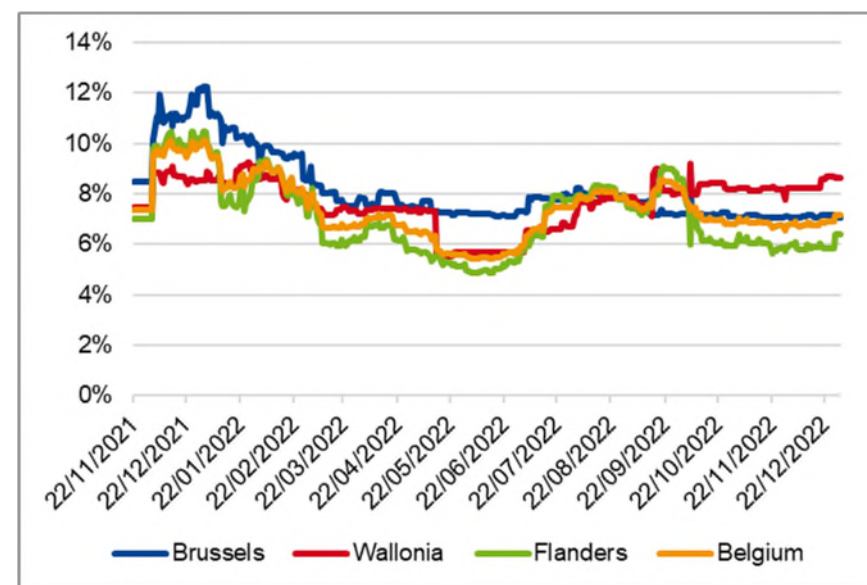




Figure 5 – Share of ICU beds that are closed due to staff absenteeism or force majeure, Belgium and regions

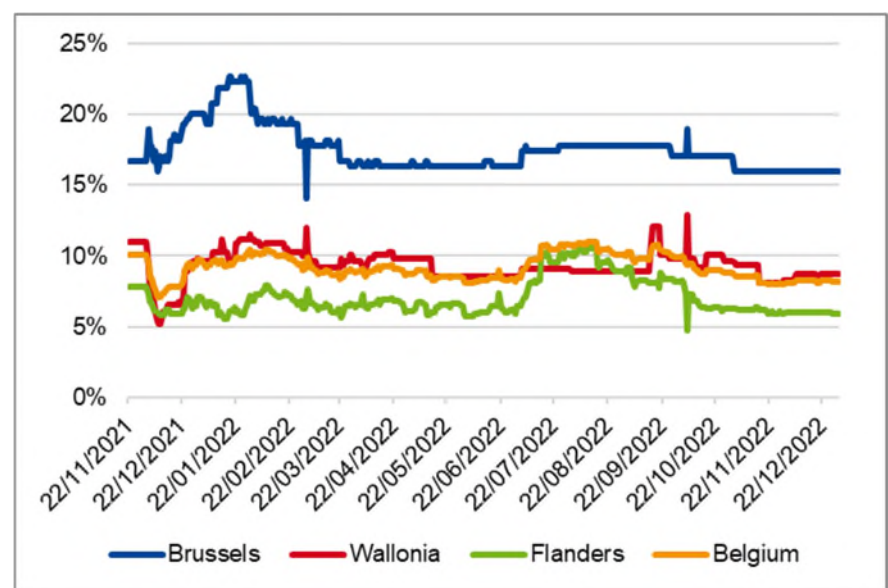


Figure 6 – Number of hospital bed closures due to staff absenteeism or force majeure, regions

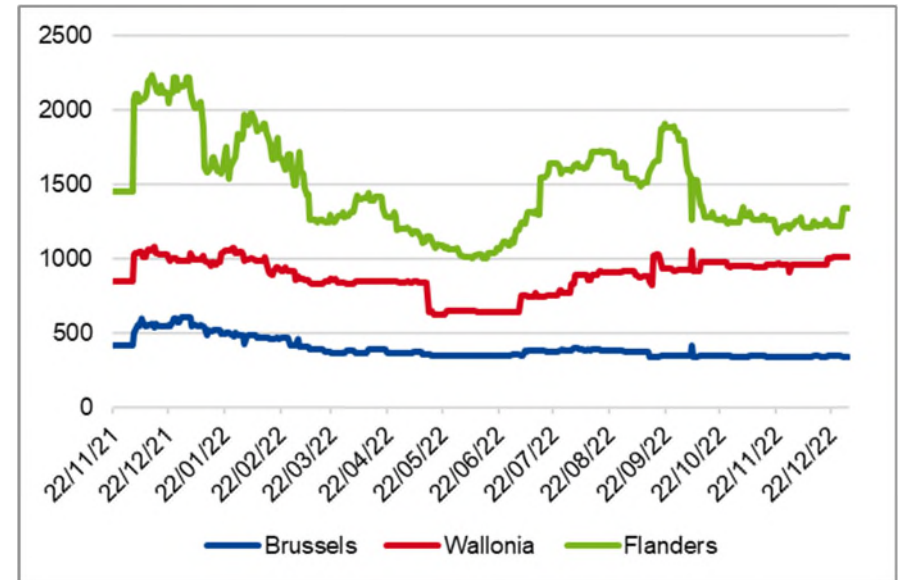
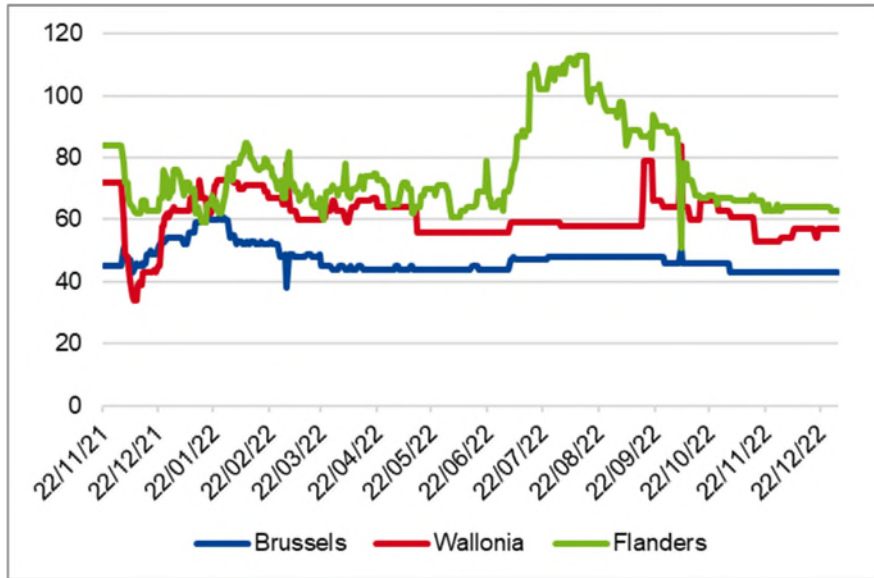




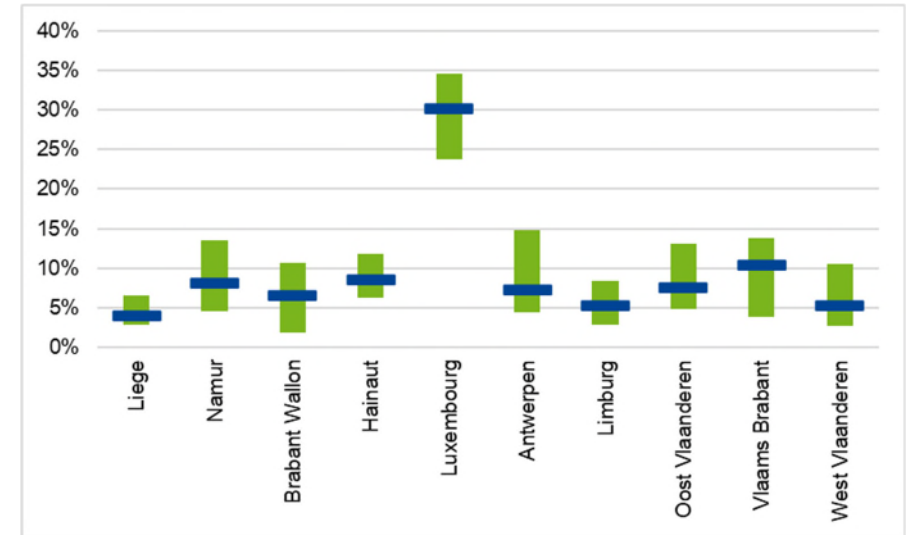
Figure 7 – Number of ICU bed closures due to staff absenteeism or force majeure, regions



Provincial comparison

Within Wallonia and Flanders, strong differences appear at the provincial level. Figure 8 shows the share of hospital beds that are closed due to staff absenteeism or force majeure in each province. The average over the period (22 November 2021 – 31 December 2022) is shown by the blue line. The green bar shows the minimum and the maximum share over the period in each province. In Wallonia, the average share of closed hospital beds was 30.2% (min 23.8% - max 34.6%) in the province of Luxembourg compared to 4.0% (min 2.9% - max 6.6%) in the province of Liège. In Flanders, it was 10.4% (min 3.8% - max 13.8%) in the province of Vlaams Brabant, compared to 5.2% (min 2.7% - max 10.5%) in West Vlaanderen.

Figure 8 – Share of hospital beds that are closed due to staff absenteeism or force majeure, by province

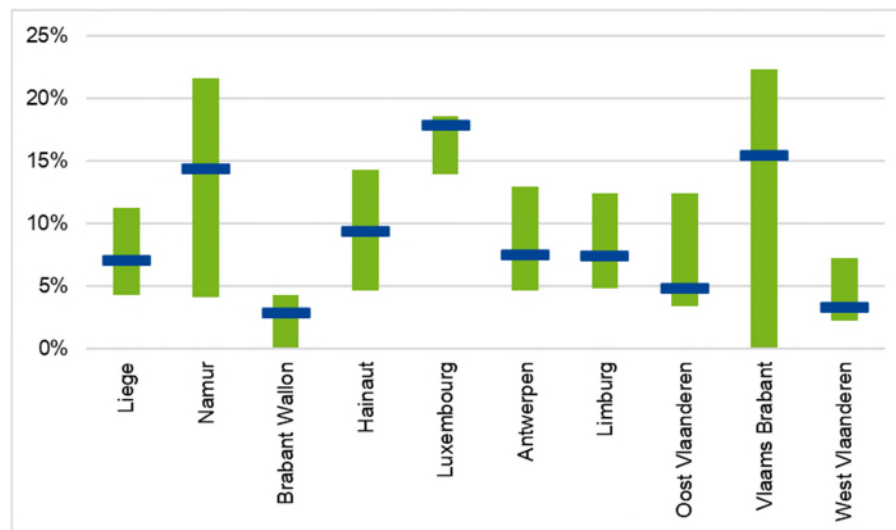


Period 22 November 2021 – 31 December 2022. Blue line = average of the period. Green bar = min and max over the period. Data are missing for the province of Luxembourg over the period 14 May 2022 – 14 September 2022. In addition, one data point (49.4% on 6 October 2022) was removed in that province, due to potential recording error.

Figure 9 shows the same information for the share of ICU beds that are closed due to staff absenteeism or force majeure. In the province of Luxembourg, on average one fifth (17.9%) of ICU beds were closed, with a minimum over the period of 14.0% and a maximum of 18.6%. In Vlaams Brabant, the average was 15.4% (min 0.0% - max 22.3%).



Figure 9 – Share of ICU beds that are closed due to staff absenteeism or force majeure, by province



Period 22 November 2021 – 31 December 2022. Blue line = average of the period. Green bar = min and max over the period. Data are missing for the province of Luxembourg over the period 14 May 2022 – 14 September 2022. In addition, one data point (65.1% on 6 October 2022) was removed in that province, due to potential recording error.

Key points

- **The number of hospitals beds (ICU or other) closed due to staff absenteeism or force majeure evolved over time: it decreased between January and August 2022, then increased in September, before decreasing again and stabilising at the end of the year.**
- **In relative terms, more ICU beds were closed than other beds. In September 2022, more than 10% of the licensed ICU beds were**

closed. This percentage was around 8% during the same period, when all types of hospital beds are considered.

- **The share of hospitals beds closed due to staff absenteeism or force majeure ranged between 5.4% and 10.1% over the studied period (22 November 2021 to 31 December 2022). The share of ICU beds closed due to staff absenteeism or force majeure ranged between 7.1% and 11.0% over the studied period.**
- **The share of hospital beds closed due to staff absenteeism or force majeure followed a similar pattern in the three Belgian regions.**
- **The share of ICU beds closed due to staff absenteeism or force majeure was the largest in Brussels (ranging between 14.1% and 22.7%) and the smallest in Flanders (except during the Summer 2022). In Flanders, the share ranged between 4.8 % and 10.5%. In Wallonia, it ranged between 5.2% and 12.9%.**
- **Strong provincial differences appear both for the share of hospitals beds closed as for the share of ICU beds closed. In the province of Luxembourg an average of 30.2% of hospital beds and an average of 17.9% of ICU beds were closed over the studied period (22 November 2021 to 31 December 2022).**

References

1. Tujjar O, Simonelli M. Absenteeism of frontline healthcare workers during Covid-19: the need for a framework of support. *SN Comprehensive Clinical Medicine*. 2020;2(12):2715-7.
2. Gohar B, Larivière M, Nowrouzi-Kia B. Sickness absence in healthcare workers during the COVID-19 pandemic. *Oxford University Press UK*; 2020. p. 338-42.
3. Van Grunderbeek E. L'absentéisme pour cause de maladie diminue, mais pas dans le secteur des soins de santé [Web page].



- 2021 [cited January 2023]. Available from: <https://www.acerta.be/fr/insights/blog/employeurs/labsenteisme-pour-cause-de-maladie-diminue-mais-pas-dans-le-secteur-des-soins-de-sante>
4. Arrêté royal du 30 avril 2020 concernant un flux d'information correct et en temps voulu sur les chiffres de patients COVID-19, la capacité de traitement dans les hôpitaux et les stocks de matériel de protection individuelle, M.B. 6 mai 2020.
 5. Sciensano. COVID-19 Bulletin épidémiologique hebdomadaire (19 novembre 2021). 2021. Available from: https://covid-19.sciensano.be/sites/default/files/Covid19/COVID-19_Weekly%20report_20211119%20-%20FR.pdf