

# Trends of *Clostridioides difficile* infections in Belgian hospitals, between 2010 and 2022

M. Callies<sup>1</sup> • L. Vaes<sup>1</sup> • B. Catry<sup>1,2</sup> • K. Mertens<sup>1</sup>

1. Sciensano, Department of Epidemiology and Public Health, Brussels, Belgium • 2. Université Libre de Bruxelles (ULB), Faculty of Medicine, Brussels, Belgium

*Clostridioides difficile* infections (CDI) remain one of the more important gastro-intestinal infections in European hospitals, being responsible for 5.9% of all healthcare-associated infections. For this study, we present the latest trends on incidence of CDI in Belgian hospitals.

## Methods

- Data for period 2010-2022 was obtained through the national surveillance of CDI in Belgian hospitals, as part of one of the hospital-associated infection surveillances carried out in Belgium.
- Prior to 2015, participation was mandatory for at least one semester annually. Since 2015, hospitals can participate voluntarily.
- Data are collected, validated, and reported through the secured environment of the Healthdata system.
- Hospital-associated *Clostridioides difficile* infections (HA-CDI): onset of symptoms  $\geq$  2 days after admission.

## Results

### Participation (Table 1)

- Participation of eligible hospitals has decreasing since 2015 (start of surveillance on voluntary basis).
- Participation remained stable during the COVID-19 pandemic (around 80%).

### *Clostridioides difficile* infections (CDI) and hospital-associated *Clostridioides difficile* infections (HA-CDI)

- In 2010, 62% of all reported CDI were HA-CDI, compared to 58% in 2022.
- In 2022, 29% of all CDI were categorized with presumed origin being 'community'.
- Similar to previous years, 10% of episodes were recurrent in 2022.
- HA-CDI incidence has fluctuated over the last years (Figure 1).
- Before, during and after the COVID-19 pandemic the HA-CDI incidence remained stable.
- In 2022, a significant increase in HA-CDI incidence was reported of 1.31 (95%CI 1.23 – 1.39) to 1.62 (95%CI 1.53 – 1.71), and for total CDI this was from 2.41 (95%CI 2.30 – 2.51) to 2.78 (95%CI 2.66 – 2.89) per 10,000 hospitalisation-days.

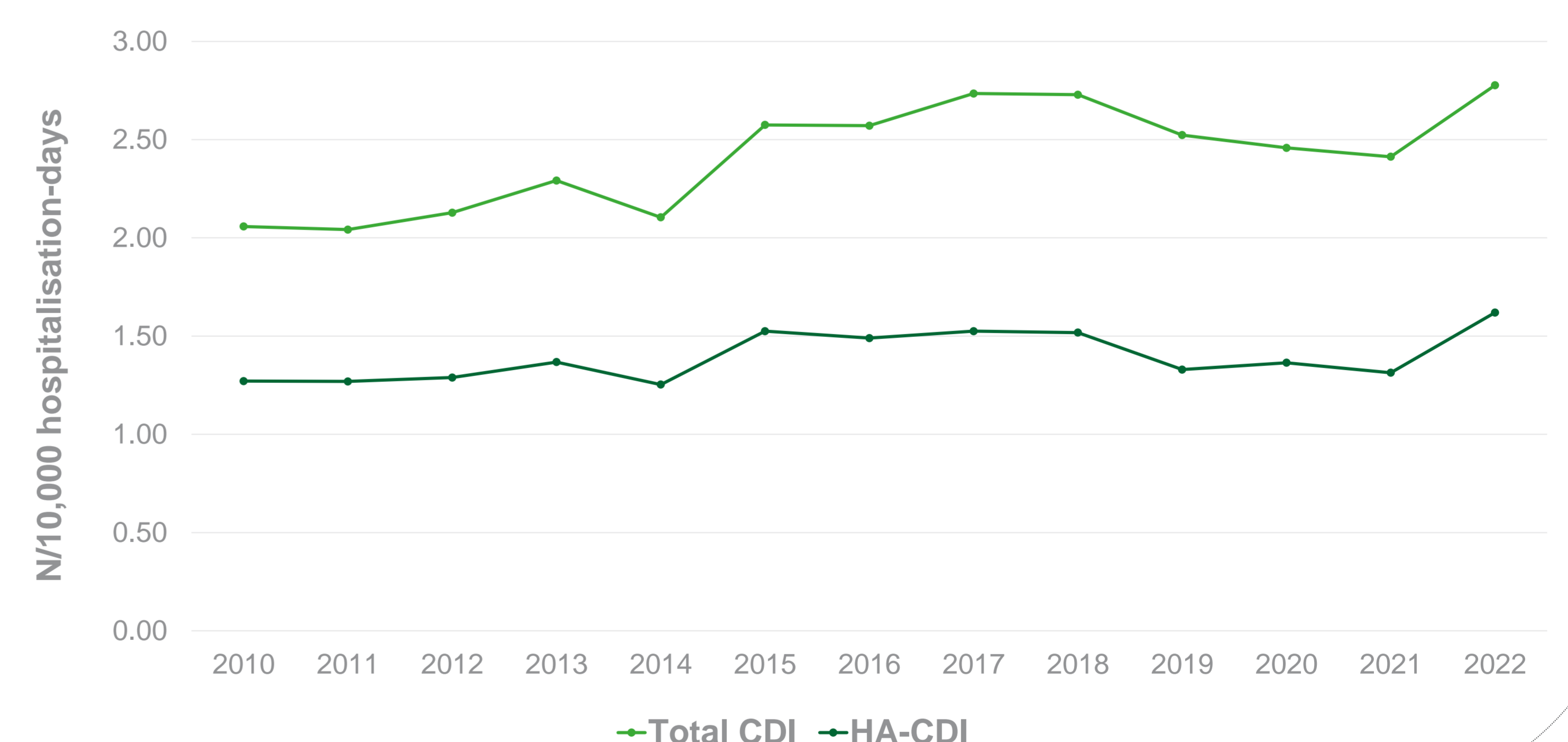
## Conclusion

- Hospital-associated *Clostridioides difficile* infections are still a burden on hospitals compared to twelve years ago, although data and literature suggest that the importance of community-associated CDI should not be ignored.
- The COVID-19 pandemic did not seem to increase the burden of CDI in Belgian hospitals.
- The 2022 increase in incidence should be closely monitored, and the 2023 data reviewed to determine if this trend prevails.

**Table 1 • Participation to national surveillance of *Clostridioides difficile* infections in hospitals. Belgium, 2010-2022.**

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>Total number of hospitals eligible for participation</b>												
118	112	112	113	112	111	111	102	108	107	107	103	102
<b>N hospitals providing cases for at least one semester</b>												
99	99	100	100	100	100	95	95	88	87	87	85	81
<b>N hospitals providing numerators and denominators for at least one semester</b>												
97	97	98	98	99	98	93	86	86	84	86	83	79
<b>Total number of registered cases</b>												
2,436	2,486	2,499	2,656	2,410	2,971	2,801	2,688	2,680	2,509	2,134	2,058	2,294
<b>Total number of patients registered</b>												
2,436	2,486	2,499	2,656	2,410	2,971	2,801	2,586	2,442	2,296	1,999	1,853	2,094

**Figure 1 • Mean incidence of total *Clostridioides difficile* infections (CDI) and hospital-associated *Clostridioides difficile* infections (HA-CDI)/10,000 hospitalisation-days in hospitals. Belgium, 2010-2022.**



## REFERENCES

- European Centre for Disease Prevention and Control. Point prevalence survey of healthcare-associated infections and antimicrobial use in European acute care hospitals – 2022-2023. Stockholm: ECDC; 2024.
- M. Callies, L. Vaes, K. Mertens. Epidemiology of *Clostridioides difficile* infections in Belgian hospitals: National report, data up to and including 2022 (Catry B., Ed). Brussels, Belgium: Sciensano; 2024.

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