

The ECDC estimates that 3.1-4.6 million people acquire a health care-associated infection (HAI) each year in acute care hospitals in EU countries, Iceland, Norway and the United Kingdom (Suetens et al., 2018). HAIs can lead to significant increases in patient morbidity, mortality and cost for the health system. More than 90 000 people die each year in EU countries, Iceland, Norway and the United Kingdom due to the six most common infections in health care settings (Cassini, 2016). HAIs are the single most deadly and costly adverse event, representing up to 6% of public hospital budgets (Slawomirski et al, 2018).

Prevention of HAIs is even more critical in the long-term care (LTC) sector, as residents of LTC facilities are more frail and have additional risk factors for developing HAIs. During the COVID-19 pandemic, LTC facilities have been particularly vulnerable places for the spread of infections, with several countries reporting large outbreaks that led to high death rates. The high prevalence of conditions such as dementia and other neurological disorders among LTC residents made it more difficult to diagnose people with COVID-19 at an early stage, and many cases were identified too late (ECDC, 2020; see also Chapter 1 on resilience to COVID-19).

Most HAIs are considered to be avoidable through better infection prevention and control. At the hospital level, key components of effective infection prevention and control strategies include the creation of a local infection control team, staff training, use of evidence-based guidelines, infection surveillance and feedback and rigorous maintenance of environmental hygiene (WHO, 2016).

On average across EU countries, 5.7% of patients acquired an infection during their hospital stay in 2016-17 (Figure 6.29). Cross-country differences in the prevalence of HAIs need to be interpreted with caution, because the data are affected by sites selected for data collection, differences in reporting practices and varied risks of developing HAIs among patients (see more details in "Definition and comparability").

Compounding the impact of HAIs are infections due to antimicrobial-resistant (AMR) bacteria, which can lead to complications, longer hospital stays, or death. A single antibiotic-resistant infection has been estimated to cost between EUR 8 500 and 34 000 more than a non-resistant infection, due to additional hospital days and additional treatment costs (OECD, 2017). The inappropriate and excessive use of antibiotics contribute to the increasing incidence of HAIs caused by AMR bacteria in hospitals and in the community, making these HAIs difficult or even impossible to treat. The share of antibiotic-resistant infections ranged from about 5% in Finland to over 60% of all HAI cases in Romania and Cyprus, although these rates should also be interpreted with caution due to small sample sizes in some cases (Figure 6.29).

In LTC facilities, the prevalence of HAIs among LTC residents was 3.6% on average across EU countries in 2016-17

(Figure 6.30). Cross-country differences also need to be interpreted with caution because of differences in reporting practices and in patient mix. The impact of HAIs in LTC facilities is also increased by the rise of AMR bacteria. On average across countries, about one-third of HAIs in LTC facilities were resistant to antibiotics, about the same proportion as in hospitals.

Definition and comparability

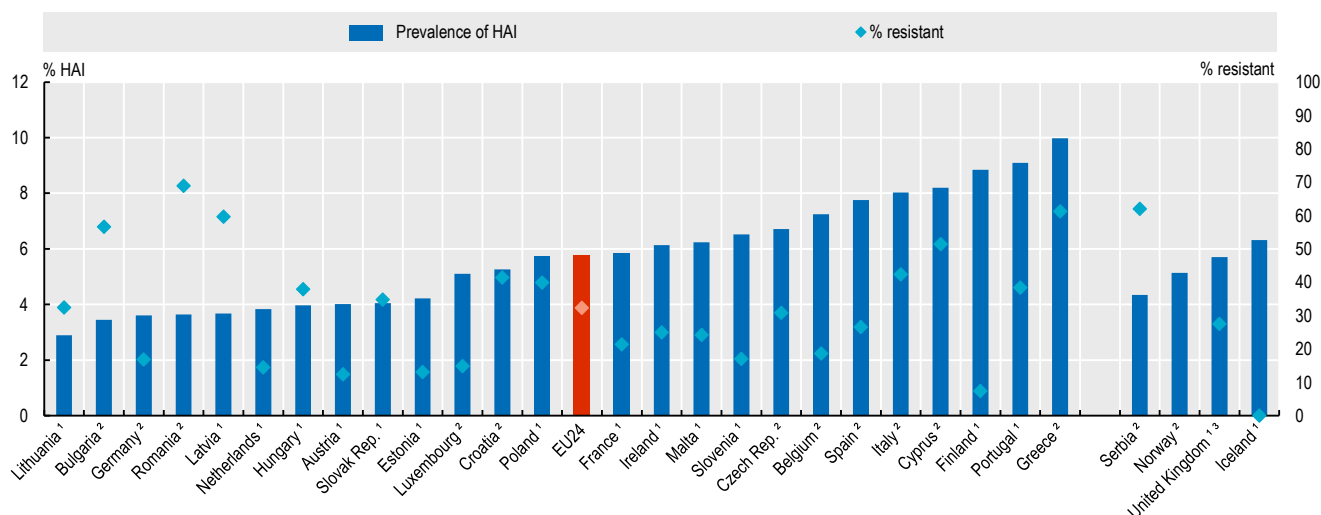
The data are based on a point prevalence survey (PPS) of health care-associated infections conducted in 2016-17 in acute care hospitals and LTC facilities in Europe, initiated and coordinated by ECDC. Validation studies of national PPS data were carried out in a subgroup of hospitals and generally found an underestimation of the true prevalence, which allowed to make a more robust estimation of the burden of health care-associated infections.

PPSs currently represent the best tool for collecting internationally comparable HAI data, but they are subject to possible biases due to facility selection, reporting practices or observer training. Many factors – including increased patient age, limited mobility and use of invasive medical devices – may increase the risk of developing an HAI and may influence the variability of rates between countries.

References

- Cassini, A. et al. (2016), "Burden of Six Healthcare-Associated Infections on European Population Health: Estimating Incidence-Based Disability-Adjusted Life Years through a Population Prevalence-Based Modelling Study", *PLOS Medicine*, Vol. 13/10, p. e1002150, <http://dx.doi.org/10.1371/journal.pmed.1002150>.
- ECDC (2020), *Surveillance of COVID-19 at long-term care facilities in the EU/EEA*, Stockholm.
- OECD (2017), *Tackling Wasteful Spending on Health*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264266414-en>.
- Slawomirski, L. et al (2017), "The economics of patient safety: Strengthening a value-based approach to reducing patient harm at national level", *OECD Health Working Papers*, No. 96, OECD Publishing, Paris, <https://doi.org/10.1787/5a9858cd-en>.
- Suetens, C. et al. (2018), "Prevalence of healthcare-associated infections, estimated incidence and composite antimicrobial resistance index in acute care hospitals and long-term care facilities: results from two European point prevalence surveys, 2016 to 2017", *Eurosurveillance*, Vol. 23/46, <http://dx.doi.org/10.2807/1560-7917.es.2018.23.46.1800516>.
- WHO (2016), *Guidelines on Core Components of Infection Prevention and Control Programmes at the National and Acute Health Care Facility Level*, Geneva.

Figure 6.29. **Percentage of hospitalised patients with at least one health care-associated infection and the proportion of these infections resistant to antibiotics, 2016-17**

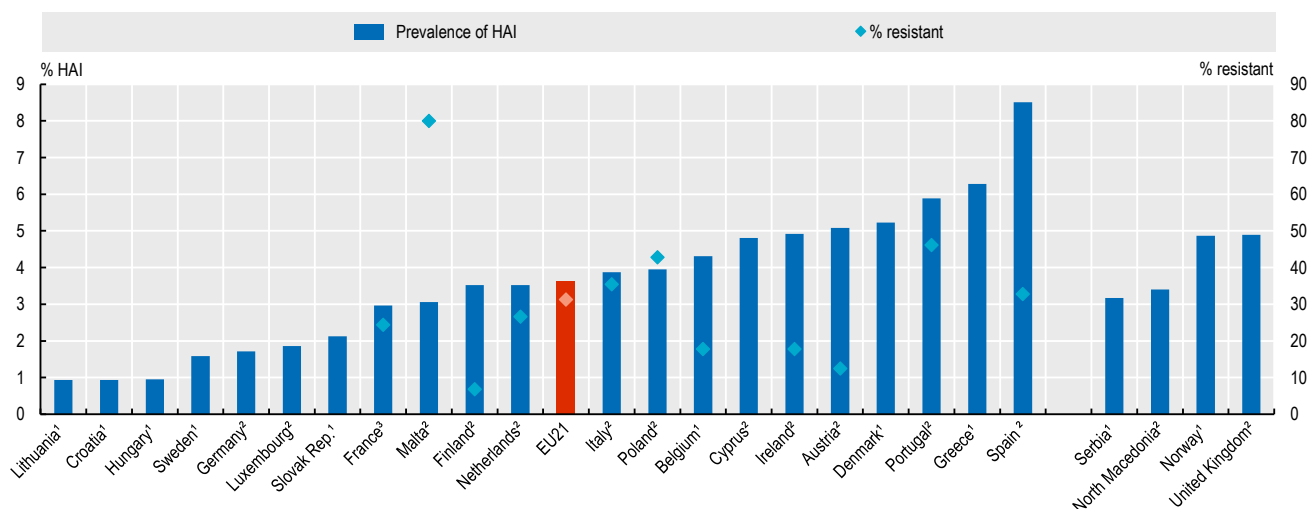


Note: The EU average is unweighted. Country representativeness of data is limited in Bulgaria and the Netherlands. Data from Norway include partial imputation for missing types of infections. 1. Under 5% of patients were included from intensive care units (ICU). 2. Over 5% of patients were included from ICU. 3. Unweighted average for England, Northern Ireland and Wales.

Source: Suetens, C. et al. (2018), ECDC 2016-17 Point prevalence survey.

StatLink  <https://stat.link/1sc4xo>

Figure 6.30. **Percentage of long-term care facility residents with at least one health care-associated infection and the proportion of these infections resistant to antibiotics, 2016-17**



Note: The EU average is unweighted. Based on composite antibiotic resistance indicator developed by ECDC. Only countries with over 15 bacteria isolated included. 1. Under 45% of residents sampled were wheelchair bound or bedridden. 2. Over 45% of residents sampled were wheelchair bound or bedridden, suggesting higher risks of HAIs. 3. No data was available on the proportion of wheelchair bound or bedridden residents.

Source: ECDC.

StatLink  <https://stat.link/98bogr>



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