ARHAI Scotland
Antimicrobial Resistance and Healthcare Associated Infection

NHS National Services Scotland

Hospital onset COVID-19 mortality in Scotland

7 March 2020 to 30 September 2021

A management information publication for Scotland

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About this release

This release by Antimicrobial Resistance and Healthcare Associated Infection (ARHAI) Scotland, part of NHS National Services Scotland, provides data for Coronavirus-19 (COVID-19) hospital onset mortality in Scotland for the period 7 March 2020 to 30 September 2021.

Deaths occurring in patients with COVID-19 are an important measure of patient outcome. Therefore, monitoring COVID-19 mortality in hospital patients and publishing the data is critical to improve care of patients, inform the development of infection prevention and control measures, shape policy and guide research.

Main points

- This report describes patients diagnosed in hospital with COVID-19 who die from all causes within 28 days.
- Overall, a quarter of patients diagnosed in hospital died within 28 days. Nearly a third of patients with a probable or definite hospital onset died within 28 days.
- The difference is mainly due to differences in demographics. Probable or definite hospital onset COVID-19 cases were older. Older cases are likely to be sicker and have more underlying ill health.
- After statistical analysis there was no difference in the mortality rate observed between the hospital onset status categories.
- There is no evidence from these analyses that patients developing nosocomial COVID-19 (probable and definite onset status) are at an increased risk of death compared with other patients diagnosed with COVID-19 on day 1 or 2 of admission (non-hospital onset status).

- The mortality rate within 28 days in patients who were first diagnosed with COVID-19 in hospital decreased in waves 2 and 3 compared with wave 1 following adjustment for hospital onset status, vaccination status, age and sex.

- Older patients in hospital have an increased risk of infection. This includes COVID-19. These patients are more likely to die from other causes. The causes can not be identified using all-cause mortality.

- Preventing transmission of SARS-CoV-2 in all settings is critical to reducing morbidity and mortality from COVID-19. Infection prevention and control precautions and early detection and management of cases is vital in efforts to reduce the spread of SARS-CoV-2 in hospital settings.

Table 1: COVID-19 cases who died from all causes within 28 days by onset status in Scotland overall: specimen dates up to 30 September 2021.[1,2,3]

Hospital onset status	Mortality within 28 days (n)	Mortality within 28 days (%)	Total Cases
Non-hospital onset (day 1 or 2 of admission)	2,382	21.4%	11,126
Indeterminate hospital onset (days 3-7)	383	24.4%	1,570
Probable hospital onset (days 8-14)	563	30.2%	1,863
Definite hospital onset (days 15+)	1,236	30.0%	4,121
Total	**4,564**	**24.4%**	**18,680**

1. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) data, the Rapid Admission Preliminary Inpatient Data (RAPID) data or local admission data, and National Records of Scotland (NRS).
2. The data used has not been adjusted for potential factors that may affect mortality e.g. severity of COVID-19 disease and patient comorbidities.
3. Cases diagnosed in the community (not during an inpatient stay) were excluded from these analyses.

Background

Antimicrobial Resistance and Healthcare Associated Infection (ARHAI) Scotland, part of National Services Scotland works closely with Public Health Scotland to deliver the COVID-19 response. Local and national monitoring in hospital settings is required to reduce COVID-19 infections.

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Further Information

Find out more in the **full report** and on the **COVID-19** pages on the PHS website.

Information on the **epidemiology of COVID-19 in healthcare settings** and **COVID-19 hospital onset cases** is also produced by ARHAI Scotland.

The next release of this publication will be subject to additional cases in the intervening period.