

Effect of COVID-19 vaccination campaign in Belgian nursing homes on COVID-19 cases, hospital admissions and deaths among residents

S. Dequeker¹ • M. Callies¹ • C. Vernemmen¹ • K. Latour¹ • L. Int Panis¹ • R. Mathieu² • L. Noppe³ • M. Savsin⁴ • E. Duysburgh¹

1. Department of Epidemiology and Public Health, Sciensano, Brussels, Belgium • 2. Department of Infectious Disease Prevention and Control, Common Community Commission, Brussels-Capital Region, Brussels, Belgium • 3. Agency for Care and Health, Infection Prevention and Control, Government of Flanders, Brussels, Belgium • 4. Direction de la Recherche, de la Statistique et de la Veille des Politiques, AVIQ, Charleroi, Belgium

INTRODUCTION

In view of the grave situation during the first two COVID-19 waves, nursing homes (NH) were prioritised for vaccination once available in Belgium.

Main objective

To assess the effect of COVID-19 vaccination campaign on COVID-19 cases, hospital admissions and deaths among residents living in Belgian NH.

METHODS

National COVID-19 surveillance in nursing homes

- Started March 2020 – ongoing
- All 1,545 Belgian NH were invited to participate weekly
- To report COVID-19 confirmed and possible cases, hospital admissions and deaths
- Confirmed case: a SARS-CoV-2 infection confirmed by a laboratory test (PCR or rapid antigen test)
- Possible case: a COVID-19 infection diagnosis based on clinical presentation

RESULTS

Participation

- March – May 2020: 60% participation
- May 2020 – July 2021: 95% participation
- Since July 2021: 60% - 75% participation

Before vaccination, COVID-19 morbidity and mortality rates were driven by the situation in the NH. **After vaccination** and the booster campaign the number of hospital admissions and deaths among NH residents dropped, while clear peaks could be observed among the general population.

Non-pharmaceutical measures were relaxed in NH immediately after vaccination (February 2021).

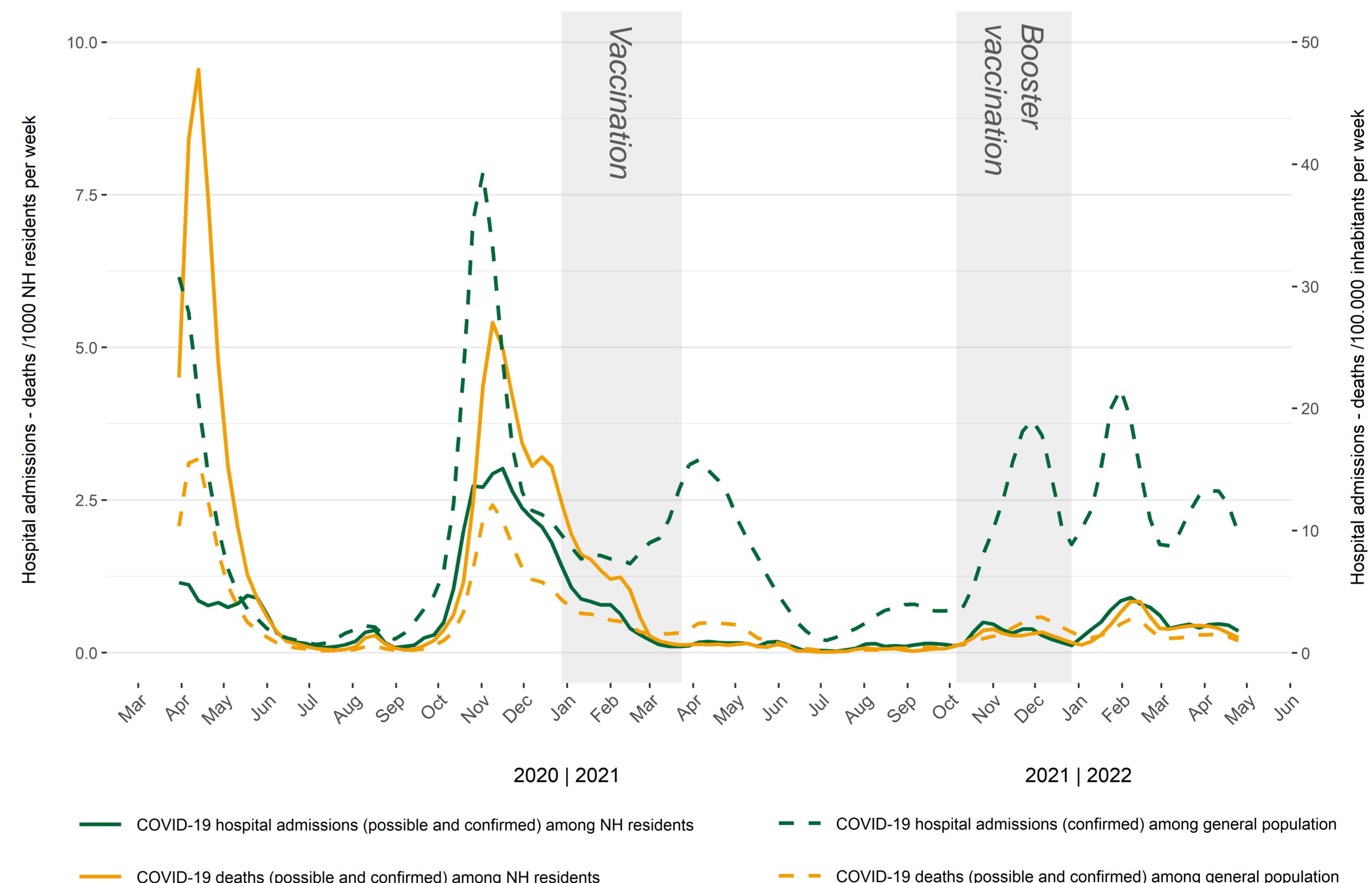


Figure 1: Hospital admissions and deaths per 1,000 nursing home (NH) residents (left y-axis) and hospital admissions and deaths per 100,000 inhabitants (including NH residents) (right y-axis), per week (two-week moving average), 6 March 2020 – 24 April 2022 - grey boxes indicate the COVID-19 vaccination campaign and the booster administration in NH.

CONCLUSION

The impact of vaccination on virus circulation was less effective than expected. However, due to the high vaccination coverage, NH residents remain well protected against hospital admission and death due to COVID-19 more than one year after being vaccinated.

REFERENCE

- Vandael E, Latour K, Islamaj E, Int Panis L, Callies M, Haarhuis F, et al. COVID-19 cases, hospitalizations and deaths in Belgian nursing homes: results of a surveillance conducted between April and December 2020. Arch Public Health. 2022
- Belgium COVID-19 Dashboard - Sciensano. Available from: <https://epistat.wiv-isb.be/covid/>

ACKNOWLEDGEMENTS

We like to thank all NH staff for their continuous commitment to register data for this surveillance, which was essential for the management and follow-up of the COVID-19 crisis in this setting. We also would like to thank the regional health authorities for setting up this surveillance, implementing it on a daily basis, managing the crisis and sharing their data with Sciensano. In addition, our gratitude goes towards many colleagues within Sciensano who helped set up the surveillance, compiled and report the national data on a daily, weekly or monthly basis (among others the mortality team, hospital team, reporting team, surveillance team, vaccination team).