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## Asymptomatic SARS-CoV-2 infection in Belgian long-term care facilities

As of July 1, Belgium has 61509 confirmed cases of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection and 9754 related deaths. In early April, the ministry of health decided to implement a mass testing campaign in long-term care facilities (LTCFs; appendix p 1).<sup>1</sup> Tests were distributed by regional authorities, giving priority to facilities with a higher number of suspected cases. Nasopharyngeal and oropharyngeal swabs were collected from residents and staff and sent for real-time PCR testing in preselected laboratories across the country. Sample identification numbers were registered online together with age, sex, and symptom status at the time of testing. Symptom status was determined by the medical professional taking the swab (appendix p 1).

We did a cross-sectional analysis of data received from the laboratories between April 8, and May 18, 2020 (full description in appendix p 1). 280427 people were tested, including 142100 (51%) residents and 138327 (49%) staff. Median age was 42 years (IQR 31–52) for staff and 85 years (72–90) for residents. Data were reported for 2074 LTCFs (of the total 2500 that were invited to participate), with a median of 181 tests

(IQR 124–266) per facility. 8343 (3.0%) people tested positive, including 2953 (2.1%) staff and 5390 (3.8%) residents. When adjusted for the group category (ie, staff or resident) and age group, the odds of testing positive were higher for women than for men (odds ratio 1.2, 95% CI 1.1–1.2) and for people who were symptomatic than for those who were asymptomatic (8.5, 8.0–9.0). No symptoms were reported for 6244 (74.8%, 95% CI 73.9–75.8) of 8343 people who tested positive, including 2185 (74.0%, 72.4–75.6) staff and 4059 (75.3%, 74.1–76.5) residents. The proportion of residents and staff who were asymptomatic by age group is shown in the appendix (p 2).

This analysis of a large number of tests done in LTCFs shows a high proportion of asymptomatic cases. The proportion of SARS-CoV-2 infections that were asymptomatic ranged from 20% to 88% of the tested population in previous studies.<sup>2,3</sup> Given the cross-sectional nature of this analysis we were unable to determine whether any of the asymptomatic individuals went on to develop symptoms. Proportions reported therefore comprise both pre-symptomatic and asymptomatic SARS-CoV-2 cases. Risk of underascertainment of symptoms, although mitigated by the medical assessment, persists.

Similar viral loads have been reported between symptomatic and asymptomatic cases,<sup>4,5</sup> making the transmission and spread of the virus possible for both groups. In LTCFs,

asymptomatic carriers of the virus could represent an important driver of transmission. To limit the spread of SARS-CoV-2 in closed residential facilities, we iterate the importance of widely applying extensive infection prevention and control measures as long as the epidemic is ongoing.

We declare no competing interests.

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See Online for appendix