Title: Prevalence of COVID-19 in Irish Healthcare Workers - PRECISE Study

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Action required:
X For noting
☐ For discussion
☐ For decision

Approved for future publication: YES (remove as applicable)
Prevalence of COVID-19 in Irish Healthcare Workers

PRECISE Study

Information Note, 19th January 2021

Background

The seroprevalence of antibodies to SARS-CoV-2 has previously been estimated for the community in Dublin and Sligo (SCOPI Study). The seroprevalence in healthcare workers (HCWs) in hospitals was not known, but their exposure risk is higher due to multiple factors. The PRECISE Study assessed seroprevalence in two hospitals in areas of different incidence and seroprevalence of COVID-19 infection: St. James’s Hospital (SJH) in Dublin south inner-city (4700 staff) and University Hospital Galway (UHG) (4400 staff). A large proportion, almost 6000 staff members, participated in the first phase of the study in October 2020.

Main Findings

1. The community seroprevalence is the main predictor of seroprevalence in healthcare workers (HCWs), but not all HCWs are affected equally.

2. A much higher rate of past infection was found in the HCWs than was found in the background population.
   a. Approximately six times higher seroprevalence in HCWs than community
   b. 15% of SJH staff had antibodies to SARS-CoV-2 (community 3.1%)
   c. 4% of UHG staff had antibodies to SARS-CoV-2 (Sligo community 0.6%, with Galway assumed to be similar)

3. The risk was across all HCWs performing all working roles including administrative and general staff but was higher in certain groups. The risk was higher for the following characteristics:
   a. Healthcare assistants
   b. Nurses
   c. Daily contact with patients (especially patients with confirmed/suspected COVID-19 infection)
d. age 18-29

e. living with others

f. living with other HCWs

g. Asian ethnicity

h. male sex

4. Over 1/3 of infections were undiagnosed (and at least 16% were asymptomatic)

Recommendations

The study team recommends:

- Ongoing universal adherence to infection control guidance including the use of appropriate personal protective equipment (PPE) in the hospital setting

- easy access to PCR testing for all HCWs, even with mild symptoms

- screening of all HCWs, including those without symptoms, in the setting of a hospital outbreak.

- consideration of routine asymptomatic screening in HCW in certain settings of higher community incidence/ prevalence.

- recognition of higher risk of all categories of HCW in vaccination strategies and informing vaccination sequencing depending on disciplines at greatest risk.

Limitations

Information was self-reported and therefore could be biased. Uptake was good at 64% however there may be selection bias. The online nature of the study questionnaire and the predominant use of English language medium may also have contributed to selection bias (attempted mitigation by walk-in clinics, IT support, and multi-language study information).

Samples were tested on two different platforms (Abbott Architect SARS-CoV-2 immunoglobulin (Ig) G assay and Roche Elecsys anti-SARS-CoV-2 immunoassay) with confirmatory testing of some samples on Wantai SARS-CoV-2 AB ELISA distributed by
Fortress Diagnostics. A positive result on any of the three platforms was reported as antibody detected, which prioritised sensitivity over specificity (though note low rate of discordant results when using Roche Elecsys as reference, therefore unlikely significant effect on the data).

**Follow-up**

The study will be repeated in March 2021 to assess:

- changes in overall seroprevalence as the pandemic progresses
- changes in individual serostatus over time
- antibody response to vaccination