

From: Fiona McQueen, Chief Nursing Officer;
Gregor Smith, Chief Medical Officer
Jason Leitch, National Clinical Director
3 June 2020

Cabinet Secretary for Health and Sport

COVID-19: HEALTHCARE WORKER TESTING IN HOSPITALS

Purpose

1. To propose an approach for healthcare worker testing for COVID-19, further to the advice of the COVID-19 Nosocomial Review Group (Annex A).

Priority

2. Urgent. If you approve the recommendations, guidance will need to be prepared as soon as possible.

Background

Asymptomatic transmission and testing

3. At present, only HCWs who are symptomatic are tested for COVID-19. The objective is to ensure that those who do have COVID-19 isolate along with their close contacts, and also to enable key workers to remain at work. However, given the evidence of nosocomial transmission of COVID-19, and the emerging evidence in relation to asymptomatic carriage, **the COVID-19 Nosocomial Review Group (CNRG)** was asked to provide recommendations in relation to whether asymptomatic healthcare workers (HCWs) in hospital settings should be tested for COVID-19.

4. Latest analysis finds that approximately half of the cases in all of the reported NHS Scotland cluster outbreaks in non-COVID wards are healthcare workers; at present, almost 70% of cases in the active clusters are healthcare workers. The 6 active incidents currently involve 26 patients and 59 members of staff; the 118 closed incidents involved 888 patient cases, with 213 patient deaths, and 862 staff cases (28 May). Approximately 70% of closed clusters reported that at least one staff member had been confirmed as COVID-19 positive within a cluster. 5 of the 118 closed clusters reported more than 20 staff members as confirmed cases. However, it is not possible to say with certainty whether each and every case reported as part of each cluster is hospital or community associated.

5. Taking the latest data on nosocomial transmission in Scotland into account, the CNRG undertook a systematic review of the existing literature in relation to the testing or screening of asymptomatic transmission in HCWs. Whilst viable virus has been detected in clinical samples in the pre-symptomatic/incubation period within some individuals, transmission events from these individuals have not been clearly documented. Nevertheless, there is clear evidence of nosocomial transmission of COVID-19 and initial asymptomatic HCW testing in the UK has identified asymptomatic-positive HCWs.

6. The Imperial College COVID-19 response team published some early findings (23 April) on the potential benefits of mass screening of HCWs based on **simple mathematical models** (Annex B). The paper acknowledges that the contribution of testing to COVID-19 control compared with other interventions, such as self-isolation and physical distancing, is currently unclear, however also highlight that HCWs are disproportionately impacted by COVID-19 due to their exposure to infection from patients and fellow staff. The paper estimates that approximately 20-50% of infections are asymptomatic and that approximately 40% of transmission from symptomatic infections occurs before symptom onset. This doesn't necessarily indicate that people are more infective prior to symptom onset, but may reflect that people have fewer non-household contacts after symptom onset if they self-isolate promptly.

7. Using simple mathematical modelling, the paper estimates that weekly screening of HCWs could reduce onward transmission from HCWs by a further 16-23% on top of self-isolation based on symptoms; however this is based on the assumption that results are available in 24 hours, therefore allowing rapid exclusion from the workplace to prevent further transmission. If tests were to be done at the end of a shift and results made available before the next shift, then the time delay between testing and isolation would effectively be zero, and the models estimate a potential reduction of 25-33%. Please note that the modelling is based on a number of assumptions, including the sensitivity and specificity of the test in asymptomatic HCWs; the frequency of testing; and the timeliness of test results.

8. We understand that it is partly on the basis of the findings in the paper by the Imperial College COVID-19 response team that NHS England has advised Trusts to routinely screen HCWs, even if they are asymptomatic. **At the start of May, England confirmed that they are piloting the testing of all hospital HCWs regardless of whether they are exhibiting symptoms of the virus in a number of NHS trusts and expect to roll out regular tests to all NHS hospitals as part of an extension to the test-and-trace programme.** It is unclear to what extent this is happening in practice at present.

9. Having reviewed the limited evidence available on testing of HCWs however, the Scottish CNRG found limited evidence to support routine screening of HCWs for COVID-19 infection in hospital settings at present and recommend that further research is required to inform future policy and preparedness, including most appropriate strategy and frequency of testing (see paragraph 11). The group acknowledged that prevalence of COVID-19 has decreased in the healthcare setting and in the community, however this must be kept under review as prevalence changes.

Importance of good IPC practice and measures

10. Whilst the first issue considered by the CNRG has been the testing of some HCWs, the group continues to be clear that, first and foremost, good infection prevention and control (IPC) practice is of prime importance in minimising the risk of patients and HCWs contracting COVID-19 in hospital settings. In Scotland, we have a National Infection Prevention and Control Manual (NIPCM), which is mandatory across NHS Scotland, and clear systems and processes are in place to ensure high standards of IPC across our hospitals; this includes dedicated Infection Prevention and Control Teams (IPCTs) in every Board who provide expert advice in the event of an incident or outbreak. Throughout the pandemic, the focus has been on supporting frontline workers to improve IPC practice, based on the existing 4 country COVID-19 IPC guidance; the NIPCM and Transmission Based Precautions (TBPs); and the appropriate use of Personal Protective Equipment (PPE).

COVID-19 Nosocomial Review Group recommendations

11. The full recommendations from the CNRG are set out in the paper at Annex A and summarised below.

Recommendations - Testing of HCWs

The group concluded that priority should be given to develop national guidance (based on PHE guidance to date) and SG workforce policy, for implementation by NHS boards, on healthcare worker testing in hospitals. This should include:

- **All HCWs in wards where there is an unexpected cluster or outbreak in a non-COVID ward, should be tested** as part of the investigation and management of the cluster/outbreak, implementation of this should include early evaluation as part of the plan;
- **Local Infection Prevention and Control Teams (IPCTs) should consider HCW testing when a single unexpected case of COVID-19 is identified in a ward**, with the purpose of early