Health Protection Scotland

Interim guidance on COVID-19 PCR testing in care homes and the management of COVID-19 PCR test positive residents and staff

Version 2.4

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Version history

Version	Date	Summary of changes
1.0	10/05/20	Final draft based on earlier versions derived from HPS Options Appraisal Document of 01/05/20 submitted to NHSB DsPH and HPTs for comment
2.4	14/05/20	Revised final version following comments First published on the website

Contents

Introduction

On 1 May 2020 the First Minister of the Scottish Government announced an extension to testing for COVID-19 infection in care homes, involving three scenarios, summarised below:

- Enhanced outbreak investigation in all residential care homes where there are cases of COVID involving testing, subject to individuals' consent, all residents and staff, whether or not they have symptoms.
- Where a care home with an outbreak is part of a group or chain and staff may still be moving between homes, carry out urgent testing in any linked homes.
- Sampling testing in care homes where there are no cases. By definition this will also include testing residents and staff who are not symptomatic.

This was reinforced by a letter from John Connaghan**,** Interim Chief Executive of NHS Scotland, dated 1 May 2020, addressed to NHS Board Chief Executives.

HPS has created this interim guidance to aid NHS Board colleagues, care home providers and others interpret and implement this extended testing policy. The main purpose of this health protection guidance is to identify what is required to achieve the greatest potential reduction in the risk of transmission of the virus within primarily all forms of residential care home settings for the elderly, in the shortest possible time. The advice is therefore written from a clinical perspective and reflects a consensus on which health protection measures are likely to be the most effective in achieving the maximum reduction in the risk of infection, most quickly.

In particular, this guidance has been produced to assist NHS Board Health Protection teams (HPTs) and care home providers to manage COVID-19 PCR test positive residents and staff, especially asymptomatic test positive staff. This guidance is provided as an addition to previous HPS guidance issued regarding pre-admission testing for new (or returning) care home residents.

There is a lack of good quality scientific evidence on which to base firm recommendations on the management of individuals who are asymptomatic for COVID-19 infection but who nonetheless are found to be PCR test positive. This guidance has therefore been developed using a consensus based model and is being published as 'interim' guidance, to be updated in light of new evidence and lessons learned by care professionals and local HPTs from practical experience. It is published as a standalone document meantime but will be incorporated as an annexe to the main HPS Care Homes guidance document in due course.

A considerable level of advance planning will be required to ensure that the action recommended in this guidance can be implemented as quickly as possible at individual care home level. Residential care homes will need assistance to plan for the rapid replacement of care staff due to a potentially significant loss of care workers, either as a result of illness, of being a contact of a case of infection, or due to exclusion following identification as being COVID-19 PCR test positive.

A Scottish Government letter, issued on 28 April to NHSBoard (NHSB) Directors of Public Health (DsPH) and other chief officers, set out advice on how Health Boards should assist the community sector including residential care homes (DL (2020) 13; 'Delivering a whole system response to Covid-19: Guidance for the deployment of Health Board staff to community settings') a range of additional guidance is provided at the **Scottish Government website**.

Conducting testing of all staff and residents as part of outbreak management may have relatively rapid consequences in terms of identifying residents who need to be isolated and care staff who need to be excluded from work. All care homes must plan for the loss of significant numbers of regular staff who may fall ill and have to be excluded; this involves working closely with local health and social care agencies to develop robust contingency arrangements to replace staff at short notice. Anecdotal evidence also suggests that recruiting staff to work in a care home known to have an active outbreak in progress can be difficult. Problems with recruitment of care staff and with staff retention during an active outbreak must therefore be anticipated as part of any care home outbreak management planning process.

Preparations must also be made to access and to sustain the prolonged use of enhanced infection prevention and control (IPC) measures including PPE. This in turn means that staff must be trained in the use of PPE. Staff must also be familiar with the issues that may arise in terms of looking after sick residents suffering from COVID-19 infection. Arrangements to ensure enhanced medical and nursing input to the care home must also be planned in advance.

This guidance is therefore part of a suite of guidance materials available to **care homes** to assist in the planning, preparation and activation of appropriate outbreak management measures. The focus of this guide is particularly on the application of PCR testing, primarily but not exclusively, as part of outbreak investigation and management and on managing the consequences of finding PCR test positive residents and staff.

For further details please see:

Information and guidance for care home settings

HPS / PHS **COVID-19 tool for the control of incidents and outbreaks**.

Prioritisation of Testing in Care Homes

The Scottish Government (SG) statement outlined extending testing in residential care homes in three scenarios, including as a measure to support outbreak investigations. However, there is unlikely to be adequate physical or laboratory test capacity to extend testing in all three of these simultaneously, hence some local NHS Board level prioritisation will be necessary. The following advice is offered to assist in such local prioritisation.

1) **Enhanced outbreak investigation in all residential care homes where there are cases of COVID involving testing, subject to individuals' consent, all residents and staff, whether or not they have symptoms.**

Early intervention to test all residents and staff in newly identified outbreaks is likely to have the greatest potential in terms of reducing the risk of ongoing viral transmission most quickly. The first priority for testing of all residents and staff should therefore be care homes where there is evidence of a **new or very recently identified** outbreak of infection, rather than in well-established existing outbreaks.

The evidence regarding care home outbreaks suggests that infection can spread relatively quickly unless rapid action is taken. Testing all care home residents and staff in already well established outbreaks, although likely to be useful, is probably less likely to be effective in helping to reduce viral transmission further and so should be a secondary priority.

Testing staff and residents as part of outbreak management is useful to identify cases and take appropriate action in terms of isolation and exclusion. However, infection risk management will include providing advice on infection prevention and control measures including the use of and facilitating access to PPE, intensive cleaning and other measures.

2) **Where a care home with an outbreak is part of a group or chain and staff may still be moving between homes, carry out urgent testing in any linked homes.**

Care staff often work in more than one care setting and may provide care at home for some individuals. As part of an extended outbreak investigation, PCR testing should be extended to any care setting where care staff who work in an outbreak affected home also work in a linked care home. Where a linked care worker has provided care at other care settings in the previous 72 hours, consideration should be given to urgent screening of all residents and staff for symptoms and there should be consideration of PCR testing of all the residents and staff at all these linked settings.

Priority should be given to testing residents and other staff at any such linked care home where the worker in common was **symptomatic** at the time of their own testing or is known to be **test positive**.

Where a care home worker, who works at a care home with an active outbreak of COVID-19 infection, is **asymptomatic** at the time of the initial outbreak investigation **and tests negative**, then the risk of them transmitting infection is probably relatively low. However, the local HPT would be advised to keep the linked care home under close supervision to identify any early evidence of infection. Where resources permit, testing of residents and staff in this setting should also still be considered.

If any residents or staff in a care home identified as a result of extended outbreak investigation have symptoms consistent with COVID-19 infection or are PCR test positive, then they should be dealt with as part of the original active outbreak investigation, but as a linked secondary outbreak. Contingency plans would have to be in place to ensure the rapid deployment of replacement staff to any such linked care home implicated as part of an active outbreak investigation.

If an outbreak investigation is extended to include one or more linked care settings, then prior to commencing testing, assurances must be sought that the care home has contingency plans in place to manage the consequences of finding test positive residents and staff. In particular, assurances should be sought about ready access to supplies of PPE and assurance that plans are in place to organise the rapid replacement of any staff that have to be excluded from work.

3) Sampling testing in care homes where there are no cases. By definition this will also include testing residents and staff who are not symptomatic.

The third category identified by SG for extending care home testing was less clearly specified. It was not clear if this category was intended to mean that all, or only some of the residents and/or staff at all care homes as yet unaffected by the infection should be tested or that alternatively only a sample of unaffected care homes should undergo testing.

Irrespective of which scenario was intended, under such circumstances proactive (rather than reactive) testing would be classed as (prospective) COVID-19 screening and would constitute a form of enhanced surveillance. It would not be considered as part of an active outbreak investigation.

A different set of conditions would apply to conducting any such proactive screening; this would require detailed advance consideration and planning in collaboration with local health and social care partners and statutory agencies.

In advance of carrying out any prospective screening, assurances must therefore be sought that the care home is prepared to manage the consequences of finding positive residents and staff. This must include assurances that there are adequate arrangements in place to rapidly introduce enhanced PPE and IPC measures to control a potential outbreak and practical plans to provide replacement staff at short notice to stand in for any care workers who have to be excluded. Extending testing to this category of previously unaffected care homes should not therefore be carried out hastily and would generally be considered a lower priority.

If any residents or staff tested as part of any such proactive screening programme were identified as PCR positive, then immediate action would nonetheless have to be taken as for an active outbreak of COVID-19 infection. Careful consideration would therefore have to be given in advance to the potential implications of carrying out such proactive screening, involving currently unaffected care homes.

Repeat testing for staff and residents who have previously had COVID-19

We do not know how long immunity to COVID-19 infection will last or whether it will be sufficient to protect against further infection. Individuals who have had COVID-19 infection may not be as likely to be re-infected and so may therefore be less likely to test positive again in the short term. However, reinfection may occur and the risk of repeated infections cannot be ruled out at present. Therefore, on a precautionary basis, care staff must be tested every time they develop symptoms consistent with COVID-19 infection, irrespective of past testing.

Evidence relating to asymptomatic carriage of COVID-19 virus

This guidance makes use of limited existing evidence available from mainly as yet unpublished studies of asymptomatic and pre-symptomatic individuals, who have been identified as COVID-19 PCR test positive.

New and Emerging Respiratory Virus Threats Advisory Group (NERVTAG) is the UK expert committee charged with reviewing scientific evidence on COVID-19 in order to inform UK Government policy. It considered the current limited published evidence on asymptomatic carriage of the COVID-19 virus at a meeting in late April 2020 but declined to provide definitive recommendations on how asymptomatic test positive cases should be managed.

Symptoms in the elderly are often vague or atypical of the presentation of COVID-19 infection. Staff may also not report classical COVID-19 symptoms initially but on closer questioning often report milder and / or atypical symptoms. In these studies, some residents who had reported having symptoms were nonetheless test result negative. Therefore, being symptomatic was neither sensitive nor specific for proven COVID-19 infection in terms of residents or staff being test positive. This indicates that high proportions of staff and residents in an affected care home are likely to test positive, even those that are reportedly asymptomatic.

Evidence is also accumulating that people who are asymptomatic (in terms of the standard COVID-19 case definition) and PCR test positive, may in fact be ‘pre-symptomatic’ with a potentially high proportion of such people going on to be clinically symptomatic within 7-8 days. The importance of this is that these asymptomatic people may in fact be shedding virus in significant quantities and therefore may pose a potential risk of transmitting virus to others, especially the vulnerable elderly in a care setting.

Epidemiological studies are being undertaken to help better understand COVID-19 transmission risk across various countries and settings. Preliminary results from testing carried out in care homes in Scotland and England, where infection with COVID-19 has been reported, has found up to half, and sometimes more, of both residents and staff to be COVID-19 PCR test positive. Therefore, at the point at which an outbreak is first suspected (based on the conventional definition of an outbreak as two linked cases), a high proportion of staff and residents may well already be PCR positive. Current evidence suggests that even if tested early during an outbreak (e.g. on clinical suspicion of a first case), approximately 25% of care home staff could be found to be positive. Therefore, a high index of suspicion with respect to possible COVID-19 infection in a care home is essential to identify an outbreak and intervene early.

It is also therefore essential that all care homes must have carried out advance planning to anticipate an outbreak, liaising with local health and social care partners to consider the impact of managing an outbreak. This must include anticipating the impacts of adopting a universal staff and resident testing policy which could result in significant loss of care staff. It is therefore essential that a risk assessment is undertaken in each care home, before mass testing is carried out, and plans are made to replace staff at short notice.

Guidance Development Process

In view of the lack of a sound evidence base on which to base firm recommendations, a modified consensus guidance development method has therefore been used to specify this interim guidance. Consensus-based guidance is developed in situations where good quality published evidence is inadequate or non-existent. Consensus development harnesses the expertise of individuals with in-depth knowledge and/or research experience in the relevant field and is used to generate broad agreement among key stakeholders. In a situation (such as this) where it is not possible to provide definitive or evidence based recommendations, a consensus based guidance document is acceptable, derived from consultation with subject experts and other key stakeholder' on what is considered to be peer group best practice.

To assist the development of a consensus on the management of test positive symptomatic and asymptomatic residents and staff, HPS produced an options appraisal paper on Friday 1 May 2020. A rapid consultation process gathered views on these options, involving Scottish Government sponsored care home working groups with representation from NHSB HPTs, clinical professional and care home sector stakeholders including Care Scotland and the Care Inspectorate. The feedback received was used to inform development of this guidance.

Five options were identified as possible ways to manage in particular COVID-19 asymptomatic test positive staff in care homes. These ranged from a highly conservative, ultra-low risk approach to a higher risk, minimal intervention strategy. The most precautionary, low risk option (exclude all care home workers until their test results were available and allow back only test negative staff) was seen as unworkable due to the impracticality of excluding all tested staff until their test results were available, resulting inevitably in closure of a home and relocation of the residents.

The least interventionist approach (allow asymptomatic test positive care workers to continue working with appropriate use of IPC/PPE) was not considered acceptable due to the known risk that asymptomatic people can pass on the virus and infect others. In some outbreak situations it has been found that a high proportion of reportedly asymptomatic people are either 'pre-symptomatic' and go on to develop overt symptoms within a matter of days of testing positive, or did have minor symptoms pre-testing that did not meet the standard COVID-19 case definition.

During the consultation, a consensus was derived based on the most practical strategy representing the best compromise in terms of balancing two key objectives:

(1) Minimise the risk that any asymptomatic test positive care home worker might pass on the virus in a care home setting and

(2) Minimise the potential disruption to the care home, as well as to the affected worker and their household contacts, as a result of unnecessarily excluding asymptomatic COVID-19 PCR test positive staff.

The clear consensus is to allow staff to continue working until their test result is known and if PCR test positive, then exclude them for seven days from their test date (using the provisions of the Public Health (Scotland) Act 2008 to compensate officially excluded staff).

This option was considered to achieve the best balance between the two key requirements and therefore represented the most practical and justifiable choice.

Conclusions

Decisions on the appropriate management of an outbreak of COVID-19 will be made by an Incident Management Team (IMT) led by the local NHSB HPT and in accordance with standard outbreak management principles.

Care homes vary in size, layout and internal organisation. Some larger care homes may have a number of discrete physically self-contained units that can be managed with a degree of separation. The IMT may take such factors into consideration in determining how to manage an outbreak and will apply the testing policy as appropriate following a risk assessment.

Where testing identifies PCR test positive residents, the default action should be to isolate all test positive residents whether symptomatic or asymptomatic. Likewise, there should be an assumption that irrespective of being symptomatic or asymptomatic, all PCR test positive staff will be excluded from working in any care setting as soon as is practically possible and no later than the end of a shift.

Implementing enhanced PCR testing will require that all care homes have robust plans in place to replace a potentially significant proportion of direct care staff, at short notice and must liaise with their local Health and Social Care agencies to ensure appropriate support is available when such rapid intervention is required.

The following detailed guidance explains how to manage the predictable consequences of implementing universal PCR testing, primarily as part of enhanced outbreak investigation.

- **Symptomatic residents and** s**ymptomatic staff s**hould be managed as per the standard **HPS guidance on COVID-19 case and outbreak management** already published (Table 1. Summary of actions in response to PCR test positive in care home residents.below).
- **Asymptomatic COVID-19 PCR test positive residents** should be managed as for routine **symptomatic** COVID-19 cases and isolated for 14 days (Table 2 below).
- **Asymptomatic COVID-19 PCR test positive staff** should be excluded as soon as practicable after their test result is known. There should be no undue delay in excluding such test positive staff.

Recommendations

Care home residents

Actions required on finding either symptomatic or PCR test positive care home **residents** are summarised in Table 1.

Care Home Staff

Symptomatic Staff

In all circumstances any staff member who is symptomatic must be excluded from work from the date of onset of symptoms as per standard existing HPS self-isolation guidance.

Asymptomatic staff – COVID-19 PCR test positive cases

Actions required on finding PCR test positive care home **staff** are summarised in **Table 2**.

Table 1. Summary of actions in response to PCR test positive in care home residents.

Symptom status at time of testing	Action
Symptomatic at time of testing	• Isolate for 14 days from onset of symptoms • Isolation can be discontinued after both completion of 14-days of isolation and if the individual has been apyrexial for 48 hrs. • No further testing required
Asymptomatic at time of testing and remains asymptomatic	• If positive, isolate for 14 days. • No further testing needed. **N.B.** New admissions should be isolated for 14 days regardless of COVID-19 test results.
Asymptomatic at time of testing and becomes symptomatic	• Isolate for 14 days from date of positive test. • If symptoms develop during this isolation period, then a further 14 days of isolation should commence from symptom onset date. • Isolation can be discontinued after both completion of 14-days isolation and if the individual has been apyrexial for 48 hrs. • No further testing is required

Table 2. Summary of actions in response to PCR test positive in care home staff.

Response to PCR positive in care home staff
Staff may continue to work whilst awaiting test results providing they: • remain asymptomatic and • apply stringent IPC measures as per HPS COVID-19 IPC guidance while working. If the PCR test result is equivocal or unclear, the test must be repeated ASAP. If the PCR test result is **negative** the staff member can continue to work but must be hyper-vigilant for the development of any relevant symptoms. If symptoms develop, they must be reported to the care home management immediately and the care worker must be excluded. Likewise, there should be a high index of suspicion for any illness in a member of the care worker's household. If the PCR test result is **positive**: • Exclude the care worker who must self-isolate for 7 days from the date of testing • After the full 7 days the worker can return to normal working and providing they do not develop symptoms, they do not require a retest. • If an excluded worker becomes **symptomatic** during the 7-day isolation period, then: o re-start 7 days' isolation from the date of onset of symptoms o no return to work until the full 7-day exclusion period is complete (including being apyrexial for 48 hours) o in addition, household contacts must follow 'stay at home' advice; i.e. isolation for 14 days from the date of the care worker' symptom onset.

Delayed exclusion of test positive Home Care Workers

There might be circumstances where there could be an unavoidable delay in replacing all test positive staff immediately. This could create an unacceptable risk to the safety of the care being provided. If such a situation occurred, then any staff that had to continue working must only do so for the absolute minimum period (e.g. to complete a shift) pending their replacement. Such staff would only be permitted to work if they:

- continue to use appropriate PPE, as per **HPS IPC/ PPE guidance** (as they would have been doing in the days prior to their test result being known)
- only work with residents already known to be infected themselves
- maintain appropriate social distancing when a mask has to be removed
- eat or drink in a separate room, either on their own or only in the company of other test positive staff
- avoid unnecessary casual contacts and observe appropriate social distancing when heading home, avoiding if possible or limiting the use of public transport.

Replacement of Excluded Care Home Staff

Any new staff coming into a care home for the first time where the usual staff are being subjected to testing (e.g. as part of an ongoing outbreak investigation or otherwise), must be screened for any current symptoms consistent with COVID-19 infection **and** PCR tested.

Testing is necessary to minimise the risk of any new PCR test positive staff entering the workforce of the already outbreak affected home. The results of testing of replacement staff should be managed as follows: ideally, testing would be carried out just before their planned start date at the affected care home and no longer than 48 hours before, in case they change COVID-19 status in the period after the test.

See below for appropriate actions.

Asymptomatic new care home workers

If prospective new staff are **asymptomatic** when screened**,** then prior to starting work at the affected care home, they must still be tested to identify their PCR test status.

If they are **PCR test negative**, they can commence work.

If they are **PCR test positive**:

- they must be excluded from work in any care home for a full seven-day period
- they could commence work at the end of this period and do not need to be retested.

If an **excluded new worker** becomes **symptomatic** at any point in the 7-day exclusion period:

- they must restart the clock and commence another 7 days of isolation
- at the end of the new exclusion period, they can commence work and do not need to be retested.

Household contacts of excluded **asymptomatic test positive workers** do not need to be isolated, unless either the excluded worker or a household contact develops symptoms themselves.

If any **household contact of a test positive worker** becomes **symptomatic**, then the normal HPS isolation guidance applies to the **whole household** including the worker:

- for the **asymptomatic** care worker, the previous 7-day exclusion period of the worker must be reset to comply with the standard isolation period as a **household contact** of a symptomatic COVID-19 case; meaning 14 days of isolation from the household contact's symptom onset
- at the end of the 14-day period, the care worker can commence work and does not need to be retested.

Symptomatic new care home workers

If a prospective new care home worker is **symptomatic** on pre-work screening**,** they must not start work at any home; they must either:

- be excluded and tested as soon as possible and:
  - if **PCR test negative**, they can commence work at the care home immediately
  - if **PCR test positive** they must remain excluded for the full 7-day period, then commence work but do not need to be retested

  OR
- self-isolate as per the standard **self-isolation guidance** for a full 7-day period
- at the end of the period (including 48 hours apyrexial without using antipyretics) they must be tested:
  - if **PCR test negative**, they can commence work at the care home
  - if **PCR test positive** they must remain excluded for another 7-day period starting from the date of the second positive test but after completing that 7-day period they do not need to be retested before starting work.

Household contacts of excluded symptomatic care home staff need to follow the relevant standard HPS household isolation guidance.

Delays in testing new care home workers

If there is likely to be a significant delay in organising testing and if there is a critical shortage of staff who are known to be test negative, then an **asymptomatic** new care home worker may be permitted to work at an outbreak affected care home staff, but only if they **remain asymptomatic.**

They must however be tested **as soon as possible**. While working in the affected care home, the care worker awaiting the test result must observe all the standard IPC precautions as per the **HPS IPC guidance** applied to the original care home staff while they wait for their results and should minimise their direct contact with residents who are asymptomatic.