Title: Close Contact Testing and Restriction of Movements

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

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Close contact testing and restriction of movements

Previous NPHET considerations

- This paper relates to the testing and duration of restriction of movements for individuals exposed, or potentially exposed to COVID-19 arising from close contact with a confirmed case. It does not consider advice for those travelling internationally.
- The NPHET considered advice from HIQA at its meetings of the 1 and 22 October 2020 in relation to whether the period of restricted movement for close contacts should be reduced from 14 days and any consequent implications for the current testing protocol of day zero and day seven tests[1]. It was decided at the time to maintain the current advice on 14 days of restricted movement and current testing protocols.
- HIQA advice was based on:
    - A modelling exercise to estimate the residual risk of transmission associated with different testing scenarios that aim to shorten the duration of restriction of movements for close contacts of a COVID-19 case. A range of scenarios were modelled.
    - Research evidence in relation to the incubation period
    - Review on international guidance and practice
    - Input from the COVID-19 Expert Advisory Group
- HIQA advice concluded that if a change was going to be implemented, the estimates presented from the model suggest that the use of RT-PCR tests on 'Day Zero' and 'Day 10' with end of restricted movements on receipt of a 'not detected' result from the second test would present the largest incremental benefit and lowest incremental risk relative to current standard practice in Ireland.
- HIQA advice also outlined a range of additional factors for consideration, including particular consideration of residual risk of infection for certain groups, including residents in LTRC, other vulnerable groups, healthcare workers; levels of adherence to restricted movement advice and test regimen, potential impact on current Test and Trace capacity, type of test utilised and clear communications of any changes.
- The NPHET further considered updated modelling and advice from HIQA at its meetings of 17 and 23 December 2020 in relation to whether the period of restricted movement for close contacts should be reduced from 14 days and any consequent implications for the current testing protocol of day zero and day seven tests[2].
- At its meeting of 23 December, the NPHET recommended that, given current infection levels and growing constraints on testing system, the testing protocol for close contacts should change, with the Day 0 and 7 tests to be replaced by a single test five days after last contact with a confirmed case. No change to the duration of restriction of movements (i.e. 14 days) was recommended at the time.
- The NPHET further considered updated advice from HIQA at its meeting on 14 January[3] focusing on the impact of widespread community transmission and high incidence in health care settings on the volume of healthcare workers being absent on COVID-19 related leave.

[1] https://www.hiqa.ie/reports-and-publications/health-technology-assessment/restriction-movements-individuals-exposed-or

[2] https://www.hiqa.ie/reports-and-publications/health-technology-assessment/restriction-movements-individuals-exposed-or

[3] NPHET Letter of 14 January 2021: https://www.gov.ie/en/collection/ba4aa0-letters-from-the-cmo-to-the-minister-for-health/#2021

The NPHET recommended the urgent implementation of day 5 and day 10 testing for HCWs designated as close contacts, with exit from restricted movements if the Day 10 test is reported as 'not detected'. The NPHET also recommended the recommencement of testing of close contacts amongst the general public at day 5, as soon as swabbing, testing and contact tracing capacity could facilitate this development.

Position during third wave

At a meeting between the Department and the HSE on 31 December 2020, it was agreed that, given the unsustainable pressure on the testing system, that close contacts of confirmed cases of COVID-19 would not be routinely referred for testing, although anyone who developed symptoms suggestive of COVID-19 (whether a contact of a case or not) should be referred for testing. No change to the duration of restriction of movements (i.e. 14 days) was recommended at the time.

Current Position

As of 29 January 2021, the testing of close contacts of confirmed cases of COVID-19 has resumed with the test occurring on Day 5[4]. Close contacts must restrict their movements for 14 days regardless of test results.

Separately, current occupational guidance on the management of healthcare workers (HCW) states that:[5]

- Where a HCW has been identified as a close contact due to a workplace exposure, testing will be carried out on Day 5 and Day 10 from their last exposure to the case.
- Regardless of the result of the Day 5 test, close contacts must continue to restrict their movements (unless derogated to return to work by management following a 'not detected' test).
- HCWs can exit restricted movements and return to work once their day 10 test is confirmed as 'not detected'.

HIQA analysis

HIQA has updated their analysis[6] on the potential impact of different testing scenarios to reduce the duration of restriction of movements and or number of tests for close contacts of a COVID-19 case.

HIQA outlines the current position as follows*: Irrespective of testing, standard practice in Ireland is that close contacts should restrict their movements for 14 days from last exposure event. That is, receipt of a 'not detected' test result does not impact the recommended duration. While this approach minimises the risk of onward transmission, it can pose significant societal challenges such as resourcing of essential services and impact on population mental health.*

HIQA's paper assesses a number of specific testing scenarios outlined by NPHET with respect to test demand relative to testing capacity. These scenarios include two-test strategies reflective of unconstrained testing (that is, testing capacity that exceeds demand with no constraints at any point in the process), single test strategies reflective of constrained testing, and strategies with no

[4] https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/guidance/contacttracingguidance/
[5] https://www.hse.ie/eng/staff/workplace-health-and-wellbeing-unit/covid-19-guidance/occupational-health-interim-guidance.pdf
[6] Potential impact of different testing scenarios to reduce the duration of restriction of movements and or number of tests for close contacts of a COVID-19 case (Health Information and Quality Authority, submitted to NPHET on 12 January 2021).

universal testing of close contacts in the community reflective of significantly constrained testing within a mitigation phase.

As we move back into a containment phase and pressure on testing capacity reduces, we can consider implementing a two-test strategy and a change in the duration of restriction of movements.

HIQA's analysis highlights a number of key points for consideration:

- Of the two-test options assessed, at a population level, the use of testing on 'Day Zero' and 'Day 10' with end of restriction of movements on receipt of a 'not detected' test result from the second test would, on balance, present the largest potential reduction in risk (in terms of infectious person-days in the community) relative to an increase in benefit (in terms of reduced person-days in restricted movements) compared to standard practice in Ireland.
    - Per 1,000 close contacts, this scenario infers a reduction of 607 (95% CI: -944 to -233) person-days in restricted movements with no significant increase in infectious person-days in the community, relative to standard practice (1 person-day, 95% CI: -27 to 27).
    - For a hypothetical cohort of 1,000 COVID-19 cases assuming an average of three close contacts per case, this would equate to a reduction of approximately 1,821 person-days in restricted movements and an increase of three infectious person-days in the community.
- For scenarios involving a single test, the use of a 'Day 5' test with end of restricted movements on day 14 was most similar to standard practice in Ireland.
    - Per 1,000 close contacts, estimates for this scenario result in no significant change in benefits or harms relative to standard practice (-23 person-days in restricted movements, 95% CI: -77 to 21; 0 infectious person-days in the community, 95% CI: -27 to 30).
- Consistently during the pandemic, the majority of cases identified through contact tracing have been detected through the 'Day Zero' test, with a much smaller proportion identified with the 'Day Seven' test. A change to the timing of the first test, such as moving it to 'Day Five', will delay detection of cases with consequent implications for onward contact tracing. However, testing on 'Day Five' is associated with the lowest number of undetected cases relative to earlier testing days.
- Relative to standard practice, a reduction in the duration of restricted movements based on a 'not detected' test result could lead to an increased residual risk of infection. Therefore, if a strategy is adopted that increases residual risk, it should be accompanied by additional public health guidance including the requirement for ongoing physical distancing (and additional precautions in terms of contact with vulnerable populations), hand hygiene, and respiratory etiquette.
- If considering a reduction in duration of restricted movements based on testing, attention needs to be paid to the impact on certain groups such as vulnerable individuals or those in high-risk settings, in which any increased risk of onward infection may not be acceptable.

- An increase in risk compared with standard practice was observed in both scenarios in which there was no universal testing of close contacts:
    - Ending of restriction of movements on day 14 in this context infers an increase of 194 (95% CI: 101 to 318) infectious person-days in the community per 1,000 close contacts. For a hypothetical cohort of 1,000 COVID-19 cases assuming an average of three close contacts per case, this would equate to an increase of approximately 582 infectious person-days in the community.
    - Ending of restriction of movements on day 10 in this context infers an increase of 336 (95% CI: 203 to 493) infectious person-days in the community per 1,000 close contacts. However, this scenario is associated with a mean reduction of 2,198 person-days in restricted movements. For a hypothetical cohort of 1,000 COVID-19 cases assuming an average of three close contacts per case, this would equate to an increase of approximately 1,008 infectious person-days in the community and a reduction of 6,594 person-days in restricted movements.

HIQA found that:

- **On balance, the scenario, which included ending the period of restricted movements on receipt of 'not detected' test result from a test conducted on day 10 since last exposure, leads to an estimated reduction in the burden of person-days in restricted movements (-607 person-days, 95%CI: -972 to -193) while maintaining similar rates of infectious person-days in the community (1 person-day, 95% CI: -27 to 23) per 1,000 close contacts.**

Proposal

It is now proposed that, for the general population, there should be

- Recommencement of twice-testing of all close contacts, at Day 0 and Day 10 post their last exposure to the case, as soon as swabbing, testing and contact tracing capacity can facilitate this development;
- Close contacts may end the period of restricted movements on receipt of a 'not detected' test result from a test conducted on Day 10 since last exposure.

It is further proposed that, at the point at which the recommendation is implemented, healthcare workers who are designated as close contacts should also move to testing at Day 0 and Day 10 (currently day 5 and day 10) post their last exposure to the case.