Title: Test and Trace Paper – NPHET

Author: Damien McCallion
Organisation: HSE
Date: 16th December 2021

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

Approved for future publication: YES/NO (remove as applicable)
Test and Trace: NPHET Update
16th December 2021

1.0 Executive Summary

All parts of the testing pathway are operating at close to maximum surge capacity (referrals, swabbing, laboratory testing and contact tracing). The Test and Trace system has limited scope to further increase capacity. The new Omicron variant and international travel rules will add considerable risk and complexity to the operation of the service.

- PCR Testing capacity is now at 230,000 per week from the original weekly 100,000 baseline capacity, reaching the final stage in the surge plan. Additional plans are under consideration to increase PCR capacity by an additional 5,000 appointments per day.
- Antigen testing capacity is now at 100,000 per week from a zero baseline.
- Community referrals have decreased by 6% in comparison to the same time-period last week while community positivity is now at 20%.
- Swabs completed in the community was 177,891, this is a 2% increase in comparison to the same time-period last week.
- The highest number of swabs over the past week was 27,115 swabs (including test centre and outbreak referrals).
- The single highest day for testing referrals to date was on Monday, 29th November 2021 with over 38,705 referrals recorded in total, and 17,113 of these being self-referrals.
- Additional capacity has been put in place in recent weeks through utilisation of the Defence Forces, new community swabbing recruitment campaigns and engagement with private healthcare providers, providing an additional 4,000 tests per day.
- The median end to end TAT for a not detected result in the Community is 1.1 days.
- The median end to end TAT for a detected result in the Community is 1.7 days.
- In the past week 206,996 laboratory tests were completed, this is the highest volume of lab tests completed to date in a 7-day period.
- Serial testing continues in residential care facilities (86 cases identified in the current cycle) and food production facilities (120 cases identified in the current cycle).
- RCF PCR staff serial testing has commenced from Monday, December 6th which will consume up to an additional 3,000 PCR tests per day.
- Over 170,606 antigen tests have been reported through the public antigen results portal.
- The provision of antigen tests for asymptomatic children and staff in Primary schools, who are identified as members of a pod with a confirmed Covid-19 case, commenced on Monday 29th November. Over 66,924 antigen test kits have been dispatched to date.
- A programme of antigen testing has commenced for children attending Early Learning and Care (ELC) and School Age Childcare (SAC) aged 4 years and older. The antigen testing will be available to children in a pod where there is a confirmed case of COVID-19. These measures are in place from 15 December 2021.
- To inform policy decision regarding Testing and Contact Tracing in the context of the Omicron variant, it would be important to note that changes to movement restriction requirements for Close Contacts can be made and operationalised relatively quickly. Changes to testing requirements, however, would require technical and ICT builds that would be difficult to implement quickly. This is because a high level of automation has been built into the end-to-end process to manage the high volume of Cases and Contacts being managed.
- Given the possible further impact of the new variant, a surge plan is being developed considering additional PCR and Antigen testing.
2.0 Service Status

The Test and Trace system is now operating at surge and is under severe pressure. Further demands on the testing system in recent weeks, due to clinical referrals and close contacts, has led to delays in accessing the testing services in some parts of the country. A total of **96.9%** of the clinical priority referrals are getting appointments within same day/next day. Self-referral test appointments are being made available throughout the day to mitigate this demand pressure. Laboratories are continuing results within the key performance indicators for the programme.

We are continuously and actively monitoring the demand status, considering the evolving needs and potential service demands in the context of increasing virus transmission within the community.

3.0 Current Trends

3.1 Overview

- From the 8th – 14th December, there were **c.185,674 community referrals**. Overall, total community referrals have **decreased by 6%** in comparison to the same time-period last week while Community positivity is at **c.20%**.

![Total Community Referrals and Positivity Rates Week on Week](image)

- From 8th – 14th December, there were:
  - 100 international travel portal referrals (**↑ 223%** compared to last week)
  - 110,497 self-referrals (**↓ 8%** compared to last week)
  - 20,637 GP referrals (**↓ 37%** compared to last week)

- Over the last 7 days, the number of **swabs completed in the community** was **177,891** this is a **2% increase** in comparison to the same time-period last week. The highest community swabbing day over the past week reached **c.27,115 swabs**.
• Approximately 96.9% of GP and Close Contact Referrals received an appointment on the same day or on the next day.

• From the 8th – 14th December, there have been approximately 206,996 lab tests reported in community, private and acute labs.

In the community, over the last 7 days (8th – 14th December), the median end-to-end turnaround time from referral to:

- SMS for not detected tests was 1.1 day
- Communication of a detected result by call was 1.4 days
- Contact tracing completed, for detected results was 1.7 days

Of those tested with close contacts during the same 7-day period, the average number of close contacts was 3.

From the 8th – 14th December, there were:

- 30,437 call 1s (↑ 2% compared to last week)
- 30,576 call 2s (↑ 3% compared to last week)
- 31,281*call 3s (*Please note, the Call 3 figure now includes successful calls and portal submissions)
3.2 Serial Testing Programmes

- Serial testing of staff in RCFs commenced on 20th June 2020. To date, 909,088 swabs have been completed in 598 facilities, identifying 5,426 detected cases, resulting in a 0.60% detection rate since the beginning of testing.

- Cycle 19 commenced on 6th December. To date, the cycle has completed 15,679 swabs and identified 86 detected cases. This results in a 0.55% detection rate.

- Serial Testing of Staff in Mental Health Facilities commenced on 21st of January 2021. To date, 9,576 swabs have been completed in 93 facilities, identifying 40 detected cases, resulting in a 0.42% detection rate.

- Cycle 11 commenced on the 11th of October. To date, 379 swabs have been completed in 3 facilities, identifying 11 detected cases. This results in a 2.90% detection rate.
Serial Testing of Staff in Food Production Facilities commenced on 21st of August 2020. To date, 276,039 swabs have been completed in 91 facilities, identifying 2,064 detected cases, resulting in a 0.75% detection rate since the beginning of testing.

Cycle 16 commenced on 15th of November. To date, 6,544 swabs have been completed in 65 facilities, identifying 120 detected cases. This results in a 1.83% detection rate.
4.0 Current Capacity

National Standing Capacity for swabbing increased from 21,500 to 36,400 by the 13th December. This includes community swabbing, serial testing, home and mobile, private providers and acute hospital swabbing. There are now 41 testing centres in operation nationally - 35 community swabbing centres and an additional 6 community swabbing centres operated by a private operator under HSE NAS governance in Dublin, Cork, Athlone and Limerick. Work is ongoing to increase the number of centres with discussions ongoing with one additional operator. This has reached our planned Surge Capacity for 2021. Additional plans are under consideration to increase PCR capacity by an additional 5,000 appointments per day.

Standing capacity for laboratory testing is 32,400 tests (27,400 community and 5,000 acute hospitals). A surge plan is in place to increase to 36,000 (31,000 Community Tests and including 5,000 acute).

Standing capacity within Contact Tracing has increased from 4,045 to an average of 5,595* capacity over 7 days, following the automation of Call 3 (call to close contacts). Based on the current headcount, Contact Tracing is now approaching maximum capacity, with very limited Surge capacity remaining.

*This number changes on a daily basis depending on rostering of staff and excludes the Defence Forces support which has now been agreed.

Table 1. Overview of standing capacity and surge capacity

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Standing Capacity</th>
<th>Surge Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swabbing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swabbing – Community</td>
<td>21,500*</td>
<td>21,500</td>
</tr>
<tr>
<td>Swabbing – Home &amp; Mobile</td>
<td>2,400 (Average capacity of NAS mobile teams)</td>
<td>2,400 (Average capacity of NAS mobile teams to increase)</td>
</tr>
<tr>
<td>Swabbing – Private Providers</td>
<td>4,000</td>
<td>4,000</td>
</tr>
<tr>
<td>Swabbing – Serial Testing**</td>
<td>3,500 (3000 for RCFs included in total capacity)</td>
<td>3,500 (3000 for RCFs included in total capacity)</td>
</tr>
<tr>
<td>Acute</td>
<td>5,000</td>
<td>5,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Laboratory</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory - Lab 1</td>
<td>17,400</td>
<td>17,000</td>
</tr>
<tr>
<td>Laboratory - Lab 2</td>
<td>6,000</td>
<td>8,000</td>
</tr>
<tr>
<td>Laboratory - Lab 2 (offshore)</td>
<td>2,000 (~) (7-day notice period required)</td>
<td></td>
</tr>
<tr>
<td>Laboratory – Lab 3</td>
<td>4,000</td>
<td>4,000</td>
</tr>
<tr>
<td>Laboratory - Acutes</td>
<td>5,000******</td>
<td>5,000******</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contact Tracing</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1: Call 1+Call 2</td>
<td>Technology solutions will be applied to manage demand.</td>
<td>Technology solutions will be applied to manage demand.</td>
</tr>
<tr>
<td>Level 2: Call 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Call Capacity (L1 +L2)</td>
<td>5,595</td>
<td>5,595</td>
</tr>
</tbody>
</table>

* Short-term surge capacity, not sustainable beyond a number of days
**Serial testing programmes commenced on 6th Dec and expected volumes will be 21,000 per week with 7-day testing
***Average per day
****If surge capacity exceeded, measures available to increase capacity with existing third parties by up to c. 2,000 on a short-term basis. Need to align with swabbing capacity.
*****Acute hospitals are running consistently at 5,000 presents significant challenges
5.0 Future Scenarios/Model and Impact

The Test and Trace Programme are working with IEAMG to model the scenarios with particular emphasis on swabbing demand. At this point the key indicators are;

- Decrease in referrals for testing of 6% in comparison to the same time-period last week
- On peak days we have taken c. 27,115 swabs in the community
- Community positivity remains high at c.20% which impacts on contact tracing response time

The model run of 17th December utilises the 1st December IEMAG model scenarios. There are four scenarios ranging from optimistic to pessimistic. All bar the optimistic scenario incorporates an impact of 40% Omicron advantage. All scenarios include the impact of social mixing at varying levels.

Although actual referral numbers have decreased slightly, recent experience and short-term projections show continuing high case prevalence driving demand for all components of the end to model. Community swabbing continues to experience very high demand volumes and is currently in surge mode (25.5k swabs per day versus a baseline of 15k swabs per day). Whilst high volumes impact other parts of the process including contact tracing, the nature of these functions permits higher levels of flexibility and therefore increased ability to absorb pressure on the service. The pressure experienced by downstream components of the end to operating model is of course impacted by the ability of community swabbing to absorb high demand. All four IEMAG scenarios drive short term demand that exceeds system capacity.

Finally, we note that the current situation is changing and uncertain.
6.0 Surge Response Considerations

The national SARS-CoV-2 testing policy, incorporating the ‘case definition’ is informed by NPHET, and operationalised by the HSE within the C-19 Test & Trace Programme.

As part of the planning process shared with NPHET and the Department of Health, HSE has previously shared its surge response plan including:

- **Swabbing Capacity**: Additional sites and site capacity, including the introduction of pop-up facilities and more recently the addition of private swabbing capacity to support surge activities with a capacity of approximately 30k per day
- **Clinical Diagnostics Capacity**: Increased across community and hospital settings from >2k per day to 15k per day, and at current surge level operating in excess of 30k PCR test capacity per day
- **Contact Tracing**: Additional efficiencies and mechanisms introduced to support the contact tracing process, including the addition of technology to enable individuals to identify close contacts and book follow on tests and other automation
- **Antigen**: Introduction of antigen testing for ‘Asymptomatic, Vaccinated Close Contacts’ in line with NPHET guidance, and in accordance with the HSE surge response plan (August 2021) to utilise antigen as C-19 testing capacity reached a daily threshold of 20k tests. With the further introduction of antigen for primary school close contacts from 29.11.221

Notwithstanding these actions, the demand for testing continues and is forecast to continue. The HSE is also mindful that in the event antigen testing becomes widely available in the build up to the holiday period, PCR testing (confirmatory PCR testing) capacity will come under additional pressure as individuals seek to obtain confirmatory PCR tests. As the Test and Trace programme approaches its surge limit, it is prudent to consider other measures that may be required on an interim basis until such time as the testing demand has stabilised.

These considerations take account of:

- Alignment with NPHET guidance and public health policy to date
- Maintaining consistency and clarity of communications to all stakeholders
- Ensuring a risk-based approach to designated cohorts and/or actions
- Requirement to secure PCR testing capacity for the most vulnerable cohorts
- Acknowledgement that increasing testing capacity continuously is not feasible within the current self-referral model, and that antigen usage may have a role, in the short-term, taking account of the above

The surge mitigation actions are as follows:

**A. Communication Campaign:**

- **GPs**: Asking GPs to assist (where feasible) to encourage individuals not to seek PCR testing unless symptomatic, or under the guidance of the clinician
- **Public Health**: Asking public health to consider alternatives to PCR, e.g. antigen usage in asymptomatic, low risk environments/cohorts, where feasible, and in keeping with public health considerations
- **General Public**: Seek the support of the public to secure PCR testing for symptomatic and vulnerable individuals, highlighting that PCR testing capacity needs to be preserved for symptomatic individuals
B. Self-Referral Pathway (estimated 60% of daily testing capacity):
- Route all asymptomatic individuals away from the self-referral testing portal, where feasible. Contingency planning has been underway for this work and an initial position is set out in appendix.
- Focus on public health advice on infection control and isolation measures.

C. Meat and Food Production (estimated 1% of daily testing capacity):
- Discontinue current serial testing in meat and food production settings as antigen-based screening is currently available to these facilities via DAFM, and serial testing positivity rates for this group have remained low.

D: Residential Care Facilities: (estimated 10% upon commencement of serial testing in December)
- While not a preferred option in view of the profile of RCFs, putting the serial testing programme on hold in December, pending the completion of the vaccine booster programme across RCFs is an option. This will provide laboratory capacity but impact less on swabbing capacity, as the majority now are self-swabbing. This is not recommended.

E: Close Contacts (estimated 9% of daily testing capacity):
- In the event that other mitigating steps do not impact on overall demand for PCR testing, we could also switch from PCR to antigen for unvaccinated close contacts, or only the unvaccinated asymptomatic close contacts. Vaccinated asymptomatic close contacts are already in receipt of antigen tests under our recent changes.

F: Introduce Antigen for Symptomatic Individuals
- Another option is being developed for using antigen testing for symptomatic users, for a specific age group, in an effort to increase overall testing capacity. The ECDC guidance states that rapid antigen testing can contribute to the overall COVID-19 testing capacity offering an advantage in terms of shorter turnaround time and reduced cost, especially in situations where testing capacity is reduced (October 2021).
- The proposed approach is a direct delivery model which could be ready to implement from January 2022, whereby users could order an antigen kit online and the antigen test kit would be delivered directly to their home address. If there is significant escalation in demand over the coming days, a contingency model (via collection points) could be put in place with the appropriate amount of notice. However, it should be noted that the launching a contingency model during the holiday period would carry significant risk and operational challenges.
- The implementation of this option will require considerable planning and effort from a range of areas, most notably across procurement, IT and communications. It also have significant changes on guidance provided to the public to date; as such, clear communications and messaging will be required.

G: Increase PCR Capacity
- We are looking at increasing daily community testing capacity by 5,000 tests per day (35,000 community tests) and considering swabbing capacity (including self-swabbing on-site for designated sites) with additional PCR capacity delivered via offshore facilities (as necessary).
7.0 Antigen Testing Service

7.1 Antigen Testing Screening Programmes

Antigen screening continues for the Food Processing sector, as well as testing in some Acute Hospital settings. Antigen results may be collected by the sector administering the testing or are reported via the online system for those carrying out self-tests. The HSE have also supplied antigen tests to other high-risk groups under the direction of Public Health leads and will be providing antigen testing support to vulnerable and hard to reach groups through Social inclusion partners.

The antigen test numbers for screening programmes to date are:

<table>
<thead>
<tr>
<th>Sector</th>
<th>Commenced</th>
<th>Total Tests Reported</th>
<th>Total Positive Antigen Results</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food and Meat</td>
<td>March 2021</td>
<td>149,497</td>
<td>356</td>
<td>Data as reported by DAFM</td>
</tr>
<tr>
<td>Acute Hospital</td>
<td>Feb 2021</td>
<td>7,275</td>
<td>19</td>
<td>Data as reported by Acutes</td>
</tr>
<tr>
<td>Higher Education</td>
<td>July 2021</td>
<td>4,056</td>
<td>1,153</td>
<td>Programme now completed</td>
</tr>
<tr>
<td>Early Years</td>
<td>July 2021</td>
<td>2,386</td>
<td>449</td>
<td>Programme now completed</td>
</tr>
<tr>
<td>Residential Care</td>
<td>August 2021</td>
<td>4,855</td>
<td>4</td>
<td>Programme now completed</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>168,069</strong></td>
<td><strong>1,981</strong></td>
<td></td>
</tr>
</tbody>
</table>

7.2 Targeted Antigen testing programmes

Antigen tests kits are being sent out via the post to fully vaccinated close contacts identified through the CMP, and to children and staff in Primary schools who are members of a pod with a confirmed Covid-19 case, as identified by their school principal. Recipients are asked to complete 3 antigen tests, one every second day, and to report their results via the online system. A similar programme for the Early learning and childcare sector will commence on 15th December.

Test kits dispatched and results reported to date are:

<table>
<thead>
<tr>
<th>Programme</th>
<th>Commenced</th>
<th>Total Test kits dispatched</th>
<th>Results reported</th>
<th>Positive antigen results reported</th>
<th>Confirmed cases on PCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close contacts</td>
<td>28/10/21</td>
<td>147,922</td>
<td>52,747</td>
<td>20,281</td>
<td>11,353</td>
</tr>
<tr>
<td>Primary school pods</td>
<td>29/11/21</td>
<td>66,924</td>
<td>6,611</td>
<td>2,459</td>
<td>1,394</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>214,846</strong></td>
<td><strong>59,358</strong></td>
<td><strong>22,740</strong></td>
<td><strong>12,747</strong></td>
</tr>
</tbody>
</table>
7.3 Antigen testing population results

The online system for reporting antigen self-test results is available for any antigen user to report their results, whether part of an HSE programme or other members of the general public. All information gathered through this system is self-reported and not subject to validation. To date, 170,606 results have been entered with an average of 3,768 per day for the last 7 days. 76% of positive antigen results are confirmed cases on PCR testing, an average of 1,565 cases per day.
8.0 Appendices

8.1 Surge Plan Implemented to date

Several actions have been taken since July 2021 to reduce the demand on Swabbing and Laboratories and to increase capacity across Contact Tracing, as listed below:

**Referrals and Swabbing**

- Expanded opening hours and enhanced rostering
- Introduced measures to increase swabbing capacity (3rd party resources, Defence Forces, NAS pop up)
- Re-directed public to book tests online and stopped walk-ins to reduce admin activity at test sites and better manage the structure of the day and traffic management at busy sites
- Recruitment campaign re-launched on 15th November resulting in a total of 2,000 swabbers
- Engagement of private testing providers operating on the HSE’s behalf, to provide additional testing capacity of 4,000 appointments daily across Dublin, Cork, Shannon and Athlone.

**Laboratories**

- Activated additional onshore and offshore capacity as well as additional capacity in acute hospital laboratories
- Prioritisation of symptomatic cohorts and measures have been taken to temporarily increase turnaround times

**Contact Tracing**

- Check in calls to increase capacity on calls 1, 2 and 3
- Added case listing contacts onto portal
- Upskilling of 154 Level 2 contact tracers to Level 1 to increase contact tracing capacity
- Reduction of Positive Patient Assessment (PPA) questions to minimum; max call time 25 mins (Call 2A)
- Workforce Management initiatives, including offering part time workers increased hours, offering Contact Tracers working a 4-hour shift overtime during busiest days, re-assignment of CMP Staff to Contact Tracing and temporary re-focus of ring-fenced CMP Contact Tracers assigned to complex settings with Departments of Public Health to CMP core functions
- Reduced Positive Uncontactable Cases from 4 Days to 2 Days followed by a letter
- Introduced a reduction in Contact Tracing Days for flight contact tracing
- Implemented support from the Irish Defence Forces
- Updated work Instructions relating to quantity of attempts made to Close Contacts and Index Patients to 3 attempts over one full workday
- Increased capacity of Data Processing Team to facilitate anticipated demand arising from Schools
- Amended exclusion criteria for Book a Test portal to increase volume of users who are eligible
- Updated pre-Call 2A SMS to encourage increased use of the ‘List Your Contacts’ portal, and remove any reference to outbound CTC calls
- Only gather contacts associated with 9 Public Health priority areas, for example, hospitals, RCF, travelling community, etc.
- Amend current exclusion criteria on List Your Contact to allow more patients to use portal
- Suspending validation calls to service-users who opt to utilise the ‘List Your Contacts’ portal
- HSE Communications team to enhance publicity of the ‘List Your Contacts’ portal.

END