Title: Test and Trace Paper – NPHET

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Organisation: HSE

Date: 15th April 2021

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

Approved for future publication: YES/NO (remove as applicable)
Testing and Tracing Paper, 15th of April 2021

Updates are provided below regarding the following aspects of Testing and Contact Tracing:

1) Testing and Tracing new initiatives
2) Activity levels across referrals, sampling, laboratory testing and contact tracing
3) Turnaround Times
4) Testing Programmes
5) Process Improvements
6) Recruitment

1. Testing and Tracing new Initiatives

We are currently working on 5 new key initiatives to the testing and tracing programme of work.

- **Source Investigation/Backwards Tracing**
  As of 31st March, Contact Tracing Centres undertake a more detailed history (going back seven days prior to the onset of symptoms) from cases identified as “community transmission” in an effort to identify the source of infection and other contacts who might have been exposed at the same time. This additional information has been passed to the regional Departments of Public Health who have been doing more detailed investigations in settings and events where appropriate.

  The effectiveness of Source Investigation is dependent on the incidence rate and burden of disease at any point in time. Low levels of infection in a country represents an opportunity to chase-down the few remaining cases. Backwards contact tracing / source investigation is considered most effective when there are low levels of community transmission, and less effective when there are high levels of community transmission.

  Source investigation is something that Departments of Public Health have been doing throughout the pandemic. This recent initiative is designed to facilitate the work of the regional Departments of Public Health.

  ![Number of Call 1 Total](table)

<table>
<thead>
<tr>
<th>Number of Call 1 Total</th>
<th>05-Apr</th>
<th>06-Apr</th>
<th>07-Apr</th>
<th>08-Apr</th>
<th>09-Apr</th>
<th>10-Apr</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Settings identified</td>
<td>375</td>
<td>296</td>
<td>276</td>
<td>410</td>
<td>384</td>
<td>330</td>
<td>2071</td>
</tr>
<tr>
<td>Average</td>
<td>19%</td>
<td>14%</td>
<td>18%</td>
<td>18%</td>
<td>12%</td>
<td>13%</td>
<td>16%</td>
</tr>
</tbody>
</table>

  *Note: The settings identified are settings and events where a case might have been infected. A setting that has been identified on a call is not necessarily the venue at which the source (or index case) was. This can only be determined following detailed investigation done by the Regional Departments of Public Health.*

- **Alternative referral pathway for testing**
  On Sat 9th April a further 6 walk-in centres opened in areas of high rates of transmission across Dublin 8, 10, 11, 15, Limerick, and Waterford. Up to the 12th of April, there were a total of 29,583 walk in referrals with an overall positivity rate of 2.77% across all centres. The 25-44 age group make up 45% of walk-ins.

  In addition to the stand-alone sites, a pilot is being introduced to utilise testing lanes in existing static centres in Mullingar and Dunmanway from Wed 14th – Tue 20th April. The Steering Group has also approved the recommendation to proceed with an online self-referral portal. The technical requirements have been gathered and scoping is currently
underway.

- **Approach to Antigen testing pilot in schools/third level**

An Antigen Testing Implementation Group has been established to implement a pilot study to investigate the effectiveness and safety of self-swabbing and self-testing antigen testing models in educational facilities in Ireland. A HSE position paper has been drafted for review. Operational planning is underway and a project team has been setup to develop the Antigen testing pathway and rollout.

- **Testing at Quarantine sites**

A working group has been established with members of the Department of Health, the National Ambulance Service and various HSE teams to establish and monitor a serial testing programme at Quarantine sites. Quarantine requirements have been in place since Friday, 26th March and testing commenced on Saturday, 27th March. On 1st April, the Department of Health designated an additional 26 countries and territories as ‘Category 2’ which now totals 58 countries. Regular reporting is in place to help manage the testing programme and there is regular engagement underway to continually improve the testing process. The first four Quarantine sites are now operational. The below summary of Mandatory Quarantine data is as of 10am 12th April when only two Quarantine sites were operational.

**Overview of Mandatory Quarantine Facility Testing**

As decided by the Department of Health, all passengers arriving into Ireland from designated states are now required to pre-book accommodation in a designated quarantine facility. Testing resources have been made available in Quarantine Facilities since 26th March 2021 and are available at the on a daily basis to accommodate the testing of all new arrivals. The scope of testing includes the below:

- Testing of Passengers arriving into Ireland from Category 2 Countries on Day 0 and Day 10
- Testing of Passengers arriving into Ireland from Category 1 countries that have not been able to produce a negative test result
- Testing of Quarantine Hotel Staff on a weekly basis.

**Summary of Mandatory Quarantine Facility Testing Data**

*Data as of 10:00am – 12th April 2021*

- 2 Quarantine Facilities Tested
- 9 Unaccompanied Minors Tested
- 1,482 Referrals for Mandatory Quarantine Testing
- 1,076 Swabs completed
- 21 Covid-19 Detected Tests (1.95% Detection Rate)
- 18 Covid-19 Detected Cases

**Table 1 Quarantine Facility Testing: Staff vs. Resident Summary**

<table>
<thead>
<tr>
<th></th>
<th>Referrals</th>
<th>Swabs</th>
<th>Participation %</th>
<th>Detected</th>
<th>Detection %</th>
<th>Detected Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quarantine Staff</td>
<td>628</td>
<td>249</td>
<td>40%</td>
<td>1</td>
<td>0.40%</td>
<td>1</td>
</tr>
<tr>
<td>Quarantine Residents</td>
<td>845</td>
<td>818</td>
<td>97%</td>
<td>20</td>
<td>2.44%</td>
<td>17</td>
</tr>
<tr>
<td>Unaccompanied Minors</td>
<td>9</td>
<td>9</td>
<td>100%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,482</strong></td>
<td><strong>1,076</strong></td>
<td><strong>73%</strong></td>
<td><strong>21</strong></td>
<td><strong>1.95%</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>
Note: “Detected Tests” includes data from any requested or required re-testing of individuals. “Detected Cases” signifies the number of Covid-19 Cases detected i.e. 1 result per individual tested.

Note: Testing of Quarantine Staff is scheduled for Thursday, Friday and Saturday of each week. The referral number may include referrals for future dates which have not yet been swabbed, reflecting in a low participation rate. Please note: a reduced number of Staff Referrals to report issued 08/04/2021 due to data cleansing and removal of duplicate referrals from count.

Table 2 Quarantine Facility Testing by Facility

<table>
<thead>
<tr>
<th></th>
<th>Staff</th>
<th>Residents</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Referrals</td>
<td>Swabs</td>
<td>Detected</td>
<td>Referrals</td>
</tr>
<tr>
<td>Site 1</td>
<td>628</td>
<td>249</td>
<td>1</td>
<td>563</td>
</tr>
<tr>
<td>Site 2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>284</td>
</tr>
<tr>
<td>Total</td>
<td>628</td>
<td>249</td>
<td>1</td>
<td>845</td>
</tr>
</tbody>
</table>

Testing of Residents in Mandatory Hotel Quarantine (by Reservation Date)

Figure 1 Mandatory Quarantine Facility Testing of Residents by day

Table 3 Quarantine Facility Testing of Residents: Category 1 vs. Category 2 Country Referrals

<table>
<thead>
<tr>
<th>Category</th>
<th>Referrals</th>
<th>Swabs</th>
<th>Participation %</th>
<th>Detected</th>
<th>Detection %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1 Country</td>
<td>96</td>
<td>92</td>
<td>96%</td>
<td>3</td>
<td>3.26%</td>
</tr>
<tr>
<td>Category 2 Country</td>
<td>749</td>
<td>726</td>
<td>97%</td>
<td>17</td>
<td>2.34%</td>
</tr>
<tr>
<td>Total</td>
<td>845</td>
<td>818</td>
<td>97%</td>
<td>20</td>
<td>2.44%</td>
</tr>
</tbody>
</table>
**Self-isolation and Restricted Movement Support**

A test and trace initiative has been implemented to provide a call on day 4 of isolation to service users, to:

1. Ensure that service users are following Public Health guidance in relation to self-isolation ‘Case Only’
2. Signpost service users to other services that may be required i.e. mental health services or other supports
3. Reinforce advice previously given by Public Health

The objective of the day 4 call is:

1. To ascertain whether service users are following PH guidance in relation to self-isolation ‘Case Only’
2. To signpost service users to other services i.e. mental health services or other supports
3. To reinforce previously given PH advice

The process of initiating follow-up calls to cases on day 4 started with Phase I of the programme on 19th March 2021. These calls were made to a sample of cases from the CTC in Cork.

On April 7th, following a review of lessons learned extracted from Phase 1, the Limerick CTC also commenced contacting index patients to perform these calls. The below table summarises the results of these calls since March 19th. In total, 3,265 calls were successfully completed with compliance with self-isolating guidance at 88%.

<table>
<thead>
<tr>
<th>Calls Initiated</th>
<th>4,150</th>
</tr>
</thead>
<tbody>
<tr>
<td>Successful Calls</td>
<td>3,265</td>
</tr>
<tr>
<td>FULL Adherence to PH Guidance</td>
<td>2,873</td>
</tr>
<tr>
<td>PARTIAL Adherence to PH Guidance</td>
<td>379</td>
</tr>
<tr>
<td>NO Adherence to PH Guidance</td>
<td>13</td>
</tr>
</tbody>
</table>
2. Activity levels across referrals, sampling, laboratory and contact tracing

Summary

Test and Trace service performance indicators from the 7th – 13th of April show a 1% increase in community referral volumes in comparison to the same time-frame last week (From the 31st March – 6th of April there were a total of 33,510 referrals in the community. This week, from 7th – 13th of April, there were a total of 33,975 referrals in the community).

Walk-in test centre referrals have decreased by 53% in comparison to the same time-frame last week (From the 31st March – 6th April there were a total of 12,923 walk-in test centre referrals. This week, from 7th – 13th April, there were a total of 6,064 walk-in test centre referrals).

As of April 13th, the positivity rate for the past seven days is c. 2.7%, and as of April 13th, of those tested with close contacts, the average number of close contacts per case was 3.2.

Demand planning scenarios are refreshed on an ongoing basis and proactive demand and capacity planning activities are being used to support operational planning across the end-to-end pathway.

Planning continues on the development of a medium-term operational plan for the Test & Trace service guided by the medium-term profile of demand and activity across various scenarios. Work is under way to define the service elements for each demand range over the coming weeks and months. Once outputs are developed stakeholder engagement will be undertaken to ensure alignment on the service priorities and limits over the period. This planning continues to make assumptions regarding restrictions, serial testing, the impact of vaccination, variants of concern among other operational items such as local Department of Public Health capacity to respond to complex cases. The medium-term operating model will also consider the impact of the introduction of self-referral pathway for asymptomatic individuals to facilitate more widespread testing.
Community Referral Data (7th – 13th April)

From the 7th – 13th April there were c.33,975 referrals in community settings. This weekly total has increased by 1% since the same time-period last week (31st March – 6th April; c.33,510 community referrals).

Walk-in Test Centre Referral Data (7th – 13th April)

From the 7th – 13th April there were c.6,064 referrals for walk-in test centres. This weekly total has decreased by 53% since the same time-period last week (31st March – 6th April; c. 12,923 walk-in referrals).

The below graph shows a breakdown of daily community referrals and walk in referrals over the past 7 days.

![Graph: Total Daily Community and Walk-In Referral Volumes](image)

Figure 2.1 Daily Community and Walk-In Referral Volumes 7th – 13th April

Community Referral Data Volumes by Age Group (5th – 11th April)

Figure 2.2 below highlights the breakdown of community referrals by age group, from 5th – 11th April. This dataset reflects an earlier 7-day date range, as it refers to referrals that have been resulted (i.e., detected, not detected, inconclusive, indeterminate, invalid and not tested).

From the 5th – 11th April, the group with the largest number of referrals is the 31-40 age group, which makes up 18.9% of all referrals. The detected rate for the 31-40 age group is c.8%.

![Graph: Referral Volumes by Age Group](image)

Figure 2.2 Three-week view of community testing referrals by age group
**Sampling in the community, serial testing and acute and private settings.**

Over the seven-day period, 7\textsuperscript{th} – 13\textsuperscript{th} April, there has been approximately **112,866 swabs** taken for COVID-19 testing. From 7\textsuperscript{th} – 13\textsuperscript{th} April a total of 38,564 swabs were completed in the community (including walk-ins).

During the same time-period c.12,627 tests were completed by the National Ambulance Service. Approximately 43,350 swabs were taken in acute and private acute settings. The remaining 18,325 swabs were taken as part of the Serial Testing Programmes of staff in Residential Care Facilities including Nursing Homes and Mental Health Facilities that meet the agreed criteria, and staff in Food Production Facilities.

![Swabs Completed in Community Test Centres](image)

**Figure 2.3** Six-week View of Swabs Completed in Community Testing Centres

**Laboratory Testing**

Over the seven-day period 7\textsuperscript{th} – 13\textsuperscript{th} April, there has been 109,326 lab tests completed. A total of 61,821 of these tests were processed in community laboratories, 30,988 tests were processed in acute laboratories and 16,517 were processed in private labs. Over the past seven days, there were no tests processed by our offshore laboratory partner.

**Contact Tracing**

Contact tracing is carried out in contact tracing centres in Galway, Limerick, Cork and Dublin.

The gathering of enhanced Positive Patient Assessment data recommenced on Wednesday 10\textsuperscript{th} February. On this date Day 0 and Day 10 swabbing for close contacts was also recommended.

From 7\textsuperscript{th} – 13\textsuperscript{th} April, there was a total of **2,759 call 1s** completed.

During the same time-period there was a total of **2,419 call 2s** completed, completing contact tracing for this number of individuals. A number of individuals did not require contact tracing.

There was a total of **3,727 call 3s** made to close contacts of a confirmed COVID 19 case.

On the 13\textsuperscript{th} of April, of those tested with close contacts, the mean number of close contacts was **3.2**.
3. Turnaround Times (7th – 13th April)

*End-to-end turnaround time*

We continue to keep sharp focus on end-to-end turnaround times, highlighting any opportunity for improvement, while recognising that some cases are increasingly complex in nature.

Over the seven-day period 7th – 13th April;

- The median end-to-end turnaround time, from referral to SMS, for *not detected* tests in the community setting was **1.3 days**.
- The median turnaround time, from referral to communication of a *detected result* by call, in community setting was **1.8 days**.
- The median end-to-end turnaround time, from referral to contact tracing completed, for *detected results* in the community setting was **1.9 days**.

*Referral to appointment*

In the community, the median time from referral to appointment was **0.1 days**.

A total of **93.7%** of community referrals are provided with a COVID-19 test appointment within 24 hours.

*Swab to lab result*

- For swabs processed in a *community* lab, the median time for swab to lab result was 24 hours.
- For swabs processed in an *acute* lab, the median time for swab to lab result was 22 hours.
- The combined median time from swab to lab result was 22 hours.
- Overall, 45% of people get their result in less than 24 hours, 87% in less than 36 hours and 96% in less than 48 hours.

*Overall Swab to laboratory result communicated – Medians*

- 24 hours in Acute.
- 25 hours in Serial Testing.
- 26 hours in Community.

*Contact Tracing*

The average time to complete all calls is 6.5 hours and the median time to complete all calls is 4.4 hours.

*Education and Childcare Facility turnaround times*

The median turnaround time from swab taken to result communicated in education and childcare facilities was 1.1 day.
4. Testing Programmes

**Serial Testing in Nursing Homes**

Serial testing in Nursing Homes commenced on the 23rd of June. To date, the programme has completed 709,460 tests and identified 4,603 detected cases. This is a detected rate of 0.65%.

**Cycle 10** of serial testing in Nursing Homes commenced on 29th March. To date, the cycle has completed 32,878 tests and has identified 29 detected cases. This is a detected rate of 0.09%.

![Nursing Home Detected Rate per Cycle](image1)

**Figure 4.1 Nursing Home Detected Rate per Cycle**

**Serial Testing in Mental Health Facilities**

Testing in mental health facilities commenced on the 25th of January. Facilities taking part in this testing programme will feature as a mixture of once off and serial testing. To date, the programme has completed 4,536 tests and identified 18 detected cases. This is a detected rate of 0.40%.

**Cycle 3** of serial testing in Mental Health facilities commenced on the 29th of March. To date, there has been a total of 987 swabs carried out and 2 detected case has been identified. This is a detected rate of 0.20%.

![Mental Health Facilities Detected Rate per Cycle](image2)

**Figure 4.2 Mental Health Facility Detected Rate per Cycle**
Serial Testing in Food Production Facilities

Serial testing in food production facilities commenced on the 21st of August. To date, the programme has completed 165,276 tests and identified 1,294 detected cases. This is a detected rate of 0.78%.

Cycle 8 of serial testing in food production facilities commenced on the 6th of April, and has completed 7,350 tests, with 29 detected cases identified. This is a detected rate of 0.39%.

![Figure 4.3 Food Production Detected Rate per Cycle](image)

Serial Testing in Prisons

A once off round of Asymptomatic Testing of Staff in “Key Contact Areas” in Prisons was rolled out on 13th and 14th April 2021 arranged in local Test Centres. Results of this round of testing will be assessed on testing completion in order to determine the continuation to fortnightly serial testing.

As of the 14th of April, there have been 90 tests completed, with 0 detected cases identified. This is a detected rate of 0%.
**Education and Childcare Testing Programme**

COVID-19 testing has re-started in schools and is ongoing in special education and childcare facilities. In the last week (4th – 10th April 2021);

- 1,669 tests were completed in 19 primary schools resulting in a **1.9% positivity rate**.
- 291 tests were completed in 169 post-primary schools resulting in a **0.3% positivity rate**.
- 40 tests were completed in 4 Special Education settings resulting in a **2.5% positivity rate**.
- 1,168 tests were completed in 80 childcare facilities resulting in a **3.9% positivity rate**.

The graph below provides an overview of the positivity trends in Primary, Post-Primary, Special Education and Childcare Settings over the past 4 weeks:

**Figure 4.4 Four-Week View of Positivity Trends in Primary, Post-Primary, Special Education and Childcare Settings**

**Weekly Comparison of Tests Completed in Schools and Special Education Settings**

The graph below provides a week to week view of the levels of testing and % increase/decrease of testing completed in Schools and Special Education settings.

- In the last week (week 14, 4th – 10th April 2021), there were c.2,000 tests completed.
Weekly Comparison of Tests Completed in Childcare Facilities

The graph provides a week to week view of the levels of testing and % increase/decrease of testing completed in Childcare Facilities.

- In the last week, (week 14, 4th – 10th April 2021), there were c.1,168 tests completed.
5. **Process Improvements**
A new process for Post-Mortem Cases has been introduced to prevent additional communication from taking place with patients that have Covid tests conducted post-mortem. The process derives from considerable work that has been conducted with labs to ensure effective capture of data relating to post-mortem samples. By preventing additional communication for Not Detected results & Indeterminate results, this process will prevent additional distress for grieving family members at what is already a difficult time. Though an interim manual solution has been introduced, this process will be fully automated upon completion of the development of a new solution.

6. **Recruitment**
Recruitment of staff to support swabbing activity and contact tracing activity is ongoing.

- As of the 12th of April, a total of 782 swabbers have been hired and placed to support swabbing activity.
- As of the 12th of April, there is a total of 867 staff supporting contact tracing. Of these 867 staff, 826 have been hired and retained as part of the dedicated workforce to support the contact tracing function. The remaining 41 staff are deployed staff from the HSE and other public service roles.