Health Information and Quality Authority

An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

Advice to HSE:

Potential impact of different testing scenarios and durations of mandatory home quarantine for people travelling to Ireland from non-designated states

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About the Health Information and Quality Authority

The Health Information and Quality Authority (HIQA) is an independent statutory authority established to promote safety and quality in the provision of health and social care services for the benefit of the health and welfare of the public.

HIQA's mandate to date extends across a wide range of public, private and voluntary sector services. Reporting to the Minister for Health and engaging with the Minister for Children, Equality, Disability, Integration and Youth, HIQA has responsibility for the following:

- **Setting standards for health and social care services** — Developing person-centred standards and guidance, based on evidence and international best practice, for health and social care services in Ireland.
- **Regulating social care services** — The Chief Inspector within HIQA is responsible for registering and inspecting residential services for older people and people with a disability, and children's special care units.
- **Regulating health services —** Regulating medical exposure to ionising radiation.
- **Monitoring services** — Monitoring the safety and quality of health services and children's social services, and investigating as necessary serious concerns about the health and welfare of people who use these services.
- **Health technology assessment** — Evaluating the clinical and cost-effectiveness of health programmes, policies, medicines, medical equipment, diagnostic and surgical techniques, health promotion and protection activities, and providing advice to enable the best use of resources and the best outcomes for people who use our health service.
- **Health information** — Advising on the efficient and secure collection and sharing of health information, setting standards, evaluating information resources and publishing information on the delivery and performance of Ireland's health and social care services.
- **National Care Experience Programme** — Carrying out national service-user experience surveys across a range of health services, in conjunction with the Department of Health and the HSE.

Foreword

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a highly infectious virus which has caused tens of millions of cases of COVID-19 since its emergence in 2019, with a considerable level of associated mortality. In the context of the ongoing COVID-19 pandemic, SARS-CoV-2 constitutes a significant public health concern due to its high basic reproduction rate, the limited evidence of effective treatment approaches, and the constrained supply of vaccines in the early stages of population-level immunisation programmes.

The National Public Health Emergency Team (NPHET) oversees and provides national direction, guidance, support and expert advice on the development and implementation of strategies to contain COVID-19 in Ireland. Since March 2020, HIQA's COVID-19 Evidence Synthesis Team has provided research evidence to support the work of NPHET and associated groups and inform the development of national public health guidance. The COVID-19 Evidence Synthesis Team, which is drawn from the Health Technology Assessment Directorate in HIQA, conducts evidence synthesis incorporating the scientific literature, international public health recommendations and existing data sources, as appropriate.

From September 2020, as part of the move towards a sustainable response to the public health emergency, HIQA provides evidence-based advice in response to requests from NPHET and the Health Service Executive (HSE). The advice provided is informed by research evidence developed by HIQA's COVID-19 Evidence Synthesis Team and with expert input from HIQA's COVID-19 Expert Advisory Group (EAG). Topics for consideration are outlined and prioritised by NPHET. This process helps to ensure rapid access to the best available evidence relevant to the SARS-CoV-2 outbreak to inform decision-making at each stage of the pandemic.

The purpose of this report is to outline the advice provided to the HSE by HIQA regarding the potential impact of different testing scenarios and durations of mandatory home quarantine for people travelling to Ireland from non-designated states report. The advice reflects the findings of a modelling exercise and the input of the HIQA COVID-19 EAG.

HIQA would like to thank its COVID-19 Evidence Synthesis Team, the members of the COVID-19 EAG and all who contributed to the preparation of this report.

Dr Máirín Ryan

Deputy CEO & Director of Health Technology Assessment

Health Information and Quality Authority

Acknowledgements

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Membership of the Expert Advisory Group involves review of evidence synthesis documents and contribution to a discussion which informs the advice developed by HIQA's COVID-19 Evidence Synthesis Team and which is provided from HIQA to NPHET and or the HSE.

Not all members of the Expert Advisory Group and Evidence Synthesis Team are involved in the response to each research question. The findings set out in the advice represent the interpretation by HIQA of the available evidence and do not necessarily reflect the opinion of all members of the Expert Advisory Group.

The membership of the EAG was as follows:

Prof Karina Butler	Consultant Paediatrician and Infectious Diseases Specialist, Children's Health Ireland & Chair of the National Immunisation Advisory Committee
Dr Jeff Connell	Assistant Director, UCD National Virus Reference Laboratory, University College Dublin
Dr Eibhlín Connolly	Deputy Chief Medical Officer, Department of Health
Prof Máire Connolly	Specialist Public Health Adviser, Department of Health & Professor of Global Health and Development, National University of Ireland, Galway
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Dr Lorraine Doherty	National Clinical Director Health Protection, HSE-Health Protection Surveillance Centre (HPSC)
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Dr James Gilroy	Medical Officer, Health Products Regulatory Authority
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Dr Michael Power	Consultant Intensivist, Beaumont Hospital & Clinical Lead, National Clinical Programme for Critical Care, HSE
Dr Máirín Ryan (Chair)	Director of Health Technology Assessment & Deputy Chief Executive Officer, HIQA
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* Alternate nominee for programme and or association
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Members of HIQA's COVID-19 Evidence Synthesis Team:

Susan Ahern, Natasha Broderick, Paula Byrne, Karen Cardwell, Paul Carty, Barbara Clyne, Laura Comber, Christopher Fawsitt, Patricia Harrington, Karen Jordan, Kirsty O'Brien, Eamon O'Murchu, Michelle O'Neill, Sinead O'Neill, Máirín Ryan, Debra Spillane, Susan Spillane, Conor Teljeur, Barrie Tyner, Kieran Walsh.

Conflicts of Interest

No potential conflicts of interest were declared by members of the Expert Advisory Group.

Advice to the HSE

The purpose of this report is to provide advice to the Health Service Executive (HSE) on the following policy question:

" To examine whether a single test at Day 5 post arrival in Ireland remains the most appropriate approach to testing for those travelling from non-designated states, who are subject to home quarantine."

The response to the policy question is informed by an evidence synthesis considering two elements:

1. a modelling exercise to estimate the impact on transmission risk and resource requirements of different testing scenarios and durations of quarantine for people travelling to Ireland (by sea and air) from non-designated states, who are subject to home quarantine. The considered scenarios were expressed in terms of the following key outcomes, the estimated:
    a. expected number of cases detected by scheduled test
    b. total number of infectious person-days in the community
    c. total number of person-days in quarantine or self-isolation
    d. number of false positives generated
    e. cost of testing.

2. input from the COVID-19 Expert Advisory Group (EAG).

The key points of this evidence synthesis, which informed HIQA's advice, are as follows:

- A number of travel restrictions have been implemented in Ireland to protect public health and mitigate against the risk of SARS-CoV-2 from entering the country. With the exception of certain exemptions, anyone arriving into the country is subject to a mandatory 14-day quarantine. For people who have not travelled through a designated country in the previous 14 days, the quarantine period may be reduced on receipt of a 'not detected' RT-PCR test result if the test is taken no less than five days after arriving in the country.
- This analysis, in the form of a modelling exercise, aimed to assess the potential impact of different testing scenarios and durations of mandatory home quarantine. For individuals travelling to Ireland from non-designated states, these scenarios included increases to the minimum duration of quarantine from five to ten days for those who avail of testing and receive a 'not detected' RT-PCR test result.

- The estimates presented within this analysis suggest that increasing the minimum duration of quarantine to ten days will result in a substantially increased burden of days in quarantine (from 5,100 to 8,800 days per 1,000 people) with a limited benefit in terms of a reduction in infectious person-days in the community (from 25 down to 17 days).

- The addition of a 'Day 0' test, either RT-PCR or a rapid antigen detection test, would provide little or no additional benefit in terms of reducing the number of infectious person-days in the community.

- There is a lot of uncertainty in relation to three key factors:

    - the uptake of the existing 'Day 5' test; the reported uptake of testing is very low at 35%, although this is likely an underestimate of actual uptake as a proportion of passengers will transit through the state before Day 5, while others will either be exempt from quarantine or avail of testing through alternative means.

    - adherence to quarantine; no evidence was identified for the adherence to mandatory quarantine.

    - and the timing of exposure (that is whether it occurred during transit or in advance of travel).

- For those who wish to avail of testing (to test out of quarantine), any decision to increase the minimum duration of quarantine from five days should be informed by evidence on the adherence to quarantine and uptake of testing among people travelling into Ireland from non-designated states. Since the end of November 2020, there has been a trend of increasing risk of infection in people travelling to Ireland, and this should also be monitored to determine if a change in practice is required.

COVID-19 Expert Advisory Group

A meeting of the COVID-19 Expert Advisory Group (EAG) was convened on 19 May 2021 to assess the policy question in light of the above key findings and considerations. Based on the evidence presented, the EAG raised the following points for consideration:

- The findings from the analysis suggest there is limited benefit to changing the current single-test approach. This approach allows passengers to test-out of mandatory home quarantine on receipt of a 'not detected' RT-PCR test result five days after arriving in Ireland from non-designated states.

- An important aspect of mandatory home quarantine is reducing the risk of introducing SARS-CoV-2 into Ireland and, in particular, variants of concern (VOCs). The current classification of designated states is influenced by VOCs, and, for countries outside Europe, the incidence of COVID-19. Due to the high volume of travel between Ireland and the UK (which is currently non-designated), the current system may be ineffective given the increasing prevalence of the Delta (B.1.617.2, 'Indian') variant in the UK.

- Given the recent trend of the increasing risk of infection in people travelling to Ireland, coupled with the potential risk of importing VOCs from non-designated states, there is a need to better understand where passengers are coming from. Currently, there are a number of issues associated with Passenger Locator Forms due to data accuracy, coverage and usability. Better coordination across government departments and agencies would facilitate the gathering and sharing of information to enable appropriate management and monitoring of mandatory home quarantine. This could be enabled by greater clarity on where responsibility lies for the range of border control measures.

- The apparent low rate of uptake of free post-arrival testing in Ireland is concerning. It is unclear what proportion of passengers are exempt from home quarantine and therefore not eligible for testing (for example, those legally exempted, passengers exiting the State within five days of arrival). It may be a reflection of certain barriers to uptake, such as not living close to a test centre. Although post-arrival testing is provided free-of-charge, passengers arriving in Ireland from non-designated states may not be aware of that fact and so they may not avail of it. The low rate of uptake might also suggest that some passengers may choose not to reduce the length of their quarantine from 14 days. The rate of uptake may also be an under-estimate as some passengers may be getting tested but not recording the purpose of their test as travel-related. There is an urgent need to improve our understanding of the uptake rate and how to measure it accurately. To improve uptake, testing could be scheduled at the point of arrival in Ireland for five days later for passengers interested in potentially reducing the length of their quarantine from 14 days.

- It is unclear whether passengers are adhering to quarantine requirements and the low uptake of testing may be an indication of low adherence. However, the absence of evidence cannot be assumed to mean a lack of adherence. It is important that adherence to quarantine is monitored to determine if passengers are adhering to their legal duty to quarantine on arrival in Ireland. Alternative approaches to encouraging adherence should be explored.

- A coordinated and concerted effort is needed at ports and airports and across relevant government departments and agencies to ensure passengers are informed of their legal duty to quarantine and the potential consequences associated with breaching mandatory quarantine requirements.

Advice

Arising from the findings above, HIQA's advice to the HSE is as follows:

- Overall, the findings from this analysis suggest the current approach that allows passengers to test-out of mandatory home quarantine on receipt of a 'not detected' RT-PCR test result five days after arriving in Ireland remains the most appropriate approach to testing for those arriving in the country (by sea and air) from non-designated states. Based on the findings from this analysis:
    - extending the timing of testing to 10 days, in line with the quarantine requirements for passengers arriving from designated states, would substantially increase the burden on passengers in terms of time spent in quarantine and only marginally reduce the risk of transmission
    - the addition of a test on day zero (that is, the day passengers arrive in Ireland from non-designated states) has little effect on the risk of transmission compared with the current single-test approach on day five.
- Given the recent trend of increasing risk of infection and risk of importing variants of concern in people travelling to Ireland, there is a need for more complete and accurate data on where passengers have come from. Improving the content, accuracy and coverage of the Passenger Locator Form would facilitate the collection of information to enable appropriate management and monitoring of the mandatory home quarantine policy.
- Currently, there is an apparent low uptake of free post-arrival testing in passengers arriving in Ireland from non-designated states and this may be an indication of low adherence to quarantine requirements. There is an urgent need for improved data collection on the eligibility for and uptake of tests undertaken in relation to travel. Data on adherence to quarantine needs to be collected to understand the extent to which existing quarantine policy is effective.
- Promoting and ensuring compliance with mandatory home quarantine is critical in minimising the risk of SARS-CoV-2, including variants of concern, entering the community. In particular:

- a coordinated and concerted effort is needed at ports and airports and across relevant government departments and agencies to ensure passengers are informed of their legal duty to quarantine and the potential consequences of breaching mandatory quarantine requirements
- passengers should be informed about how and where they can avail of free post-arrival testing, which would allow them to exit quarantine on receipt of a 'not detected' result from a test taken five days after entering the country.

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