Resuming non-essential international travel in the context of the COVID-19 pandemic – Advice on the use of COVID-19-related testing

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NB: Editorial changes to the document originally published were made on 9 October 2020 and 16 November 2020, its content has remained unaltered.

Note redacted on 18 December 2020: This document is complemented by the following technical documents published on 16 December 2026 by the World Health Organization (WHO), to which the Pan American Health Organization (PAHO) has contributed to ensure alignment with this document.

- Interim guidance Considerations for implementing a risk-based approach to international travel in the context of COVID-19: https://www.who.int/publications/i/item/WHO-2019-nCoV-Risk-based-international-travel-2020.1
- Annex Risk assessment tool to inform mitigation measures for international travel in the context of COVID-19: https://www.who.int/publications/i/item/WHO-2019-nCoV-Risk-based_international_travel-Assessment_tool-2020.1
- Scientific brief COVID-19 diagnostic testing in the context of international travel: https://www.who.int/publications/i/item/WHO-2019-nCoV-Sci_Brief-international_travel_testing-2020.1

Summary: This document was developed by the Pan American Sanitary Bureau in compliance with Resolution *"COVID-19 Pandemic in the Region of the Americas"*, adopted by the 58th PAHO Directing Council in September 2020.

The document summarizes considerations for the decision-making process for resuming non-essential international travel in the context of the COVID-19 pandemic. It includes key actions for accepting and mitigating the risk of international spread of SARS-CoV-2 virus, which cannot be eliminated. It expands on the potential use of COVID-19-related testing, highlighting both primary challenges (biological, technical, and epidemiological) and secondary constraints (legal, operational, and resources-related).

Key recommended actions

- Individuals under isolation, quarantine, and community-wide restrictions on movement (e.g., lockdown) should not be allowed to travel internationally;
- Individuals who are unwell, regardless of the cause of illness, should be discouraged from any international travel, and health care-seeking behaviour should be promoted;
- The countries/cities authorized for direct incoming international traffic can be dynamically selected in order to mitigate the risk of importing SARS-CoV-2 virus;
- Mechanisms should be in place to collect information about arriving travellers' prospective travel plans for the first 14 days of their stay;
- Both outgoing and incoming travellers should be visually screened for symptoms compatible with COVID-19 at points of entry;

- Mechanisms should be in place to monitor the health status of incoming international travellers for the first 14 days of their stay.

- International travellers should **not** be regarded and managed as contacts of COVID-19 cases and should **not** be required to quarantine in the destination country;
- International travellers should **not** be regarded and managed as suspected COVID-19 cases and should **not** be subjected to sampling and isolation in the destination country;
- Interventions that might generate a false sense of security (e.g., body temperature screening, travellers completing forms/declarations focused on symptoms, COVID-19-related testing) are **not** warranted.
- Given the performance of currently available testing technology, conducting or requiring COVID-19-related testing of prospective or incoming international travellers is **not** recommended as a tool to mitigate the risk of international spread.

1. Mandate

This document was prepared by the Pan American Sanitary Bureau, in collaboration with the Secretariat of the World Health Organization (WHO) and pursuant to the provisions of the International Health Regulations (IHR) *(1)*, thus complying with Resolution *"COVID-19 Pandemic in the Region of the Americas"*, [1,2] adopted by the Directing Council of the Pan American Health Organization (PAHO) in its 58th Session, 28-29 September 2020.

2. Objective

The purpose of this document is to inform the decision-making process of national authorities in relation to resuming non-essential international traffic. While it summarizes and complements the WHO document *"Public health considerations while resuming international travel" (2)*, and the PAHO document *"Considerations for resuming non-essential international traffic in the Caribbean in the context of the COVID-19 pandemic" (3)*, it expands on the potential use of COVID-19-related testing. This document is based on the available evidence at the time of writing and will be updated as new evidence emerges. It is tailored to countries and territories in the Region of the Americas, taking into consideration their overall capacities at present, as well as the rational and sustainable use of resources in their respective contexts.

[1] Resolution *"COVID-19 Pandemic in the Region of the Americas"* was adopted by the 58th PAHO Directing Council on 29 September 2020. At the time of this writing the text of the adopted Resolution was not available on the PAHO Governing Bodies webpage at: https://www.paho.org/en/governing-bodies/directing-council/58th-directing-council. While it will be accessible shortly through that link, it can be obtained by emailing governing.bodies@paho.org.

[2] *"The 58th Directing Council* […] *resolves* […] *to request the Director to:* […] *provide support to Member States, in the framework of the IHR and in coordination with the World Health Organization, through the development and publication of regional guidelines and recommendations on the management of international travelers, for example the effectiveness of traveler screening tools, among others, in order to allow Member States to undertake the corresponding risk management activities."*

3. Introduction

In response to the COVID-19 pandemic, authorities in some countries, as well as stakeholders in the transport sector, are considering or are already implementing COVID-19-related testing of international travelers prior to travel, at points of entry (PoE), and after travel. However, such testing has limitations that must be critically assessed as part of the decision-making process, in the context of the overall national and sub-national COVID-19 response strategies.

At present, the risk of SARS-CoV-2 virus spread is inherent to international travel. And while this risk cannot be eliminated, it can be accepted and mitigated. In relation to essential international travel (e.g., the mobility of crews involved in maintaining the global supply chain; repatriations; personnel on duty for national security or essential services), such risk is managed according to controlled procedures that are applied to a relatively limited number of individuals under the oversight of national authorities in one or more countries.

However, it is understood that the need to reactivate economies may result in national authorities deciding to resume non-essential international travel (e.g., tourism or business). This requires restoring consumer confidence, as well as the fluid mobility of large numbers of people, while mitigating the risk of international spread (exportation and importation of cases) of SARS-CoV-2 virus infection.

4. Risk mitigation approach

The risk mitigation approach recommended by PAHO for resuming non-essential international travel revolves around the following ten elements:

- Countries' capacity to prevent individuals under isolation, quarantine, and community-wide restrictions on movement (e.g., lockdown) from undertaking international travel *(4)*. This includes the capacity to exchange information between health and migration authorities.

  Hence:

  - The **prevalence** of SARS-CoV-2 virus infection **among international travellers** is expected to be **lower** than in the general population in their location at origin;
  - **International travellers** should **not** be regarded and managed as **contacts** of COVID-19 cases in the country of destination, **and should not** be required to **quarantine** upon arrival;
  - **International travellers** should **not** be regarded and managed as **suspect COVID-19 cases** in the country of destination **and should not** be subjected to **sampling and isolation** upon arrival.

- Mechanisms should be in place to monitor the health status of incoming international travellers for 14 days after arrival, or until they depart the country. Such mechanisms should ideally be based on

the collection of information prior to departure, possibly online, and should make it possible to locate incoming international travellers for the duration of their stay.[3]

- Capacity of the public health and health services systems to manage imported cases and any subsequent chains of local transmission *(4)*.
- Countries' capacity to selectively and dynamically determine which countries/cities should be authorized for direct incoming traffic, based on the epidemiological situation at origin *(3)*.
- Availability of protocols to manage potential COVID-19-related events occurring on conveyances or at PoE. These include visual screening of travellers for symptoms compatible with COVID-19.
- Capacity to maintain a fluid flow of travellers and workers on PoE premises.
- Countries' capacity to communicate to different audiences, locally and internationally, including the general public, incoming and outgoing travellers, operators in the transport and hospitality sectors, the diplomatic network, and the network of health authorities. Discouraging individuals who are unwell, regardless of the cause of illness, from undertaking any international travel and promoting health care-seeking behaviour are critical components of risk communication.
- Individual travellers' adherence to personal protective and hygiene measures and respect of physical distance. Notwithstanding the limited number of documented instances of in-flight SARS-CoV-2 virus transmission, the use of medical surgical masks by crew members and passengers is recommended for the full duration of the flight, as well as at the PoE. The rationale for this recommendation is:
    - universal control of potential sources of infection;
    - easier monitoring of compliance and proper use of medical surgical masks;
    - low cost of medical surgical masks and their availability on the market.
- Capacity of national authorities and operators in the transport sector to maintain safe environmental conditions, which are also conducive to adherence to personal protective and hygiene measures and respect of physical distance.
- Avoidance of international travel-related measures that might generate a false sense of security, such as: body temperature screening *(2)*; travellers completing forms/declarations focused on symptoms; and COVID-19-related testing.

[3] These include, and are not limited to: self-health monitoring *(2)* and reporting of symptoms compatible with SARS-CoV-2 virus infection to health authorities; self-health monitoring, with daily measurement of body temperature, and daily reporting on health status to health authorities; daily proactive contact by hospitality operators and further reporting to health authorities; daily visits by hospitality operators and further reporting to health authorities; daily proactive contact by health authorities with travelers; daily visits by health authorities to travelers. Phone apps and other digital applications should be considered in order to make the health monitoring process more agile.

5. Use of COVID-19-related testing

Overall, the reliability and usefulness of COVID-19-related testing depends on many factors, including the prevalence of SARS-CoV-2 virus infection in the population being tested, assay type and performance, and specimen type, quality, and timing of sample collection after exposure to the SARS-CoV-2 virus. After infection by the SARS-CoV-2 virus, the mean time before the onset of symptoms (the incubation period) is 5-6 days (range 1-14 days), while the virus becomes detectable in the upper respiratory tract 1-3 days before onset of symptoms *(5)*. Thus, an international traveller may be in the initial phases of the incubation period without having detectable amounts of the virus at the time of sampling. Additionally, an international traveller may become infected during the period between sampling and departure, either during their journey or after arrival. Therefore, results suggestive of absence of SARS-CoV-2 virus infection in samples obtained prior to departure do not guarantee that international travellers are free from infection. Negative testing results may generate a false sense of security both for international travellers and for national authorities at destination, ultimately leading to less diligent adherence to hand and respiratory hygiene, physical distancing, and use of personal protective equipment (PPE).

National testing capacities, including laboratory supplies, trained personnel, and PPE should also be carefully considered when deciding whether the testing of seemingly healthy prospective or incoming travellers should be a priority within the overall national response strategy. In many countries, there are not enough resources to test individuals who should be prioritized due to illnesses compatible with COVID-19. In such contexts, travellers are not regarded as a priority. Investing resources to test prospective or incoming travellers might significantly divert the country's testing capacity from high-risk settings or high-risk groups, which would have a higher public health impact *(5)*.

At this juncture in the pandemic, conducting or requiring COVID-19-related testing of prospective or incoming international travellers is <u>not</u> recommended as a tool to mitigate the risk of international spread. This recommendation is made in light of the performance of currently available testing technology and considering the biological and epidemiological challenges, as well as legal, operational, and resource-related constraints, as outlined below.

Potential testing-based screening of international travellers should not be confused with the testing of travellers who have an illness compatible with COVID-19. The latter should be conducted as outlined in the WHO publication *"Public health considerations while resuming international travel" (2)*.

5.a. SARS-CoV-2 virus-related laboratory testing methods

Nucleic Acid Amplification Test (NAAT), such as real-time reverse transcription polymerase chain reaction (rRT-PCR), is the recommended assay for confirmation of SARS-CoV-2 virus infection, in line with PAHO and WHO guidance on testing for COVID-19 *(6, 7)*.

- Many molecular tests for SARS-CoV-2 virus are well-characterized and have high sensitivities and specificities. This means that the risk of false negative and false positive results is low. However, the infrastructure and biosafety requirements for molecular testing in laboratories are stringent *(6, 7)*. Some NAAT systems have the capacity for fully automated testing that integrates sample processing

with the capacity for RNA extraction, amplification, and reporting. These assays can be performed near patients, but their performance is under evaluation, and validation data for some of them are not yet available *(6, 7)*. Furthermore, they generally have a low sample throughput and are not practical for screening large numbers of passengers at PoE, as they risk generating crowding and disrupting physical distancing.

- A prospective international traveller with a negative rRT-PCR test result on sample/s obtained 2-5 days prior to departure, which is the time window currently requested by some countries, may be infected with SARS-CoV-2 virus, but with viral loads below the assay's detection limit. Similarly, a traveller may get infected prior to departure or during international travel. For the same reasons explained above, a negative rRT-PCR test result based on samples obtained from an international traveller upon arrival does not rule out SARS-CoV-2 virus infection and incubation of the disease. This type of testing could lead to a false sense of security and missed opportunities to implement other control measures.

- Finally, in some COVID-19 cases, viral RNA can be detected by rRT-PCR for weeks and possibly months after clinical recovery *(8)*. Most of these patients are not considered infectious and other criteria are used to infer their infectiousness *(8)*. Thus, if rRT-PCR testing were used to determine whether an individual could travel internationally, a positive test result obtained under those circumstances might unnecessarily prevent them from traveling.

Antigen-detecting test may be conducted either by laboratory-based tests (e.g., ELISA) or rapid diagnostic tests (RDT), with the potential to expedite and simplify the detection of SARS-CoV-2 virus infection. WHO has published interim guidance on antigen detection of SARS-CoV-2 virus infection, focusing on the use of rapid immunoassays *(9)*. Antigen-detecting tests have a lower sensitivity than NAATs and, like NAATs, they are unlikely to perform well with samples collected early in the incubation phase *(9)*.

Additional considerations regarding the use of NAATs and antigen-detecting RDTs

- Since COVID-19 cases and their contacts should be prevented from travelling, the prevalence of SARS-CoV-2 virus infection among travellers is expected to be lower than in the general population at their location at origin. Therefore, both NAATs and antigen-detecting RDTs with high specificity would have a poor positive predictive value;[4] hence, a high number of false positives would be expected. Accordingly, PAHO does not currently recommend the use of either of these types of tests prior to departure or upon arrival at the PoE.

[4] As an example, when using an antigen-detection RDT with 80% sensitivity and 98% specificity in a given population where the prevalence of SARS-CoV-2 infection is 1/1000, the positive predictive value (proportion of travelers with a positive test who are truly infected) is only 4%. The same calculation with a NAAT with 99.9% sensitivity and 99.9% specificity results in a positive predictive value of 50%.

- Pooling specimens could be considered for population groups with low/very low expected prevalence of SARS-CoV-2 virus infection *(6, 7)*. However, this could result in increased turnaround times as individual samples from pools that tested positive would each need to be retested individually. Also, samples containing low viral load might be diluted, thus leading to false negative results.
- The use of alternative strategies for sample collection (e.g., saliva instead of the currently recommended nasopharyngeal swab) and the extraction of genetic material (e.g., heat treatment of samples) might be perceived as appealing options. However, they do not address the biological and epidemiological limitations mentioned above.

IgM/IgG/IgA antibody detection or serological tests, including ELISA, immunofluorescence assay, or RDTs, are also available for COVID-19-related diagnostics. Regardless of the platform, these are not considered diagnostic tests for current SARS-CoV-2 virus infection. A positive serological test result only indicates prior infection, which, according to the current available evidence, neither excludes an ongoing infection (thus, a transmission risk) nor the possibility of reinfection. Some countries have proposed the use of antibody testing to certify an individual's serological status, referred to as an "immunity passport", which has been addressed by WHO in a technical brief. The use of "immunity passports" for international travel in the context of the COVID-19 pandemic is not currently supported by scientific evidence and therefore not recommended by WHO *(6, 10)*.

5.b. Additional challenges of COVID-19-related testing

In addition to the primary limitations of using SARS-CoV-2 virus-related laboratory testing as a tool to mitigate the risk of international virus spread (pertaining to the natural history and epidemiology of the infection and to the characteristics of the laboratory assay), there are secondary challenges in terms of legality, operations, and resource management. Ultimately, such constraints are likely to deter individual travelers from non-essential international travel. They may also hinder the reactivation of the economy.

With respect to **challenges of a legal nature**, pursuant to Articles 35 and 36, and Annexes 6 and 7 of the IHR, the International Certificate of Vaccination or Prophylaxis (ICVP) with proof of vaccination against yellow fever is the only *health document* that can be required in international traffic. However, travelers can be requested to complete contact information forms and questionnaires on their health, provided that these are consistent with Article 23. Therefore, requiring documented proof of laboratory testing results in international traffic would contravene IHR provisions. Additionally, in the current COVID-19 pandemic, imposing the burden of laboratory testing on the country of origin might be regarded as interfering with the country's sovereignty in responding to the pandemic and in prioritizing the use of its laboratory resources. It is worthwhile recalling that the ICVP, with proof of vaccination against yellow fever, despite being strictly regulated by the IHR (e.g. *"*[ICVP] *shall be fully completed in English or in French"*; *"the yellow fever vaccine used must be approved by the Organization"*; *"States Parties shall designate specific yellow fever vaccination centres* […]*"*), is subject to a substantial volume of falsifications, and it is associated with corruption and black-market transactions. It is also worthwhile recalling that, pursuant to Article 40 of the IHR, *"no charge shall be made by a State Party* […] *for* […] *measures for the*

protection of public health". An additional challenge is related to the liability of conveyances and PoE operators who might be involved at any given step in sampling, testing, and checking the document containing the results of laboratory testing.

Notwithstanding the aforementioned limitations, the potential implementation of such requirements would pose substantial unwarranted **operational challenges** at multiple levels. These pertain, but are not limited, to:

- Communication of international traffic-related requirements to different audiences.
- Sampling and, in some cases, testing related to SARS-CoV-2 virus on PoE premises, which also requires adequate biosafety and biosecurity conditions.
- Crowding, with potential increased risk of exposure to SARS-CoV-2 virus at the PoE, caused by sampling, testing, checking documentation, and communication of testing results, also causing stress to travellers.
- Verification of documented testing results obtained in a different jurisdiction.
- Discrepancies between testing results obtained in the country at origin and those obtained at destination if serial testing is conducted.
- Logistical and financial implications for international travellers who, based on laboratory results, are either prevented from travelling (e.g., reimbursement of airline ticket, unplanned accommodation costs, medical costs), or incur health care-related expenses.

These circumstances are of concern, considering the expected proportion of false positive results among travellers.

The complexity of the multifaceted response to the COVID-19 pandemic has posed unprecedented challenges to national authorities: on one hand, the need to respond to periods of high-intensity community transmission, and, on the other hand, a market failure related to diagnostic tools and other laboratory supplies. These factors have imposed testing strategies as the most cost-effective and sustainable use of available **resources**, entailing *(5)*:

- the definition of target/eligible individuals/settings, which generally do not include individuals planning international travel. Therefore, the potential introduction of testing for prospective or incoming international travellers might divert human resources and supplies from priority groups and settings. It should also be noted that potential serial testing of international travellers could divert diagnostic tools and other laboratory supplies from priority groups and settings;
- the authorization of laboratory facilities to perform SARS-CoV-2 virus-related tests;
- the identification of resources and mechanisms to cover the cost of tests performed.

References

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