Recommendations on influenza, SARS-CoV-2 and non-influenza respiratory virus testing algorithm

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GISRS network used for COVID-19 laboratory response
PAHO/WHO

Testing Algorithm

- Testing approach used to meet a specific need, such as surveillance, diagnosis;
- Multiple algorithms may be used for a strategy;
- Depending on the needs of testing settings.

ALGORITHM
- Combination and sequence of specific tests used for the strategy;
- Parallel and serial testing can be part of any testing strategy.
- Number of algorithms should be limited.

STRATEGIES
• COVID-19 detection
• Influenza surveillance

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Laboratory Testing

PAHO/WHO Testing Algorithm

• COVID-19 detection

• Influenza surveillance
Intended for the confirmation of the first cases
Complex cases where deepest investigation is necessary
Increased confirmation turnaround
Consume almost double of reagents and material
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Laboratory algorithm
(July 2020)

COVID-19 RT-PCR

- E gene positive
  - Confirm COVID-19
    - Report through established channels

- E gene negative
  - Rule out COVID-19
    - Proceed with influenza algorithm
Laboratory algorithm (July 2020)

COVID-19 RT-PCR

- E gene positive\(^1\)
- E gene negative\(^1\)

Confirm COVID-19\(^2\)
- Report through established channels

Rule out COVID-19\(^3\)

Proceed with influenza algorithm\(^4\)

- Depend on available resources
- Objective: surveillance?
- Clinical and epidemiologic context
Laboratory algorithm based on antigen detection

- Assays should be evaluated/validated before the implementation
Laboratory algorithm based on antigen detection

- PCR results available before 72 hours
- Availability of molecular testing
- Risk factors/clinical context that needs follow-up

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Laboratory algorithm based on antigen detection

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INFLUENZA TESTING ALGORITHM

- Influenza remains a treat
- Influenza routine surveillance for information on circulating virus:
  - Trend monitoring
  - Vaccine composition meeting
  - Antiviral resistance monitoring
- Detection of virus with pandemic potential
Testing Scenarios

- Influenza Sentinel Sites
- Influenza COVID-19
- COVID-19 detection
Final Remarks

• Threat of influenza is persistent and there was no change on pandemic potential.

• Surveillance is needed for detecting a novel influenza subtype that emerges infecting humans.

• Sustainability of diagnostic and proper use of protocols are fundamental for virologic surveillance (COVID-19 or Influenza).

• Testing algorithms are dynamics and must be adapted according to the strategy and objective of the surveillance.

• Not all COVID-19 suspected case needs to be tested for influenza. Influenza sentinel surveillance is priority and must not be stopped.
PAHO Influenza: http://www.paho.org/influenza
PAHO FlulD: http://ais.paho.org/phip/viz/flumart2015.as
Influenza Regional Reports: http://www.paho.org/influenzareport

Severe acute respiratory infections network – SARInet: http://www.sarinet.org

• Laboratory Guidelines for the Detection and Diagnosis of COVID-19 Virus Infection, 8 July 2020: https://iris.paho.org/handle/10665.2/52458
• Directrices de laboratorio para la detección y el diagnóstico de la infección por el virus responsable de la COVID-19, 8 de julio del 2020: https://iris.paho.org/handle/10665.2/52471

Gracias!
Thank you!
Merci!
Obrigada!