APHL/CDC National PHL Call
2019-nCoV

February 5, 2020

Call Summary

Main Contact Emails

CDC Emergency Operations Center (EOC) Contact: 770-488-7100

APHL EOC Contact: eoc@aphl.org

Situational Update of 2019-nCoV (*Joe Bresee, CDC*)

The 2019-nCoV situation is still rapidly evolving. We are still seeing more cases in China, and there are now 27 countries reporting cases, 13 of which have local spread. In the US, there are 11 confirmed cases, and we still expect to see more in the coming days and weeks.

The biggest development over the last week is the US containment strategy, which has three components: 1) airport screening, 2) airport funneling and 3) repatriation flights and quarantines. All travelers from China are being funneled through 11 airports for screening before entry into the US with passengers from Hubei province subject to a 14 day quarantine, and all other Chinese passengers subject to 14 days of home-health monitoring. There are several repatriation flights transporting US citizens who were in Hubei province which are scheduled to arrive in the US in the coming days, at which point they will be quarantined on US military bases for 14 days.

2019-nCoV EUA Update (*Steve Lindstrom, Steve Burke, Julie Villanueva, CDC)*

The Emergency Use Authorization (EUA) for the CDC 2019-nCoV Real-Time RT-PCR Diagnostic Panel was authorized on February 4, 2020 and is now available on the FDA EUA website. Manufacturer's instruction for the EUA assay can be found here. Verification requirements are outlined on the final two pages of the instructions for use PDF. Catalog numbers and additional information on the reagent ordering through IRR can be found in the APHL Laboratory Alert #8 or by visiting the EUA website.

Highlights and Clarifications of the CDC 2019-nCoV Real-Time RT-PCR Diagnostic Panel

- CDC is working to update its specimen collection guidance; APHL will share the updated guidance with state and local public health laboratories once it is finalized.
- Each kit contains two boxes. Box one will contain one tube each of primers and probes for the assay. Box two will contain four tubes of positive controls for the assay (dried RNA transcript: You do not need to re-suspend all four tubes of the positive control at once.). Refer to page 5 of the instructions for use for full kit contents.
- Primers/probes and positive control will ship at room temperature. Please refer to the instructions for use for additional information on reagent handling and storage conditions.
- Printed instructions for use will NOT be included in the kit, they are posted on the FDA website. If there are changes to the instructions of use, they will be posted on the FDA website and PHLs will be alerted.
- HSC is a process control that must be included in each extraction batch you run. Depending on the technology you use and the number of specimens you are extracting at one time, you may not need to include a HSC in every RT-PCR run.
- Because of the EUA and because this is a new virus with and assay with limited data available CDC is required to conduct confirmation testing on all presumptive positives. States can take appropriate

actions on presumptive positives while CDC performs confirmation testing. As the outbreak progresses, CDC will evaluate the need for confirmatory testing and will consult with the FDA.

- Results that are reported out for this test should be accompanied with the FAQ sheets for patients and providers on the FDA website. This is a requirement of the EUA.
- As part of the EUA, CDC is responsible for any information about the performance of the assay. If a state gets an unusual result they should contact CDC.
- CDC is working to expand the EUA to cover additional enzyme master mixes and extraction platforms. They will NOT be qualifying extraction platforms that are due to sunset such as the Roche MagNA Pure Compact.
- CDC will not be sending out a panel for verification of this assay. The verification plan can be found on the last two pages of the EUA manufacturer's instructions. You will use the positive control provided in the kit and follow the dilution strategy described for verification.

PUIs Logistics (*Wendi Kuhnert-Tallman, CDC*)
CDC is currently formalizing the guidance for PUIs and will be distributing it shortly.

Biosafety Updates (*Steve Lindstrom, CDC*)
CDC released updated biosafety guidelines on Sunday, February 2nd. CDC is currently in the process of updating their specimen handling and management guidance and will do their best to communicate any changes that are made.

IRR Update (*Erica Gutherie, IRR*)
IRR has kits and ancillary reagents available for ordering. A number of laboratories have already submitted requests and IRR is doing its best to ship reagents as quickly as possible. IRR will be prioritizing the shipment of Kits and HSC to laboratories.

Of note, all of the 2019-nCoV products have an "ER" preceding them, which relates to product logistics. It is important that you order items with the "ER" product numbers for 2019-nCoV testing.

Laboratory Data Exchange Overview (*Lynnette Brammer, CDC and Michelle Meigs, APHL*)
Laboratories that are currently reporting their influenza testing results to CDC should now be able to integrate 2019-nCoV result reporting into that mechanism. For those laboratories who do not currently report influenza results to CDC using HL7 2.3.1, HL7 2.5.1 or PHLIS-2 methods, be on the lookout for additional information on alternative reporting options from APHL.

APHL Laboratory Alert #6 has information on reporting codes and an encoding guide; APHL hopes to have the majority of laboratories moving through to production by February 14th. Before laboratories can move through to production, APHL and CDC are asking labs to submit four different test methods through the staging environment (positive, negative, inconclusive and invalid). Once a laboratory is ready to submit to staging, please submit a ticket to the APHL informatics help desk so that your test messages can be validated for structure and content by CDC. APHL and CDC are working to get back to the laboratories with the results of the staging as quickly as possible so that once laboratories pass they can migrate to production. CDC anticipates performing a reverse validation somewhere down the line as well.

As a reminder, all laboratories should fill out the questionnaire that was included in Laboratory Alert #6. If laboratories are in need of technical assistance, please submit an informatics Help Desk Ticket entitled "2019-nCoV Technical Assistance Request". Finally, APHL plans to upload sample HL7 messages to aphl.org to help facilitate message development by state and local public health laboratories.

Questions & Answers

Q: When a state submits a presumptive positive to CDC for confirmation testing what is the expected turnaround time?
A: The goal of CDC is to have confirmation testing results within 24 hours of receiving specimens for testing for presumptive positives. Testing these specimens will be high priority.

Q: Is there additional guidance on the prioritization of specimens for testing? Also, the EUA does not currently cover contacts of confirmed positives or any surveillance testing a state may want to do, does CDC have any guidance for those situations?
A: The prioritization of specimens for testing will likely vary case-by-case; states should work with their epidemiologists to determine which specimens are prioritized for testing. As of right now, only individuals who meet the CDC PUI criteria should be tested for 2019-nCoV using the EUA assay. CDC recognizes that the PUI definition may change over time and asks you to refer to the CDC website as to what those changes may mean in order to best triage your samples for testing. CDC anticipates releasing additional PUI guidance shortly that may also help address some of these issues.

Q: Can the EUA assay be used to clear and release positive cases from quarantine?
A: This testing is not included in the intended use of the EUA. The CDC does not currently have set guidance on this; each case is being looked at individually to evaluate when a patient is cleared for release.

Q: Does the CDC have any additional guidance on processing sputum samples for use with the EUA assay?
A: CDC will be posting sputum processing guidance shortly. This guidance is not a requirement; if laboratories have other methods they prefer, they may use those to qualify the assay in their laboratories.

Q: If a state has a presumptive positive, should they still call the EOC?
A: Yes, states should call the CDC EOC 770-488-7100.

Q: Can you clarify why we are using AVL buffer in lieu of the ATL buffer that comes with the EZ1?
A: AVL buffer is used in the 2019-nCoV because it has been shown to inactivate pathogens thus making it safe to move the specimens from higher to lower containment. AVL is also a general purpose reagent that now has an expiration date, making it CLIA compliant.

Q: How long are the primers/probes and positive control (nCoVPC) reagents good for once rehydrated?
A: Primers and Probes: After rehydrating the primers/probes, aliquot into 5 tubes. Store a single aliquot of primers/probe at 2-8°C in the dark. Do not refreeze this single working stock aliquot (stable for up to 4 months). Store remaining aliquots at ≤ -20°C in a non-frost-free freezer.

nCoVPC: Re-suspend dried reagent in each tube in 1 mL of nuclease-free water to achieve the proper concentration. Make single use aliquots (approximately 30 µL) and store at ≤ -70°C.
Thaw a single aliquot of diluted positive control for each experiment and hold on ice until adding to plate. Discard any unused portion of the aliquot.

Q: Do we need to have the data exchange in place prior to testing?
A: Although preferable, there is no stated requirement for laboratories to have a data exchange mechanism in place prior to testing. The goal is to have as many laboratories in production with a data exchange mechanism by February 14, however, we understand that this timeline will not work for all laboratories. To assist us in understanding your current readiness and capability please complete this short questionnaire or submit an Informatics Help Desk Ticket entitled "2019-nCoV Technical Assistance Request".

Q: With other EUAs that have been released there was specific language laboratories had to have in the results report, is that the same for the 2019-nCoV assay?

A: The EUA manufacturer's instructions have reporting tables and language they recommend.

Q: How long does CDC anticipate the results being presumptive?
A: This is indeterminate right now. As the outbreak progresses, CDC will evaluate the need for confirmatory testing and will consult with the FDA.

Q: How many tests can be run per kit?
A: Each kit contains enough material for 1000 reactions. The number of specimens you run per test plus the amount of positive control your laboratory uses for verification will impact the number of specimens you are able to test.

Q: Is there enough positive control included in each kit to go beyond the minimum verification protocol outlined in the manufacturer's instructions? If we want to order more positive control, are we able to do that separately or will we need to order another kit?
A: The verification plan in the manufacturer's instructions is the minimum that CDC worked out with CMS. CDC recognizes that individual states may have more stringent verification requirements as well as requirements for staff training. CDC plans to eventually be able to support the extra verification requirements, but at the moment you cannot order positive control separately from the kit. If states are in need of additional verification materials, CDC suggests ordering their own positive template using the provided sequence information or by ordering viral stocks which will be made available from BEI in the near future.

Q: Our state does not have an EZ1 and will have to rely on manual extraction, which we anticipate will create a testing bottleneck. Are we able to leave the samples in lysis buffer in order to improve the efficiency of the PCR?
A: By adding specimens to AVL you stabilize RNA and inactivate any pathogens in the specimen. Specimens in AVL may be stored at 4°C for several days if necessary prior to testing.

Q: Do laboratories need to perform confirmation testing on negatives?
A: Laboratories do not need to repeat testing on negative results. Please do not send negative specimens to CDC for confirmatory testing.