On-Call and MAVEN Help Desk Statistics

As of 6/1/2020

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Bureau of Infectious Disease and Laboratory Sciences
MA Department of Public Health
## MAVEN User Requests & Training

3/1/2020 - 5/31/2020

<table>
<thead>
<tr>
<th>Status</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Users (added week of 5/10/2020)</td>
<td>28</td>
</tr>
<tr>
<td>Pending Users</td>
<td>9</td>
</tr>
<tr>
<td>Processed Users</td>
<td>925</td>
</tr>
<tr>
<td>Total New Users Trained Or In Process</td>
<td>962</td>
</tr>
<tr>
<td>Total MAVEN Users</td>
<td>1,555</td>
</tr>
</tbody>
</table>

*these data is accurate as of 6/1/2020 at 8:30PM.

**New** = Received user requests and forwarded to the VG for user account creation (2 day process)

**Pending** = The VG account has been created and waiting on MAVEN Training (M,W, TR from 11-12:30)

**Processed** = Trained internal and external staff with VG MAVEN accounts created and MAVEN accounts created by ISIS staff and then access granted appropriate access

**Total MAVEN Users** = Includes MDPH, LBOH, Infection Prevention and other trained staff
MAVEN On-Call Events
3/1/2020 – 5/31/2020

<table>
<thead>
<tr>
<th>Program Area</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unassigned</td>
<td>27</td>
</tr>
<tr>
<td>Division of Global Populations</td>
<td>19</td>
</tr>
<tr>
<td>Epidemiology</td>
<td>770</td>
</tr>
<tr>
<td>Immunization (COVID-19)</td>
<td>18,016</td>
</tr>
<tr>
<td>Informatics and Surveillance (ISIS)</td>
<td>725</td>
</tr>
<tr>
<td>Total On-Call MAVEN Events</td>
<td>19,557</td>
</tr>
</tbody>
</table>

*these data is accurate as of 6/1/2020 at 8:30PM
For Reference what our call volume usually looks like….

<table>
<thead>
<tr>
<th>Year</th>
<th>Total On-Call Events Created</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>6,739</td>
</tr>
<tr>
<td>2016</td>
<td>12,830</td>
</tr>
<tr>
<td>2017</td>
<td>12,605</td>
</tr>
<tr>
<td>2018</td>
<td>9,296</td>
</tr>
<tr>
<td>2019</td>
<td>10,652</td>
</tr>
<tr>
<td>So far in 2020</td>
<td>22,125</td>
</tr>
</tbody>
</table>

*these data is accurate as of 6/1/2020 at 8:30PM*
# MAVEN Help Desk Emails

3/15/2020 – 5/9/2020

<table>
<thead>
<tr>
<th>Month</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>March</td>
<td>2,383</td>
</tr>
<tr>
<td>April</td>
<td>7,816</td>
</tr>
<tr>
<td>May</td>
<td>7,603</td>
</tr>
<tr>
<td>Total Emails received</td>
<td>1,802</td>
</tr>
</tbody>
</table>

*these data is accurate as of 6/1/2020 at 8:30PM*

ishelp@state.ma.us
Follow-up for Positive COVID-19 Cases and their Close Contacts

Tools for LBOHs

June 2, 2020

Hillary Johnson, MHS, Infectious Disease Epidemiologist
Scott Troppy, MPH, PMP, CIC, Surveillance Epidemiologist
Bureau of Infectious Disease and Laboratory Sciences
MA Department of Public Health
Topics Today

- MA COVID-19 Data Dashboard Updates
- MAVEN Status Map Update
- Calculated Race Field (Demographic QP)
- Dashboard Updates – Dr. Catherine Brown
- Pediatric Multisystem Inflammatory Syndrome (PMIS) – Summary From Friday
- Updated Serology Interpretation & Public Health Follow-up Guidance (ver 3.0, June 1, 2020)
- Your Questions & Updates
Tuesday & Friday Webinars for LBOHs

Tuesdays & Fridays @ 11am

- Isolation of Cases and Quarantine of Contacts is the goal until that strategy changes/evolves.
- MAVEN is the main reporting source and where you should document your work.
  - Send Cases to CTC for follow-up if not:
    - Hospitalized, Deceased, or linked to a Cluster Facility
- Focusing on Priority Activities
- Clusters in Facilities in your community need your help.
  - Call Epi Program to create cluster events.

MAVEN Help has Guidance Documents and Previous Webinars:

**MDPH Epi Program**: 617-983-6800
**MDPH MAVEN Help Desk**: isishelp@state.ma.us
**MDPH Food Protection Program**: 617-983-6712
**CTC Help Desk**: 857-305-2828
MAVEN Status Map as of 6/2/2020

Massachusetts Virtual Epidemiologic Network

Massachusetts Virtual Epidemiologic Network (MAVEN) is a web-based disease surveillance and case management system that enables MDH and local health to capture and transfer appropriate public health, laboratory, and clinical data efficiently and securely over the Internet in real-time. The system interfaces with Electronic Laboratory Reporting (ELR) efforts, has automatic (24/7/365) notification of state and local officials of any event requiring their attention and geographic information system (GIS) activities. MAVEN will replace the current paper-based methods of data exchange between MDH, local public health, and clinicians. For more information please contact isishelp@state.ma.us or by phone at (617) 983-6801.

This map displays 350 out of the 351 cities and towns in Massachusetts receiving disease notifications electronically through the MAVEN System as of May 27, 2020.

*Boston reporting data via BoSS MAVEN.

For more detailed information please zoom in on the map or click on town.

MAVEN Status May 2020
- Online (350)
- Offline (1)
Calculated Race Field

- Calculated Race summarizes the answers for Race (i.e. Race=White and Asian, Calculated Race=Other).
- It was created to help with analysis and data submission to CDC.
- It is non-editable.
MA COVID-19 Data Dashboard Updates


- **PLEASE NOTE:** Today (June 1), the Department of Public Health will begin reporting both confirmed and probable COVID-19 cases and deaths. This change is in accordance with guidance from the Centers for Disease Control to include “probable” COVID-19 cases and deaths in data collection and reporting efforts.

- **This change will increase the number of cases and deaths reported in Massachusetts. Today’s newly reported totals are a result of a retrospective review of probable cases and deaths dating back to March 1, 2020.**

- Also included is data on the total number daily and cumulative COVID-19 antibody tests performed. Antibody tests are blood tests used to determine if a person had COVID-19 in the past and now has antibodies against the virus.

- For complete details, please see the "Note to Readers" in the Dashboard document.
### Dashboard of Public Health Indicators

Below is the status as of June 1, 2020:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Measure</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>COVID-19 positive test rate</td>
<td>•</td>
</tr>
<tr>
<td>2</td>
<td>Number of individuals who died from COVID-19</td>
<td>•</td>
</tr>
<tr>
<td>3</td>
<td>Number of patients with COVID-19 in hospitals</td>
<td>•</td>
</tr>
<tr>
<td>4</td>
<td>Healthcare system readiness</td>
<td>•</td>
</tr>
<tr>
<td>5</td>
<td>Testing capacity</td>
<td>•</td>
</tr>
<tr>
<td>6</td>
<td>Contact tracing capabilities</td>
<td>•</td>
</tr>
</tbody>
</table>

**Legend**

- **Positive trend**
- **In progress**
- **Negative trend**

**Newly Reported Cases*:** 3,840  
**Total Cases:** 100,805  

**Newly Reported Deaths*:** 189  
**Total Deaths:** 7,035  

**New Patients Tested by Molecular Tests:** 7,066  
**Total Patients Tested by Molecular Tests:** 599,919  

**New Patients Tested by Antibody Tests:** 202  
**Total Patients Tested by Antibody Tests:** 45,680

*Since this is the first day that the dashboard includes probable cases, the number of newly reported cases and deaths includes all probable cases and deaths from March 1 forward. Note that the number of newly reported cases and deaths counted as confirmed or probable are reported to page 3.*
## Confirmed and Probable Case Breakdown

<table>
<thead>
<tr>
<th>Confirmed</th>
<th>Probable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Newly Reported Confirmed Cases Today</strong></td>
<td><strong>Newly Reported Probable Cases</strong>*</td>
</tr>
<tr>
<td>326</td>
<td>3,514</td>
</tr>
<tr>
<td><strong>Total Confirmed Cases</strong></td>
<td><strong>Total Probable Cases</strong></td>
</tr>
<tr>
<td>97,291</td>
<td>3,514</td>
</tr>
<tr>
<td><strong>Newly Reported Deaths among Confirmed Cases</strong></td>
<td><strong>Newly Reported Deaths among Probable</strong>*</td>
</tr>
<tr>
<td>48</td>
<td>141</td>
</tr>
<tr>
<td><strong>Total Deaths among Confirmed Cases</strong></td>
<td><strong>Total Deaths among Probable Cases</strong></td>
</tr>
<tr>
<td>6,894</td>
<td>141</td>
</tr>
</tbody>
</table>

Patients with a positive molecular test for COVID-19 are counted as confirmed.
Patients with a positive serology/antibody test and either COVID-like symptoms or likely exposure to COVID-19 are counted as probable cases.
Patients who did not have a laboratory test but whose death certificate listed COVID-19 as a cause of death are counted as probable deaths.
Probable cases are included in all counts from March 1 onward.

Data Sources: COVID-19 Data provided by the Bureau of Infectious Disease and Laboratory Sciences, and the Registry of Vital Records and Statistics; Tables and Figures created by the Office of Population Health.
Note: all data are current as of 10:00am. * Since this is the first day that the dashboard includes probable cases, the number of newly reported cases and deaths includes all probable cases and deaths from March 1 forward.
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Pediatric Multi-System Inflammatory Syndrome (PMIS)

Quick Summary:

Review Friday May 29 Webinar for more information.

• The cases are being reported by hospital systems with the severely ill hospitalized patients, and do not fall to the responsibility of outpatient pediatric clinicians to be reported.
  • Also unlikely that LBOH will be identifying these situations yourselves. Most likely the hospitals will already be in discussion with MDPH on any suspect cases, and the MAVEN event should have relevant updates from MDPH.

• When suspect PMIS cases are identified, there will be copious notes in the MAVEN COVID event for the hospitalized pediatric patient.
  • Please write a note/acknowledge the case in Admin Question Package so we know you have seen the case

• LBOHs do not need to update the clinical information in MAVEN. That will be completed by MDPH. LBOH should contact the family and follow-up for contact tracing based upon the appropriate actions for the relevant COVID-19 lab result.
  • May need to problem-solve if event went to CTC because they will not receive event notes and may not know only contact tracing is required.
  • Please contact CTC to discuss who will continue the follow-up (CTC for contact tracing only or return case to LBOH).

• Please contact Katherine Hsu, MD, MPH at katherine.hsu@state.ma.us for further questions or to report a case.
Updated Results Interpretation Guidance is here!

- Updated June 1, 2020
- Version 3.0
- Available on MAVEN Help (and emailed to MAVEN users)
- Discusses PCR testing and Antibody Testing and appropriate Public Health Response (updated from May 8, 2020)
- Catherine M. Brown, DVM, MSc, MPH, State Epidemiologist and State Public Health Veterinarian

### COVID-19 PCR and Antibody Testing Public Health Response Recommendations – ver 3.0, June 1, 2020

These recommendations have been updated based on what is known currently about the diagnostic utility of PCR or antigen testing (for presence of virus) and the large amount of uncertainty about the quality of any individual serologic test type and the unknown timing of COVID antibody development or duration. The recommendations below are based on information from the Centers for Disease Control and Prevention which can be found at [https://www.cdc.gov/coronavirus/2019-ncov/lab/resources/antibody-tests-guidelines.html](https://www.cdc.gov/coronavirus/2019-ncov/lab/resources/antibody-tests-guidelines.html) and [https://www.whitehouse.gov/wp-content/uploads/2020/06/Testing-Guidance.pdf](https://www.whitehouse.gov/wp-content/uploads/2020/06/Testing-Guidance.pdf). This guidance will change as we learn more about antibody responses to COVID. Currently, it is not known how antibody test results correlate with immunity to COVID.

<table>
<thead>
<tr>
<th>SARS-CoV-2 PCR Or Antigen Test</th>
<th>Antibody Test</th>
<th>Interpretation</th>
<th>Public Health Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>Negative</td>
<td>Unaffected, susceptible or incubating infection</td>
<td>No additional follow-up necessary. (Complete remaining 14-day quarantine for contacts if applicable.)</td>
</tr>
<tr>
<td>Positive for or negative antibody results</td>
<td>Positive or negative antibody results</td>
<td>Confirmed recent infection</td>
<td>Follow-up per current protocols for confirmed cases:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Obtain symptom information and hospitalization status</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Institute isolation based on symptoms or, if asymptomatic, PCR or antigen result</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Identify contacts, quarantine contacts for 14 days from last exposure that occurred within the case’s isolation period</td>
</tr>
</tbody>
</table>

**For patients with nasal swabs and blood draw done at the same time**

<table>
<thead>
<tr>
<th>Unknown, or Previously, PCR or Antigen Negative</th>
<th>Positive or negative antibody results</th>
<th>Likely recent or resolving infection</th>
<th>Follow-up protocol:</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Or unknown</td>
<td>+</td>
<td>Likely recent or resolving infection</td>
<td>- Obtain symptom information and hospitalization status</td>
</tr>
<tr>
<td>- Or unknown</td>
<td>+</td>
<td>Likely recent or resolving infection</td>
<td>- If recently (within 14 days) asymptomatic:</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Infection at some undetermined point</td>
<td></td>
</tr>
</tbody>
</table>

**For patients with nasal swab not done or done at some point prior to blood draw**

<table>
<thead>
<tr>
<th>Unknown, or Previously, PCR or Antigen Negative</th>
<th>Positive or negative antibody results</th>
<th>Likely recent or resolving infection</th>
<th>Follow-up protocol:</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Or unknown</td>
<td>+</td>
<td>Likely recent or resolving infection</td>
<td>- If recently (within 14 days) asymptomatic:</td>
</tr>
<tr>
<td>- Or unknown</td>
<td>+</td>
<td>Likely recent or resolving infection</td>
<td>- If recently (within 14 days) symptomatic:</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Infection at some undetermined point</td>
<td></td>
</tr>
</tbody>
</table>

*Appropriate symptoms include cough or shortness of breath OR at least two of the following symptoms: fever, chills, shaking chills, headache, muscle or body aches, new loss of taste or smell.*
Updated Results Interpretation Guidance is here!

- These recommendations have been updated based on what is known currently about

  - the diagnostic utility of PCR or antigen testing (for presence of virus), and
  - the large amount of uncertainty about the quality of any individual serologic test type and the unknown timing of COVID antibody development or duration.

- The recommendations are based on information from CDC:
  - [https://www.cdc.gov/coronavirus/2019-ncov/lab/resources/antibody-tests-guidelines.html](https://www.cdc.gov/coronavirus/2019-ncov/lab/resources/antibody-tests-guidelines.html) and

- This guidance will change as we learn more about antibody responses to COVID.

- Currently, it is not known how antibody test results correlate with immunity to COVID.
Updated Results Interpretation Guidance is here!

- Similar to last version, this table describes what test results likely mean, (combinations of PCR and antibody testing), and the corresponding public health response.

- Big Update: looking more closely at serology results and symptom timing to inform follow-up.

<table>
<thead>
<tr>
<th>Molecular Test Results</th>
<th>Antibody Test Results</th>
<th>Interpretation</th>
<th>Public Health Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>For patient with nasal swabs and blood draw done at the same time</td>
<td>X</td>
<td>Negative antibody results</td>
<td>Uninfected, susceptible or inoculating infection</td>
</tr>
</tbody>
</table>
| | X | Positive or negative antibody results | Confirmed recent infection | Follow-up per current protocols for confirmed cases:  
- obtain symptom information and hospitalization status  
- institute isolation based on symptoms or, if symptomatic, PCR or antigen result  
- identify contacts, quarantine contacts for 14 days from last exposure that occurred within the case’s isolation period |
| For patients with nasal swab not done or done at some point prior to blood draw | Unknown or Previously PCR or Antigen Negative | - Or unknown | Likely recent infection | Follow-up protocols:  
- obtain symptom information and hospitalization status  
- if no or symptomatic OR asymptomatic for the last 24 hours, no additional testing or follow-up needed  
- if recently (within 24 hours) appropriately* symptomatic (symptoms initiate isolation period based on symptom onset (10 days with at least 3 days fever free and improvement in respiratory symptoms))  
- can consider pursuing PCR testing, if negative can discontinue isolation  
- identify contacts with exposure to case through end of isolation period and institute 14-day quarantine as appropriate |
| | - Or unknown | + | Likely recent or resolving infection | |
| | Unknown or Previously PCR or Antigen Negative | + | Likely resolving or resolved infection | |
| | + | + | Infection at some undetermined point | |
| | + | - | Confirmed infection at time indicated by PCR or antigen result | No additional follow-up needed assuming appropriate follow-up done associated with original PCR/antigen positive  
- If follow-up was not previously done, obtain symptom and hospitalization information |

*Appropriately symptomatic is defined as: either cough or shortness of breath, OR at least two of the following symptoms: fever, chills, shaking chills, headache, myalgia, sore throat and new loss of taste or smell.
Table Review

- **PCR & Serology NEGATIVE:** (usually unclassified events in MAVEN). No follow-up needed. But if they were a contact they should complete their quarantine.
  - Negative PCR doesn't end quarantine early.

- **PCR POSITIVE (serology doesn't matter):** Confirmed Case. Follow-up Accordingly.

<table>
<thead>
<tr>
<th>SARS-CoV-2 PCR Or Antigen Test</th>
<th>Antibody Test</th>
<th>Interpretation</th>
<th>Public Health Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>Negative</td>
<td>IgM</td>
<td>For patient with nasal swabs and blood draw done at the same time</td>
</tr>
<tr>
<td>Negative</td>
<td>IgG</td>
<td>Total Ig</td>
<td>No additional follow-up necessary. (Complete remaining 14-day quarantine for contacts if applicable.)</td>
</tr>
<tr>
<td>X</td>
<td>Negative antibody results</td>
<td>Uninfected, susceptible or incubating infection</td>
<td>Follow-up per current protocols for confirmed cases:</td>
</tr>
<tr>
<td>X</td>
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<td>Confirmed recent infection</td>
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<td>X</td>
<td></td>
<td></td>
<td>- institute isolation based on symptoms or, if asymptomatic, PCR or antigen result</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>- identify contacts, quarantine contacts for 14 days from last exposure that occurred within the case's isolation period</td>
</tr>
</tbody>
</table>
Table Review

- If you just have a positive serology (any combination of antibody result: IgM, IgG, total Ig)
  - Public Health Response is similar to before, however:
  - **Look for recent symptoms** – this informs actions.
  - New PCR can still trump serology.
Table Review

- If you have a new positive serology (And the case had a previous +PCR test a while ago)
  - This was a confirmed case before.
  - New positive results should just attach to the previous event.
  - No new isolation of case or quarantine of contacts required.
  - No New Action.
Positive Serology (with no current PCR result)

Follow-up protocol:

• Obtain symptom information and hospitalization status

• If never symptomatic OR asymptomatic for the last 14 days:
  • no additional testing or follow-up needed

• If recently (within 14 days) appropriately* symptomatic:
  • initiate isolation period based on symptom onset (10 days with at least 3 days fever free and improvement in respiratory symptoms)
    o can consider pursuing PCR testing, if negative can discontinue isolation

• Identify contacts with exposure to case through end of isolation period and institute 14-day quarantine as appropriate
Positive Serology (with no current PCR result)

1. Interview Serology Positive Patients.
2. Have they had any symptoms in the last 14 days?
   - If never symptomatic OR asymptomatic for the last 14 days:
     - No additional testing or follow-up needed.
   - Appropriately Symptomatic:
     - Either cough or shortness of breath, OR
     - At least two of the following symptoms:
       - Fever,
       - Chills,
       - Shaking chills,
       - Headache,
       - Myalgia,
       - Sore Throat, and;
       - New Loss of Taste or Smell

3. Complete MAVEN Variables. Interview & Done.
4. No Isolation or Contact Tracing Needed.

This is the scenario for that person who says they definitely had COVID 2 months ago but didn’t get tested then and is feeling fine now but got a serology test.
Positive Serology (with no current PCR result)

1. Interview Serology Positive Patients.
2. Have they had any symptoms in the last 14 days?
   - If recently (within 14 days) appropriately* symptomatic:
     - Initiate isolation period based on symptom onset (Minimum 10 Days)
     - Can consider pursuing PCR testing, if negative can discontinue isolation
   - YES Symptoms

4. Isolate Case and Quarantine Contacts.

Appropriately Symptomatic:
- Either cough or shortness of breath, OR
- At least two of the following symptoms:
  - Fever,
  - Chills,
  - Shaking chills,
  - Headache,
  - Myalgia,
  - Sore Throat, and;
  - New Loss of Taste or Smell

Focus Antibody results efforts & follow-up on symptomatic cases.
Positive Serology (with no current PCR result)

• How is this different than the previous guidance?
  • A. Previously, all positive serology by default required isolation of cases and quarantine of contacts (only a PCR result could change that). Updated guidance now says if you have recent symptoms, you should isolate and contacts quarantine, but if you do not have recent symptoms, LBOH can interview case and be done.

• PCRs still trump serology testing. A positive PCR means a confirmed case. A negative PCR means not currently infectious and no isolation needed (but still Probable based upon positive serology).
Positive Serology (with no current PCR result)

• If a case has a positive serology and negative PCR, what is the follow-up?
  • A. They still need an interview to complete the symptoms and risk questions in their MAVEN event. They are still PROBABLE based upon their positive serology. They are not currently infectious or a currently confirmed case because of their negative PCR test.

  • PCRs still trump serology testing. A positive PCR means a confirmed case. A negative PCR means not currently infectious and no isolation needed (but still Probable based upon positive serology).
Positive Serology (with no current PCR result)

- What do you mean by did the case have symptoms in the last 14 days?
  - A. We are looking to identify recent symptom onset to help determine infectious period. Ask for applicable symptoms (based upon the list on the table) within the last 14 days (of when you are speaking to them).
    - This will help identify if there are any exposed contacts who should currently be in quarantine.
    - If there were symptoms but they resolved over 14 days ago, any likely contacts would already be out of their quarantine period (and should already be seeking care if they are sick themselves)
Positive Serology (with no current PCR result)

- Can you give us some sample scenarios for this 14 day timeframe for being appropriately symptomatic?
  - A. Yes. Yes, I can.
Discontinuation of Isolation Guidance!

If Patient Ever Had Symptoms:

**Symptom-Based Strategy**

- At least 3 days (72 hours) have passed since recovery defined as
  - resolution of fever without the use of fever-reducing medications, and
  - improvement in respiratory symptoms (e.g., cough, shortness of breath);
- and
- At least 10 days have passed since symptoms first appeared.

**Test-Based Strategy**

- Negative PCR results from at least 2 specimens collected >24 hours apart

**OR**

- Could also use a test-based strategy, but why?

**Use Symptom Onset Date**

**Symptoms need to have resolved before starting testing**
Positive Serology (with no current PCR result)

- Positive serology from June 1. States cough started 1 week prior (5/25) and is currently getting better today (June 2).
  
  A. This is a probable case. Isolate based upon symptom onset date forward.
     - Onset Date= May 25 (Day Zero)
     - Day 1 – Day 10 = (May 26 – June 4)
     - Thus the earliest this person can end isolation is Day 10 (June 4), BUT must meet symptom based criteria on that date:
       - At least 3 days (72 hours) have passed since recovery defined as
         - resolution of fever without the use of fever-reducing medications, and
         - improvement in respiratory symptoms (e.g., cough, shortness of breath);
  
  - Do contact notification for contacts starting 2 days prior to onset (so starting 5/23 forward)
Positive Serology (with no current PCR result)

• Positive serology from June 1. States had some fever and cough in March.
  • A. This is a probable case. But no symptoms in last 14 days.
    • No current isolation. No current contact notification.
      • Interview and complete all MAVEN variables.
        • Can enter symptoms and dates recalled.
Positive Serology (with no current PCR result)

• Positive serology from June 1. Has a little cough & sore throat currently but says he was sick back in March and this is definitely allergies now.
  
  • A. This is a probable case. He currently has symptoms so needs to isolate. Conduct contact tracing based upon this current symptom onset until now.
    
    • Can recommend PCR testing if he is convinced he is not currently a case.
      • Positive PCR (Confirmed Case). Proceed as you would.
      • Negative PCR (remains Probable, but not currently infectious). Can discontinue Isolation and Contact Notification/Quarantine.
        • Interview and complete all MAVEN variables.
        • Can enter symptoms and dates recalled.
Positive Serology (with no current PCR result)

• Positive serology from June 1. Fevers 2+ weeks ago. Shortness of Breath continued until last week (5/27).

  • A. This is a probable case. He had appropriate symptoms within the last 14 days so figure out his current infectious period (isolation) and conduct Contact Notification.

    • Interview patient. Symptom onset was 5/16. Use symptom based strategy to determine his infectious period.
      ✓ At least 10 days have passed since symptoms first appeared.
      ✓ At least 3 days (72 hours) have passed since recovery defined as
        ✓ Resolution of fever without the use of fever-reducing medications, and
        ✓ Improvement in respiratory symptoms (e.g., cough, shortness of breath);

  • Isolation technically ended 5/30. Contacts were potentially exposed 5/14-5/30.
    • Prioritize contacts still in quarantine window.
Positive Serology (with no current PCR result)

- Positive serology from June 1. No current symptoms. But he decides to go in and get a PCR test which comes back positive 3 days later.
  - **A.** This is now a CONFIRMED case. Isolate. If patient remains asymptomatic, use date of first positive test (serology) and isolate for 10 days.
    - Interview patient. Should be isolated based on time-based or symptom based strategy (if applicable). Conduct contact notification.
      - Complete MAVEN variables.
Antibody Testing (serology) - FAQs

• My Case had a positive PCR last month and completed their isolation period. Now they have a positive Serology. What do we do?
  • A. Great! The PCR helps inform the situation. They are not a new case. No public health action needed. They were a CONFIRMED case at the time of their first positive PCR. Any subsequent lab results should just append (attach) to the old COVID-19 MAVEN event.
Antibody Testing (serology) - FAQs

• **My Case had a positive serology and negative PCR on the same day. Do they have to isolate?**
  
  • **A.** Great! The PCR helps inform the situation. They are a “Probable” case (based off the serology result) but not currently infectious (based off the negative PCR). Make sure you interview them and complete the questions in their MAVEN event accordingly. Their contacts do not need to be identified.
  
  • You can wrap up the MAVEN event and sign off right after you data enter the interview.
Are there Questions about Serology?

- If you just have a positive serology (any combination of antibody result: IgM, IgG, total Ig)
  - Public Health Response is similar to before, however:
  - Look for recent symptoms - this informs actions.
  - New PCR can still trump serology.

<table>
<thead>
<tr>
<th>SARS-CoV-2 PCR Or Antigen Test</th>
<th>Antibody Test</th>
<th>Interpretation</th>
<th>Public Health Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>- Or unknown</td>
<td>Likely recent infection</td>
<td>Follow-up protocol:</td>
</tr>
<tr>
<td>Negative</td>
<td>+</td>
<td>Likely recent or resolving infection</td>
<td>• obtain symptom information and hospitalization status</td>
</tr>
<tr>
<td>Negative</td>
<td>- Or unknown</td>
<td>Likely resolving or resolved infection</td>
<td>• if never symptomatic OR asymptomatic for the last 14 days: no additional testing or follow-up needed</td>
</tr>
<tr>
<td>Unknown, or Previously, PCR or Antigen Negative</td>
<td>- Or unknown</td>
<td>Infection at some undetermined point</td>
<td>• if recently (within 14 days) appropriately symptomatic: initiate isolation period based on symptom onset (10 days with at least 3 days fever free and improvement in respiratory symptoms)</td>
</tr>
<tr>
<td></td>
<td>+</td>
<td></td>
<td>• can consider pursuing PCR testing, if negative can discontinue isolation</td>
</tr>
<tr>
<td></td>
<td>- Or unknown</td>
<td></td>
<td>• identify contacts with exposure to case through end of isolation period and institute 14-day quarantine as appropriate</td>
</tr>
</tbody>
</table>
Where can I see a list of MAVEN COVID Lab tests?

- Recommend viewing the COVID Case Classification Manual.
  - Outlines case classification information
  - Shows different lab tests and how they appear in MAVEN
What’s linked? Go here to see/link to contacts or a cluster event.

Confirmed/Probable/Suspect/Contact

Lab Tab to see lab tests

Patient Person Details (address, phone)

Electronic Trail for this event. Who has entered data? Where did this case come from?

6 Question Packages

View Wizard
Antibody Testing (serology)

- Where can we tell what kind of test a patient had?
  - A. Check the Lab Tab.

Test Types You May See:
- PCR Test: 2019-nCoV Real-time RT-PCR
- Rapid PCR Test: SARS coronavirus 2 RdRp gene
- Serology IgM specific: SARS-CoV-2 IgM
- Serology IgG specific: SARS-CoV-2 IgG
- Serology IgA specific: SARS-CoV-2 IgA
- Serology Antibody Type Unspecified: SARS-CoV-2 IgG + IgM

BRACE YOURSELF

QUESTIONS ARE COMING
UPDATES to MAVEN Help Section

• Serology Interpretation Guide Version 3.0, June 1, 2020. Will be updated in MAVEN Help today.

• Community Tracing Collaborative: Standard Operating Procedures for LBOH. Update Coming Shortly.
Summary of Updates

• COVID-19 mass.gov data dashboard is now showing probable events a well.

• Today we spoke about updates to serology interpretation & applicable public health follow-up.
  • Remember, all cases still need an interview, but only those with recent symptoms (last 14 days) will require additional follow-up (isolation & contact tracing).

• For Next Time:
  • Business Clusters Guidance is being developed. We can start the discussion on Friday. (pending guidance)
  • Start thinking about cleaning out old cases and contacts from your workflows.
  • Send us other topics for upcoming webinars.
Reopening Massachusetts

- [https://www.mass.gov/info-details/reopening-massachusetts](https://www.mass.gov/info-details/reopening-massachusetts)

- Most questions on phased reopening of businesses and activities:
  - LBOH & Office of Local And Regional Health Calls (Tuesday Afternoons)
    - **Tuesdays at 3:00 p.m.**
      - Dial in number 888-390-5007
      - Participant code 6137873

- Cases will still be cases and need to Isolate. Contacts will still be contacts at risk of developing disease and need to quarantine.
  - Not a lot of immediate changes or updates to COVID-19 investigation and follow-up.