I. Summary:
- **The 2018–19 influenza season is here.** Visits to emergency departments for influenza and influenza-like illness (ILI) increased in recent weeks. Viral strain surveillance indicates most circulating influenza viruses are influenza A 2009 (H1N1), but influenza A (H3) and influenza B have also been identified in the state. It is still too early to say what strains will predominate in the upcoming season.
- **Influenza is unpredictable.** Influenza seasons can vary dramatically from year to year in terms of timing, severity, and duration of the season. Maintaining a robust surveillance program to identify when and where influenza viruses are circulating and what populations are impacted is crucial to the Florida Department of Health.
- Based on the current situation, the Florida Department of Health is requesting hospitals report patients meeting all three of the following criteria:
  1) **Admitted to the intensive care unit (ICU)**
  2) **Laboratory-confirmed influenza (including rapid antigen tests)**
  3) **Between 0–64 years of age**
- Surveillance goals: assess viral strains associated with severe influenza presentations, assess vaccination administration in populations at high risk for severe complications due to infection, and assess antiviral administration and timing according to current guidance. This information will be used to inform state response strategies and assess policies and gaps with implementing current guidelines.

II. Actions:
- **Investigate and report in Merlin all persons admitted to the ICU with laboratory-confirmed influenza (including rapid antigen tests) who are 0–64 years of age.** Add a case record in Merlin within 48 business hours of CHD notification—see Section V.
  - Report cases in Merlin under the disease code: **Influenza, ICU (Special Project) – 48710**
- Coordinate specimen submission for pre-screened positive specimens to the Florida Department of Health Bureau of Public Health Laboratories (BPHL) for confirmation and additional testing—see Section IV.
  - Rapid influenza diagnostic tests (RIDT) can be used to identify influenza but have sub-optimal sensitivity. A **negative rapid test cannot rule out influenza.** Negative tests may require further testing for influenza by PCR or viral culture.
- A data collection tool is available to support this activity:
  - 2018 Enhanced Influenza Surveillance Form for CHDs (see page 10)
  - The form can also be found on the ICU reporting resource page: FloridaHealth.gov/ICUFlu
III. Public Health Investigation

- Collect medical and laboratory records from the hospital.
- Complete Merlin case data entry. Merlin data entry is required and will be considered the record of file. Completion of the paper 2018 Enhanced Influenza Surveillance Form for CHDs (FloridaHealth.gov/diseases-and-conditions/disease-reporting-and-management/disease-reporting-and-surveillance/surveillance-and-investigation-guidance/index.html) is optional and provided only as a tool to aid in Merlin data entry (see Section V).
- Patient or proxy interviews are not recommended.
- For missing data elements, coordinate with hospital health care providers to obtain the information.

IV. Collection and Submission of Specimens for Further Testing at BPHL

Coordinate specimen submission to BPHL for testing.

- Ideally, hospitals will conduct influenza PCR testing prior to submitting specimens for testing at BPHL. Rapid testing results performed by hospitals for influenza are also accepted if PCR testing cannot be performed.
- This should be handled like all other reportable diseases where the Florida Department of Health requests or requires that specimens be forwarded to BPHL for testing.

Specimen Collection

- **Original specimens are preferred when available.**
- When influenza is detected in a clinical laboratory by rapid testing methods, please send an aliquot (1–2 ml) of the original swab eluate in viral transport medium (VTM). Place the swab eluate in VTM before sending to BPHL. BPHL is required by the U.S. Food and Drug Administration (FDA)-approved PCR protocol to only test original specimens that are in VTM. Rapid test fluid can interfere with PCR.
  
  **Do not send the rapid test reagent.**

- If collecting a new specimen, collect nasopharyngeal (NP) or oropharyngeal (OP/throat) specimens with a viral swab and place in VTM from patients with laboratory-confirmed influenza (including rapid antigen tests).
- **Nasopharyngeal swabs (not nose swabs) are preferred.** There must be an adequate volume of the sample or the test will not be valid.
- These other respiratory specimens are also acceptable, but not recommended:
  - Nasopharyngeal aspirates
  - Bronchial wash
  - Sputum (not saliva)
  - Oropharyngeal (throat)
- Swabs **must** be placed in 2–3 ml of VTM immediately after collection.
- Refrigerate immediately, do not freeze.
- Collect specimens from patients within three days of illness onset.

Specimen Shipping

- Hospitals should contact the CHD prior to submitting specimens to BPHL for testing.
- **Keep specimens refrigerated at 4°C (not frozen) and ship on gel ice no later than 48 hours post collection.**
• Weekend specimen submission should not occur. No weekend testing will be performed.

If you have any questions, please reach out to BPHL directly:

**Shipping Specimens to BPHL-Tampa**
Hours: Mon–Fri 8:00 a.m. to 5:00 p.m.
Phone number: 813-233-2203
Shipping address: Attn: Virology
Bureau of Laboratories-Tampa
3602 Spectrum Blvd.
Tampa, FL 33612

**Shipping Specimens to BPHL-Jacksonville**
Hours: Mon–Fri 8:00 a.m. to 5:00 p.m.
Phone number: 904-791-1540
Shipping address: Attn: Virology
Bureau of Laboratories
1217 N. Pearl St.
Jacksonville, FL 32202

V. **Reporting Influenza-Associated ICU Cases in Merlin**
• Cases should be entered **within 48 business hours of CHD notification**.
• DX status should be listed as **confirmed** as long as there is any laboratory evidence (including positive rapid antigen tests) of influenza infection.
  - Please attach all laboratory results to the Merlin case.
• Enter the case as you would any other reportable disease. For disease code, select **Influenza, ICU (Special Project) – 48710**
- Fill out the **basic case data** as you would for any other reportable disease.
  - If the case is part of an **outbreak**, select “outbreak associated” on the basic data screen and enter the outbreak ID. If you do not have an outbreak ID, create an outbreak via the Merlin Outbreak Module and make sure that the case is listed on the people roster associated with that outbreak.

- Enter any symptom information in the **Case Symptoms** section:
  - The information you enter here will pre-populated in extended data.

- Enter any associated health care visits in the **Case Healthcare Facility Visits** section:
  - The information you enter here will pre-populated in extended data.

- **Laboratory results**
  - Enter laboratory results received from the hospital.
  - Following receipt of BPHL testing, attach laboratory results to the case.

- Attach documents to the **Additional Info section**, under the “documents” tab. Please also attach any of the following information that you may have collected as part of this investigation:
  - Medical records
  - Optional, 2018 Enhanced Influenza Surveillance Form for County Health Departments (completion of the paper form is optional and provided only as a tool to assist with required Merlin data entry)
  - Paper laboratory results from the hospital
• Navigate to the **extended data screen** and complete the following:

**Patient information:**
- Document whether the case attends or works in a school/daycare
- Document whether the case lives or works in a congregate setting
- When possible, specify the name of the school, daycare, or congregate setting.

<table>
<thead>
<tr>
<th>Patient Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Attends school/daycare:</td>
</tr>
<tr>
<td>2. Works in a school/daycare:</td>
</tr>
<tr>
<td>3. Lives in a congregate setting:</td>
</tr>
<tr>
<td>4. Works in a congregate setting:</td>
</tr>
</tbody>
</table>

**Hospitalization and Laboratory Information:**
- Record the name of the diagnosing physician, along with the physician's phone number.
- Document the medical record number that corresponds with the patient's ICU admission.
- Record whether the patient died. Where applicable, record whether they died as a result of this illness, and the date of death.

8. Died?
   Did the patient die from this illness?
   Date of death:

- **Lab Results**
  - **Lab Results**
    - There are no Lab Results found.
    - Attached laboratory results will display in this window.

- **Clinical Information**
  - Symptoms documented in the “symptoms tab” will display here. Alternatively, you can check off applicable symptoms in this window and record onset date and time.

  - If the patient had a fever, document the highest temperature here.

  9. Highest temp (°F):

  - If the patient is pregnant, document that here.

  10. Pregnant?

  - If the patient has any medical conditions that existed before the onset of acute illness, select yes and check off all the medical conditions that existed before the onset of acute illness. If “immunosupression,” “neurological,” or “other” are selected, please provide a more specific condition in the “specify” text boxes provided.

This information helps us better understand the spectrum of severe outcomes.

This information will help document severe influenza in pregnant women to inform public policy.
11. Underlying conditions:

Did the patient have any medical conditions that existed before the onset of acute illness? [Yes] [No]

If yes, check all medical conditions that existed before onset of acute illness:

- [ ] Asthma
- [ ] Cancer
- [ ] Cardiovascular disease
- [ ] Chronic Obstructive Pulmonary Disease (COPD)
- [ ] Developmental delay
- [ ] Diabetes
- [ ] Immunosuppression Specify:
- [ ] Kidney disease
- [ ] Obesity (BMI > 30-39)
- [ ] Morbidly Obesity (BMI > 40)
- [ ] Neurological
- [ ] Postpartum
- [ ] Premature at birth
- [ ] Smokes tobacco
- [ ] Other Specify:
- [ ] Unknown
- [ ] None

This information helps us determine if these cases are occurring in people with underlying health conditions.

12. Medical complications:

Did complications occur during the acute illness? [Yes] [No]

If yes, check all complications that occurred during the acute illness:

- [ ] Acute Respiratory Distress Syndrome (ARDS)
- [ ] Bacteremia
- [ ] Bronchiolitis
- [ ] Pneumonia (X-Ray confirmed)
- [ ] Seizures
- [ ] None
- [ ] Other Specify:

If complications occurred during the patient’s acute illness, select yes and check off all the complications that occurred. If “other” is selected, please specify in the text box provided.

13. Was antiviral treatment prescribed?

[Yes] [No]

Start date: [ ] [ ] [ ] End date: [ ] [ ] [ ]

If yes, check all that apply:

- [ ] Oseltamivir (Tamiflu)
- [ ] Zanamivir (Relenza)
- [ ] Other Specify:

Prior to the illness onset: [ ] [ ]

After illness onset: [ ] [ ]

If the patient was prescribed antivirals as treatment or prophylaxis, select yes.

- If yes, provide both the date the patient started taking the medication and the end date.
- Check off or provide the specific medication. When selecting “other,” please specify the name of the medication.
- Indicate if the antivirals were prescribed before or after the illness onset.

This information helps us determine if the patient’s specimen should be tested for antiviral resistance.

14. Was antibiotic treatment prescribed?

[ ]

If the patient was prescribed antibiotics, select yes.

15. Was Extracorporeal Membrane Oxygenation (ECMO) used?

[ ]

If yes, date started: [ ] [ ] [ ]

If Extracorporeal Membrane Oxygenation (ECMO) was (or is) used, select yes and provide the start date.
- If mechanical ventilation was (or is) used, select yes and provide the start date.

16. Was mechanical ventilation used? [ ] Yes, date started:

- If the patient received the current seasonal influenza vaccine, select yes and provide the date the vaccination was given.

Vaccination History
17. Received current seasonal flu vaccine? [ ] Yes, date dose received:

- Risk Factors
  - If the patient had contact with any animal, attended an agricultural event, or traveled to a country where novel influenza is circulating in the 10 days prior to symptom onset, notify the Bureau of Epidemiology immediately and see the Guide to Surveillance and Investigation chapter on novel influenza:


  - If the patient had contact with an animal in the 10 days prior to symptom onset, select yes.

18. Did the patient have any animal contact in the 10 days prior to symptom onset:

- If the patient had contact with other birds (not chickens or waterfowl), select “yes” for “other” and specify the type of animal and the type of contact.

- If the patient had contact with any animal not listed, select “yes” for “other” and specify the type of animal and the type of contact.

- Travel history (as entered in the travel history tab) will display here:

<table>
<thead>
<tr>
<th>Type</th>
<th>Name of Location</th>
<th>Most Likely</th>
<th>Travel Date Begin</th>
<th>Travel Date End</th>
<th>Street Address</th>
<th>City/State/County/Zip/Country/Room</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>There is no Case Travel History.</td>
</tr>
</tbody>
</table>

- If the patient attended an agricultural event in the 10 days prior to symptom onset, select yes. Provide details about the event in the
“specify” box along with the dates the patient attended the event. If the patient had contact with animals at the event, be sure to record those under question 18.

<table>
<thead>
<tr>
<th>19. Did the patient attend an agricultural event in the 10 days preceding illness offset?</th>
<th>Yes</th>
<th>If yes, specify:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>From:</td>
<td>through</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- If the patient was in a country where novel influenza is currently circulating in the 10 days prior to symptom onset, select yes, specify where the patient traveled, and provide dates.

<table>
<thead>
<tr>
<th>20. Was the person in a country where novel influenza is currently circulating in the 10 days prior to symptom onset?</th>
<th>Yes</th>
<th>If yes, specify:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>From:</td>
<td>through</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Countries where novel influenza is currently circulating include: China)
2018 Enhanced Influenza Surveillance Form
For County Health Departments: Intensive Care Unit Cases
If you have questions after hours, contact the Florida Department of Health Bureau of Epidemiology at 850-245-4401.

Contact Information
Merlin ID (e.g. Countyname_123)  □ New Report □ Update Date CHD Notified Report Date
□ Yes □ No □ DK
Reporting County  Interviewer Name  Interviewer Phone  Interviewer Email

Patient Information
Person Name:  Last  First  M.I.  Parent/Guardian Name (if Minor)  Person or Guardian Phone
Person Address:  Number, Street, Apt #  City  County  State  ZIP Code
Date of Birth (MM/DD/YY)  Age  Sex  Country of Residence  If U.S. Resident, State and County
Race (check one)  □ African American/Black □ Asian/Pacific Islander □ Native American □ White □ Other: ____________________
Ethnicity (check one)  □ Hispanic/Latino □ Non-Hispanic □ DK
Attends/works school/daycare?  □ Yes □ No □ DK  Staff □ Attendee  Lives/works in congregate setting?  □ Yes □ No □ DK  Staff □ Attendee
Facility Name: ________________________________

Hospitalization and Laboratory Information
Hospital Name  Diagnosing Physician  Physician Phone  Medical Record #
ED Visit
□ Yes □ No □ DK
Admitted to ICU?  □ Yes □ No □ DK
Inpatient hospitalization Start Date (MM/DD/YY)  Inpatient hospitalization Discharge Date (MM/DD/YY)
Date of ED Visit (MM/DD/YY)  Date Admitted to ICU (MM/DD/YY)
Inpatient hospitalization Admission Date (MM/DD/YY)  Date of Death (MM/DD/YY)
Laboratory Name  Specimen Collection Date (MM/DD/YY)  Specimen Type  Specimen source:
Lab Report Due (MM/DD/YY)
□ Rapid Antigen Test
□ Pandemicflu A, PCR □ Pandemicflu B, PCR
□ Influenza A, Culture □ Influenza A, DFA/IFA
□ Influenza B, PCR □ Influenza B, DFA/IFA
Other Respiratory Virus, Specify: ____________________

Clinical Information
Symptoms
Earliest Onset Date (MM/DD/YY)
□ Conjunctivitis
□ Muscle Aches
□ Nausea
□ Fever, Highest Temp (F): ______
□ Shortness of Breath
□ Chills
□ Vomiting
□ Cough
□ Parotitis
□ Fatigue
□ Diarrhea
□ Sore Throat
□ Nasal Congestion
□ Headaches
□ Other, specify: ____________________
Underlying Conditions
□ Asthma
□ Diabetes
□ Morbidly Obese (BMI>40)
□ Smokes Tobacco
□ Cancer
□ Developmental Delay
□ Pregnant
□ Immunosuppression, specify:
□ Cardiovascular Disease
□ Kidney Disease
□ Postpartum
□ Neurological, specify:
□ Chronic Obstructive Pulmonary Disease (COPD)
□ Obesity (BMI>30-39)
□ Premature at Birth
□ Other, specify:
□ None

Medical Complications
□ Acute Respiratory Distress Syndrome (ARDS)
□ Bronchiolitis
□ Seizures
□ None
□ Bacteremia
□ Pneumonia (X-ray confirmed)
□ Other, specify:
□DK

Clinical Management
Antiviral Treatment Prescribed:
□ Yes □ No □ DK  □ Yes □ No □ DK
Start Date (MM/DD/YY)  Prior to illness onset?
End Date (MM/DD/YY)  After illness onset?
Drug: □ Oseltamivir (Tamiflu), □ Zanamivir (Relenza)
□ Yes □ No □ DK  □ Yes □ No □ DK
Antibiotic treatment prescribed?
ECMO used?
□ Yes □ No □ DK  □ Yes □ No □ DK
Mechanical ventilation used?

Vaccination History
Received current seasonal flu vaccine? □ Yes □ No □ DK  Date Dose Received: (MM/DD/YY)

Epidemiologic Risk Factors

FLORIDA HEALTH
2018 Enhanced Influenza Surveillance Form
For County Health Departments: Intensive Care Unit Cases

Animal Contact History
Animal contact within 10 days of symptom onset?
☐ Yes ☐ No ☐ DK

Type of contact:
☐ Birds (chickens/water fowl)
☐ Pigs
☐ Other:

☐ Same barn/shed room
☐ Same barn/shed room
☐ Other, specify:

☐ Outside, within 6 feet
☐ Outside, within 6 feet
☐ Other, specify:

☐ Other, specify:

Did the patient attend an agricultural event in the 10 days prior to symptom onset?
☐ Yes ☐ No ☐ DK

If yes, specify:
__________________________________________________________________________

From (MM/DD/YY) Through (MM/DD/YY)

Travel History
Did the patient have international travel in the 10 days prior to symptom onset?
☐ Yes ☐ No ☐ DK

If yes, specify:
__________________________________________________________________________

From (MM/DD/YY) Through (MM/DD/YY)

Other Notes
Please add any other pertinent notes in the space below:

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________