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To: Local Health Departments
Infection Preventionists
Division of Quality Assurance
Wisconsin LTC D.O.N. Association
Wisconsin LTC Medical Directors Association
Wisconsin Healthcare Association
LeadingAge Wisconsin
Wisconsin Assisted Living Association

From: Thomas Haupt, M.S.
Wisconsin Division of Public Health

RE: Reporting, prevention and control of acute respiratory illness outbreaks in long-term care facilities

This memo is intended as guidance to medical and administrative staff of long term care facilities (LTCF) in Wisconsin. It is left to the discretion of facility staff whether to use this guidance wholly or in part, or to use recommendations from another source to prevent and control respiratory illness in their facility. Guidance marked "**required**" is mandatory per Wisconsin State Statute 252 or Wisconsin Administrative Code DHS 145.

1.0 REPORTING

1.1 Reporting single cases

LTCF are **required** by State Statute 252 to report single cases of notifiable diseases to their local health department. Category I diseases **require** immediate notification by telephone; Category II diseases are **required** to be reported within 72 hours upon recognition of a case or suspected case either by entering the data into the Wisconsin Electronic Disease Surveillance System (WEDSS). A complete list of notifiable diseases and conditions can be found in Wisconsin Administrative Code DHS 145 Appendix A or at http://dhs.wisconsin.gov/communicable/diseasereporting/index.htm

1.2 Reporting outbreaks

An outbreak of any communicable disease within a LTCF is **required** by Wisconsin State Statute 252 to be reported immediately by telephone to the local health department.

2.0 DEFINITION OF TERMS USED

2.1 Acute respiratory illness (ARI) is defined as illness characterized by any two (2) of the following:

- Fever*
- Cough (new or worsening, productive or non-productive)
- Rhinorrhea (runny nose) or nasal congestion
- Sore throat
- Myalgia (muscle aches) greater than the resident's norm

2.1.1 *Fever may be difficult to determine among elderly residents. Therefore, the definition of fever used for ARI is defined as temperature two degrees (2°)F above the established baseline for that resident.

2.2 Pneumonia is defined as radiographic evidence of **new** or **increased** pulmonary infiltrates, usually accompanied by fever. It is strongly recommended that all suspect cases of clinically-diagnosed pneumonia be followed with radiographic testing.

2.3 A **respiratory disease outbreak** in a LTCF is defined by DPH as three or more residents and/or staff from the same unit with illness onsets within 72 hours of each other and who have:

- pneumonia, or
- ARI, or
- laboratory-confirmed viral or bacterial infection (including influenza)

3.0 PREVENTION AND CONTROL OF RESPIRATORY OUTBREAKS IN LTCF

3.1 Influenza Vaccine

Influenza is the only respiratory virus for which there is a vaccine. The Centers for Disease Control and Prevention (CDC) has projected that a plentiful supply of influenza vaccine will be available in the United States during the 2015-16 influenza season. No delays in delivery have been identified or are currently anticipated. CDC and the Wisconsin Division of Public Health (DPH) recommend that **all residents and employees** of LTCF receive annual influenza vaccination as soon as influenza vaccine becomes available.

3.2 Laboratory Testing

When an outbreak of acute respiratory illness is suspected, consider collecting nasopharyngeal swabs (preferred) or oropharyngeal swabs from up to three ill residents or staff and, with DPH approval, send specimens to the Wisconsin State Laboratory of Hygiene (WSLH) for influenza and respiratory virus panel (RVP) testing. Testing will be done free of charge.

3.2.1 Specimens should be collected within 5 days after the onset of illness and placed in viral transport media to assure optimal test results.

3.2.2 Facilities may choose to have clinical specimens tested at a laboratory other than the WSLH; however, fee exempt testing cannot be offered for tests performed at these laboratories.

3.2.3 Due to possible false positive results when using rapid influenza tests, especially when testing occurs during periods of low influenza activity, confirmatory testing of positive rapid test results using RT-PCR or viral culture should be performed.

3.2.4 With DPH approval, the specimens may also be tested for other respiratory viruses.

3.2.5 If test results confirm influenza within a facility, no further testing will be performed unless the resident has an atypical presentation of illness or is not responding to treatment.

3.2.6 Test results will be phoned to the DPH and to the specimen submitter.

3.2.7 A negative test result does not rule out viral infection or the existence of an outbreak.

3.3 Antiviral Treatment and Prophylaxis During Influenza Outbreaks

3.3.1 Ideally, within 48 hours of the onset of illness, treat residents with confirmed or suspect cases of influenza with oseltamivir (Tamiflu®) or zanamivir (Relenza®) to reduce the severity and shorten the duration of illness.

3.3.2 At the discretion of a clinician, treatment with oseltamivir (Tamiflu®) or zanamivir (Relenza®) can be initiated more than 48 hours after the onset of illness.

3.3.3 Influenza antiviral prophylaxis may prevent further spread of infection during outbreaks of influenza in a LTCF.

3.3.4 When cases of influenza have been confirmed in a facility, antiviral prophylaxis should be offered to:

- All residents regardless of vaccination status,
- All unvaccinated employees, and
- Those employees vaccinated less than two weeks before the cases were identified.
- In seasons when the influenza vaccine strain does not adequately match the circulating strain of influenza, all residents and staff, regardless of vaccination status, should be offered antiviral prophylaxis.

3.3.5 If exposure is limited to a specific wing or residential area, antiviral prophylaxis use can be limited to residents and unvaccinated staff in those areas.

3.3.5 Both oseltamivir (Tamiflu®) and zanamivir (Relenza®) can be used for antiviral prophylaxis to prevent influenza A and B infection.

3.3.6 Once initiated, antiviral prophylaxis should continue for a minimum of 2 weeks, and continue up to 7 days after the last known case was identified.

3.3.7 For resident with a **known** creatinine clearance of 10--30 mL per minute, a reduction of the treatment dosage of oseltamivir and in the prophylaxis dosage is recommended. Refer to CDC recommendations in **3.3.10**.

- It is **not** necessary for residents to have their creatinine clearance checked prior to receiving oseltamivir treatment or prophylaxis.

3.3.8 Because of identified resistance, adamantanes should **not** be used to treat or prevent cases of influenza A. Both pd2009/H1N1 and seasonal H3N2 viruses are resistant to adamantanes (amantadine, rimantadine, Symadine®, Symmetrel®, Flumadine®). Adamantanes are not effective against influenza B.

3.3.9 CDC influenza antiviral recommendations can be found at:
http://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm

4.0 INFECTION CONTROL

Caregivers and visitors should adhere to the appropriate precautions when in the presence of a resident with suspected or confirmed respiratory illness. Until the cause(s) of an ARI outbreak is determined, both droplet and contact precautions should be initiated in addition to standard precautions.

4.1 Droplet Precautions are intended to prevent transmission of pathogens spread through close respiratory or mucous membrane contact with respiratory secretions. In contrast to contact transmission, respiratory droplets carry and transmit infectious pathogens when they travel directly from the respiratory tract of the infectious individual to susceptible mucosal surfaces of the recipient, generally over short distances.

4.1.1 Healthcare personnel should wear a mask (a respirator is not necessary) for close contact with an ill resident. The mask is generally donned upon room entry.

4.1.2 Residents on droplet precautions who must be transported outside of their room should wear a mask if tolerated and practice respiratory hygiene/cough etiquette.

4.2 Contact Precautions apply when the presence of discharges from the body suggest an increased potential for extensive environmental contamination and risk of transmission.

4.2.1 Healthcare staff should wear a gown and gloves for all interactions that may involve direct contact with the resident or potentially contaminated areas in the environment.

4.2.2 Donning PPE upon room entry and discarding before exit is done to contain pathogens implicated in direct Transmission or indirect transmission through environmental contamination.

4.3 CDC Recommended Precautions for Common Respiratory Viruses

	Droplet Precautions	Contact Precautions
Influenza	√	
RSV		√
Parainfluenza		√
Rhino/Enterovirus	√	
Coronavirus		√
Human Metapneumovirus		√
Adenovirus	√	√

4.3.1 When test results fail to identify an etiologic agent, ill residents should continue to be placed on contact and droplet precautions.

4.4 Duration of Contact and Droplet Precautions

4.4.1 When a resident has confirmed or suspected influenza, the resident should remain on droplet precautions for 7 days after onset of illness or until 24 hours after the resolution of fever and respiratory symptoms (see Section 4.4.3 below), whichever is longer..

4.4.2 For other respiratory illnesses the resident should remain on appropriate precautions for the duration of illness, defined as 24 hours after resolution of fever and respiratory symptoms (see Section 4.4.3 below).

4.4.3 Criteria for determining ARI among staff or residents should focus on whether cough is a new or worsening symptom. For discontinuation of droplet or contact precautions, exclude cough as a criterion unless the cough produces purulent sputum. In many cases a non-infectious post viral cough may continue for several weeks following resolution of other respiratory symptoms.

4.5 Resident Room Assignments During an Outbreak

4.5.1 Ideally, if possible, an ill resident should be in a private room.

4.5.2 Decisions by medical and administrative staff regarding resident placement should be made on a case-by-case basis. In determining resident placement, consider:

- balancing the risk of infection to other residents in the room,
- the presence of risk factors that increase the likelihood of transmission within the facility, and

- the potential adverse psychological impact on the infected resident.

4.5.3 When a single-resident room is not available, ill residents can be placed in a multi-bed room following consultation with infection control personnel to assess risks associated with resident placement options (e.g., cohorting, keeping the resident with an existing roommate).

4.5.4 Spatial separation of three feet or more and drawing the curtain between resident beds is especially important for residents in multi-bed rooms.

4.5.5 The LTCF may consider allowing a resident with a cough to leave their room while wearing a surgical mask if the resident's understanding and compliance with mask use will minimize the risk of infection to other residents.

4.5.6 Non-ill residents should not be confined or restricted to their rooms during an outbreak.

4.6 Visitors

4.6.1 Upon recognition of a confirmed or suspected outbreak of acute respiratory illness the facility may consider posting a sign on each entrance informing visitors of the outbreak.

4.6.2 Ill visitors can be restricted but not denied from entering the facility. It is recommended by CDC and the DPH that if an ill visitor must enter the facility (e.g., end-of-life situations), the facility should provide the visitor with a surgical mask.

4.6.3 LTCF should not restrict asymptomatic visitors from entering their facility.

4.6.4 Visitors should comply with the facility's implemented droplet and contact precautions.

4.7 Restriction of New Admissions to a LTCF

4.7.1 Upon recognition of a confirmed or suspected outbreak of respiratory illness, the facility may consider restricting new admissions to the facility.

4.7.2 If the outbreak is confined to a specific unit, wing or floor, the facility may consider allowing new admissions to other units, wings or floors not affected by the outbreak.

4.7.3 Restriction of new admissions to the facility or the affected unit, wing or floor may be considered **until one week** after the illness onset of the last confirmed or suspected case.

4.8 Readmission of Current Residents

4.8.1 The facility should consider the readmission of ill residents, (for example, those returning from a hospital stay), provided that upon return to the facility, the appropriate infection control measures are implemented to protect the health of other residents. See section 4.5 above.

4.8.2 Laboratory testing of residents for ARI (including influenza) prior to readmission is not recommended and should not be used as criterion for readmission to the facility.

4.9 Exclusion of Staff with ARI

4.9.1 Staff should be excluded from work until at least 24 hours after they no longer have a fever (without the use of fever-reducing medicines such as acetaminophen or ibuprofen).

4.9.2 If symptoms such as cough and sneezing are still present, staff should wear a surgical mask during resident care activities.

References

Infection Control Guidelines (CDC)

http://www.cdc.gov/flu/professionals/infectioncontrol/index.htm

DPH/ Bureau of Communicable Diseases (BCD) Websites

http://www.dhs.wisconsin.gov/immunization/index.htm (immunization)
http://www.dhs.wisconsin.gov/communicable/Influenza/Surveillance.htm
https://www.dhs.wisconsin.gov/influenza/index.htm (surveillance)

If you have any questions, comments, or concerns please notify Thomas Haupt, Influenza Surveillance Coordinator at 608-266-5326, or by e-mail at thomas.haupt@wisconsin.gov or call the Bureau of Communicable Diseases at (608) 267-9003.

SHIPMENT OF VIRAL SURVEILLANCE SPECIMENS VIA DUNHAM EXPRESS TO THE STATE LABORATORY OF HYGIENE

SPECIMEN PACKAGING (WSLH KIT # 18 OR EQUIVALENT):

- **Triple package as "Biological substance, Category B UN 3373."**
- Securely tape the cap of the specimen container, wrap specimen with absorbent material; place the specimen vial into a biohazard bag; place the completed requisition form into the outer pocket of the bag.
- Place the bagged specimen and form in the Styrofoam mailer with a frozen kool-pak.
- Replace lid on the Styrofoam box; close and securely tape the cardboard box shut.
- Attach the WSLH address label to the package:
  State Lab - Virology
  465 Henry Mall
  Madison, WI 53706
- Attach the "*Biological substance, Category B / UN 3373*" label to the package.
- Attach your *return address* label; include the *name and telephone number* of the person who knows the content of the package (requirement) with the return address.

SHIPPING ARRANGEMENTS:

- The WSLH has a contract with Dunham Express for shipment of specimens to the WSLH, with charges billed to the WSLH. You are not required to ship via Dunham Express unless you wish to have the transport charges billed to the WSLH.
- Specimens will be picked up during regular working hours, but you must confirm the time with the Dunham Express office in your area.
- Specimens will be delivered to the WSLH the following day, except Fridays. If you must ship on Fridays or on the day before a holiday, include an extra coolant.
- All package preparation should be completed before the courier arrives.
- Contact the Dunham Express office in your area (see list below);

Appleton area:	Call 920-722-6360 or 1-800-236-7128
Eau Claire area:	Call 715-834-3200 or 1-800-236-7129
LaCrosse area:	Call 608-779-4588
Madison area:	Call 608- 242-1000
Milwaukee area:	Call 414-435-0002 or 1-800-236-7126
Niagara area:	Call 715-251-1909 or 1-800-298-1909
Wausau area:	Call 715-848-4882 or 1-800-298-4882

- Give the office the following information:
  The State Lab-Virology account number: 7271
  Account name: State Lab - CDD
  Your name and phone number
  Your pickup address, including other location information (e.g., room number)
  The destination: State Lab - Virology, 465 Henry Mall, Madison, WI 53706
  Shipment description, if asked: Viral specimens for overnight delivery

WISCONSIN STATE LABORATORY OF HYGIENE

ENHANCED SURVEILLANCE rev.1/12`

Patient Information		**Submitter Information**	
Name (Last, First):		(Your Institution's Agency Number If Known)	
Address:		(Your Institution's Name)	
City: State: Zip:		(Your Institution's Address)	
Date of Birth:	Gender: M F	(City, State, Zip Code)	
Occupation:		(Telephone Number)	
Your Patient ID Number (optional):		Health Care Provider Full Name:	
Your Specimen ID Number (optional):		*WSLH Use Only* Study: VI SURV-ENHANCED	*WSLH Use Only*: Bill To: (WSLH Account # 74201)

Reason for submission:
☐ **Outbreak Investigation (name & location)**_____
☐ **Swine Contact**
☐ **Avian Influenza Surveillance**
☐ **Other** _____

Date Collected:	**Specimen Type:** ☐ Other_____ ☐ Combined Throat/Nasopharynx Swab ☐ Nasopharynx Swab (in VTM) ☐ Throat Swab (in VTM)

Date of Onset:

General Symptoms	**Respiratory Symptoms**	**Digestive Symptoms**
☐ Anorexia	☐ Conjunctivitis	☐ Diarrhea
☐ Arthralgia	☐ Ear Pain	☐ Nausea / Vomiting
☐ Fever	☐ Nasal Congestion	**CNS**
☐ Headache	☐ Nasal Discharge	☐ Encephalopathy
☐ Lymphadenopathy	☐ Pharyngitis	☐ Delirium
☐ Malaise	☐ Hoarseness	☐ Meningismus
☐ Myalgia	☐ Cough *(circle one)* productive / nonproductive / barking	
☐ Photophobia	☐ Crackles	
☐ Rash	☐ Dyspnea	
☐ Mouth Lesions	☐ Wheeze	
	☐ Pneumonia	

Vaccination History (Influenza): Was patient vaccinated? ☐ Yes ☐ No ☐ Unknown
If Yes, Date Vaccinated: / /

Travel History (Places and dates):

Was patient hospitalized? ☐ Yes ☐ No ☐ Unknown
If Yes, where: _____

WISCONSIN STATE LABORATORY OF HYGIENE USE ONLY

WSLH Test Code: To Be Determined On Receipt

WISCONSIN DIVISION OF PUBLIC HEALTH
RECOMMENDATIONS FOR THE PREVENTION AND CONTROL OF RESPIRATORY OUTBREAKS IN LONG-TERM CARE FACILITIES

Monitor all residents and staff for signs and symptoms consistent with acute respiratory illness (ARI) **Section 2.1**

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If an outbreak of ARI is identified, notify the local health department, the facility medical director and administration; enhance surveillance for ARI among residents and staff, **Section 2.3**; and institute appropriate infection control precautions, **Section 4.**

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Test residents/staff who present with ARI by submitting respiratory specimens to the WSLH or a laboratory equipped to test for multiple respiratory viruses. **Section 3.2**

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One or more test results are positive for influenza. **Section 3.2**

↓

Within 48 hours of the onset of illness **treat** confirmed and suspect cases among residents and staff with oseltamivir (Tamiflu®) or zanamivir (Relenza®) to reduce the severity and shorten the duration of the illness. **Section 3.3**

↓

Notify facility medical staff or resident's personal clinician. Consider providing antiviral chemoprophylaxis to:

- ALL unvaccinated employees and those employees vaccinated less than two weeks before the cases were identified, and
- ALL residents regardless of vaccination status, unless exposure is limited to a specific unit, wing or floor.

Section 3.3

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One or more test results are positive for a pathogen other than influenza or all test results are negative. **Section 3.2**

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Facility medical staff may consider restricting new admissions to the facility or to the area where the confirmed resident(s) reside **until one week** after the illness onset of the last confirmed or suspect case. **Section 4.7**

October 2015