

Southern Maine Regional Resource Center

Influenza Preparedness and Response Meeting Discussion on Mitigation: Treatment and Testing

October 7, 2009

Disclaimer

- All the information in this talk is based on guidance given as recently as Oct 7, 2009
- The recommendations for Novel H1N1 have changed multiple times to date and will change again
- Must continually monitor guidance's and best practices

www.CDC.gov/h1n1flu

Background

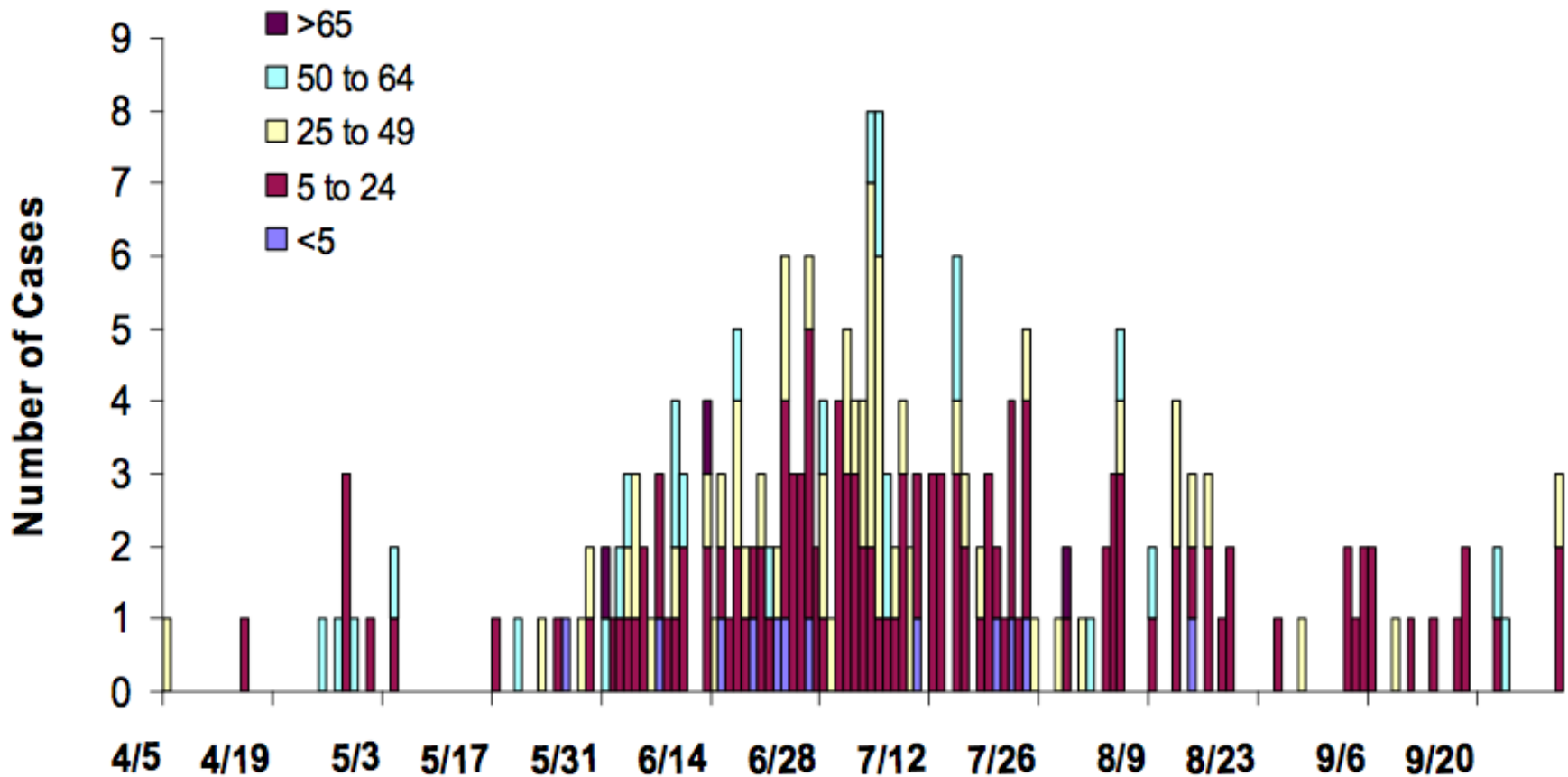
- “Visits to outpatient office settings and hospital emergency departments for influenza like illness increased this past week”

<http://www.maine.gov/tools/whatsnew/attach.php?id=80230&an=2>

- Some ED referrals for H1N1 testing/treatment

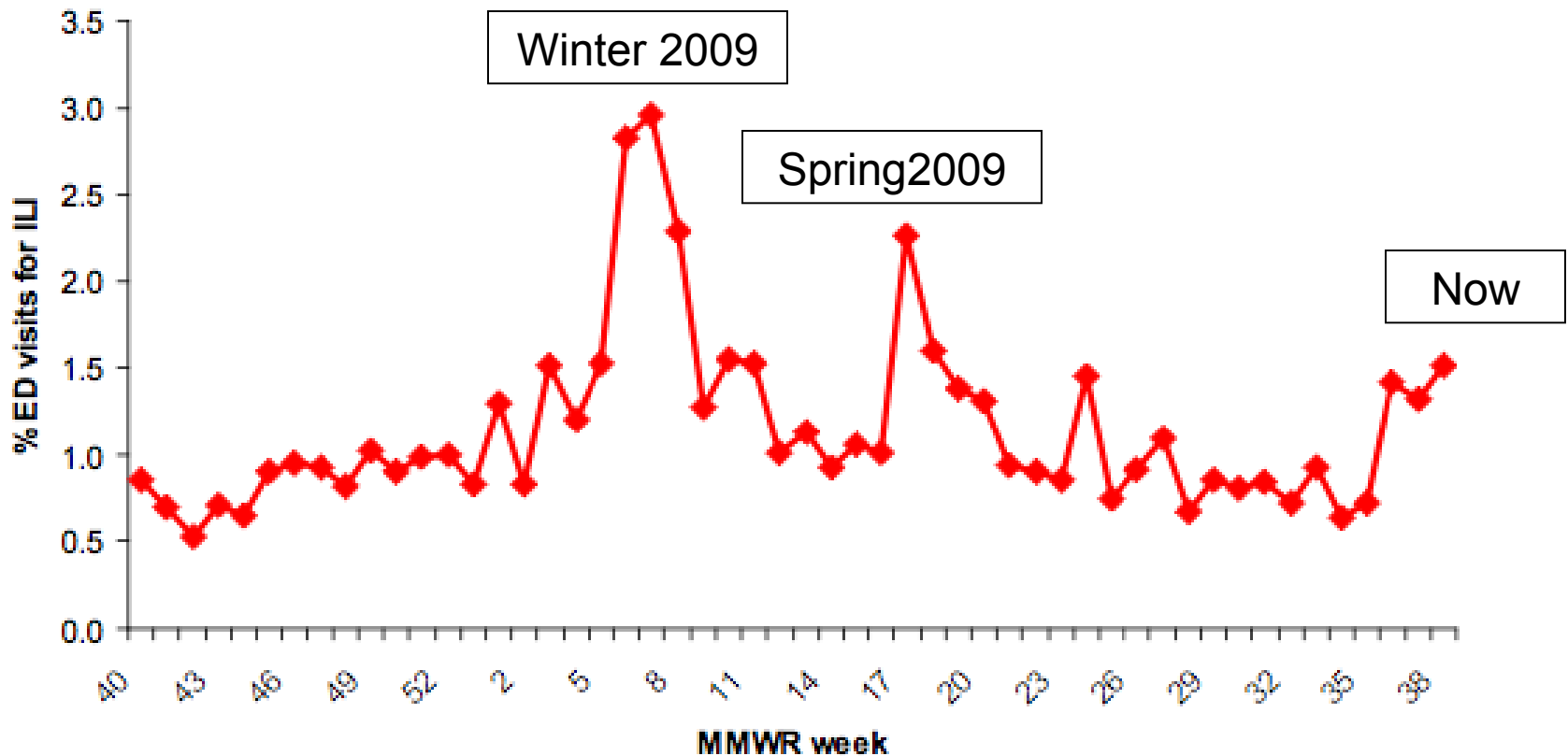
<http://www.maine.gov/tools/whatsnew/attach.php?id=80230&an=2>

Confirmed Cases of H1N1 Influenza in Maine Residents, by Onset Date and Age Group 09/30/2009



<http://www.maine.gov/tools/whatsnew/attach.php?id=80230&an=2>

Emergency Department Visits for ILI at Eight Hospitals – Maine, 2009



Outline

1. Which patients should be tested for H1N1?
2. Which patients should be treated for H1N1?
3. Systems communication as a tool to prevent surge – a recently developed tool

REMEMBER...

... the guidance's for *seasonal* and *H1N1* are different

Use caution when interpreting
CDC's website

Who Needs Seasonal Influenza Testing?

http://www.cdc.gov/h1n1flu/diagnostic_testing_clinicians_qa.htm

Currently, CDC recommends that seasonal influenza diagnostic testing be prioritized for:

- 1) Hospitalized patients with suspected influenza;
- 2) Patients for whom a diagnosis of influenza will inform decisions regarding clinical care, infection control, or management of close contacts; and
- 3) Patients who died of an acute illness in which influenza was suspected

Published September 29, 2009

In whom will a diagnosis of influenza will inform decisions regarding clinical care?

- “May be important for patients with certain conditions, such as pregnancy or severe immunosuppression, to improve their clinical care” - http://www.cdc.gov/h1n1flu/diagnostic_testing_clinicians_qa.htm
 - Or other identified “at-risk” populations
- Important in *IDENTIFYING* outbreaks
 - Communal living (nursing homes, college dorms, etc.)
- Important for managing patients with at risk household contacts
 - Parents of young, contacts with immunosuppressed, etc.

Who Needs H1N1 Testing?

<http://www.cdc.gov/h1n1flu/identifyingpatients.htm>

- “Clinicians should test persons for the novel influenza (H1N1) virus if they have an acute febrile respiratory illness or sepsis-like syndrome
 - Certain groups may have atypical presentations including infants, elderly and persons with compromised immune systems...
- Priority for testing includes persons who:
 - 1) require hospitalization or
 - 2) are at high-risk for severe disease”

Who Is High Risk? (#1)

<http://www.cdc.gov/h1n1flu/identifyingpatients.htm>

- The guidance for high risk patients is similar between seasonal influenza and H1N1:
 - “Currently, insufficient data are available to determine who is at higher risk for complications of novel influenza A (H1N1) virus infection. Thus, at this time, the same age and risk groups who are at higher risk for seasonal influenza complications should also be considered at higher risk for swine-origin influenza complications”

Who Is High Risk? (#2)

<http://www.cdc.gov/h1n1flu/identifyingpatients.htm>

Groups at higher risk for seasonal influenza complications include:

2. Children less than 5 years old;
3. Persons aged 65 years or older;
4. Children and adolescents (less than 18 years) who are receiving long-term aspirin therapy and who might be at risk for experiencing Reye syndrome after influenza virus infection;
5. Pregnant women;
6. Adults and children who have chronic pulmonary, cardiovascular, hepatic, hematological, neurologic, neuromuscular, or metabolic disorders;
7. Adults and children who have immunosuppression (including immunosuppression caused by medications or by HIV);
8. Residents of nursing homes and other chronic-care facilities

Who Is High Risk? (#3)

“2009-2010 Influenza Season Triage Algorithm for Adults (>18 Years) With Influenza-Like Illness”

- More on chronic illnesses:
 2. Chronic Pulmonary Disease – including asthma
 3. Cardiovascular Disease – except isolated hypertension
 4. Renal or Hepatic Disease
 5. Hematological Disease (including Sickle Cell Disease)
 6. Metabolic Disorders (including Diabetes)
 7. Disorders that can compromise respiratory function or the handling of secretions OR that can increase the risk of aspiration (cognitive dysfunction, SCI, Sz, etc)
 8. Immunosuppression (HIV or medication induced)
- Note on morbidly obese patients and screening for above conditions

Addendum...

http://www.cdc.gov/h1n1flu/diagnostic_testing_clinicians_qa.htm

- “Most patients with a clinical illness consistent with uncomplicated influenza (seasonal or H1N1) who reside in an area where influenza viruses are circulating do not require diagnostic influenza testing for clinical management.
- Clinical judgment is another important factor in making decisions regarding testing.”

Who Needs to be Treated? (#1)

http://www.cdc.gov/h1n1flu/diagnostic_testing_clinicians_qa.htm

- 1) (In the admitted patient)... “Appropriate antiviral treatment and infection control measures should not be delayed pending diagnostic testing results. If influenza infection is clinically suspected, early empiric antiviral therapy should be initiated in hospitalized patients because antiviral medications are most effective when administered as early as possible”

Who Needs to be Treated? (#2)

http://www.cdc.gov/h1n1flu/diagnostic_testing_clinicians_qa.htm

- 2) “If (novel H1N1) flu is suspected in high risk patients, treatment should be initiated while awaiting test results and should not be delayed since antiviral medications are most beneficial when started within the first 2 days of illness”

A Word on Surge...

- Spring 2009 proved the potential for surge at primary care and Emergency Departments
- Surge CAN be mitigated if not prevented in many circumstances
- Requires TREMENDOUS communication:
 - *INSIDE* health care systems
 - *OUTSIDE* health care systems

Internal Communication...

- Between primary care and inpatient care:
 - Including - Emergency Medicine, Critical Care, Obstetrics, Pediatrics, Hospitalists, etc.
 - Review and agree on *your system's local* guidance on testing and treatment
 - Decrease unnecessary referrals for testing/treatment
 - Improve flow of patients who *do* require testing or treatment

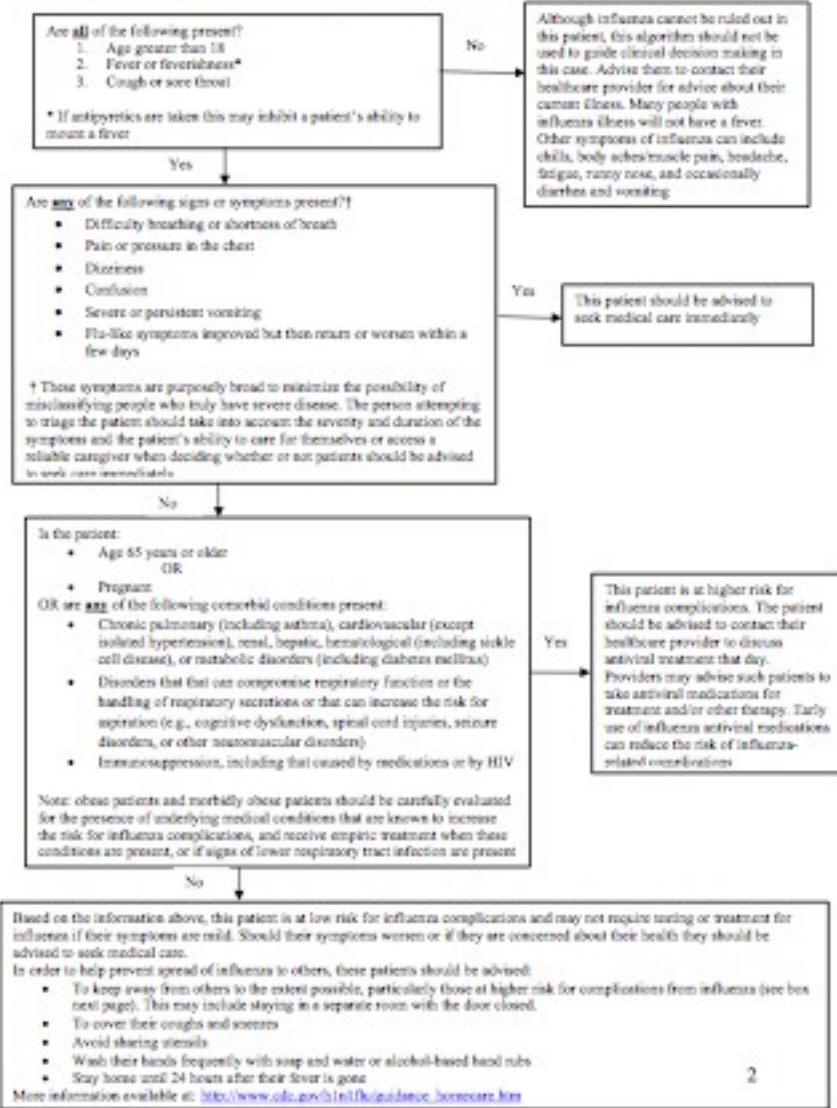
External Communication...

- We ALL need to be consistent with patient messaging
 - Medicine, Public Health, Media...
- Some patients with primary care will contact their PCP for guidance
- We MUST take these opportunities to screen patients and direct proper actions for entrance into the medical system (in patient or outpatient) or home care...

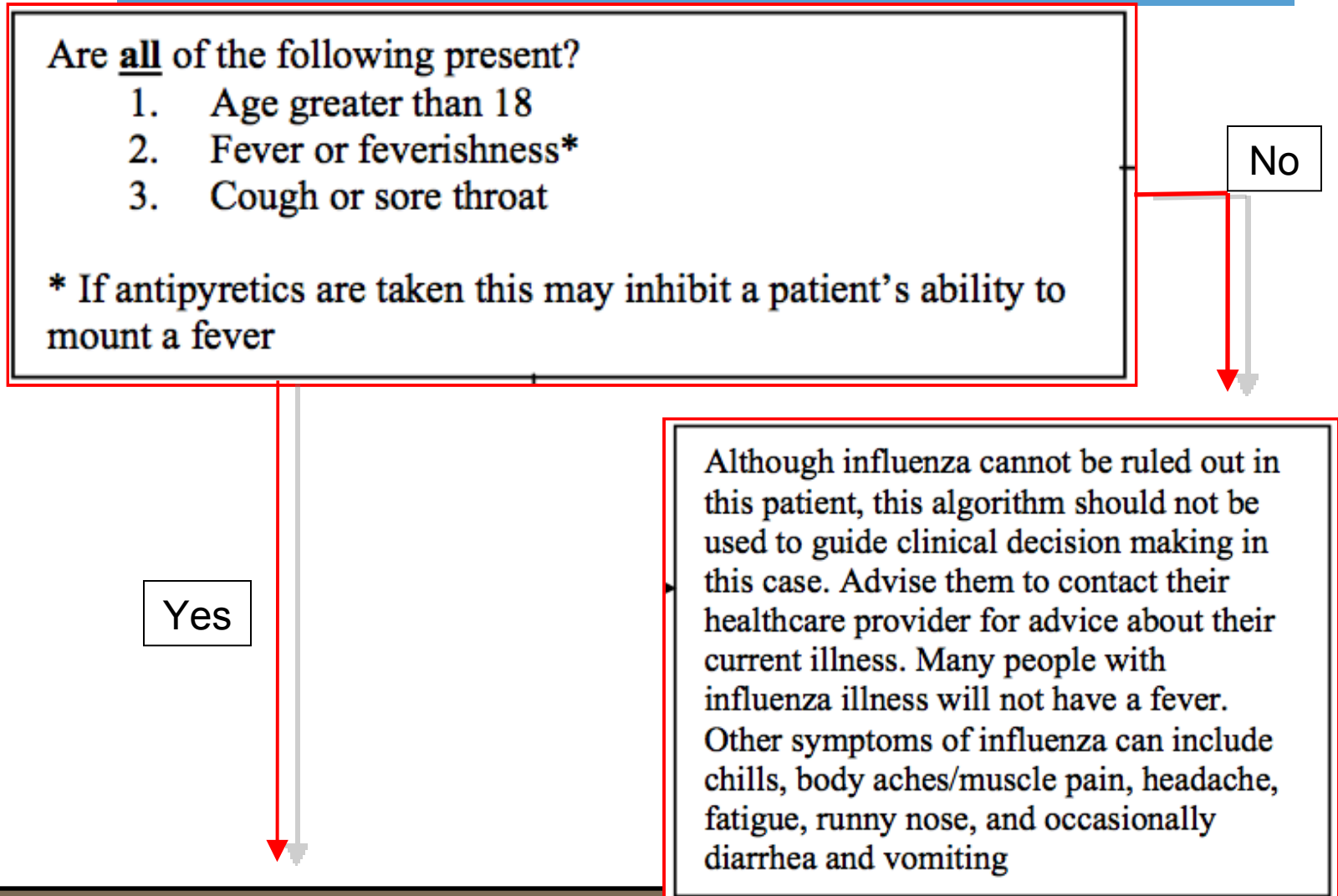
A Potential Tool for Screening

[http://www.cdc.gov/h1n1flu/clinicians
/pdf/adultalgorithm.pdf](http://www.cdc.gov/h1n1flu/clinicians/pdf/adultalgorithm.pdf)

This algorithm is meant for use by healthcare professionals and their surrogates, not by the general public. This algorithm applies regardless of whether or not the patient has been vaccinated for influenza. Patients who do not have all the signs/symptoms (and therefore are not eligible for the algorithm) are encouraged to seek care or talk to a healthcare provider about their illness.



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Are **any** of the following signs or symptoms present?†

- Difficulty breathing or shortness of breath
- Pain or pressure in the chest
- Dizziness
- Confusion
- Severe or persistent vomiting
- Flu-like symptoms improved but then return or worsen within a few days

† These symptoms are purposely broad to minimize the possibility of misclassifying people who truly have severe disease. The person attempting to triage the patient should take into account the severity and duration of the symptoms and the patient's ability to care for themselves or access a reliable caregiver when deciding whether or not patients should be advised to seek care immediately

No

Yes

This patient should be advised to seek medical care immediately

Is the patient:

- Age 65 years or older
OR

- Pregnant

OR are **any** of the following comorbid conditions present:

- Chronic pulmonary (including asthma), cardiovascular (except isolated hypertension), renal, hepatic, hematological (including sickle cell disease), or metabolic disorders (including diabetes mellitus)
- Disorders that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk for aspiration (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders)
- Immunosuppression, including that caused by medications or by HIV

Note: obese patients and morbidly obese patients should be carefully evaluated for the presence of underlying medical conditions that are known to increase the risk for influenza complications, and receive empiric treatment when these conditions are present, or if signs of lower respiratory tract infection are present

No

Yes

This patient is at higher risk for influenza complications. The patient should be advised to contact their healthcare provider to discuss antiviral treatment that day. Providers may advise such patients to take antiviral medications for treatment and/or other therapy. Early use of influenza antiviral medications can reduce the risk of influenza-related complications

Based on the information above, this patient is at low risk for influenza complications and may not require testing or treatment for influenza if their symptoms are mild. Should their symptoms worsen or if they are concerned about their health they should be advised to seek medical care.

In order to help prevent spread of influenza to others, these patients should be advised:

- To keep away from others to the extent possible, particularly those at higher risk for complications from influenza (see box next page). This may include staying in a separate room with the door closed.
- To cover their coughs and sneezes
- Avoid sharing utensils
- Wash their hands frequently with soap and water or alcohol-based hand rubs
- Stay home until 24 hours after their fever is gone

2

More information available at: http://www.cdc.gov/h1n1flu/guidance_homecare.htm



FOR EMS PROVIDERS....



36 PANDEMIC FLU (OFFICIALLY ANNOUNCED)

KEY QUESTIONS

1. Is s/he **completely alert** (responding appropriately)?
2. **(Difficulty breathing)** Describe to me what her/his breathing is like.
 - a. **(INEFFECTIVE)** Did s/he have **any flu symptoms** prior to this?

Yes _____ **d**

No _____ **6**
3. Is s/he **changing color**?
 - a. **(Yes)** Describe the color change.
4. Does s/he have a **fever** (hot to touch in room temperature)?
5. Is s/he **coughing**? * per Rule 2 _____
6. Does s/he have a **sore throat**?
7. Does s/he have **body aches**?
8. Does s/he have a **runny** or **stuffy** nose?
9. Does s/he have **diarrhea** or **vomiting**?
10. Is s/he having **chills** or **sweats**?
11. Does s/he have a **headache**?
 - a. **(Yes & no other flu symptoms)** Was there a **sudden onset of severe pain**?

Yes _____ **18**

No flu symptoms in KQ 4-11 _____ **CC**

g

POST-DISPATCH INSTRUCTIONS

B H E F ?

- a. **(If regular dispatch)** I'm sending the **paramedics** (ambulance) to help you now. **Stay on the line** and I'll tell you **exactly** what to do next.
- b. **(If reduced/limited dispatch)** I'm **arranging care** for you now. An ambulance (or Care Van) will come to check you **when they are available**. This might take (several hours).
- c. **(If quarantine and no dispatch)** Because of the extent of the flu epidemic, an **ambulance cannot be sent** to you. I will **connect** you to a **flu care specialist** who will advise you on what to do.
- d. **(Patient medication requested and Alert)** Remind her/him to do what her/his **doctor has instructed** for these situations.
- e. **(i 1 + DELTA)** If there is a **defibrillator** (AED) available, **send** someone to get it **now** in case we need it later.

DLS * Link to R X-1 unless: g

INEFFECTIVE BREATHING and Not alert _____ N **ABC-1**

LEVELS	#	DETERMINANT DESCRIPTORS	4	A	B	C	CODES	LEVEL 1 (A)	LEVEL 2 (B)	LEVEL 3 (C)
D	1	INEFFECTIVE BREATHING with flu symptoms					36-D-1			
	2	Not alert with flu symptoms					36-D-2			
	3	DIFFICULTY SPEAKING BETWEEN BREATHS with flu symptoms					36-D-3			
	4	CHANGING COLOR with flu symptoms					36-D-4			
C	1	Chest pain j 35 with single flu symptom					36-C-1			
	2	Abnormal breathing with single flu symptom					36-C-2			
A	1	Chest pain j 35 with multiple flu symptoms					36-A-1			
	2	Chest pain g 35 with single flu symptom					36-A-2			
	3	Abnormal breathing with multiple flu symptoms					36-A-3			
C	1	Flu symptoms only (cough, fever, chills or sweats, sore throat, diarrhea, body aches, headache, etc.)					36-c-1			
	2	Chest pain g 35 with multiple flu symptoms					36-c-2			

When to Authorize Protocol 36?

- No established mechanism widely used

Pandemic Severity Score

Category 5: (>2.0% lethality & >1,800,000 ill) = 5
points

Category 4: = 4 points

Category 3:
(0.5 to <1.0% lethality & 450,000 to <900,000 ill) = 3
points

Category 2: = 2 points

Category 1: (<0.1% lethality & <90,000 ill) = 1 points

EMS/Dispatch System Demand for Services

Critical Increase	= 5 points
Severe Increase	= 4 points
Moderate Increase	= 3 points
Mild Increase	= 2 points
Standard Operating Mode	= 1 points

Reduction of EMS/Dispatch Workforce

Absentee Rate over 40%	= 5 points
Absentee Rate 35-40%	= 4 points
Absentee Rate 25-35%	= 3 points
Absentee Rate 15-25%	= 2 points
Absentee Rate 15 or below%	= 1 points

Facility Capacity (Bed availability)

Occupancy exceeds 100% = 5 points

Occupancy Rate 98-100% = 4 points

Occupancy Rate 95-98% = 3 points

Occupancy Rate 90-95% = 2 points

Occupancy Rate at 90% or below = 1
points

Dynamic System Status Score (DSSS)

- 6 -10 points DSSS CATEGORY ONE
- 11-15 points DSSS CATEGORY TWO
- 16-20 points DSSS CATEGORY THREE

SAMPLE Protocols	Response (Standard Operating Mode)	Dynamic System Status Category 1 (Pandemic Severity Index Category 1)	Dynamic System Status Category 2 (Pandemic Severity Index Category 2-3)	Dynamic System Status Category 3 (Pandemic Severity Index Category 4-5)
Triage <i>(to occur both at the 9-1-1 center and on scene)</i>	Daily use algorithms and protocols	Determine whether to implement triage and treatment protocols that differentiate between non-infected and potentially infected patients based on CDC case definition.	Triage would focus on identifying and reserving immediate treatment for individuals who have a critical need for treatment and are likely to survive. The goal would be to allocate resources in order to maximize the number of lives saved	Using screening algorithm to ensure only severe get response
Treatment	Jurisdictional daily treatment protocols	Ambulatory patients will be redirected to alternate care sites within or outside of the hospital.	Treatment protocols may be modified to enable and encourage patients to receive care at home. Consider provision of antiviral prophylaxis if effective, feasible and quantity sufficient.	Certain lifesaving efforts may have to be discontinued. Provision of antiviral prophylaxis if effective, feasible and quantity sufficient.
Equipment	No restrictions	Prudent use of equipment Implementation of strict PPE/infection control protocols for patients meeting case definition established by CDC during the response phase of a 9-1-1 call.	Selective criteria in place for priority use. Some scarce and valuable equipment, such as ventilators, may not be used without staff available who are trained to operate them.	Strict criteria in place for equipment use. Some scarce and valuable equipment, such as ventilators, may not be used without staff available who are trained to operate them.
Transportation	Routine use of EMS resources	Non-urgent and ambulatory victims may have to walk or self-transport to the nearest facility or hospital.	Emergency medical services may transport victims to specific quarantine or isolation locations and other alternate care sites	Only severe cases transported via ambulance
Destination	Routine hospital based facilities	Alternate care sites will be used for triage and distribution of vaccines or other prophylactic measures, as well as for quarantine, minimum care, and hospice care.	Ambulatory and some non-ambulatory patients may be diverted to alternate care sites (including non-medical space, such as cafeterias within hospitals, or other non-medical facilities).	Emergency department access may be reserved for immediate-need patients.

DSSS Category One

- Determine whether to implement triage and treatment protocols that differentiate between non-infected and potentially infected patients based on CDC case definition.

DSSS Category Two

- Triage would focus on identifying and reserving immediate treatment for individuals who have a critical need for treatment and are likely to survive.
- The goal would be to allocate resources in order to maximize the number of lives saved.

DSSS Category Three

- Using screening algorithm to ensure only severe get response
- Resources assigned to those that can most benefit from EMS response

Final Words #1.... The Basics Are Essential

- Screening remains important!
- Do Not Forget:
 - Cough/Sneeze Etiquette
 - Hand washing
 - Personal Protective Equipment in correct clinical settings
 - Social distancing
 - Remain home until 24 hours after fever resolution *without antipyretics*

Final Words #2.... A Word on Vaccination

- The decision to receive vaccination is personal
- Remember though, your patients become at risk if you become ill
- Health care providers **MUST** strongly consider vaccination **NOT** just for personal protection **BUT ALSO** for public health purposes

Questions?

