Pandemic Influenza Triage Tools: User Guide

The Oak Ridge Institute for Science and Education (ORISE) is a U.S. Department of Energy (DOE) institute focusing on scientific initiatives to research health risks from occupational hazards, assess environmental cleanup, respond to radiation medical emergencies, support national security and emergency preparedness, and educate the next generation of scientists.

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Pandemic Influenza Triage Tools: User Guide

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Preface

The *Pandemic Influenza Triage Tools* are resources for healthcare facilities to use during an influenza pandemic. The tools include a clinical algorithm to assist healthcare professionals sort incoming patients by evaluating patients' acuity level and resource needs.

The *Pandemic Influenza Triage Tools* include

- User Guide.
- Pandemic Influenza Triage Algorithm (PITA).
- PITA Educational program.

The ***Pandemic Influenza Triage Algorithm (PITA)*** is designed specifically for face-to-face encounters with patients who present to emergency departments (EDs), urgent care centers, primary and long-term care facilities, clinics, home health, public health, and other healthcare facilities for evaluation and treatment. The triage tools are not designed for call centers, Internet, or field triage.

The PITA is designed for use by healthcare professionals (typically nurses, but also other clinicians, such as physicians, nurse practitioners, or physician assistants) to triage patients who present in person for treatment at healthcare facilities. Healthcare professionals use the PITA to determine patient acuity and estimate resource needs (e.g., intravenous fluids or ventilator) in order to predict the complexity of care needed by patients.

The PITA is intended only for triage of patients who have suspected or potential exposure to influenza, and only during an influenza pandemic. Healthcare professionals who use the PITA are expected to be experienced or otherwise trained in patient triage specific to their site of practice. Local triage protocols may also be developed for use in conjunction with these triage tools, such as directing potential influenza patients to a separate entrance of a healthcare facility.

The PITA is designed to be used in conjunction with community healthcare decision making tools that have been developed by CDC to facilitate the management of patient surge on a community level during a pandemic (see separate document − *Community Healthcare Decision Making Tool Guide*). Community healthcare decision making tools include those that aid in selecting the appropriate site of care for patient evaluation and treatment after patient acuity has been determined with the PITA. Additional components of these community healthcare decision making tools include those for assessment and trending of patient surge at various healthcare sectors, and a community decision making pathway. It is important to note that each community may also develop its own pandemic influenza triage tools in the context of local resources.

This User Guide includes

- Brief overview of triage
- Discussion of the need for pandemic influenza triage tools
- Instructions for using the tools
- Description of the PITA Educational Program

Chapter 1: Introduction

What is Triage?

The term "triage" is used in clinical settings to describe the process of sorting and classifying patients by type and urgency.[1] Triage is performed in many settings including telephone triage programs based at call centers, disaster triage during mass casualty incidents, and emergency department (ED) triage.

In hospital-based EDs, the purpose of triage is to rapidly sort patients needing immediate attention from those who can safely wait for evaluation and treatment.[2] Triage systems focus on getting the right patient to the right place at the right time with the right care provider.[3] ED triage is performed by an experienced emergency nurse who assigns an acuity level to patients and determines which patients will go directly to the treatment area to be seen and evaluated by a provider (e.g., physician, nurse practitioner, or physician assistant), or be sent to the waiting room to await an available bed in the treatment area. For example, patients with life-threatening respiratory failure are triaged directly to the ED resuscitation area, while patients with ankle sprains or sore throats may be triaged to a waiting room to await evaluation and treatment in the ED fast-track area. Triage systems are in use in most, if not all, EDs in the United States (U.S.), and are essential to ensuring patient safety in the ED setting.

There are various ED triage acuity systems in use throughout the world. In 2003, the American College of Emergency Physicians (ACEP) and the Emergency Nurses Association (ENA) recommended that EDs use a reliable, valid five-level triage scale[4] in order to manage daily patient flow as well as support analysis of operations and case mix. Triage acuity scales with established reliability and validity include the Emergency Severity Index (ESI) and the Canadian Triage and Acuity Scale (CTAS).[5, 6] These scales are used to classify patients on a scale from 1 to 5, with Level 1 the most urgent and Level 5 the least urgent. In 2010, ACEP updated their policy statement to specifically recommend the ESI (http://www.acep.org/practres.aspx?id=29828).

While patient triage is a well-developed process in hospital EDs, in other healthcare settings few resources are available for sorting and classifying patients by type and urgency.

Why Pandemic Influenza Triage Tools are Needed

In the United States, the demand for ED care exceeds capacity on a regular basis; patients experience prolonged waits for evaluation and treatment.[7] Crowding in the ED is a well-documented problem, and patient volumes continue to rise while the number of EDs has decreased.[7, 8] Many factors contributed to the increase in ED volumes, and continue to affect the ability to provide quality care and maximize patient flow.

During an influenza pandemic, it is likely that large numbers of patients will present to EDs for treatment, which will exacerbate ED crowding and further stress surge capacity.[9] It is also anticipated that a pandemic influenza outbreak will strain the capacity of most, if not all, healthcare sectors. Approaches to managing the surge in all settings include community-level development of pandemic influenza plans that address mobilization of other healthcare sectors for patient care. These sectors

include urgent care centers, primary and long-term care, clinics, public health, home health, and other settings in which patients present to healthcare professionals for care. Alternate care facilities (ACFs) have been suggested as one way to address the expected shortage of available healthcare during an influenza pandemic.[10, 11] A variety of options exist for ACFs that may be deployed during an influenza pandemic, such as offering flu clinics in existing ambulatory facilities for treatment of less acute patients. Other options include use of primary triage sites that would offer medical screening exams and then refer patients needing more advanced care to EDs, while sending less acute patients home or to short-stay units set up in schools or unused areas of hospitals. ACEP[9] has recommended that hospitals select alternate locations for triage during a pandemic event.

Specialized triage tools will be needed in the event of an influenza pandemic. During regional community partnership workshops on pandemic influenza planning that the Centers for Disease Control and Prevention (CDC) Healthcare Preparedness Activity (HPA) sponsored in 2008, healthcare agencies and public health planners expressed a need for triage tools for sectors other than EDs. Healthcare professionals in urgent care centers, primary and long-term care, clinics, public health, home health, and alternate care facilities will need triage tools that are appropriate for their settings. At the same time, EDs will need influenza-specific triage tools for use when they are over capacity to assist with identification of patients who can be seen at sites other than the ED. All healthcare sectors (including EDs) will need tools to assess patient resource needs (e.g., antiviral treatment, intravenous fluids, or ventilator). Also, they will need tools to assess the availability of resources at various healthcare facilities and in the community as a whole.

Development of Pandemic Influenza Triage Tools

The *Pandemic Influenza Triage Tools* were developed with funding from the CDC-HPA. The project was initiated in response to feedback from a series of pandemic influenza planning workshops conducted by the Oak Ridge Institute for Science and Education (ORISE) during 2008. The workshops focused on community partnerships for pandemic influenza planning and alternate care systems[1], and included representatives from public health, ED, emergency medical services (EMS), and various healthcare sectors (urgent care centers, home health, long-term care, and outpatient clinics). The representatives were drawn from four communities: Champaign-Urbana, Illinois, Winston-Salem, North Carolina; Peoria Regional West, Illinois; and Summit County (Akron), Ohio. The critical need for standardized triage tools for pandemic influenza was noted during these workshops.

The *Pandemic Influenza Triage Tools* were developed by a group of healthcare professionals with varied expertise in ED triage and public health preparedness and response. Project team members included staff from the CDC-HPA, ORISE, and the developers of the Emergency Severity Index (ESI). The triage tools were developed after a thorough search of the literature on pertinent topics, including pandemic influenza, clinical prediction rules for ED patients, and in-patients with respiratory illnesses (i.e.,

[1] Information concerning alternate care systems can be found in the *Community Planning Framework for Healthcare Preparedness* – a guide that aids public health, healthcare, and emergency management planners with enhancing or developing community plans for medical surge. This guide addresses major topic areas such as planning teams, coalitions, alternate care systems, essential healthcare services, and crisis standards of care. It can be accessed at http://www.cdc.gov/phpr/healthcare/communityplanningframework.htm.

predicting the need for hospital admission for patients with community-acquired pneumonia), ED triage, and disaster triage. Specific clinical criteria for the *Pandemic Influenza Triage Tools* were developed from the literature on seasonal and H1N1 influenza, the ESI, other ED triage systems, pediatric risk adjustment, and community acquired pneumonia.[5,6,12,14-55] Though these tools share some basic concepts with the ESI, the tools were independently created and are not a part of the ESI triage system.

An extensive bibliography on triage, influenza and clinical prediction rules for respiratory illness was also assembled for this project.

Goals and Purpose of Pandemic Influenza Triage Tools

The goals of the triage tools are to

- Manage patient surge in a variety of healthcare settings during an influenza pandemic.
- Sort patients to the appropriate place for appropriate care.
- Provide the greatest good for the most people by treating the maximum possible number of influenza patients in the most appropriate settings.

The purpose of the Pandemic Influenza Triage Algorithm (PITA) is to

- Determine patient acuity (Levels 1-5).
- Predict the required complexity of care for each patient.

Assumptions

The triage tools are designed to be used when the following assumptions have been met:

- A pandemic is declared and normal ED and other healthcare setting operations are not sufficient for triage of potential influenza patients.
- The PITA will be used during in-person visits by patients to healthcare facilities. (The tools are not designed for phone or Internet encounters.)
- The PITA will be used by healthcare professionals (e.g., nurses or physicians) during initial contact with patients.
- Healthcare professionals will be trained to perform triage, including assessment of acuity/urgency and estimation of resource needs.
- The PITA will be used in a setting with basic equipment for assessing vital signs (e.g., sphygmomanometers, thermometers, stethoscopes, or pulse oximeters).
- After patients are triaged with the PITA, they will be seen by a provider (e.g., physician, nurse practitioner, physician's assistant) at an appropriate site of care. (The tools are not designed for sending patients home without evaluation and treatment.)

Limitations

Limitations of the *Pandemic Influenza Triage Tools* include the lack of testing of the tools on actual patients. The tools do share some concepts with the ESI, which has been validated in multiple studies and shown to be reproducible over a wide range of EDs.[5, 13, 30, 50-52] Future evaluation of validity and reliability is planned for these pandemic influenza triage tools.

Another limitation is that the vital signs criteria in the *Pandemic Influenza Triage Tools* have not been validated specifically for triage of influenza patients. The vital signs criteria in these tools are adapted from the ESI.[30] The ESI vital signs parameters were originally based on research on the systemic inflammatory response, which identified vital signs parameters predictive of death in the Intensive Care Unit (ICU) setting.[43] The adult vital signs criteria in the *Pandemic Influenza Triage Tools* are based on the ESI criteria for patients older than age 8, and these criteria have been well validated in the general ED population in multiple studies and have been shown to stratify patients into five distinct groups with differing outcomes including hospitalization, ED resource consumption, and six-month survival.[5, 50, 56] The pediatric vital signs criteria in the *Pandemic Influenza Triage Tools* are based on the ESI criteria, but were modified for an ongoing pediatric ED study.[51] The pediatric modifications were based on criteria from several consensus-based pediatric guidelines, and they include additional pediatric age group strata and lower limits for each parameter.[25, 27, 29, 34]

Chapter 2: Operational Issues Involved with Use of the Pandemic Influenza Triage Tools

Triggers and Case Definitions

The *Pandemic Influenza Triage Tools* are designed for use once a pandemic has been declared and the ED or other healthcare setting is overwhelmed with patients to the point that normal operations are not sufficient for triage of potential influenza patients.

The tools are designed specifically for triage of patients with suspected influenza and/or those with exposures to influenza. This includes patients with influenza-like illness (ILI) symptoms (e.g., cough, fever, or shortness of breath) as well as those who have been exposed to influenza but do not currently have symptoms. Prior to the triage assessment, patients presenting to healthcare facilities should be screened for suspected ILI symptoms or exposure using current case definitions and guidance. It is likely that the case definition may evolve during a given pandemic and will vary from one pandemic to another, so the tools are designed for use in conjunction with the current clinical case definition for the influenza pandemic. The triage tools are also independent of any treatment guidance, which may also evolve during a pandemic. Users are encouraged to obtain current case definitions and guidance from the U.S. Department of Health and Human Services (HHS) (www.flu.gov) or the Centers for Disease Control and Prevention (CDC) (http://www.cdc.gov/flu/index.htm).

The triage tools are a resource that is provided by CDC to healthcare facilities to use with or easily adapt to fit local protocols and procedures. For example, EDs may choose to use the triage tools for patients with suspected influenza or exposures to influenza, while continuing to use their regular acuity system on other patients. Another approach, which many EDs use for trauma patients, is to use both to assign patients a regular triage score (e.g., Emergency Severity Index [ESI] or the Canadian Triage and Acuity Scale [CTAS] score), and a Pandemic Influenza Triage Algorithm (PITA) level.

Personnel at Triage

The Emergency Nurses Association (ENA) recommends that ED triage be performed by registered nurses who have a minimum of six months of ED experience and who have attended a formal triage educational program and had a supervised ED triage preceptorship.[1] While other healthcare sectors may not have formal triage educational programs, many do utilize nurses for patient triage via phone or in-person.

It is recommended that nurses who perform triage with the *Pandemic Influenza Triage Tools* be trained by the local healthcare facility regarding the local triage protocols, and trained specifically to use the PITA. Educational materials are provided with the *Pandemic Influenza Triage Tools*, which include a PITA overview lecture an interactive practice module, and a set of simulated patient case studies that can be used for posttraining evaluation. (See Chapter 4.)

Some facilities may use healthcare providers, such as physicians, nurse practitioners, and physicians' assistants, in the triage area during a pandemic. Such facilities may choose to initiate evaluation and care in the triage area, but these actions are not considered a part of the formal triage process using the *Pandemic Influenza Triage Tools*. A discussion of care after triage is provided in the next section.

Care after Triage

The triage tools are designed to be used only for patient triage and are not intended to replace patient care.
At a minimum, care may include

- Patient evaluation by a healthcare provider (physician, nurse practitioner, or physician's assistant).
- Appropriate treatment by a provider, such as but not limited to
  - Examination.
  - History and physical.
  - Patient education and return criteria.
  - Antiviral treatment or prophylaxis as recommended by CDC.

Implementation of Infection Control Measures

Upon arrival at the healthcare facility, all patients with possible ILI symptoms should be given a mask to wear.[15] Either masks (i.e., with ear loops) or surgical masks (i.e., with ties), may be used to contain respiratory secretions (respirators such as N-95 or above are not necessary for this purpose). It is recommended that healthcare facility waiting rooms be configured so that patients with respiratory symptoms are separated from others.[16] Ideally this separation occurs before patients are triaged. The configurations involve two entrances or two waiting rooms for patients: one for those with ILI symptoms and one for those without symptoms. If all patients must share a single waiting room, coughing persons should be encouraged to sit three or more feet from others.

CDC has issued guidance to emphasize the importance of comprehensive influenza prevention strategies. These strategies relate to seasonal influenza and the special circumstances of the 2009 H1N1 pandemic. They can be applied across the entire spectrum of healthcare settings (e.g., hospitals, long-term care, and outpatient settings). In the case of strategies that should be followed during the triage process (e.g., intake/triage, room assignment and considerations, patient transport, isolation precautions, duration of isolation precautions, visitation) consult the CDC website (http://cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm) for current guidelines.

Regulatory Issues

The emergency care community is concerned about its ability to manage patient surge during an influenza pandemic in light of a federal law that limits options for sending patients away from the ED prior to treatment.[18] During a pandemic, there may be situations in which some patients who present to

an over-capacity ED could be treated more promptly in another healthcare setting. Patients with less acute presentations may be safely and more expeditiously treated in other settings. However, emergency departments are bound by law to provide services to patients who present for emergency care. The law, called the Emergency Medical Treatment and Active Labor Act (EMTALA) stipulates that EDs must provide all patients with a medical screening exam in order to determine if an emergency medical condition exists. If a provider determines that an emergency medical condition does exist, then the ED must provide appropriate stabilizing treatment prior to transfer. One result of this law is that EDs cannot send patients away from the hospital ED after only a triage assessment by a nurse.

Several options exist for directing patients who present to the ED during an influenza pandemic to other sites of care. Under existing EMTALA requirements, it is permissible for a hospital to manage an extraordinary surge (such as a pandemic situation) by setting up alternate sites for care on the hospital campus.[18] For example, a hospital might set up an influenza clinic in a tent in the parking lot or an alternate care facility (e.g., a small unit for treatments, such as intravenous fluids and nebulized medications) in an unused wing of the hospital. EMTALA waivers may be granted to hospitals in some situations, but many requirements would need to be met before waivers are activated.[18]

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Chapter 3: Instructions for Use of the Pandemic Influenza Triage Tools

Pandemic Influenza Triage Algorithm (PITA)

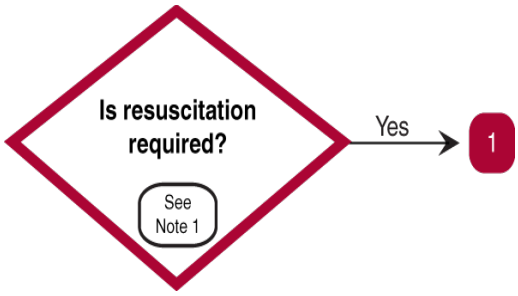
The PITA is designed for use by healthcare professionals in triaging patients with suspected influenza who present to a healthcare facility for care. The algorithm (see Appendix A) is four pages in length. The first page shows the five major decision points; the subsequent pages provide more detailed notes to accompany each decision point.

General recommendations for use of the PITA include

- Perform focused, rapid patient assessment following Decision Points 1-5.
- Predict the complexity of care required by the patient (complex, minimal or none).
- Assign triage level (1–5) using the PITA.

To assess the patient using the PITA, the healthcare professional starts at the top of the algorithm and is directed through a series of questions at major decision points. If users answer "yes" to any of the questions, they stop and assign the corresponding PITA level to the patient.

Decision Point 1



The goal of the first decision point is to identify patients who have major problems with airway, breathing, circulation, or mental status, and who need lifesaving interventions. These patients will be assigned PITA Level 1, and emergency treatment should be initiated without delay. If the patient presents to an ED setting, emergency interventions should be initiated in the treatment area immediately. If the patient presents to other settings, emergency treatment should be initiated right away while emergent emergency medical services (EMS) transport is arranged.

Level 1 patients need lifesaving interventions to treat major problems with airway, breathing, circulation, or mental status. (See Table 1 on the next page.)

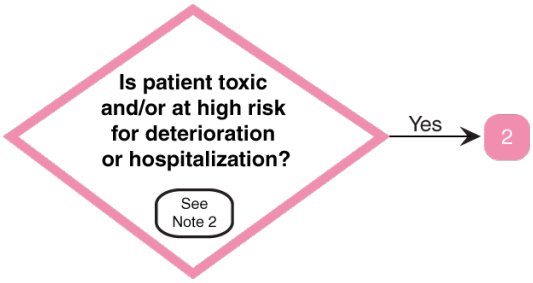
Table 1 – Examples of PITA Level 1 Patients and Lifesaving Interventions

Problems	Examples of Patient Presentations	Lifesaving Interventions
Airway	Inability to protect or maintain airway (Respiratory exhaustion or failure)	Bag-valve-mask ventilation Intubation Emergency BiPAP* Emergency CPAP*
Breathing	Oxygen saturation <90% Severe respiratory distress Breathlessness – inability to speak complete sentences Apnea Excessive work of breathing (exaggerated retractions or nasal flaring and/or tripod position) Extremely labored breathing or grunting Cyanosis	Bag-valve-mask ventilation Intubation Emergency BiPAP* Emergency CPAP*
Circulation	Cardiopulmonary arrest Weak or absent pulse Cool, clammy Marked pallor, delayed capillary refill, or mottling	ACLS* or PALS* resuscitation Large volume of IV fluid Vasopressors
Mental status	Unresponsive Either nonverbal or not following commands P or U on AVPU* scale Strikingly agitated or irritable Active seizures Infants – decreased responsiveness or poor muscle tone	

BIPAP – Biphasic Positive Airway Pressure, CPAP – Continuous Positive Airway Pressure, ACLS – Advanced Cardiac Life Support, PALS – Pediatric Advanced Life Support, AVPU – **Alert, responds to **V**erbal commands, responds to **P**ain only, **U**nresponsive*

A few special populations need extra consideration when rating acuity with the PITA. For patients with chronically low oxygen saturation levels, such as those with chronic obstructive pulmonary disease (COPD), the health professional should assess acute changes in oxygen saturation. If a COPD patient has a level less than 90% but consistent with their baseline level and does not appear to be in severe respiratory distress, they may not qualify for Level 1 categorization. For pregnant Level 1 patients, it is important to remember proper pregnancy positioning of the mother. Mothers should be placed on their left side with a wedge under the right hip or on a tilted backboard so that the gravid uterus doesn't compress the aorta and inferior vena cava which can compromise fetal oxygenation.37 Patients with terminal conditions who have valid do-not-resuscitate (DNR) orders in place may present for care in the ED but decline lifesaving interventions. PITA users should consider these situations on a case-by-case basis. Generally they will rate the patients appropriately for their presentational acuity and then work with providers to make a rapid decision about the focus of the care, which may be palliative rather than lifesaving.

Decision Point 2



The goal of Decision Point 2 is to identify patients who are at high risk for problems with airway, breathing, circulation, or mental status. They should not wait for evaluation or care. PITA Level 2 patients may appear toxic while others may not appear toxic but are at risk of deterioration and/or hospitalization. Examples of symptoms that give patients a toxic appearance are provided in Table 2.

Table 2 – Examples of PITA Level 2 Patients

Problem	Symptoms
Respiratory	Oxygen saturation 90% or 91% Moderate respiratory distress Shortness of breath Breathing fast or slow Increase work of breathing such as nasal flaring, mild retractions and/or grunting Infants: inability to feed
Neurological	Acute mental status changes (change from baseline) such as: • Unable to follow simple commands • Confused, lethargic or disoriented Infants – extremely irritable, inconsolable

Some Level 2 patients may not appear toxic but are at high risk of developing more serious illness. Typically this is because of comorbid conditions that compromise the patients' ability to maintain vital functions in the presence of an influenza infection. One high-risk group is immunocompromised patients. Health professionals should consider rating these patients PITA Level 2 if the patients present with influenza-like illness (ILI) symptoms. Patients who are immunocompromised from either HIV infection or medications are at greater risk of deterioration from influenza. Patients are especially at risk if they have recently had chemotherapy treatment or have HIV with low CD4 counts.15Other special populations may be deemed high risk for a given pandemic. This will vary with the organism responsible for the pandemic. For example, pregnant women were at high risk of complications from the 2009H1N1 pandemic, and would have warranted a PITA Level 2 rating.[36, 39]

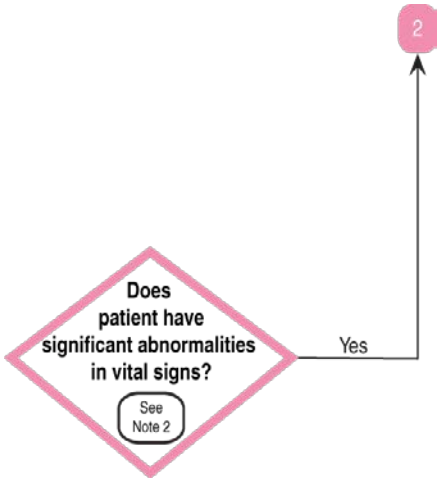
Patients may have a history of other comorbid conditions. The PITA user should consider rating these patients as Level 2, especially if the patients have abnormal airway, breathing, circulation, or mental status. Examples of these comorbidities are shown in Table 3.

Table 3 – Examples of Comorbid Conditions – Consider PITA Level 2 if Patient Has Abnormal Airway, Breathing, Circulation, or Mental Status

Examples of Comorbid Conditions
Asthma – moderate to severe
COPD or other chronic lung disease
Congestive heart failure
Sickle cell anemia
Renal disease (on dialysis)
Elderly
Serious congenital heart disease
Residents of chronic care facilities
Chronic neurologic or neuromuscular conditions (e.g., muscular dystrophy, or spinal cord injuries)
Chronic metabolic, hepatic or hematologic disorders

People aged 65 and older may be at higher risk of complications from influenza, but this may vary depending on the particular strain. However, if older adults do get sick from influenza, they are at increased risk of having a severe illness, especially in the presence of serious comorbidities such as those shown in Table 3.

Decision Point 2 (Continued)



Assess Vital Signs: If an influenza patient's vital signs significantly exceed normal parameters (as shown in Table 4 on the next page), the user should rate the patient as PITA Level 2.

Table 4 – Vital Signs Parameters by Age

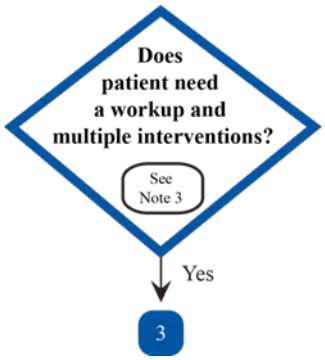
If one or more vital signs exceed parameters listed, consider assigning Level 2

Age	RR	HR	Temperature Celsius (Fahrenheit)	Systolic BP	Sa02
< 3 mo	<40 >60	<100 >205	>38* (100.4)	+	<92
3mo - < 1y	<25 >40	<100 >190	>38 (100.4)	+	<92
1y - <3y	<22 >34	<80 >160	>39 (102.2)	+	<92
3y - <5y	<20 >26	<75 >140	≥40 (104)	+	<92
5y - <10y	<18 >24	<60 >120	≥40 (104)	+	<92
≥ 10y	<16 >20	<50 >100	≥40 (104)	<90	<92

***Recommendation:** When fever exceeds 38°C (100.4°F), rate patients aged 1-28 days as Level 2, and consider rating patients aged 1-3 months as Level 2.

+*Assess perfusion in children using capillary refill and skin color.*

Decision Point 3



If the patient does not meet the criteria for PITA Levels 1 or 2 (including no significant abnormalities in vital signs), the user then predicts the complexity of care by estimating the resources that the patient will need. Patients needing complex care will be PITA Level 3, those needing minimal care will be PITA Level 4, and those needing no care beyond a routine examination will be PITA Level 5. Research has shown that a majority of the time, ED triage nurses can accurately predict the number and types of procedures, tests, interventions, and consultations that patients need during the ED visit.[5, 50, 51, 55]

PITA Level 3 patients require complex care that may include a work-up for possible admission to the hospital and multiple interventions. Table 5 shows examples of the interventions that Level 3 patients may need.

Table 5 – Examples of Interventions Needed by PITA Level 3 Patients

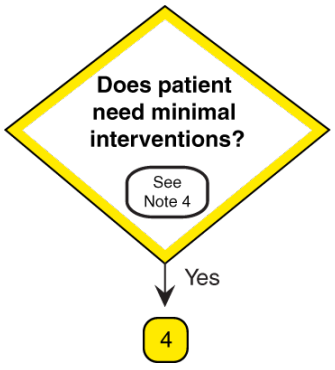
Examples of Interventions Needed by PITA Level 3 Patients
Chest radiograph
Laboratory studies, such as complete blood count, electrolytes, or cultures
Intravenous (IV) fluids and medications
Nebulized medications
Oxygen

Patients who show signs of dehydration, such as decreased intake and output, may need rehydration with oral fluids or, in the presence of severe or persistent vomiting, with intravenous fluids. Patients may have significant past medical history and be on medications that don't warrant a rating of Level 2 but may complicate the clinical picture and influence their resource needs. Patients with the comorbidities shown in Table 3 who present with ILI symptoms may need additional resources to rule out more serious illness even if their clinical presentation is stable (e.g., a chest radiograph to rule out pneumonia).

Some patients are at risk of secondary bacterial infections and may warrant a Level 3 rating based on the need for more resources. These include patients with a worsening or relapse of their ILI symptoms. For example, patients may have mild fevers and cough for a few days and then get better or suddenly develop high fevers, a productive cough, and shortness of breath. Another example is patients with influenza who take antibiotics regularly (e.g., children on Bactrim for otitis media prevention) who may be at risk of a suprainfection. Children who are not fully immunized (e.g., immigrants) may also be at greater risk of other respiratory illnesses when they have influenza, such as bacterial infections like Haemophilus influenzae type b (Hib) or pneumococcus. These patients may be more likely to need intravenous medications or other respiratory interventions.

Patients' vaccination status may also influence their resource needs. For example, patients who have received the seasonal and novel influenza vaccinations but who present with high fevers may need to be evaluated for other infections. These patients are more likely to require lab work or x-rays.

Decision Point 4



PITA Level 4 patients are stable and not likely to need hospitalization. They require a lower complexity of care and minimal interventions. Level 4 patients may need a single intervention from the list in Table 5 (on the previous page) or medication by metered dose inhaler (MDI) or oral medications. Psychosocial factors may be important in rating some patients as Level 4. For example, a patient may need oral rehydration and monitoring of intake and output, which can usually be provided in the home. However, patients who are homeless, elderly, and living alone, or have chronic conditions that limit their ability for self-care, may be best served in an alternate care facility rather than home.

Decision Point 5

PITA Level 5 patients include those who are mildly ill with ILI as well as those who may have been exposed to influenza but are well. They do not need any of the defined resources that Level 3 and 4 patients may need. These patients will receive an examination by a provider and discharge education to include information about when to return (if not better in 10 days or if symptoms worsen). They may receive discharge prescriptions when appropriate.

Examples of PITA Ratings

Examples of Level 1–5 patients are provided in the table Examples of PITA Levels 1–5 in Appendix B (see page B-1). The table includes examples of patients in each level and information on the stability of vital functions, expected resource intensity, and resource needs. It also includes estimates of patient disposition after the healthcare visit (e.g., death, hospital admission, or home) and possible sites of care (e.g., ED, primary or long-term care, or alternate care facilities).

Note: PITA fillable triage forms are available for use electronically in the online application.

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Chapter 4: Educational Program

This educational program provides resources to train healthcare professionals to use the Pandemic Influenza Triage Algorithm (PITA) for patient triage during an influenza pandemic. Training is recommended prior to use of the PITA in actual clinical situations. In two simulated pandemic influenza tabletop exercises, inter-rater agreement improved when users received PITA training prior to rating written patient case studies.

The educational program includes two training modules plus a set of written patient case studies that can be used for posttraining evaluation. The training modules are provided as slide presentations that include instructor notes. Module I includes a detailed description of the PITA and emphasizes key PITA decision points. Module II is designed as an interactive practice session that allows students to apply the knowledge gained in Module I to rate patient case studies and get feedback on PITA ratings.

A set of 15 written patient case studies are provided. The case studies can be used to evaluate healthcare professionals after PITA training. The case studies are included in this chapter of the User Guide and can be photocopied for handouts to students. An answer key with rationale for each rating is provided on a subsequent page.

Module I – Introduction to the Pandemic Influenza Triage Algorithm (PITA)

Objective. Provide an overview of the PITA and examine each decision point in the algorithm.

Conditions. In a classroom setting clinical staff from healthcare sectors will be given an introduction to the PITA.

Standards. Each of the participants will

- Follow along as the instructor moves through the presentation and provides the PITA overview.
- Refer to their copy of the PITA during the presentation.

Materials.

- Slides presenting the PITA overview and the five decision points.
- PITA handouts for each participant.

Logistics.

- Breakout room to accommodate participants.
- Slide projection equipment.
- Laptop computer with mouse/pointer.

Directions.

1. Conduct brief introductions.
2. State objective(s).
3. Orient participants to format of the module.
4. Direct participants to follow along on their copy of the PITA.
5. Show slides and provide information from the instructor notes.

Module II – Triage Game

Objective: Use the PITA to assign a triage acuity rating to adult and pediatric cases. Predict the complexity of care based on the information provided in the cases.

Conditions: In a classroom setting, clinical staff from healthcare sectors will be led through a review of patient cases. They will use the PITA to assign a triage acuity rating and identify needed resources based on the information provided.

Standards: Each of the participants will

- Review each patient scenario, including subjective and objective assessment data.
- Assign a triage acuity rating using the PITA.
- Predict the complexity of care required by each patient case study based on the PITA level.

Materials:

- Slides presenting the patient case studies.
- PITA.
- A set of five prelabeled, colored pieces of paper corresponding to PITA levels.
  - Red = 1, pink = 2, yellow = 3, green = 4, and blue = 5

Logistics:

- Breakout room to accommodate participants.
- Slide projection equipment.
- Laptop computer with mouse/pointer.

Directions:

1. Conduct brief introductions.
2. State objective(s).
3. Orient participants to format of the module.

4. Review the direction for use of the PITA.
5. Explain that a case will be presented. Using the PITA, the participant will decide on the triage level and then hold up the corresponding piece of colored paper.
6. Show the slides and then move to Case Number 1.
7. Read each case, emphasizing the important information.
8. Ask the participants to select the best triage level for the patient using the PITA, and then hold up the appropriately colored piece of paper. Emphasize that 100% agreement is not required.
9. Review the major teaching points for each case, which are included in the notes with each slide.

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Pandemic Influenza Triage Tools: Case Studies

For Clinical Staff in all Healthcare Sectors

Instructions:

1. Assume that an influenza pandemic has been declared.
2. Review each patient case and then determine the patient's acuity (1 to 5) using the Pandemic Influenza Triage Algorithm (PITA).

Case Study 1

Case Information	Description
Patient Case	13-year-old female
Case Definition Criteria	102.2° temperature, cough, tolerating oral fluids
Site	Hospital ED
Chief Complaint	Moderate, nonproductive cough. Muscle aches and chills. Mother is anxious that her daughter may have the flu
Past Medical History	None
Vital Signs	SpO2 — 98% (room air), Temperature — 102.2°, Heart Rate— 88, Respiratory Rate — 18, Blood Pressure — 102/74
Appearance	Awake and alert. Skin warm and dry. Occasional cough. No wheezing. Respirations nonlabored

Rate the Patient's PITA Score
(Circle one)

Rating Scale				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**

Level Definitions

Level	Definition
Level 1	Resuscitation
Level 2	Emergent
Level 3	Urgent
Level 4	Semi-urgent
Level 5	Stable

Case Study 2

Case Information	Description
Patient Case	8-month-old female
Case Definition Criteria	104° temperature (rectal), difficulty breathing
Site	Primary care provider office (by car)
Chief Complaint	Has been breathing fast and having trouble breathing
Past Medical History	None
Vital Signs	SpO2 — 86% (room air), Temperature — 104°, Heart Rate — 130, Respiratory Rate — 32
Appearance	Increased work of breathing with retractions. Poor muscle tone and cyanosis

Rate the Patient's PITA Score
(Circle one)

Rating Scale				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**

Level Definitions

Level	Definition
Level 1	Resuscitation
Level 2	Emergent
Level 3	Urgent
Level 4	Semi-urgent
Level 5	Stable

Case Study 3

Case Information	Description
Patient Case	82-year-old male
Case Definition Criteria	102.2° temperature, cough
Site	Home visit by home health nurse
Chief Complaint	"Bad" cough and some shortness of breath, especially with exertion. Having trouble controlling his blood sugar, which has been running between 200 and 275. Lives alone and has no transportation
Past Medical History	Insulin-dependent diabetes, heart disease, and hypertension
Vital Signs	SpO2 — 95% (room air), Temperature — 102.2°, Heart Rate — 100, Respiratory Rate — 32, Blood Pressure — 148/90
Appearance	Awake and anxious. Skin hot and moist. Tachypneic with nasal flaring

Rate the Patient's PITA Score
(Circle one)

Rating Scale				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**

Level Definitions

Level	Definition
Level 1	Resuscitation
Level 2	Emergent
Level 3	Urgent
Level 4	Semi-urgent
Level 5	Stable

Case Study 4

Case Information	Description
Patient Case	12-year-old male
Case Definition Criteria	102.1° temperature, cough, vomiting
Site	Urgent care center
Chief Complaint	Dry hacking cough for three days. Sore throat and a runny nose. Multiple episodes of vomiting in the last two days. Last acetaminophen eight hours ago
Past Medical History	None
Vital Signs	SpO2 —98% (room air), Temperature — 102.1°, Heart Rate — 86, Respiratory Rate — 20, Blood Pressure — 104/68
Appearance	Awake and alert. Skin warm and dry. Dry mucous membranes. Respirations non-labored. Sipping a soda during triage

Rate the Patient's PITA Score
(Circle one)

Rating Scale				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**

Level Definitions

Level	Definition
Level 1	Resuscitation
Level 2	Emergent
Level 3	Urgent
Level 4	Semi-urgent
Level 5	Stable

Case Study 5

Case Information	Description
Patient Case	29-year-old female
Case Definition Criteria	102.8° temperature, productive cough, tolerating oral fluids
Site	HIV Clinic
Chief Complaint	Productive cough with yellow sputum. Denies shortness of breath
Past Medical History	HIV positive with low CD4 counts
Vital Signs	SpO2 — 95% (room air), Temperature — 102.8°, Heart Rate — 90, Respiratory Rate — 28, Blood Pressure — 140/98
Appearance	Awake and alert. Skin hot and dry. Respirations mildly labored. Yellow sputum noted

Rate the Patient's PITA Score
(Circle one)

Rating Scale				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**

Level Definitions

Level	Definition
Level 1	Resuscitation
Level 2	Emergent
Level 3	Urgent
Level 4	Semi-urgent
Level 5	Stable

Case Study 6

Case Information	Description
Patient Case	18-year-old male
Case Definition Criteria	101.8° temperature, cough, tolerating oral fluids
Site	Primary care provider office
Chief Complaint	Productive cough with yellow to greenish sputum. Denies shortness of breath. Exposed to influenza by teammates on his college soccer team. Doesn't have Tylenol or Motrin in his dorm
Past Medical History	None
Vital Signs	SpO2 — 98% (room air), Temperature — 101.8°, Heart Rate — 86, Respiratory Rate — 18, Blood Pressure — 100/60
Appearance	Awake and alert. Frequent cough. Respirations non-labored. Sweating and has chills. Mucous membranes dry

Rate the Patient's PITA Score
(Circle one)

Rating Scale				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**

Level Definitions

Level	Definition
Level 1	Resuscitation
Level 2	Emergent
Level 3	Urgent
Level 4	Semi-urgent
Level 5	Stable

Case Study 7

Case Information	Description
Patient Case	40-year-old male
Case Definition Criteria	102.1° temperature, productive cough, tolerating oral fluids
Site	Urgent care center
Chief Complaint	Productive cough with green sputum. Denies shortness of breath. Was mildly ill for about five days. Started to get better, but then his fever spiked and his cough worsened. Aching all over. Occasional wheezing with exertion
Past Medical History	Hypertension
Vital Signs	SpO2 — 97% (room air), Temperature — 102.1°, Heart Rate — 84, Respiratory Rate — 16, Blood Pressure — 130/72
Appearance	Awake and alert. Skin hot and dry. Respirations non-labored. Coughing up thick, green sputum

Rate the Patient's PITA Score
(Circle one)

Rating Scale				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**

Level Definitions

Level	Definition
Level 1	Resuscitation
Level 2	Emergent
Level 3	Urgent
Level 4	Semi-urgent
Level 5	Stable

Case Study 8

Case Information	Description
Patient Case	22-year-old female
Case Definition Criteria	102° temperature, cough, shortness of breath
Site	Hospital ED
Chief Complaint	Fever that came on suddenly. Weakness and severe shortness of breath. Worsening cough producing yellowish sputum for past three days. Yellowish nasal drainage. Reports some family members have similar symptoms
Past Medical History	Cystic fibrosis
Vital Signs	SpO2 — 89% (room air), Temperature — 102°, Heart Rate — 142, Respiratory Rate — 40, Blood Pressure — 60/40
Appearance	Awake and anxious. Skin cool and clammy. Severe respiratory distress with increased work of breathing

Rate the Patient's PITA Score
(Circle one)

Rating Scale				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**

Level Definitions

Level	Definition
Level 1	Resuscitation
Level 2	Emergent
Level 3	Urgent
Level 4	Semi-urgent
Level 5	Stable

Case Study 9

Case Information	Description
Patient Case	45-year-old male
Case Definition Criteria	99° temperature, mild cough, tolerating oral fluids
Site	Outpatient walk-in clinic
Chief Complaint	Worried he might have the flu because he travels by bus and "everyone has been coughing on him." Had seasonal flu last year
Past Medical History	Anxiety and hypertension
Vital Signs	SpO2 — 99% (room air), Temperature — 99°, Heart Rate — 74, Respiratory Rate — 16, Blood Pressure — 140/88
Appearance	Awake and alert. Skin warm and dry. Respirations non-labored

Rate the Patient's PITA Score
(Circle one)

Rating Scale				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**

Level Definitions

Level	Definition
Level 1	Resuscitation
Level 2	Emergent
Level 3	Urgent
Level 4	Semi-urgent
Level 5	Stable

Case Study 10

Case Information	Description
Patient Case	32-year-old female
Case Definition Criteria	101.6 ° temperature, cough, sore throat
Site	Primary care provider office
Chief Complaint	Cough and sore throat. Hurts to swallow. Not taking fluids regularly
Past Medical History	Seasonal allergies
Vital Signs	SpO2 — 97% (room air), Temperature — 101.6°, Heart Rate — 106, Respiratory Rate — 22, Blood Pressure — 100/64
Appearance	Awake and alert. Dry mucous membranes. Lips cracked and dry. Decreased oral fluid intake and urine output over last 24 hours. Having difficulty taking oral fluids because of throat pain

Rate the Patient's PITA Score
(Circle one)

Rating Scale				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**

Level Definitions

Level	Definition
Level 1	Resuscitation
Level 2	Emergent
Level 3	Urgent
Level 4	Semi-urgent
Level 5	Stable

Case Study 11

Case Information	Description
Patient Case	18-year-old female
Case Definition Criteria	103.6 ° temperature, cough, dyspnea
Site	Student health center (college)
Chief Complaint	Wheezing and dyspnea. Feels hot. Not taking fluids regularly
Past Medical History	Asthma with several previous hospitalizations (intubated once)
Vital Signs	SpO2 — 91% (room air), Temperature — 103.6°, Heart Rate — 106, Respiratory Rate — 24, Blood Pressure — 100/64
Appearance	Awake and alert. Audible wheezing. Retractions and use of accessory muscles

Rate the Patient's PITA Score
(Circle one)

Rating Scale				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**

Level Definitions

Level	Definition
Level 1	Resuscitation
Level 2	Emergent
Level 3	Urgent
Level 4	Semi-urgent
Level 5	Stable

Case Study 12

Case Information	Description
Patient Case	48-year-old female
Case Definition Criteria	101 ° temperature, cough
Site	Home visit by Home Health nurse
Chief Complaint	Fever and cough
Past Medical History	At home recovering from knee replacement surgery three weeks ago. History of rheumatoid arthritis and multiple joint replacements and mild to moderate asthma (required nebulized asthma medications post-op). Other family member home with confirmed influenza
Vital Signs	SpO2 — 96% (room air), Temperature — 101°, Heart Rate — 86, Respiratory Rate — 18, Blood Pressure — 134/72
Appearance	Awake and alert. Occasional wheezing noted upon auscultation. Able to speak complete sentences

Rate the Patient's PITA Score
(Circle one)

Rating Scale				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**

Level Definitions

Level	Definition
Level 1	Resuscitation
Level 2	Emergent
Level 3	Urgent
Level 4	Semi-urgent
Level 5	Stable

Case Study 13

Case Information	Description
Patient Case	60-year-old male
Case Definition Criteria	100.6 ° temperature, cough
Site	Primary care provider office
Chief Complaint	Fever and cough
Past Medical History	None
Vital Signs	SpO2 — 99% (room air), Temperature — 100.6°, Heart Rate — 72, Respiratory Rate — 16, Blood Pressure — 139/68
Appearance	Awake and alert. Mucous membranes moist. Respirations non-labored

Rate the Patient's PITA Score
(Circle one)

Rating Scale				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**

Level Definitions

Level	Definition
Level 1	Resuscitation
Level 2	Emergent
Level 3	Urgent
Level 4	Semi-urgent
Level 5	Stable

Case Study 14

Case Information	Description
Patient Case	70-year-old female
Case Definition Criteria	102 ° temperature, difficulty breathing
Site	Hospital ED
Chief Complaint	Difficulty breathing
Past Medical History	Lung cancer, hypertension, gout
Vital Signs	SpO2 — 78% (room air), Temperature — 102°, Heart Rate — 138, Respiratory Rate — 56, Blood Pressure — 72/40
Appearance	Semiconscious. Skin cool and clammy. In acute respiratory distress with rapid shallow breathing and retractions

Rate the Patient's PITA Score
(Circle one)

Rating Scale				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**

Level Definitions

Level	Definition
Level 1	Resuscitation
Level 2	Emergent
Level 3	Urgent
Level 4	Semi-urgent
Level 5	Stable

Case Study 15

Case Information	Description
Patient Case	3-year-old male
Case Definition Criteria	103 ° temperature, cough
Site	Urgent care center
Chief Complaint	Cough. Dad has influenza. Ran out of Ibuprofen at home
Past Medical History	None
Vital Signs	SpO2 — 98% (room air), Temperature — 103°, Heart Rate — 138, Respiratory Rate — 22
Appearance	Awake, alert, attentive to nurse during triage. Respirations non-labored. Lips dry. Skin color pink. Capillary refill <2 seconds

Rate the Patient's PITA Score
(Circle one)

Rating Scale				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**

Level Definitions

Level	Definition
Level 1	Resuscitation
Level 2	Emergent
Level 3	Urgent
Level 4	Semi-urgent
Level 5	Stable

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Answers to Case Studies

1. **PITA Level 5.** While this otherwise healthy adolescent is ill with an influenza-like illness (ILI), she does not require resuscitation nor is she toxic. She has no comorbidities and is responding to influenza as expected with a moderate fever. She is taking oral fluids, so she can safely be cared for at home with anti-pyretics and fluids. She requires no defined resources in the clinical setting. She can be discharged home after an exam by a provider.
2. **PITA Level 1**. This baby is hypoxic, ill-appearing, and in acute respiratory distress as evidenced by her difficulty breathing, cyanosis, retractions, and oxygen saturation of 86%. She also has poor muscle tone indicating acute neurological compromise. She needs immediate resuscitation to avoid eventual (cardiac) decompensation.
3. **PITA Level 2.** This anxious-appearing patient is toxic with hot moist skin, tachypnea, and shortness of breath. He is at risk of deterioration, especially in light of his comorbid conditions, and he is likely to need admission to the hospital.
4. **PITA Level 4.** The complexity of care required by this patient is minimal. Though he is ill, he appears able to take oral medications and fluids so hospitalization is not needed. Given his history of vomiting and dry mucous membranes, he may need an oral anti-emetic to facilitate an oral fluid challenge before discharge.
5. **PITA Level 2.** Though this patient does not have significant vital signs abnormalities and does not appear to be in respiratory distress, she is at high risk for deterioration because she is immunosuppressed. She has a low CD-4 count and is at high risk for secondary bacterial infection so hospitalization is indicated.
6. **PITA Level 4.** This otherwise healthy patient has signs of dehydration but is tolerating oral fluids. Because of his social situation (living in a dormitory and not having an anti-pyretic), he would benefit from minimal intervention (oral anti-pyretic and oral fluid challenge).
7. **PITA Level 3.** Patients ill with ILI who start to get better and then worsen are at risk of a secondary bacterial infection. This patient needs further testing (including a chest x-ray and complete blood count) to rule out a possible secondary infection, such as bacterial pneumonia.
8. **PITA Level 1.** This patient is acutely ill with hypoxia, tachycardia, and hypotension. She is hemodynamically unstable and requires immediate resuscitation to survive.
9. **PITA Level 5.** This is a "worried well" patient who does not need any defined resources. The provider may consider a prescription for anti-viral therapy if the patient history reveals significant exposure or early influenza symptoms. The patient is still PITA Level 5.
10. **PITA Level 3.** This patient is ill with a significant sore throat that is limiting fluid intake. She needs rehydration with intravenous fluids. Also, she needs laboratory studies such as a strep screen.
11. **PITA Level 2.** This patient is very ill. Moderate to severe asthma is a comorbid condition that predisposes influenza patients to the risk of deterioration. With a history of a previous intubation, this patient will likely need hospital admission. As evidenced by her use of accessory muscles, this

patient is toxic and needs immediate, aggressive respiratory support and monitoring to avoid intubation.

12. **PITA Level 3**. This patient needs a work-up, including laboratory studies and a chest x-ray. Though the patient is doing well, investigation for more serious infections is needed. Rheumatoid patients frequently take medications that cause immunosuppression, allowing for secondary infections.
13. **PITA Level 5**. This patient is mildly ill but has no comorbidities and has stable vital signs and respiratory status. He needs no defined resources, only an examination by a provider and discharge education.
14. **PITA Level 1.** This patient is near death and requires immediate resuscitation for her severe airway, breathing and circulation problems. She will need intubation, fluid resuscitation, and possibly vasopressors for circulatory support.
15. **PITA Level 4**. This child needs oral fluids and an oral anti-pyretic. The pulse is on the high end of normal for a three-year-old. With fever control, the pulse is expected to decline.

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Appendix A – Pandemic Influenza Triage Algorithm (PITA)

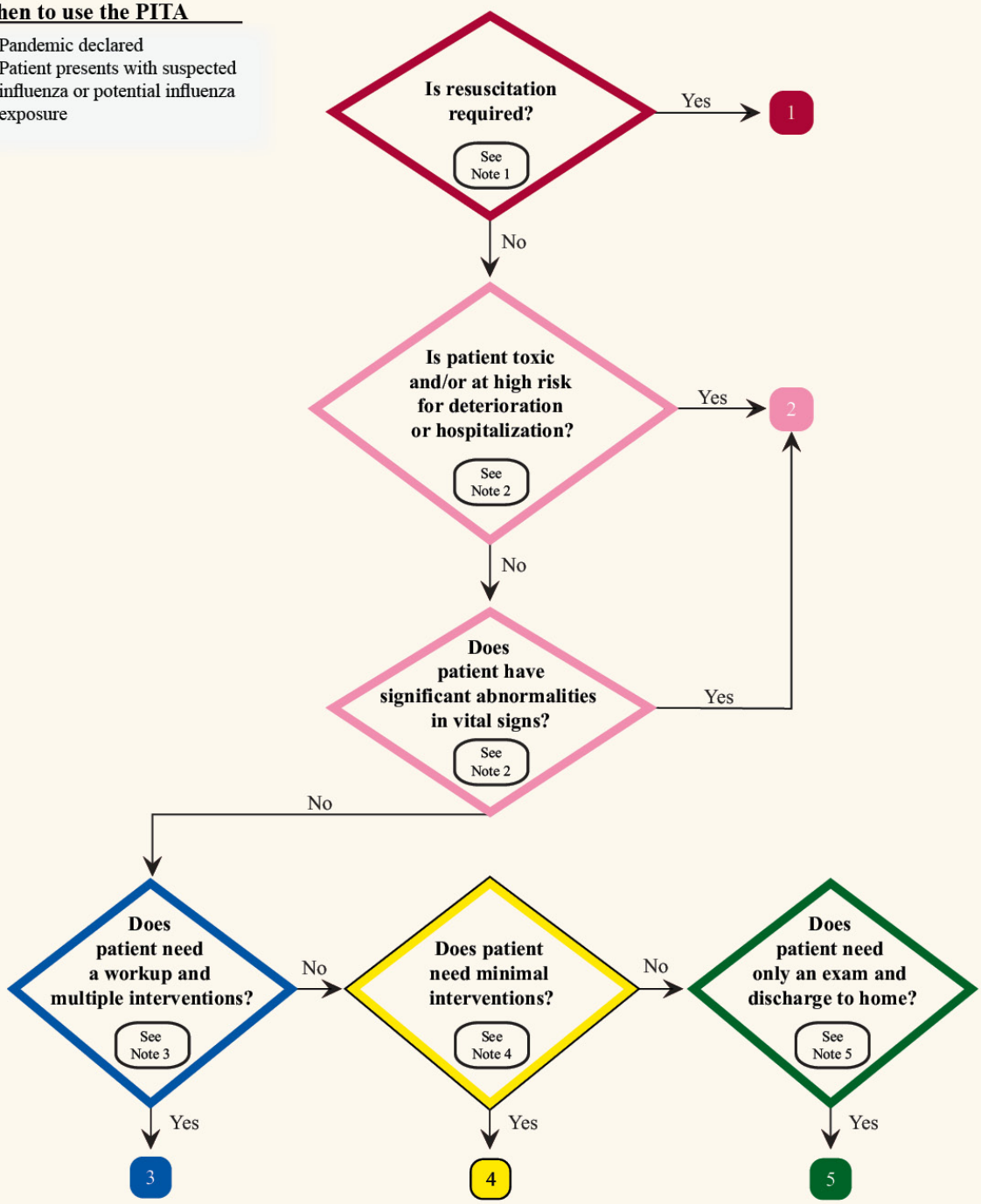
PANDEMIC INFLUENZA Triage Tools

PITA: Pandemic Influenza Triage Algorithm

Page 1 of 4

When to use the PITA

- Pandemic declared
- Patient presents with suspected influenza or potential influenza exposure



Note 1
PITA Level 1

PANDEMIC INFLUENZA Triage Tools

Note 1. Is resuscitation required?

Airway

Inability to protect/maintain airway (respiratory failure/exhaustion)

Needing interventions like BVM ventilation, intubation, or BiPAP/CPAP

Breathing

Oxygen saturation <90%

Severe respiratory distress

Breathlessness – inability to speak complete sentences

Apnea

Excessive work of breathing (e.g., exaggerated retractions/nasal flaring and/or tripod position)

Extremely labored breathing/grunting

Cyanosis

Circulation

Cardiopulmonary arrest

Weak, thready, or absent pulse

Cool, clammy

Marked pallor, delayed capillary refill, mottling

Needing interventions like ACLS or PALS resuscitation, large volumes of fluid, or vasopressors

Mental status

Unresponsive – a patient that is either nonverbal and not following commands acutely or requires noxious stimuli (P or U on AVPU scale)

Strikingly agitated or irritable

Active seizures

Infants – decreased responsiveness and poor muscle tone

Note 2
PITA Level 2

PANDEMIC INFLUENZA Triage Tools

Note 2.

Is patient toxic and/or at high risk for deterioration or hospitalization?

Toxic Appearance

Respiratory
- Oxygen saturation 90 or 91%
- Moderate respiratory distress
- Shortness of breath
- Breathing fast or slow
- Increased work of breathing (e.g., some nasal flaring, mild retractions, or grunting)
- Infants – inability to feed

Neurological
- Acute mental status changes (change from baseline):
  - Unable to follow simple commands
  - Confused/lethargic/disoriented
- Infants – extremely irritable, inconsolable

High Risk for Deterioration/Hospitalization*

High Risk

Assign Level 2 if patient has influenza-like illness (ILI) symptoms and is in high-risk group (consult CDC website for current list of high-risk groups for influenza), including but not limited to:

Immunocompromised patients (including immunosuppression caused by HIV or by medication, such as chemotherapy or chronic steroids)

Comorbidities/Considerations

Consider assigning Level 2 for patients with these considerations or comorbid conditions who present with ILI (especially with abnormalities in airway, breathing, circulation, and mental status):

- Asthma – moderate to severe
- COPD, cystic fibrosis or other chronic lung disease
- Serious congenital heart disease
- Congestive heart failure
- Renal disease – on dialysis
- Sickle cell disease or other serious anemias
- Chronic neurologic or neuromuscular conditions (e.g., muscular dystrophy, spinal cord injury, cerebral palsy, stroke, or multiple sclerosis)
- Chronic metabolic, hepatic, or hematologic disorders
- Elderly
- Residents of chronic care facilities

Does patient have significant abnormalities in vital signs?

If one or more vital signs exceed parameters listed, consider assigning Level 2

Age	RR	HR	Temperature Celsius (Fahrenheit)	Systolic BP	Sa02
< 3 mo	<40 >60	<100 >205	>38* (100.4)	+	<92
3mo - < 1y	<25 >40	<100 >190	>38 (100.4)	+	<92
1y - <3y	<22 >34	<80 >160	>39 (102.2)	+	<92
3y - <5y	<20 >26	<75 >140	≥40 (104)	+	<92
5y - <10y	<18 >24	<60 >120	≥40 (104)	+	<92
≥ 10y	<16 >20	<50 >100	≥40 (104)	<90	<92

***Recommendation:** When fever exceeds 38°C (100.4°F), rate patients aged 1-28 days as Level 2, and consider rating patients aged 1-3 months as Level 2.

+Assess perfusion in children using capillary refill and skin color.

**This algorithm is designed to assist healthcare professionals and those under their supervision in triaging patients with ILI. It is not meant as a substitute for sound clinical judgment.*

Note 3, 4 & 5

PITA Level 3, 4 & 5

PANDEMIC INFLUENZA Triage Tools

Note 3. Does patient need a workup and multiple interventions?

Interventions may include:

- Chest radiograph
- Laboratory studies (complete blood count, electrolytes, and cultures)
- Intravenous (IV) fluids and medications
- Nebulized medications
- Oxygen

Consider Level 3 for patients with:

- Significant past medical history
- Worsening or relapse of influenza-like illness symptoms
- Severe or persistent vomiting requiring IV volume replacement

Note 4. Does patient need minimal interventions?

Minimal interventions (e.g., no more than one) may include those in Note 3 or:

- Medication by metered dose inhaler (MDI)
- Oral medications

Consider Level 4 for patients who may have influenza, but are stable and:

- Hospitalization is unlikely
- May have psychosocial risk factors that limit their ability to do self-care, such as elderly living alone or homeless

Note 5. Does patient need only an exam and discharge to home?

No defined interventions needed (such as those listed in Notes 3 and 4)

Patient will receive exam and discharge teaching, and may receive prescriptions

Appendix B – Examples of PITA Levels 1 Through 5

Areas to Consider	Level 1	Level 2	Level 3	Level 4	Level 5
Level Description	Resuscitation	Emergent	Urgent	Semi-urgent	Stable
Stability of vital functions	Critical/unstable	Threatened	Mild abnormality or stable	Stable	Stable
Life or organ threat	Obvious	Likely but not always obvious	Unlikely but possible	No	No
Expected resource intensity	➢ High ➢ Resuscitation team ➢ Lifesaving interventions	➢ High ➢ Multiple/complex diagnostic studies ➢ Multiple and rapid treatment needed	➢ Moderate ➢ Some diagnostic studies (labs, x-ray) ➢ Some treatment needed	➢ Low ➢ Minimal diagnostic studies ➢ Minimal treatment (e.g., oral fluid challenge, antipyretics)	➢ None ➢ Medical screening exam ➢ Education ➢ No treatment
Examples of resources	Ventilator Vasopressors CPAP/BIPAP *(Also Level 2 resources)*	Oxygen Bronchodilators IV meds, fluids IV antibiotics Antivirals Labs/x-rays	Oxygen Bronchodilators IV meds, fluids IV antibiotics Antivirals Labs/x-rays	Oral fluid challenge Oral antibiotics	None
Disposition estimate	Death, or admit to monitored bed	Admit to hospital or ACF or discharge after workup and treatment	Admit to hospital or ACF or discharge after workup and treatment	ACF or home	Home
Possible sites of initial care	ED	ED	ED or other if properly equipped (e.g., ACF, urgent care, primary care, or other)	Any properly equipped (ED, ACF, urgent care, primary care, or other)	Any (ED, ACF, urgent care, primary care, or other)
Examples	➢ Severe respiratory distress or respiratory failure ➢ Needs airway/breathing intervention ➢ Hemodynamically unstable	➢ Moderate respiratory distress ➢ Acute mental status changes ➢ Severe dehydration ➢ High-risk groups	➢ Dehydration needing IV fluids ➢ Mild respiratory distress (CXR, bronchodilators)	➢ Mildly ill with need for minimal resources ➢ May have flu but low-risk	➢ Worried-well and mildly ill without need of defined resources ➢ Flu exposure-consider prescription for antivirals
Notes				➢ Asses for self-care deficit	

ACF: Alternate Care Facility (e.g., flu clinic, short-stay unit set up in unused area of hospital or school for treatment of mildly ill patients, CPAP: Continuous Positive Airway Pressure treatment, BIPAP: Biphasic Intermittent Positive Airway Pressure treatment

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