

Acute Change of Condition

in the Long-Term Care Setting

CLINICAL PRACTICE GUIDELINE

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Preface

This clinical practice guideline (CPG) has been developed and revised under a project conducted by the Post-Acute and Long-Term Care Medical Association (PALTmed), the national professional association of medical directors, attending physicians, and others practicing in the post-acute and long-term care (PA/LTC) continuum. This is one of a number of guidelines undertaken as part of PALTmed's mission to improve the quality of care delivered to patients in these settings.

Original guidelines are developed by interdisciplinary workgroups, using a process that combines evidence and consensus-based approaches. Workgroups include practitioners and others involved in patient care in long-term care facilities. Beginning with a general guideline developed by an agency, association, or organization such as the Agency for Healthcare Research and Quality (AHRQ), pertinent articles and information, and a draft outline, each group works to make a concise, usable guideline that is tailored to the long-term care setting. Because scientific research in the long-term care population is limited, many recommendations are based on the expert opinion of practitioners in the field. A bibliography is provided for individuals who desire more detailed information.

Guideline revisions are completed under the direction of the Clinical Practice Guideline Steering Committee. The committee incorporates information published in peer-reviewed journals after the original guidelines appeared, as well as comments and recommendations not only from experts in the field addressed by the guideline but also from “hands-on” long-term care practitioners and staff.

Purpose

PALTmed seeks to develop and revise guidelines that focus on specific concerns and common problems in the long-term care setting. Although AHRQ and other agencies, organizations, and associations have developed a number of guidelines for conditions that occur in elderly and chronically ill individuals, many of these guidelines limit or omit considerations that are unique to the long-term care population.

PALTmed guidelines emphasize key care process and are organized for ready incorporation into facility-specific policies and procedures to guide staff and practitioner practices and performance. They are meant to be used in a manner appropriate to the population and practice of a particular facility. Guideline implementation will be affected by resources available in the facility, including staffing, and will require the involvement of all those in the facility who have a role in patient care.



Audience

This guideline is intended for the members of the interdisciplinary team in long-term care facilities, including the medical director, director of nursing, physicians, nursing staff, consultant pharmacist, and other professionals such as therapists, social workers, dietitians, and nursing assistants who care for residents of long-term care facilities.

PALTmed CPGs include many functions and tasks related to recognizing, clarifying, managing, and monitoring various conditions and situations. But the guidelines only sometimes specify who should do these tasks. For example, many disciplines including nursing assistants, licensed nurses, dietitians, and social workers may make and document observations (i.e., that someone does not sleep at night, is more withdrawn, or has a change in usual eating patterns). But only some of them may be qualified to determine the significance of those observations (for example, what is causing the sleeplessness or change in eating patterns). In contrast, physicians and nurse practitioners may not be present to make observations, but are trained to analyze the significance and causes of symptoms. Thus, each facility should ensure that tasks are done correctly and by appropriate interdisciplinary team members. It is important for observers to make and document findings effectively, but they should get appropriate support for interpreting the findings, when this is not within the scope of their training or practice.

Assumptions

Guidelines in the long-term care setting should be consistent with fundamental goals of desirable long-term care practice. Operationally, this requirement means that the nursing facility care team systematically addresses (1) each individual's risk factors for a number of diseases and conditions and (2) the adverse consequences of the diseases and conditions on the patient's functioning and quality of life.

However, when nursing facility patients are at or near the end of life, care goals will shift from functional improvement or physical stability to palliation or comfort care. PALTmed guidelines address this transition and provide suggestions for appropriate modification of the patient's care plan.

Long-term care facilities care for a variety of individuals, including younger patients with chronic diseases and disabilities, short-stay patients needing postacute care, and very old and frail individuals suffering from multiple comorbidities. When a workup or treatment is suggested, it is crucial to consider if such a step is appropriate for a specific individual. A workup may not be indicated if the patient has a terminal or end-stage condition, if it would not change the management course, if the burden of the workup is greater than the potential benefit, or if the patient or his or her proxy would refuse treatment. It is important to carefully document in the patient's medical record the reasons for decisions not to treat or perform a workup or for choosing one treatment approach over another.

How to Use These Guidelines

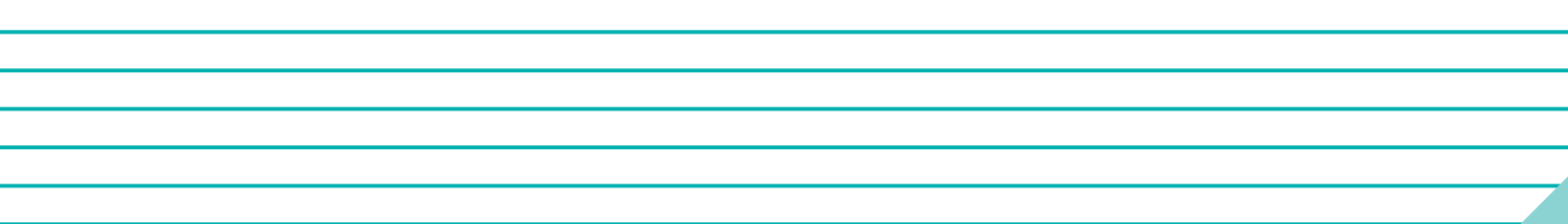
Each guideline includes a narrative portion that covers definition, recognition, assessment, treatment, and monitoring of the condition being addressed. "Recognition" means identifying the presence of a risk or condition. "Assessment" means clarifying the nature and causes of a condition or situation and identifying its impact on the individual. "Treatment" means selecting and providing appropriate interventions for that individual. "Monitoring" means reviewing the course of a condition or situation as the basis for deciding to continue, change, or stop interventions.

Each guideline also includes an algorithm that summarizes the steps involved in addressing the condition. In the algorithm, rectangles signify points where action is to be taken; diamonds indicate points where a decision must be made.

Terminology

We recognize that people who reside in long-term care facilities are “residents”. However, we have used the term “patient(s)” throughout these guidelines because we are addressing individuals within the context of treating a medical condition. In addition, these guidelines apply substantially to individuals who come to long-term care facilities for short-term care. When referring to pharmaceutical products, we have avoided the use of brand names and refer to classes of drugs whenever possible.





Acute Change of Condition in the Long-Term Care Setting

Definition

An acute change of condition (ACOC) is a sudden, clinically important deviation from a patient's baseline in physical, cognitive, behavioral, or functional domains. "Clinically important" means a deviation that, without intervention, may result in complications or death.

INTRODUCTION

In the long-term care setting a primary goal of identifying ACOCs is to enable staff to evaluate and manage a patient at the facility and avoid transfer to a hospital or emergency room (ER). To achieve this goal, the facility's staff and practitioners must recognize an ACOC and identify its nature, severity, and cause(s).

The approach to recognition, assessment, treatment, and monitoring of ACOCs that is proposed in this guideline should result in better management of these events in the long-term care facility and fewer transfers to hospitals and other acute-care settings.

Hospitalization of long-term care patients should be avoided for many reasons. Transfer to the ER or hospital is costly; is disruptive for patients; and can expose patients to many risks,¹ including delirium, undernutrition, serious infections, skin breakdown, and adverse drug reactions.² By contrast, care in the long-term care facility occurs in a familiar environment and costs much less than hospitalization.³

Timely evaluation and intervention is necessary to address ACOCs effectively in the long-term care facility. Most often, an ACOC represents a change from a patient's well-established and documented baseline. However, many hospitalizations occur soon after admission to a long-term care facility,² before staff have collected information about the patient's baseline status. In this situation, the ACOC must be managed despite a lack of information about the patient's baseline status.

Despite the potential benefits of treating ACOCs in the long-term care facility, hospitalization rates for long-term care patients can be high, ranging from 12 percent to 59 percent in one study; 40 percent of these hospitalizations occurred within 90 days of admission to the long-term care

facility.⁴ Seventy-five percent of hospital stays occur during the patient's first year in the long-term care facility.^{5,6}

Evidence suggests that the residents of long-term care facilities who are most likely to be hospitalized are also the least likely to obtain a beneficial outcome from a hospitalization. In severely impaired patients, mortality rates are similar with or without hospitalization.^{7,8,9}

ACOCs may occur abruptly or over several hours to several days. They may present as physical changes or as changes in function, mood, cognition, or behavior. Certain ACOCs—for example, change in mental status and fever—appear to result in rapid hospital transfer more often than others; however, many of these hospitalizations may not be warranted. Table 1 lists factors associated with hospital admissions from long-term care facilities. Table 2 lists the most common reasons for the admission of long-term care patients to acute-care settings.

RECOGNITION

STEP 1

Identify individuals at risk for ACOCs. ACOCs are very common in long-term care facility patients.¹⁰ Although some ACOCs are unpredictable, many can be anticipated by identifying risk factors such as pre-existing conditions, previous complications, or the course of a recent hospitalization. The following are examples of predictable ACOCs

TABLE 1 .

Factors Associated With Hospital Admissions from Long-Term Care Facilities

Reasons Related Primarily to Patient's Current Condition or Status

- ◆ Availability of in-house diagnostic and support services (e.g., radiology, laboratory, pharmacy)
- ◆ Level of care to which patient is assigned on admission to long-term care facility
- ◆ Patient's level of dependency in performing activities of daily living
- ◆ Patient's underlying medical complexity or comorbidity
- ◆ Premature discharge from acute-care facility to long-term care facility
- ◆ Presence or absence of advance care planning instructions about management of acute medical illness (e.g., a "Do Not Hospitalize" order)
- ◆ Severity of illness or degree of medical instability

Reasons Less Directly Related to Patient's Current Condition or Status

- ◆ Inability of staff at long-term care facility to obtain medical supervision of ACOC
- ◆ Inadequate practitioner-nurse communication
- ◆ Inadequate reimbursement for provision of acute care in the long-term care facility
- ◆ Pressure from family, nursing staff, or physician to hospitalize the patient
- ◆ Time of day or week when ACOC occurs

TABLE 2 .
Common Reasons for Admission of Long-Term Care Patients to Acute-Care Settings

Cardiopulmonary

- ◆ Congestive heart failure, other cardiac conditions
- ◆ Respiratory condition

Functional

- ◆ Falling

Infectious

- ◆ Fever
- ◆ Pneumonia
- ◆ Sepsis
- ◆ Urinary tract infection

Metabolic

- ◆ Dehydration
- ◆ Fluid/electrolyte imbalance

Neuropsychiatric

- ◆ Altered mental status
- ◆ Significant change in behavior
- ◆ Transient ischemic attack, stroke

Traumatic

- ◆ Fracture

Adapted from Kutner et al.⁴

- ◆ Delirium in a patient who recently had pneumonia.
- ◆ Falling in a patient who recently began taking one or more new medications to address elevated blood pressure.
- ◆ Fever in a patient who had bladder catheterization during a recent hospitalization.

Table 3 lists pre-existing conditions that may predispose patients to ACOCs. Table 4 offers examples of specific clinical situations that present a particular risk for ACOCs.

Newly admitted patients are at considerable risk for ACOCs, especially if they have had a recent hospitalization, acute illness, or other event that has disrupted their stability. It is important that caregivers identify risks for acute condition changes upon or soon after admission or readmission, or after an acute illness or significant condition change. A problem list may be used to define the patient's pre-existing conditions, identify their causes, and identify symptoms (e.g., dizziness, increasing confusion) that may represent risk factors for an ACOC.

TABLE 3 .
Pre-Existing Conditions That May Predispose Patients to ACOCs

Cardiopulmonary

- ◆ Congestive heart failure
- ◆ Hypertension

Functional

- ◆ Acute impairment of one or more ADLs
- ◆ Impaired mobility
- ◆ Recurrent falls during past 3 months
- ◆ Prolonged bed rest
- ◆ Urinary retention

Metabolic

- ◆ Diabetes mellitus
- ◆ Malnutrition
- ◆ Weight loss

Musculoskeletal

- ◆ Muscle weakness secondary to old stroke
- ◆ Osteoporosis

Neuropsychiatric

- ◆ Confusion
- ◆ Depression
- ◆ Dizziness, impaired balance
- ◆ Mild/moderate dementia

Sensory

- ◆ Vision/hearing impairment

Systemic/General

- ◆ Postoperative status
- ◆ Pain
- ◆ Pressure ulcers
- ◆ Use of multiple medications

Other

- ◆ Cancer
- ◆ Cerebrovascular disease
- ◆ Endocrine disease
- ◆ Gastrointestinal disease
- ◆ Infectious disease

Adapted from Sloss et al.¹¹

TABLE 4 .**Examples of ACOC Risks Associated with Specific Conditions**

Conditions	ACOC Risks
Acute myocardial infarction	Deep vein thrombosis/pulmonary embolism Dysrhythmia
Atrial fibrillation with anticoagulation and medication changes	Bleeding (related to coagulation status) Stroke
Congestive heart failure	Acute dyspnea Pulmonary edema
Chronic obstructive pulmonary disease	Acute dyspnea Lower respiratory tract infection
Diabetes	Fluid/electrolyte imbalance Hypoglycemia
Fracture of hip	Venous thrombosis Pulmonary embolism
Gastrointestinal bleeding	Acute recurrence of bleeding
Neurogenic bladder	Urinary tract infections
New medication	Falling Delirium (altered mental status)
Parkinson's disease	Acutely agitated, combative behavior Altered mental status
Stroke, transient ischemic attack	Recurrence of stroke Acute bleeding from anticoagulation

To identify at-risk patients, the practitioner and interdisciplinary care team should define a baseline for each patient. Keep in mind that patients come from different situations and settings (e.g., home, hospital) and have acute and chronic conditions of varying severity. The primary reason for a patient's admission to a long-term care facility often does not adequately reflect the patient's overall condition and may be just the "tip of the iceberg."

Often, significant underlying conditions and risks are not identified or managed fully before the patient's admission to a long-term care facility. For example, a hospital admission for a broken hip may repair the fracture but not address the underlying causes of falling that led to the occurrence of the fracture.

The patient's recent history is often relevant to subsequent ACOCs. Staff and practitioners should review all discharge information carefully and should actively seek information from a variety of sources (e.g., patient's family members, hospital practitioners and staff) about the patient's conditions, problems, needs, and risks. Table 5 offers suggested approaches to assessing risk for ACOCs.

STEP 2

Describe and document symptoms and/or condition changes. Patients in long-term care facilities are most likely to report symptoms to a nursing assistant, family member, nurse, or other caregiver. It is rare for patients to report symptoms directly to a practitioner. It is therefore extremely important that caregiving staff describe symptoms as accurately and completely as possible so that practitioners can determine their significance.

TABLE 5 .

Suggested Approaches to Assessing Risk for ACOCs¹²

Step	Approaches
Evaluate the patient's current condition and status.	<ul style="list-style-type: none">◆ Determine the expected course and known complications in specific conditions (e.g., knee replacement, acute renal failure, left-sided stroke).◆ Define causes and problems identified to date.
Identify all of the patient's current problems.	<ul style="list-style-type: none">◆ Create a problem list that focuses on matching causes (i.e., diseases and conditions) with consequences (i.e., functional and cognitive impairments).
Identify patients at risk for poorer outcomes (e.g., death, skin breakdown, failure to regain weight).	<ul style="list-style-type: none">◆ Identify risk factors (e.g., functional and cognitive status, coma, number of active problems and diagnoses).
Identify interventions that may help to reduce risks and prevent complications.	<ul style="list-style-type: none">◆ Determine interventions (e.g., turning and positioning, medication reduction) that might reduce the incidence and severity of complications.

When assessing the patient with signs or symptoms that may indicate an ACOC, caregiving staff should, at a minimum, do the following¹³

- ◆ Regardless of the patient's cognitive level, ask the patient how he or she is feeling or how the symptoms developed. Absence of a response should be documented.
- ◆ Take vital signs.
- ◆ Assess the patient's overall condition, level of consciousness, and function.
- ◆ Seek information that might help a practitioner identify possible causes (both acute and chronic conditions) of the symptoms to help determine which body systems to evaluate further.

Keep in mind that acute and chronic symptoms may co-exist and symptoms such as pain or anorexia may have causes referred from other areas of the body. For example

- ◆ Review a recent hospital discharge summary for information about similar symptoms that occurred while the patient was hospitalized.
- ◆ Examine a patient's lungs for evidence of pneumonia that might explain an abrupt change in mental status or behavior.

Describe Symptoms in Detail

A patient's symptoms or test results may represent anything from normal variation to serious underlying illness. The practitioner needs a detailed description of the patient's condition to determine whether a symptom is problematic or simply a normal or expected variant. For example, "agitation" may represent momentary anxiety in an otherwise calm person or, at the other end of the spectrum, acute psychosis or delirium. Caregiving staff should describe and document the nature, extent, and severity of symptoms, abnormalities, and condition changes clearly and in sufficient detail to help practitioners distinguish their potential causes and consequences (Table 6).

Observation, description, and documentation of symptoms must be distinguished from interpretation. Caregivers who make observations may not be qualified to interpret those observations

TABLE 6 .**Examples of Appropriate Statements to Describe Patient Symptoms or Abnormalities**

General Statement	More Appropriate, Specific Descriptive Statement
Patient seems more agitated than usual	<ul style="list-style-type: none">◆ Patient has required staff intervention 3 times during this shift◆ Patient has refused medications twice within the last 2 days◆ Patient is not responding to redirection by her usual caregiver◆ Patient who previously had intermittent episodes of resistance, hitting, or shouting in response to staff interventions is now showing these behaviors without staff intervention
Patient is not her usual self	<ul style="list-style-type: none">◆ Patient did not participate in her usual activities◆ Patient did not interact with staff in her usual manner◆ Patient did not brush her hair and put on make-up as she usually does
Patient is not eating/not drinking	<ul style="list-style-type: none">◆ Patient ate only 50% of breakfast and dinner and 25% of lunch over past two days◆ Patient is not eating solid foods◆ Patient seems to be having pain when chewing◆ Patient is refusing fluids◆ Patient has not voided in two shifts and complains of suprapubic discomfort
Patient seems weak	<ul style="list-style-type: none">◆ Patient needed help with specific ADLs that she usually performs unassisted◆ Patient is dropping things with her left hand◆ Patient has had two non-injurious falls within the past week

and should not attempt to do so. Appropriately qualified practitioners should follow up on these observations and document and interpret their findings.

Use correct terminology and document sufficient details to describe the observations to help practitioners compare symptoms, identify the effectiveness of specific interventions, and distinguish between similar symptoms that have significantly different causes. For example

- ◆ Hyperventilation is not dyspnea.
- ◆ Tremor or shaking is not a seizure.
- ◆ Apathy is not depression.
- ◆ Motor restlessness is not agitation.
- ◆ Fatigue is not weakness.

Symptoms observed in one body system may be caused by a malfunction in another body system. For example

- ◆ Sodium imbalance may cause altered mental status.
- ◆ Vasculitis may impair vision.

- ◆ Abdominal distension may be due to ileus caused by pneumonia.

Imprecise description of the problem or incorrect interpretation of symptoms by unqualified observers may lead to erroneous diagnoses and inappropriate treatments.

Facilitate Clear Communication of Critical Information

Critical information needed to identify and manage ACOCs should be conveyed systematically and in a timely fashion. Facilities should encourage effective, multidirectional communication that recognizes the value of relevant input from various sources (including, for example, family members and nursing assistants) (Table 7).

Nursing assistants who identify possible ACOCs should report their findings immediately to a staff nurse or charge nurse. Nurses should use written guidelines to determine what signs and symptoms to report to the nursing supervisor or attending practitioner and when and how to do so (Table 8).

Telephone communication plays a key role in the interaction between practitioners and staff when an ACOC is suspected. Tools such as PALTmed's *Know-It-All Before You Call Data Collection Series. A guide for nurses on reporting changes of condition.*^a offer guidance that may help to improve these communications. Table 9 outlines a mnemonic that may facilitate accurate communication in urgent situations.

When reporting information to a practitioner about a patient's condition, a nurse should not assume that the practitioner knows the patient well or can remember relevant details such as previous lab abnormalities or the patient's current medication regimen. A brief review of the patient's known medical history (e.g., synopsis of a recent hospital course) is vital. If the practitioner refuses to accept or discuss this information, the medical director should be informed, should help the staff deal with the situation, and should address the issue with the practitioner.

TABLE 7.
Recommended Facility Procedures for Ensuring the Recognition of ACOCs

- ◆ Communication of all patient-related information follows a defined process
- ◆ All interdisciplinary team members (not just nursing assistants) are expected to report findings that might represent ACOCs
- ◆ Roles and responsibilities for identifying, analyzing, managing, and communicating information about ACOCs (e.g., who can recommend tests, treatments, or transfers) are clearly assigned
- ◆ In-depth discussion of ACOCs occurs at specific times (e.g., during a change-of-shift report or review of a 24-hour report)
- ◆ Interdisciplinary team members and consultants follow defined procedures to report concerns, observations, or information to the appropriate individuals
- ◆ Responsibility for documenting sufficient details in the medical record about symptoms, observations, discussions with physicians, etc. is clearly assigned

^a PALTmed. *Know-It-All Before You Call Data Collection Series. A guide for nurses on reporting changes of condition.* Columbia, MD

TABLE 8 .

Example of a Telephone Assessment Guide

The following is an example of a form that may be used to collect information before reporting to a practitioner about a condition change or to guide the presentation of information to the practitioner.

Resident Name:	T P R BP BG (if diabetic)	
CPR Status	Hospital Pref.	Hospital Practitioner/NP
Symptom(s) or concern(s)		
Characteristics		
Quality of the symptom(s) (e.g., sharp pain, yellow sputum, using accessory muscles of neck to breathe)		
Quantity of the symptom(s) (e.g., intermittent pain, small amount of sputum, respiratory rate and rhythm)		
Course: Is/are the symptom(s) getting better or worse?		
Effect of symptom on ADLs		
Change in:		
Ability to maintain posture		
Ability to drink fluids		
Ability to eat usual diet		
Mental alertness		
Onset: When did the symptom(s) begin?		
How long has/have it/they lasted?		
Was onset sudden or gradual?		
Location: Where is/are the symptom(s)?		
Localized?		
Diffuse?		
Radiating from a central point?		
(Be as precise as possible.)		
Aggravating factors: What makes the symptom(s) worse? (e.g., food, medications, activities, positions)		
Relieving factors: What makes the symptom(s) better?		
History: Has the resident had this/these symptom(s) before?		
If yes, how was/were the symptom(s) treated before?		
What other conditions does the resident have?		
Have there recently been changes in the medication regimen?		
Allergies:		
Medications:		
Recent lab work:		

TABLE 9 .
The PQRST Mnemonic

P: Palliation, Provocation

- ◆ What makes the current symptoms better or worse?
- ◆ What has helped or has aggravated similar situations in the past?

Q: Quantity, Quality

- ◆ How much is the patient bothered by the situation and what is the degree of discomfort?

R: Region, Radiation

- ◆ Where are the symptoms located? Do they move from one part of the body to another?

S: Signs, Symptoms

- ◆ What signs and symptoms coincide with the primary findings? (For example, is pain accompanied by sweating and elevated pulse?)

T: Temporal Relations

- ◆ What changed around the time of the onset of symptoms or condition change?
- ◆ What other active problems are on the patient's problem list?
- ◆ Have the same or similar episodes occurred in the past? What was happening at those times?
- ◆ What solutions have or have not been effective previously?
- ◆ Have the patient's medications or physical routine changed recently?

Adapted from Bates et al.¹³

Address breakdowns in communication promptly. For example, the director of nursing (DON) and medical director should address issues such as nurses who do not give practitioners enough useful information by phone or covering practitioners who do not review patient problems satisfactorily with nurses by phone. Some facilities have found it helpful to require all staff nurses to review cases with supervisors before calling a practitioner to ensure that the nurse has gathered all relevant information and has adequately defined key issues.

Identify Key Sources of Critical Information

Proper diagnosis and management of ACOCs requires documenting, identifying, and using diverse information that may be scattered throughout a patient's record. Practitioners and caregivers must know where to find relevant information and where and how to record information and explain findings. In many long-term care facilities, nursing staff make only brief notations about practitioner notification on the test results form. It would be more helpful to discuss the clinical significance of abnormal diagnostic test results in nurse or practitioner progress notes.

Some information may not be readily available or useful for addressing ACOCs. For example, the Minimum Data Set was developed primarily as a database for defining and comparing chronic changes in function, cognition, and behavior over time. It was not designed to evaluate acute condition changes rapidly or thoroughly. The Resident Assessment Protocols were intended to help point out categories of potential causes of symptoms, but they do not help to pinpoint the causes of problems in specific patients.

Table 10 describes categories of symptoms that may help to define ACOCs. Tables 11 and 12 describe the three stages of recognizing and defining ACOCs and the tasks associated with each stage.

STEP 3

Define the patient's stability and identify why the situation is problematic. Many symptoms and abnormalities are seen in the long-term care population. However, only some of these are problematic and only some of those that are problematic require or are likely to respond to treatment. At the same time, there is a significant risk that interventions could exacerbate rather than improve symptoms. For example

- ◆ Blood pressure may fluctuate without requiring immediate attention.
- ◆ The alertness or function of a patient with Parkinson's disease may fluctuate throughout the day.
- ◆ A patient with COPD or CHF may periodically breathe irregularly or with some difficulty.

Considerable judgment based on knowledge and experience is required to distinguish symptoms such as these, which may not require intervention, from symptoms that are both problematic and likely to require or respond to treatment.

When a patient is observed to have a condition change, it is common for caregivers to call a practitioner immediately or to contact Emergency Medical Services and rush the patient to the hospital. In most cases, however, these actions are premature. Unless the patient's condition is deteriorating rapidly or vital signs are markedly abnormal or unstable, there is ample time to conduct a more detailed assessment of the problem before initiating treatment. For example, if a patient has a fever or a change in level of consciousness, nurses generally have 30 minutes or more to carry out a careful evaluation before deciding whether an emergency transfer is necessary.

Isolated findings or test results rarely indicate a need for hospital transfer. For example, leukocytosis or an increase in the white blood cell (WBC) count does not indicate the severity of an infection; a normal or low WBC count can occur in individuals who are septic. Similarly, oxygen saturation is often relatively low in individuals with COPD; pulse oximetry results alone are not a sufficient guide to the severity of exacerbations of COPD or the need for hospitalization.¹⁹

Each long-term care facility should clearly define the roles and responsibilities of different categories of staff in observing, assessing, documenting, and reporting information about a patient's condition change. Staff and practitioners should use specific criteria to clarify whether a symptom, abnormality, or condition change is problematic or is a normal or acceptable variation (e.g., vital signs that are outside a range that is acceptable for this patient, a change in behavior, altered breathing patterns).

Tables 13 and 14 present criteria for determining how urgently to report a change in condition, vital signs, or laboratory values to a practitioner.

ASSESSMENT

STEP 4

Determine the feasibility of identifying the cause(s) of the ACOC in the facility. The cause(s) of an ACOC may be readily identifiable on clinical grounds and may not require additional

TABLE 10.

Categories of Symptoms That May Help to Define ACOCs

Physical Symptoms

Vital Signs

— *Respiration*

Observe the patient for the following signs and symptoms:

- ◆ Respiratory rate >28 breaths/min (normal in younger adults is 12–15 breaths/min; in the elderly, 16–25 breaths/min, with approximate 2:1 inspiration/expiration ratio)¹⁴
- ◆ Marked change from usual respiration pattern or rhythm
- ◆ Irregular breathing, long pauses between breaths, audible noises related to breathing
- ◆ Struggling to breathe (e.g., gasping for breath, using accessory muscles of the neck)

— *Temperature*

- ◆ A range of 98.2°F (36.8°C) to 99.9°F (37.7°C) oral temperature is considered normal. A patient's normal temperature will vary by up to 0.9°F (0.5°C) daily.¹⁵ As quickly as possible after admission, try to establish the patient's normal temperature range.
- ◆ A sudden or rapid change from normal temperature may suggest an ACOC.¹⁶ One temperature reading above 100°F, two readings above 99°F, or an increase of 2°F above the upper end of the patient's normal range may indicate an ACOC.
- ◆ After an isolated temperature reading that is outside the patient's normal range, repeat temperature readings approximately every 4 hours for up to 24 hours and seek other signs and symptoms to determine whether an ACOC exists.
- ◆ Hypothermia may also indicate a possible ACOC.
- ◆ An electronic thermometer is the preferred method for taking temperature.
- ◆ Assess the patient for factors that may affect temperature, such as medications.

— *Blood Pressure*

- ◆ As soon as possible after admission, establish the patient's usual blood pressure (BP) range. (Normal range is approximately systolic 100–140 mmHg, diastolic 60–90 mmHg.¹⁷)
- ◆ A change in BP is more often a symptom than a cause of an ACOC. Isolated BP elevations generally are not significant. Sustained elevations in systolic pressure should trigger further assessment. A BP change alone should not trigger a call to the practitioner without additional signs or symptoms (e.g., sustained elevation, new neurological symptoms).
- ◆ A decrease in systolic BP \geq 20 mmHg when moving from a prone to a seated position or from a seated position to a standing position signals orthostatic hypotension.¹⁵
- ◆ Any significant decrease in BP may signal an ACOC (e.g., systolic BP <100 mmHg if baseline is 110 mmHg, decline in BP accompanied by other symptoms such as dizziness, decline \geq 15 mm in systolic BP, combination of pulse >100 beats per minute [BPM] and/or systolic BP <100 mmHg).¹⁸

— *Pulse*

Normal pulse ranges from approximately 60–100 BPM, but this can vary by about 10%. The following clinical presentations may indicate an ACOC and should be assessed further:

- ◆ Sustained change from normal range
- ◆ Change in usual pulse rhythm or regularity
- ◆ Pulse >120 BPM or <50 BPM
- ◆ Pulse >100 BPM combined with other symptoms (e.g., palpitations, dyspnea, or dizziness)

Pain

The following may indicate an ACOC and should be assessed further:

- ◆ Pain worsening in severity, intensity, or duration, and/or occurring in a new location
- ◆ New onset of pain associated with trauma
- ◆ New onset of pain greater than 4 on a 10-point scale (for more information about pain scales, please refer to PAL Tmed's clinical practice guideline Pain Management in the Long-Term Care Setting⁶)

Weight/Eating Patterns

- ◆ An abrupt change in appetite may indicate an ACOC before a significant change in weight occurs.
 - ◆ Rate of weight gain or loss may be a more important indicator of a possible ACOC than amount of weight gain or loss.
 - ◆ A change in intake patterns (e.g., consuming <75% of all meals in 24 hours or <25% of any one meal) should trigger additional evaluation for a possible ACOC.
 - ◆ In documentation of intake, identify both solid and liquid intake in as much detail as possible.
 - ◆ Evaluate signs and symptoms that may suggest fluid imbalance (e.g., edema or change in edema).
 - Acute, rapid weight gain may indicate an ACOC that is accompanied by fluid accumulation (e.g., acute CHF).
 - Acute, rapid weight loss over several days should trigger concern about a hydration emergency.
- (For more information about fluid imbalance, please refer to PAL Tmed's 2001 clinical practice guideline Dehydration and Fluid Maintenance.⁶)

Level of Consciousness

- ◆ Level of consciousness (LOC) should be distinguished from aspects of cognition such as orientation and memory.
- ◆ Levels of consciousness are alert, drowsy/lethargic, stuporous, and comatose.
- ◆ The following may indicate an ACOC and should be assessed further:
 - Frequent fluctuations in LOC
 - A reduction of one level or more in LOC (e.g., from alert to lethargic, or from lethargic to stuporous)
 - Hypersomnolence (more sleepy than usual or sleepy for most of the day)

Weakness

- ◆ New onset of weakness or significant change from baseline may indicate an ACOC and should be assessed further.
- ◆ Classify weakness as generalized or localized and describe in detail.

Falls

The following may indicate an ACOC and should be assessed further:

- ◆ Repeated falls on the same day
- ◆ Recurrent falls over several days to weeks
- ◆ New onset of falls not attributable to a readily identifiable cause
- ◆ A fall with consequent change in neurological status, or findings suggesting a possible injury

(continues on next page)

**TABLE 10 .
(continued)**

Change in Elimination Patterns

The following may indicate an ACOC and should be assessed further:

- ◆ Appearance of frank blood in stool, urine, or vomit
- ◆ Abrupt change in frequency of urination or defecation
- ◆ Frequent loose stools (three or more in 24 hours)
- ◆ Worsening incontinence of bowel or bladder

Behavioral Symptoms

- ◆ Significant change in nature or pattern of usual behavior
- ◆ New onset of resistance to care
- ◆ Abrupt onset or progression of significant agitation or combative behavior
- ◆ Significant change in affect or mood
- ◆ Violent/destructive behaviors directed at self or others

Cognitive Symptoms

- ◆ Abrupt onset of or increase in confusion
- ◆ Onset of hallucinations, delusions, or paranoia
- ◆ Significant fluctuations in level of confusion during the day or over several days

Functional Symptoms

- ◆ Sudden or persistent decline in function (i.e., ability to perform ADLs)

^b PALMed Pain Management in the Long-Term Care Setting. Clinical Practice Guideline. Columbia, MD.

^c PALMed Dehydration and Fluid Maintenance. Clinical Practice Guideline. Columbia, MD.

TABLE 11.

Stages of Recognition and Assessment of a Suspected ACOC

Recognition and assessment of a suspected ACOC has three stages.

- ◆ **Stage 1 (Primary).** *Initial observation and reporting of signs and symptoms by individuals in close contact with the patient—e.g., a nursing assistant or family member observes a change in eating patterns; a staff nurse identifies a significant change in function*
- ◆ **Stage 2 (Secondary).** *Additional clinical observation to help define the nature, severity, and possible causes of the problem—e.g., a charge nurse verifies that the patient’s condition shows a distinct change from his or her usual status; a unit manager or nursing supervisor describes the details (onset, duration, frequency, etc.) of pain or problematic behaviors*
- ◆ **Stage 3 (Tertiary).** *Advanced clinical analysis of the nature, severity, causes, and other aspects of the problem—e.g., a practitioner examines the patient and identifies specific physical and psychological changes, performs a more detailed examination, or orders and interprets diagnostic tests*

investigation. In some cases it is appropriate to begin treatment without waiting for the results of diagnostic testing (e.g., administration of antibiotics for suspected pneumonia).

As discussed in Step 2, the accurate description of symptoms and condition changes can enable the identification of the likely causes of an ACOC. Clues that will assist in differentiating specific causes often lie in details of the patient’s history. For example, the causes of abdominal pain or diarrhea may be distinguished more readily if the practitioner knows

TABLE 12.

Tasks In Recognition and Assessment of a Suspected ACOC by Stage and Symptom Category

Symptom Category	Physical	Behavioral	Cognitive	Functional
Stage 1 (Primary)	<ul style="list-style-type: none"> ◆ Make observations. ◆ Take vital signs. ◆ Note signs and symptoms. 	<ul style="list-style-type: none"> ◆ Identify and describe behavior changes. 	<ul style="list-style-type: none"> ◆ Identify and describe changes in mood, confusion. 	<ul style="list-style-type: none"> ◆ Identify and describe functional changes.
Stage 2 (Secondary)	<ul style="list-style-type: none"> ◆ Define symptoms and observations in detail. ◆ Expand scope of evaluation and history, as appropriate. 	<ul style="list-style-type: none"> ◆ Define details, identify patterns, seek causes of behavior changes. ◆ Expand scope of evaluation and history, as appropriate. 	<ul style="list-style-type: none"> ◆ Define details and confirm changes. 	<ul style="list-style-type: none"> ◆ Define specific ADL changes in detail.
Stage 3 (Tertiary)	<ul style="list-style-type: none"> ◆ Confirm nature, severity, causes, patterns of signs and symptoms. 	<ul style="list-style-type: none"> ◆ Confirm nature, severity, causes, patterns of behavioral changes. 	<ul style="list-style-type: none"> ◆ Confirm nature and causes of cognitive changes. 	<ul style="list-style-type: none"> ◆ Confirm nature and causes of functional changes.

TABLE 13.**Examples of Condition Changes to Report to a Practitioner**

> greater than, < less than

Condition	Report Immediately	Report on Next Office Day
Acute change in mental status	Sudden onset	Gradual onset
Bleeding	<ul style="list-style-type: none"> ◆ Uncontrolled or repeat episode within 24 hours (e.g., prolonged nosebleed, bloody emesis) ◆ Bloody stools not from hemorrhoids ◆ Profuse vaginal bleeding ◆ Grossly bloody urine 	<ul style="list-style-type: none"> ◆ Controlled, no further episodes ◆ Bleeding from hemorrhoids
Chest pain	<ul style="list-style-type: none"> ◆ New onset or recurrent, not relieved in 20 minutes by previously ordered nitroglycerin x3 ◆ Accompanied by change in vital signs, diaphoresis, nausea, vomiting, shortness of breath 	<ul style="list-style-type: none"> ◆ Increase in frequency of episodes in a resident with a known history of chest pain
Combative/aggressive behavior	<ul style="list-style-type: none"> ◆ Unresolved by environmental interventions ◆ New onset associated with change in medication or medical status 	<ul style="list-style-type: none"> ◆ Increase in frequency of episodes of mildly aggressive behavior
Constipation	<ul style="list-style-type: none"> ◆ Severe abdominal pain, rigid abdomen ◆ Absence of bowel sounds 	<ul style="list-style-type: none"> ◆ Unresolved symptoms ◆ ≥2 episodes within 30 days
Decreased oral intake of fluids (dehydration risk)	<ul style="list-style-type: none"> ◆ Drinking <50% of usual fluid intake in previous 24 hours ◆ >1 episode of vomiting within 24 hours 	<ul style="list-style-type: none"> ◆ Persistent symptoms for more than 24 hours in spite of interventions
Depressed mood/reactive depression	<ul style="list-style-type: none"> ◆ Realistic expression of suicidal intent (e.g., a specific plan that could be carried out) 	<ul style="list-style-type: none"> ◆ Persistent sadness ◆ Expression of suicidal thoughts without a specific plan or prior history of suicide attempts
Diarrhea	<ul style="list-style-type: none"> ◆ Acute onset of multiple stools with change in vital signs (e.g., temperature >101°F) and/or altered mental status, etc. ◆ Accompanied by positive fecal occult blood test 	<ul style="list-style-type: none"> ◆ Persistent loose stools for >48 hours while diarrhea is being treated symptomatically ◆ Chronic loose stools ◆ Recurrence of diarrhea after return to usual diet
Edema	<ul style="list-style-type: none"> ◆ Sudden onset in resident with lung, heart, or kidney disease ◆ Accompanied by sudden onset of shortness of breath and/or chest pain ◆ Sudden onset in one leg ◆ Loss of sensation in swollen leg ◆ Sudden onset with tenderness and redness 	<ul style="list-style-type: none"> ◆ Known history of edema with progressive unilateral or bilateral increase in severity ◆ Gradually progressive edema accompanied by weight gain ◆ Skin changes associated with edema
Emesis	<ul style="list-style-type: none"> ◆ Bloody or coffee ground vomit ◆ >1 episode within 24 hours ◆ Accompanied by abdominal pain and changes in vital signs 	<ul style="list-style-type: none"> ◆ Single episode
Eye discomfort	<ul style="list-style-type: none"> ◆ Severe persistent eye pain ◆ Sudden vision change ◆ Resident complains of seeing halos 	<ul style="list-style-type: none"> ◆ Persistent symptoms unrelieved by measures in protocol

Adapted from Texas Nurses Association. Used with permission.

TABLE 14.

Framework for Reporting Changes in Vital Signs or Laboratory Values to a Practitioner

> greater than, < less than

Acute Sign/ Laboratory Test	Report Immediately	Report on Next Office Day
Vital signs	<ul style="list-style-type: none"> ◆ Systolic BP >210 mmHg, <90 mmHg ◆ Diastolic BP >115 mmHg ◆ Resting pulse >130 bpm, <55* bpm, or >110 bpm and patient has dyspnea or palpitations ◆ Respirations >28, <10* / minute ◆ Oral (electronic thermometer) temperature >101°F 	<ul style="list-style-type: none"> ◆ Diastolic BP routinely >90 mmHg ◆ Resting pulse >120 bpm on repeat exam
Weight loss		<ul style="list-style-type: none"> ◆ New onset of anorexia with or without weight loss ◆ 5% or more within 30 days ◆ 10% or more within 6 months
Complete blood count	<ul style="list-style-type: none"> ◆ WBC >12,000* ◆ Hemoglobin (Hb) <8* ◆ Hematocrit <24* ◆ Platelets <50,000* 	<ul style="list-style-type: none"> ◆ WBC >10,000 without symptoms or fever
Chemistry	<ul style="list-style-type: none"> ◆ Blood/urea/nitrogen (BUN) >60 mg/dL* ◆ Calcium (Ca) >12.5 mg/dL ◆ Potassium (K) <3.0, >6.0 mg/dL ◆ Sodium (Na) <125, >155 mg/dL ◆ Blood glucose <ul style="list-style-type: none"> • >300 mg/dL in diabetic patient not using sliding-scale insulin • >430 mg/dL (or machine registers high) in diabetic patient using sliding-scale insulin • <70 mg/dL in diabetic patient • <50 mg/dL in nondiabetic patient 	<ul style="list-style-type: none"> ◆ Glucose consistently >200 mg/dL ◆ Hb A1c (any value) ◆ Albumin (any value) ◆ Bilirubin (any value) ◆ Cholesterol (any value) ◆ Triglycerides (any value) ◆ Other chemistry values
Drug levels	<ul style="list-style-type: none"> ◆ Levels <i>above</i> therapeutic range of <i>any</i> drug (hold next dose) 	<ul style="list-style-type: none"> ◆ Any therapeutic or low level, unless resident shows evidence of possible adverse drug reaction despite therapeutic or low result
Prothrombin time (PT) International normalized ratio (INR)	<ul style="list-style-type: none"> ◆ INR >6 IUs (hold warfarin) ◆ PT (in seconds) 3x control (hold warfarin) 	<ul style="list-style-type: none"> ◆ INR 3–6 IUs (hold warfarin) ◆ PT (in seconds) 2x control (hold warfarin)
Urinalysis	<ul style="list-style-type: none"> ◆ Abnormal result in patient with signs and symptoms possibly related to urinary tract infection or urosepsis (e.g., fever, burning sensation, pain, altered mental status) 	<ul style="list-style-type: none"> ◆ Abnormal result in patient with no signs or symptoms
Urine culture	<ul style="list-style-type: none"> ◆ >100,000 colony count with symptoms 	<ul style="list-style-type: none"> ◆ Any colony count, no symptoms
X-ray	<ul style="list-style-type: none"> ◆ New or unsuspected finding (e.g., fracture, pneumonia, CHF) 	<ul style="list-style-type: none"> ◆ Old or long-standing finding, no change

* Unless values are consistently at this level and practitioner is aware of this.

Adapted from Texas Nurses Association. Used with permission.

- ◆ How the symptoms relate to food intake.
- ◆ Whether the symptoms occur during sleep.
- ◆ Whether the pain is worse when the patient is lying still or moving around.

Systems that ensure the accurate assessment and reporting of patients' symptoms may enable facilities to effectively identify and manage the causes of many ACOCs without the necessity for hospital transfers.

At times, however, additional investigation is needed to identify the likely cause of an ACOC. Facilities should have protocols in place to help caregiving staff and practitioners identify when a diagnostic evaluation can be done on site. The facility should determine the feasibility of providing on-site diagnostic services such as radiology, STAT labs (results available in 4 to 6 hours), and 24-hour labs; administering and monitoring intravenous (IV) medications or fluids; and providing supportive respiratory interventions (e.g., nebulizers, oxygen).

Problems related to the availability or improper use of diagnostic services may affect the facility's ability to distinguish the cause(s) of an ACOC quickly enough to enable the problem to be managed on site. However, there are legitimate reasons why a facility may not be able to provide appropriate diagnostic services on site—for example, when it is unclear which tests are indicated, when the necessary test results are not readily available, or when the patient is so unstable that repeated STAT testing is likely to be needed. Table 15 lists reasons for transferring a patient to the hospital without identifying the cause of the ACOC at the facility.

STEP 5

Identify and document the likely causes of the ACOC. Identify and document the likely causes of the ACOC or explain why identification of the cause(s) is not feasible. Many ACOCs present with nonspecific symptoms. For example, delirium may present as a change in function, behavior, attention, or level of consciousness. Although the nonspecific nature of the presenting symptoms can make it a challenge to identify the cause of the problem, effective management of an ACOC often depends on being able to do so.

TABLE 15.

Examples of Appropriate Reasons for Transferring a Patient to the Hospital Without Identifying the Cause of an ACOC

- ◆ Acute abdominal pain of moderate to severe intensity accompanied by intractable vomiting
- ◆ Chest pain that cannot readily be attributed to noncardiac (gastrointestinal, musculoskeletal, etc.) causes and that is not readily relieved by antacids or nitroglycerin
- ◆ Fall with pain and other clinical features consistent with fracture(s)
- ◆ Hypertensive crisis associated with systolic blood pressure of 230 mm Hg. that cannot be readily reduced or that is accompanied by significant cardiac or neurological symptoms
- ◆ Active upper gastrointestinal bleeding accompanied by postural hypotension and tachycardia
- ◆ Respiratory distress that does not respond to oxygen, nebulizers, suctioning, etc.

Caregiving staff and practitioners should carefully review all the circumstances and characteristics of the ACOC to try to identify its likely causes. Alternatively, they should document why such action is not feasible or indicated (e.g., when the patient cannot or will not cooperate with testing, or when the patient's condition is terminal).

Unless the cause of the ACOC is readily identifiable, it may be appropriate to obtain additional input from pertinent disciplines (e.g., therapists, dietitians, nurses, and nursing assistants). The use of specific protocols may help caregiving staff to recognize environmental or psychosocial causes as well as important findings that they should report to a practitioner. The involvement of a health care practitioner is necessary to distinguish multiple simultaneous causes from single causes, recognize multiple complications of a single cause, or determine the relative contributions of acute and chronic conditions to the current symptoms.

If a plausible cause of an ACOC cannot be readily identified, consider whether the patient may be suffering from fluid/electrolyte imbalance or acute infection. Also review the patient's medication regimen for potential adverse drug reactions (ADRs). Medications are commonly implicated in ACOCs. In particular, recurrent falling, changes in mental status and behavior, and anorexia or weight loss are frequently caused by an ADR. Often, the interaction of several medications may result in an ADR. All nursing staff should have access to references and resources that can help them to identify high-risk or potentially problematic medications. (For further

information on managing medications, see PALTmed's *Medication Management Manual*.^d)

Communication between caregiving staff and the consultant pharmacist may be helpful during an ACOC, especially when medications are changed or new drug therapy is initiated. The consultant pharmacist can help staff to identify medications that may be causing or contributing to an ACOC. The practitioner should be alerted to the possibility of an ADR and should address the concern appropriately.

Following discussion with the practitioner, a nurse should document all pertinent information about the ACOC, including the practitioner's tentative diagnosis and a rationale for the recommended course of action.

T R E A T M E N T

S T E P 6

Determine the feasibility of managing the ACOC in the facility. Consider both the patient's needs and the facility's capabilities when determining whether the ACOC can be managed on site or whether a hospital transfer is needed. To manage ACOCs in the facility, staff must be able to

- ◆ Evaluate and document the patient's progress.
- ◆ Provide supportive and cause-specific interventions, (e.g., maintain fluid balance, stabilize vital signs).
- ◆ Recognize and report possible complications in a timely fashion. For example, a patient with a recent hip fracture may develop a pulmonary embolism; a patient with pneumonia may experience heart failure, delirium, or anorexia.

^d PALTmed. Medication Management Manual. Columbia, MD.

Most patients with pneumonia and fever may be safely treated in a long-term care facility unless

- ◆ Other vital signs are very unstable (e.g., respiratory rate greater than 28 breaths per minute with significant hypoxia or hypotension), or
- ◆ Caregiving staff are unable to institute needed measures such as IV fluids.

Each facility should develop and implement a protocol for identifying when it is feasible to manage an ACOC in the facility. This protocol should include

- ◆ Criteria for determining when the patient needs to be sent elsewhere (e.g., hospital or ER) to manage an ACOC.
- ◆ A plan to establish an adequate care system and support structure for on-site management of ACOCs.
- ◆ Definition of the responsibilities of different categories of staff (e.g., practitioners, nurses) when caring for patients with ACOCs.

Table 16 provides examples of capabilities that support testing and treatment of ACOCs in the long-term care facility.

STEP 7

Identify appropriate treatment goals and objectives that consider the patient's wishes. Before or soon after initiating interventions to manage an ACOC, identify and document existing patient-specific goals and objectives of treatment. Obtain additional treatment instructions as needed. Treatment goals should relate to the patient's condition, prognosis, goals, and wishes, as well as to the condition that is being treated, corrected, or prevented. Cause-specific interventions may not always be pertinent or feasible.

TABLE 16 .

Examples of Capabilities that Support Testing and Treatment of ACOCs in a Long-Term Care Facility

- ◆ Appropriate reporting mechanisms to ensure that changes in condition are reported to appropriate personnel in a timely fashion
- ◆ Ability to initiate treatment within several hours (e.g., availability of antibiotics, respiratory therapy, pain medication)
- ◆ Ability to initiate IV therapy for rehydration within 2 hours of initial order
- ◆ Sufficient direct RN supervision to oversee effective patient management and monitoring over a 24-hour period
- ◆ Sufficient RN staffing to ensure daily RN assessment of any patient with an ACOC until his or her condition stabilizes
- ◆ Sufficient RN staffing to recognize and report possible complications of the illness or of the treatment within a day of their identification
- ◆ Sufficient practitioner availability to respond to calls from nursing and discuss patient condition and diagnostic results

Documentation of treatment goals and objectives is important because treatments may not succeed, the patient's condition may worsen, unexpected complications may occur, the diagnosis may change, or the patient may never fully regain his or her previous level of health or function despite resolution of the ACOC.

Knowing the patient's wishes—whether these are expressed directly by the patient himself or herself or on the patient's behalf by family members or surrogates—is very important. If not done beforehand, the practitioner should inform the patient, family, and/or surrogate of the possible treatment options and of the reasons why specific interventions such as hospitalization may or may not be considered appropriate. Facilities should implement systems for identifying patient wishes and incorporating them into care plans. Practitioners should provide relevant orders in a timely fashion to implement any requested care limitations (e.g., “Do Not Resuscitate”, “Do Not Hospitalize”, etc.).

A continually updated care plan serves as a “road map” for patient care and as an important point of reference for both practitioners and caregivers. Refer to specific patient treatment wishes in the care plan when explaining the basis for offering or withholding various interventions. No patient should be hospitalized because a staff member or practitioner failed to review or consider the patient's documented wish not to be hospitalized in the event of an acute illness.

Document patient or family refusals of recommended treatments or proposed courses of action carefully and completely in the patient's record. Nursing or practitioner progress notes should indicate when cause-specific interventions should not or could not be provided. Discussions between the practitioner and the family should be documented, along with the results of these discussions.

STEP 8

Manage the ACOC. Manage the ACOC by providing appropriate supportive and, where feasible, cause-specific interventions. ACOCs may be managed more effectively when the facility has anticipated and planned for their occurrence. As discussed in Step 1, some ACOCs can be anticipated more easily than others. A reasonable assessment of ACOC risk can be performed on the basis of the patient's history and current situation. For example

- ◆ Diarrhea is likely to occur in a patient who has just received a lengthy course of antibiotics in the hospital.
- ◆ A symptomatic infection is likely to occur in a patient who recently had a Foley catheter inserted.

This information should be available to all members of the care team (e.g., recorded in the patient's comprehensive care plan). Additionally, protocols and clinical practice guidelines can help staff and practitioners to address ACOCs effectively.²⁰

Often, empirical treatment must be initiated to address significant symptoms before the cause of the ACOC is clearly identified. Understanding the common causes of ACOCs in the frail elderly and post-acute population should help staff and practitioners to initiate reasonable empirical treatment while awaiting test results to confirm a diagnosis. For example, many ACOCs are related to infections, ADRs, or fluid and electrolyte imbalance (see PALTmed's clinical practice guideline *Dehydration and Fluid Maintenance*^c).

Ensure, additionally, that basic care is provided to the patient with an ACOC (e.g., fluids for the patient whose oral intake has declined). The use of some simple approaches may facilitate

effective patient management when more complicated procedures are unavailable or impractical (e.g., hypodermoclysis to hydrate the patient for whom IV lines are impractical or not desired).^{21,22}

MONITORING

STEP 9

Monitor the patient's progress. Nurses, nursing assistants, and other direct care staff should closely monitor each patient who is being treated for an ACOC. Nursing assistants in particular are critical participants in the monitoring process. Nursing managers and charge nurses should advise nursing assistants what to look for as they care for the patient and when to report their observations to a nurse, as well as about any changes anticipated in the patient's care plan. Table 17 provides examples of staff roles and responsibilities during the monitoring phase.

Caregiving staff should understand that symptoms and abnormal test results related to an ACOC do not necessarily resolve quickly. For example

- ◆ Fever may persist for several days after appropriate treatment for infection is instituted.
- ◆ A chest X-ray may remain positive for weeks after pneumonia is clinically resolved.
- ◆ Urine cultures will often remain positive despite successful treatment of a symptomatic urinary tract infection.

A nurse should evaluate the patient with an ACOC at least once during every shift while the patient is unstable or significantly symptomatic and should document relevant findings in the patient's record.

Additionally, a review of the overall progress of each patient with an ACOC should be documented at least daily until the patient is stable and mostly asymptomatic. The review should include a summary of the patient's overall condition and a comparison of actual progress with expected progress as noted in the original care plan. Some facilities use an incident follow-up form to document the condition of a patient with an ACOC during each shift for 3 days. This ensures that staff pay attention to the patient's status until the ACOC is stable or resolved.

Nurses and other appropriate staff should provide practitioners with enough detailed information to allow them to determine the patient's progress and identify possible complications. At least one meaningful communication (by phone or fax) should occur between the nurse and the practitioner within 24 hours of the onset of an ACOC or of identification of the fact that the patient's condition is not stable or improving as anticipated. Interventions should be adjusted based on the practitioner's review of the patient's progress, underlying causes of the acute episode of illness, and the patient's goals, wishes, and prognosis.

Practitioners must be available to examine the patient and follow up as needed. If treatment is initiated at the facility but the patient's condition fails to stabilize or improve, the practitioner should re-examine the original review of causes and reconsider the appropriateness of current treatments. The practitioner may need to see a patient within 24 to 48 hours of being notified that the individual is not responding to treatment as anticipated.

STEP 10

Adjust interventions and goals based on the patient's response to treatment. Maintain or modify current treatments, reassess the patient's prognosis, and adjust the goals of care accordingly.

TABLE 17 .

Examples of Staff Roles and Responsibilities in Monitoring Patients With ACOCs

Nursing assistant

- ◆ Recognize and report condition changes
- ◆ Make frequent observations of the patient's condition and symptoms
- ◆ Review patient status with nursing assistants from the next shift before leaving for the day
- ◆ Communicate findings to a nurse and request nursing follow-up
- ◆ Advise a charge nurse or unit manager if nursing follow-up has not occurred

Staff nurse

- ◆ Recognize condition change early
- ◆ Assess the patient's symptoms and physical function and document detailed descriptions of observations and symptoms
- ◆ Update the charge nurse or supervisor if patient's condition deteriorates or patient fails to improve within expected time frame
- ◆ Report patient's status to the practitioner as appropriate

Charge nurse

- ◆ Ensure consistent, timely evaluation, documentation, and reporting of relevant information about the patient
- ◆ Ensure effective communication of necessary information to other members of the interdisciplinary team, including relevant clinicians, CNAs, patient, health care surrogates, ancillary staff, therapists, and others responsible for the patient's care

Covering/attending practitioner

- ◆ If notified by telephone, listen to initial concern and ask sufficient questions to arrive at a tentative diagnosis and begin workup and/or appropriate treatment
- ◆ Ensure that all diagnostic and therapeutic interventions are consistent with patient's advance directives
- ◆ Visit patient when direct patient assessment or review of pertinent intervention is needed to manage the situation
- ◆ Remain in contact by telephone as necessary until patient's condition stabilizes
- ◆ Communicate with other relevant practitioners (e.g., covering physicians, nurse practitioners, consultants) involved in patient's care about interventions, care plan adjustments, etc.
- ◆ Follow up with nursing staff about the progress of patients with ACOCs. Do not assume that "no news is good news."
- ◆ Communicate information to appropriate family member or other responsible party; for example, to discuss change in advance directives or patient's failure to improve as expected

For example, a new or different cause of the patient's problems may be identified, current treatments may be ineffective, or complications may occur. With input from the practitioner, caregiving staff should document the rationale for maintaining or changing the treatment regimen.

When the practitioner makes a regular visit after resolution of the ACOC, he or she should re-evaluate and document the patient's status and compare it with the patient's condition before

the ACOC (e.g., resolved fully, resolved with change in cognition or function that may be permanent).

If the patient is not progressing as expected after resolution of an ACOC, the practitioner should reassess the situation and determine whether a complication, new illness, or other problem is occurring. If symptoms persist or recur, or if new symptoms emerge, the practitioner should re-evaluate the patient and review his or her current drug regimen.

Consider transferring the patient to the hospital if indicated. The patient's desire for hospitalization and aggressive care, including Intensive Care Unit admission and intubation, should be addressed as early as possible during their stay at the facility. Patients who do not desire hospitalization should not be hospitalized. The practitioner should communicate with the patient or substitute decision maker to review the relevance to the patient of the option to hospitalize.

After the ACOC is resolved, the practitioner, nursing staff, and consultant pharmacist should review the continued relevance of medications initiated or changed during the ACOC. The practitioner should consider whether the resolution of symptoms warrants reduction or discontinuation of these medications.

STEP 11

Review the facility's management of ACOCs and unplanned hospital transfers. Management of patients with ACOCs should be reviewed through the facility's quality assurance process. Unplanned hospital transfers are a key indicator of how well a facility manages ACOCs. Issues to consider in the review of ACOC management include

- ◆ Time of day that the transfers occurred.
- ◆ Efforts that were made to manage the patient in the facility.
- ◆ Obstacles or problems that may have contributed to an avoidable transfer.

Transfers should be limited to situations of genuine clinical necessity. They should not be used to compensate for inadequate care processes or inadequate staff or practitioner performance. The administrator, medical director, and DON should spearhead efforts to address problems such as inadequate nursing assessment before the practitioner is notified of an ACOC and practitioner willingness to discuss details of the patient's condition when notified. Table 18 provides examples of criteria that may be used to help differentiate avoidable, possibly avoidable, and unavoidable hospital transfers.

S U M M A R Y

In the long-term care setting, a primary goal of identifying ACOCs is to enable staff to evaluate and manage a patient in the long-term care facility and avoid a transfer to the hospital or ER. Although some ACOCs are unpredictable, many can be anticipated by identifying risk factors such as pre-existing conditions, previous complications, or the course of a recent hospitalization. Newly admitted individuals are at considerable risk for ACOCs.

Systems that ensure the accurate assessment and reporting of patients' symptoms should enable facilities to effectively identify and manage the causes of many ACOCs without the necessity for transfers. Both the patient's needs and the facility's capabilities must be considered when

T A B L E 1 8 .
Analysis of Unplanned Hospital Transfers

Category Aspect of care	Avoidable	Possibly Avoidable	Unavoidable
Recognition	<ul style="list-style-type: none"> ◆ Examination and review by a nurse and/or practitioner was inadequate. ◆ Patient had a condition or problem that was known or could have been anticipated. ◆ Patient's condition was not significantly unstable (i.e., beyond the identified capacity of the facility to monitor and manage). ◆ Attending or covering practitioner was not notified of condition change in a timely fashion. ◆ Monitoring equipment was unavailable or malfunctioning. 	<ul style="list-style-type: none"> ◆ Nursing or practitioner assessment was suboptimal. ◆ Staffing issues hindered ability to adequately monitor a somewhat unstable patient. ◆ Patient's condition was mildly unstable. 	<ul style="list-style-type: none"> ◆ Patient's condition was too complex or unstable to be adequately managed in the facility.
Assessment	<ul style="list-style-type: none"> ◆ Problem was characterized incorrectly or inadequately (e.g., patient described as unresponsive was little different than usual; nature, intensity, and other specific features of chest pain were not defined). ◆ Diagnostics were available in a timely fashion but were not used. ◆ Diagnostics should have been available when needed, but were not. ◆ Patient's condition change reflected a known or readily identifiable problem that should have been diagnosed at the time it occurred. 	<ul style="list-style-type: none"> ◆ Some diagnostics were available but their use was delayed. ◆ Cause could not be immediately identified, but the patient's condition was sufficiently stable that more time could have been taken to perform the evaluation at the facility. ◆ It is unclear whether the patient's condition change was related to a problem that was known or could have been anticipated. 	<ul style="list-style-type: none"> ◆ It was not feasible for the facility to obtain relevant diagnostics. ◆ Symptoms were too obscure to be readily diagnosed or related to a known or potentially identifiable cause.
Treatment	<ul style="list-style-type: none"> ◆ A condition change had been identified but was not addressed in a timely fashion. ◆ Aggressive medical treatment was not indicated for the patient. ◆ An available treatment was not used. ◆ Caregiving staff did not recognize that the patient's condition, although not fully resolved, was stable or improving. 	<ul style="list-style-type: none"> ◆ Patient was not responding rapidly to treatment, but treatment had only been initiated within the previous 24 hours. ◆ Patient was sent to the ER or the hospital but sent back to the facility within 48 hours. 	<ul style="list-style-type: none"> ◆ Treatment was too complex to be managed internally ◆ Patient's condition was worsening despite several days of treatment in the facility

(continues on next page)

**TABLE 18.
(continued)**

Category	Avoidable	Possibly Avoidable	Unavoidable
Ethical issues	<ul style="list-style-type: none"> ◆ Patient's condition and prognosis were not discussed adequately or in a timely fashion. ◆ Practitioner did not discuss with patient or family in a timely fashion whether hospitalization was a potentially beneficial treatment option. ◆ Advance directives or other care instructions that indicated the patient should not be transferred to the hospital were unavailable or overlooked. ◆ Treatment in the hospital was similar to the treatment the patient could have received at the facility. 	<ul style="list-style-type: none"> ◆ There had been insufficient time, or the family had not been readily available, to discuss ethical issues. 	<ul style="list-style-type: none"> ◆ Hospitalization had been selected as a desired option in the event of a condition that was too severe or unstable to be readily managed within the facility.
Family issues	<ul style="list-style-type: none"> ◆ Family was not adequately informed of the patient's condition or prognosis or of the facility's capacity to manage certain condition changes without a hospital transfer. 	<ul style="list-style-type: none"> ◆ Family demanded hospital transfer despite efforts to explain why it was not necessary. 	<ul style="list-style-type: none"> ◆ Conflict among relevant substitute decision makers about scope and aggressiveness of medical treatment could not readily be resolved.
Practitioner issues	<ul style="list-style-type: none"> ◆ An attending or covering practitioner failed to respond in a timely fashion to notification of a condition change. ◆ Upon responding, the practitioner insisted on transfer before discussing the case adequately with a nurse. ◆ Wrong practitioner was notified of the condition change. ◆ Attending practitioner could not be reached or had insufficient backup coverage to respond. 	<ul style="list-style-type: none"> ◆ Practitioner was adequately informed about the patient's condition but remained unsure of the seriousness or cause(s) of the situation and therefore was unable to readily initiate empirical treatment. 	<ul style="list-style-type: none"> ◆ Practitioner identified significant medical concerns about the patient that were beyond the scope of the facility's capabilities or required a higher level of monitoring or more complex treatment than the facility could readily provide.
Miscellaneous Facility Issues	<ul style="list-style-type: none"> ◆ Relevant policy or procedure was unavailable or available but not used. ◆ A procedure was not followed correctly. ◆ Appropriate supervisory staff were not consulted as they should have been. ◆ Pertinent documentation (e.g., previous hospital discharge information, diagnoses, family consents) was not on the patient's chart, not available, or not reviewed. ◆ Facility has not adequately identified the degree to which it can monitor and manage medically unstable patients. 	<ul style="list-style-type: none"> ◆ Relevant policy or procedure did not adequately cover the situation. ◆ Appropriate supervisory staff were consulted but were not sure what to do. ◆ Some necessary care might have exceeded the scope of the facility's capabilities, staffing, equipment, and supplies. 	<ul style="list-style-type: none"> ◆ Required care would have exceeded the scope of the facility's capabilities, staffing, equipment, and supplies.

Source: Steven Levenson, MD

determining whether an ACOC can be managed on site or whether a hospital transfer is needed. Each facility should develop and implement a protocol for identifying when it is feasible to manage an ACOC in the facility. Hospital transfers should be limited to situations of genuine clinical necessity.

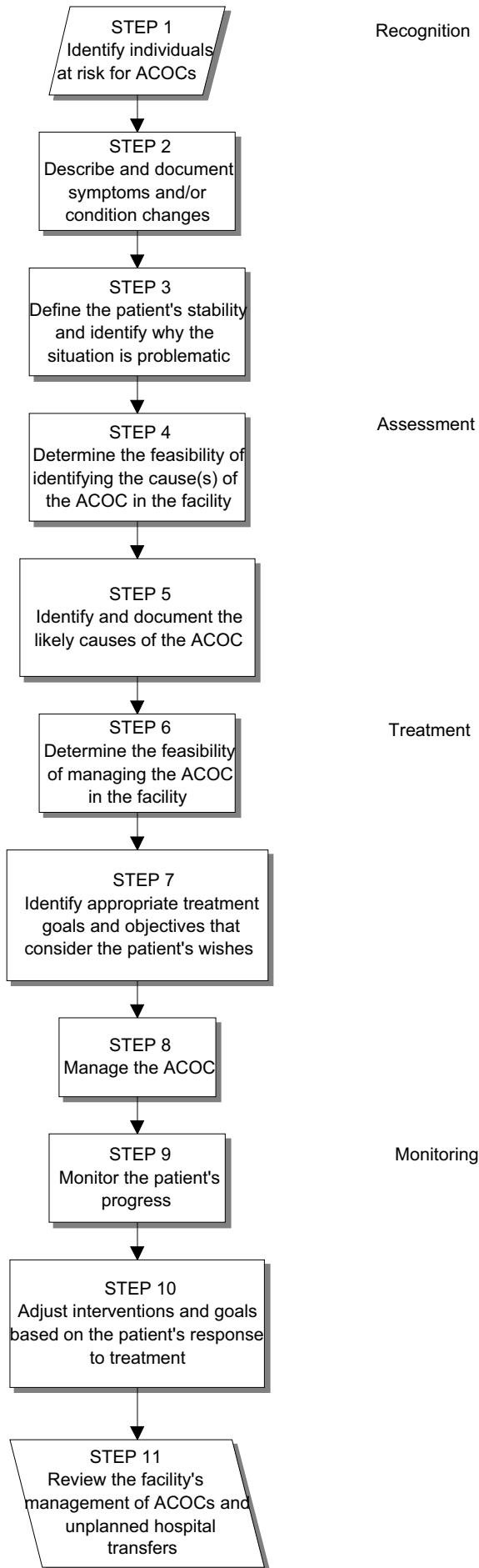
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This is the Acute Change of Condition algorithm to be used in conjunction with the written text of this clinical practice guideline. The numbers next to the different components of the algorithm correspond with the steps in the text.

ACUTE CHANGE OF CONDITION IN THE LONG-TERM CARE SETTING



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