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In The Trenches

Consensus-Derived Interventions to Reduce Acute Care Transfer (INTERACT)-Compatible Order Sets for Common Conditions Associated with Potentially Avoidable Hospitalizations

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Considerable research over the last several years has demonstrated that a substantial number of hospitalizations of nursing home residents, as well as older people living in the community receiving long-term care services, may be avoidable.^{1–4} In a study supported by the Centers for Medicare and Medicaid Services (CMS), 39% of close to 1 million hospitalizations in 2005 of dual eligible Medicare/Medicaid beneficiaries were for hospitalizations considered potentially avoidable. Five conditions accounted for 80% of these 382,846 hospitalizations: pneumonia, congestive heart failure, urinary tract infection, dehydration (including acute kidney injury), and chronic obstructive pulmonary disease/asthma. If 20%–60% of these hospitalizations could actually be prevented, this would result in between 77,000 and 260,000 fewer hospitalizations and \$625 million–\$2.9 billion in savings annually.⁴

Several programs and resources are available to manage acute changes in condition without hospitalization when safe and feasible. AMDA has a free, publicly available comprehensive clinical practice guideline on care transitions and related resources.⁵ The Institute for Healthcare Improvement's State Action on Avoidable Readmissions program also provides a wide variety of relevant resources.⁶ The Interventions to Reduce Acute Care Transfers (INTERACT) quality improvement program includes tools and strategies to manage acute changes in condition in nursing home (NH), assisted living, and home health settings and is free for clinical use.^{7,8} INTERACT includes communication and documentation tools designed to help identify and manage acute changes in condition before they become serious enough to warrant hospitalization. CMS is currently supporting a multisite project involving over 140 NHs that provides enhanced professional capabilities in NHs to implement INTERACT and other interventions to reduce unnecessary hospitalizations,^{9,10} and plans to provide financial incentives to nursing homes and other postacute care providers for reducing readmissions or meeting specific benchmarks. The quality measure is being reviewed by the National Quality Forum at the present time.¹¹ Moreover, CMS is in the process of implementing a value-based purchasing program by first establishing

a risk-adjusted potentially avoidable hospital readmission rate by October 1, 2016, begin public reporting of this measure as part of Nursing Home Compare by October 1, 2018, and applying incentives and penalties in October 1, 2019 to those facilities that have risk-adjusted potentially avoidable hospital readmission rate above or below the benchmark.¹²

One of the shortcomings of the INTERACT program and other available resources has been a lack of tools that assist physicians and advanced practice providers in the management of common conditions that are associated with potentially avoidable hospitalizations. To address this limitation, we worked with a multidisciplinary group of experts in geriatrics and long-term care to develop standardized order sets that include nursing, diagnostic, and treatment orders that are based on best available evidence and then refined by expert consensus. These order sets represent clinical decision support tools that can be used as part of a paper process or integrated into an electronic medical record system. Ten order sets have been developed that are compatible with the INTERACT care paths for 10 of the conditions responsible for the majority potentially avoidable hospitalizations in long-term and postacute care settings. The care paths are available on the INTERACT website⁷ and the order sets are available through Think Research.¹³ The order sets are not proscriptive and are customizable to different settings and groups of clinicians. They include an intuitive standardized format, menus of evidence-based and expert recommended orders, default and optional orders, free text order lines, and visual alerts and reminders (Figure 1). Standardized order sets reduce treatment variability and may lead to improvements in care quality, reduce the incidence of common adverse events,^{14–16} and assist in reducing the frequency of potentially avoidable hospitalizations, hospital readmissions, and emergency department visits.^{17,18}

A brief case example illustrates how the INTERACT-compatible order sets can be used “in the trenches”:

A nursing assistant notes that Mrs. Brown did not eat all of her breakfast as she usually does, and had a lot more trouble walking to the toilet than usual. She completes an INTERACT Stop and Watch Tool, and hands it to the charge nurse. The charge nurse evaluates Mrs. Brown using the INTERACT Situation Background Assessment Recommendation Communication

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Standardized format

Customized to facility needs


Evidence-based / expert recommended ordering options

Optional and default orders


Order sets are available for all INTERACT™ care paths

Visual alerts and reminders


Free-text order lines



Version 3.0 Compatible



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Document allergies on approved form and ensure medication reconciliation has been reviewed as per organizational process

**Skilled Nursing Facility
 Urinary Tract Infection (UTI) Order Set**
ACTION

Symptoms of UTI may include: dysuria, lower abdominal pain or tenderness, blood in urine, new or worsening urinary urgency, frequency or incontinence, and malaise or lethargy with no other identified cause
 This order set is compatible with INTERACT™ Symptoms of Urinary Tract (UTI) Care Path (<http://interact.fau.edu>)
 Clinician = Physician (MD/DO), Nurse Practitioner (NP), or Physician Assistant (PA)

Resident/Patient Risk Factors for Urinary Tract Infection (UTI)

Check/verify with the clinician the risk factors for UTI

Relevant History

UTI Other: _____

Invasive Device(s)

Urinary Catheter Other: _____

Lab Investigations

Additional Lab orders may be found in the following sections: Therapeutic Anticoagulation Adjustments and Follow-up Nursing Management

if a Urinalysis and Urine C&S are ordered, the results should be reviewed within 48-72 hours. If antibiotic therapy is ordered, it should be modified or discontinued as indicated by the results

Lab Investigations

CBC with Differential. STAT or ASAP as per facility Policy Reason: _____

Basic Metabolic Panel. STAT or ASAP as per facility Policy Reason: _____
 (Electrolytes, Glucose, Creatinine, BUN)

Urinalysis and Urine C+S via clean catch specimen

Notify clinician of results within _____ hours of collection (48-72 hours)

If antibiotics ordered, obtain urine sample before starting antibiotic therapy

Do not attempt to change or insert a catheter in a male resident with known prostate enlargement. Notify clinician

If a male resident/patient is unable to provide an adequate sample, apply a clean condom external collection system to obtain urine sample

If unable to obtain an adequate sample from a female, perform a sterile in and out catheter for specimen

If indwelling urinary catheter in place, change catheter and send urine sample obtained from new catheter

not recommended to routinely recheck Urinalysis or Urine C+S post antibiotic therapy

Other: _____, STAT or ASAP as per facility Policy Reason: _____

Hydration

PO/Enteral Tube

If not contraindicated, encourage PO fluids

Offer _____ mL of PO fluids q _____ h when awake for _____ days

Encourage PO fluid intake to _____ Liter(s) per 24 hours for _____ days (1 – 2 Liters)

If on enteral nutrition, _____ (increase or decrease) H₂O flushes with _____ mL q _____ h for _____ days

Other: _____

Submitted by: _____ PRINTED NAME YYYY-MM-DD HH.MM Read Back

Practitioner: _____ PRINTED NAME YYYY-MM-DD HH.MM SIGNATURE

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Fig. 1. Features of INTERACT—Compatible order sets.

Form and Progress Note, and suspects that she may have a urinary tract infection (UTI). After reviewing the INTERACT Care Path on symptoms of UTI, the nurse completes the Situation Background Assessment Recommendation, and sends it and a blank copy of the INTERACT-compatible UTI order set to the primary care physician. The physician completes the order set and faxes it back to the charge nurse, ordering laboratory studies and initial doses of an antibiotic pending results of the urinalysis and culture. Based on the guidance included in the order set about potential drug-drug interactions, the physician also orders a reduction in Mrs. Brown's warfarin dose and monitoring of her INR over the next 5 days.

Using the tools that are currently available in the trenches, health professionals can make care more evidence-based, effective, and safer when making treatment decisions for the management of common conditions that are associated with potentially avoidable hospitalizations. These tools may also help NHs reduce their risk-adjusted potentially avoidable hospital readmission rate and help them qualify for payment incentives and avoid payment penalties. As these tools become embedded into electronic medical record systems and other forms of health information technology, they will become even more accessible, easier to modify and update, and easier to integrate in current and future workflows. This should lead to even more effective, efficient, and safer care for the growing population of complex older patients in long-term and postacute care settings.

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Dr. Handler works for the University of Pittsburgh Medical Center, who has a license agreement with Think Research to use the INTERACT-compatible order sets developed as part of the expert advisory group. These INTERACT-compatible order sets will be used as part of a telemedicine initiative to reduce potentially avoidable hospitalizations.

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