

FAILURE TO RESCUE CHANGE PACKAGE

Recognition and Prevention of Failure to Rescue Events



Table of Contents

FAILURE TO RESCUE CHANGE PACKAGE	1
Overview	1
Background	1
AIM	1
Potential Measures	1
Key Resources	2
Bibliography	2
FAILURE TO RESCUE DRIVER DIAGRAM	3
EVENT DETECTION AND RESPONSE TRIGGERING	4
Secondary Driver: Implementation of systematic methods to identify patients at risk of a serious event or complication	4
Secondary Driver: Develop mechanisms for engaging the response team when necessary for intervention and/or treatment	4
Ideas to Test	4
Suggested Process Measures	4
CRISIS RESPONSE	4
Secondary Driver: Development and implementation of a method for assessing urgent unmet patient care needs	5
Secondary Driver: Development of a protocol or process for obtaining resources (personnel and equipment) quickly	5
Ideas to Test	5
Suggested Process Measures	5
PATIENT SAFETY/PROCESS IMPROVEMENT	5
Secondary Driver: Collection of input and feedback from providers, care teams, patients, and family members about experiences with and evaluations/reviews of events	6
Secondary Driver: Application of process improvement strategies to prevent future occurrences	6
Ideas to Test	6
Suggested Process Measures	6
GOVERNANCE/ADMINISTRATIVE STRUCTURE	6
Secondary Driver: Implement and maintain a rapid response system structure	6
Secondary Driver: Implement initial and ongoing education and training of staff	6
Secondary Driver: Use collected data to assess response team effectiveness and resource utilization	6
Ideas to Test	6
POTENTIAL BARRIERS	6
CONCLUSION	6
APPENDIX I: FAILURE TO RESCUE TOP TEN CHECKLIST	7
APPENDIX II: CONDITIONS THAT COULD CONTRIBUTE TO FAILURE TO RESCUE	8
REFERENCES	9
BIBLIOGRAPHY	9



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FAILURE TO RESCUE OVERVIEW

Overview

“Failure to Rescue” (FTR) refers to a healthcare organization’s inability to recognize early signs and symptoms of deterioration in a patient’s condition, or its implementation of an intervention too late to prevent cardiac arrest and other serious adverse events. FTR reflects the degree to which organizations anticipate and respond to adverse events, and speaks to the quality of monitoring, and/or the effectiveness of actions taken once complications are recognized. Three fundamental situations lead to FTR in hospitals:

- Failure to plan or be ready for an unexpected deterioration in a patient’s condition.
- Failure to recognize the early warning signs and symptoms of impending deterioration in a patient.
- Failure to respond to a patient in distress in a timely and systematic manner.

Cardiac arrests and other serious adverse events are usually preceded by physiologic changes in a patient’s condition. Recognition of these changes and rapid response and treatment by trained teams has been shown to reduce mortality rates in hospitals. (Sabahi M, 2012) (DeVita M B. R., 2004) A Rapid Response System is a pro-active approach to reduce FTR that includes four components:

- (a) a mechanism for event detection, the afferent arm,
 - (b) a mechanism for crisis response, the efferent arm,
 - (c) a patient safety/process improvement arm, and
 - (d) governance/leadership oversight of the entire system.
- (DeVita M, 2006)

Crisis response, the efferent arm component, is typically implemented through either a Medical Emergency Team (MET) or a Rapid Response Team (RRT), depending on an organization’s resources, characteristics, culture and needs. In most hospital settings, an MET is physician-led; and the team has the ability to (1) prescribe therapy, (2) use advanced airway management skills, (3) establish central vascular lines, and (4) begin an ICU level of care at the bedside. In hospital settings where response teams are not physician-led, but possess advanced assessment skills and have quick access to higher-level resources, an RRT is an intermediate approach. When necessary, designated consultants can be called in by the RRT to triage high-risk patients and transfer their care to an ICU. (DeVita M B. R., 2006)

AIM

Reduce the incidence of Failure to Rescue in HRET HEN acute care hospitals by 40% by December 8, 2014.

Potential Measures

Outcome:	Death rate among surgical inpatients with potentially treatable serious complications (AHRQ Patient Safety Indicator #4) per 1,000 discharges. (EOM: OPT-HEN-FTR-14)
	Unplanned ICU admissions per 1,000 discharges (excludes emergency and post-operative ICU admissions) (EOM: OPT-HEN-FTR-15)
	NON-Do Not Resuscitate cardiac arrests per 1,000 discharges (OPT-HEN-FTR-16)
Process:	Utilization of a Rapid Response Team (RRT) or Medical Emergency Team (MET), i.e. the number of calls per 1,000 discharges (EOM: OPT-HEN-FTR-13)
	Rate of RRT or MET activations within 24 hours of hospital admission (OPT-HEN-FTR-12)

KEY ELEMENTS	IDEAS TO TEST
Event Detection and Response Triggering	<ul style="list-style-type: none"> • Use objective assessment criteria based on physiologic changes in patient status, such as the criteria in the Modified Early Warning System (MEWS). • Include criteria that can be used by caregivers for subjective assessments of patient status. • Embed alerts within electronic medical record systems which identify changes in vital signs that may signal impending deterioration of a patient's condition. • Develop a simple system for activating the Rapid Response Team (RRT) or Medical Emergency Team (MET) that is accessible to all staff, patients, and families. • Develop a system to inform and educate staff, patients, and families about simple and accessible ways to activate the RRT or MET.
Crisis Response	<ul style="list-style-type: none"> • Staff an RRT or MET with clinical personnel with the expertise to (a) provide initial diagnoses; (b) undertake initial therapeutic interventions, (c) effectively make transfer decisions, and (d) collaborate with specialists and other care providers to ensure the appropriate level of care. • Use standardized tools to document and review the effectiveness of assessments and treatment recommendations by the RRT or MET. • Establish and utilize standardized language to describe changes in patient condition. • Use a standardized method of communicating changes in a patient's condition to the RRT or MET, such as SBAR ("Situation, Background, Assessment, Recommendation"). • Develop a process to ensure that the RRT or MET has all the equipment and supplies needed readily available.
Patient Safety/ Process Improvement	<ul style="list-style-type: none"> • Develop a feedback loop through which hospital staff and leadership can debrief after events with both good and disappointing outcomes, and thereby share data, analyses, and lessons learned. • Study the clinical signs and symptoms which preceded an RRT/MET call. • Use information gleaned from these reviews to improve the effectiveness of the institution's Event Detection, Response Triggering, and Crisis Response protocols.
Governance/ Administrative Structure	<ul style="list-style-type: none"> • Develop an individualized Rapid Response System for each hospital that includes a functional RRT or MET. • Educate hospital personnel about their hospital's Rapid Response System. Include the criteria for calling/activating the Rapid Response Team (RRT)/Medical Emergency Team (MET). • Ensure the clinical competencies of RRT/MET personnel are adequate and current. • Enlist hospital leadership to supervise the Rapid Response System and monitor its effectiveness. System oversight can be implemented via a reporting process that measures death rates among surgical inpatients with potentially treatable, serious complications; Code Blues that occur outside of the ICU; and total numbers of Code Blues. Additionally, the availability of personnel, equipment, and resources during RRT/MET calls should be reviewed.

Key Resources

5 Million Lives Campaign, *Getting Started Kit: Rapid Response Teams*. Cambridge, MA: Institute for Healthcare Improvement; 2008 (Retrieved at: www.ihl.org)

Duncan KD, McMullan C, Mills BM. *Early Warning Systems: The next level of rapid response*; Nursing; February 2012 – Volume 42 – Issue 2 – p 38–44 doi: 10.1097/01.NURSE.0000410304.26165.33

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FAILURE TO RESCUE DRIVER DIAGRAM

AIM: Reduce the incidence of Failure to Rescue in acute care HRET HEN hospitals by 40% by December 8, 2014

PRIMARY DRIVERS	SECONDARY DRIVERS	CHANGE IDEAS
Event Detection and Response Triggering	<ul style="list-style-type: none"> Implementation of systematic methods to identify patients at risk of a serious event or complication, and to engage a response team for intervention and/or treatment. 	<ul style="list-style-type: none"> Use objective assessment criteria based on physiologic changes in patient status, such as the criteria in the Modified Early Warning System (MEWS). Include criteria that can be used by caregivers for subjective assessments of patient status. Embed alerts within electronic medical record systems which identify changes in vital signs that may signal impending deterioration of a patient's condition. Develop a simple system for activating the Rapid Response Team (RRT) or Medical Emergency Team (MET) that is accessible to all staff, patients, and families. Develop a system to inform and educate staff, patients, and families about simple and accessible ways to activate the RRT or MET.
Crisis Response	<ul style="list-style-type: none"> Implementation of methods for accurately identifying and assessing patients' urgent, unmet needs, and obtaining necessary resources (personnel and equipment) in a timely manner. 	<ul style="list-style-type: none"> Staff an RRT or MET with clinical personnel with the expertise to (a) provide initial diagnoses; (b) undertake initial therapeutic interventions, (c) effectively make transfer decisions, and (d) collaborate with specialists and other care providers to ensure the appropriate level of care. Use standardized tools to document and review the effectiveness of assessments and treatment recommendations by the RRT or MET. Establish and utilize standardized language to describe changes in patient condition. Use a standardized method of communicating changes in a patient's condition to the RRT or MET, such as SBAR ("Situation, Background, Assessment, Recommendation"). Develop a process to ensure that the RRT or MET has all the equipment and supplies needed readily available.
Patient Safety/Process Improvement	<ul style="list-style-type: none"> Collection of input and feedback from providers, care teams, patients, and family members about experiences with and evaluations/reviews of events. Application of process improvement strategies to improve quality of care and prevent future events. 	<ul style="list-style-type: none"> Develop a feedback loop through which hospital staff and leadership can debrief after events with both good and disappointing outcomes, and thereby share data, analyses, and lessons learned. Study the clinical signs and symptoms which preceded an RRT/MET call. Use information gleaned from these reviews to improve the effectiveness of the institution's Event Detection, Response Triggering, and Crisis Response protocols.
Governance/Administrative Structure	<ul style="list-style-type: none"> Implementation and maintenance of a rapid response system with initial and ongoing education and training of staff. Ongoing assessment of response team effectiveness and resource utilization. 	<ul style="list-style-type: none"> Develop an individualized Rapid Response System for each hospital that includes a functional RRT or MET. Educate hospital personnel about their hospital's Rapid Response System. Include the criteria for calling/activating the Rapid Response Team (RRT)/Medical Emergency Team (MET). Ensure the clinical competencies of RRT/MET personnel are adequate and current. Enlist hospital leadership to supervise the Rapid Response System and monitor its effectiveness. System oversight can be implemented via a reporting process that measures death rates among surgical inpatients with potentially treatable, serious complications; Code Blues that occur outside of the ICU; and total numbers of Code Blues. Additionally, the availability of personnel, equipment, and resources during RRT/MET calls should be reviewed.

EVENT DETECTION AND RESPONSE TRIGGERING

The first component of a Rapid Response System is the afferent arm, i.e. crisis detection and response triggering. For this component, bedside staff, family members, and other hospital personnel should be enlisted to identify gaps in necessary care for vulnerable patients and to detect an impending event.

Assessment criteria should include both subjective criteria (e.g. “the patient just doesn’t seem to be doing well”) and objective criteria for calling the RRT or MET (e.g. heart rate has dropped below 50). The mechanism for alerting the RRT or MET should be simple and understood by all hospital personnel.

Traditionally, response team activation has been triggered by specific assessment criteria, e.g. an extreme change in a vital sign such as respiratory rate or blood pressure. Over the past few years, however, early warning systems have been developed to identify those patients at risk for clinical deterioration even before a change in vital signs occurs. Early Warning Systems have been shown to significantly reduce cardiac arrests in hospitals when used in conjunction with a Rapid Response System. (Moon A, 2011) One example is the Modified Early Warning System (MEWS), which is used in many hospitals to identify patients at risk. (Duncan K, 2012)

In 2010, the Joint Commission introduced National Patient Safety Goal 13.01.01, which encouraged patient’s active involvement in their own care. As a result, patients and their families were also encouraged to participate in the process of identifying when the patient was at risk of, or appeared to be, decompensating in the hospital. In order to ensure patients and families are fully informed how to seek assistance when they have immediate concerns about the patient’s condition, hospitals must include in their planning a mechanism for patients and family members to alert the RRT or MET to come to the bedside.

Careful consideration should be made when choosing a method for family-triggered RRT/MET calls to ensure that (1) the system is simple to use and remember, (2) the system is differentiated from staff-initiated calls, and (3) staff are trained in communication skills specific to dealing with patient and families when responding to calls. A simple system could include an easy phone number posted on the wall in view in the patient’s room, as well as encouragement by staff to call at any time if there is any feeling that the patient is not doing well. Differentiating the family calls from staff calls can be done with the use of different names for the overhead pages and different names for the description of the service to patients and families, such as “Code H” or “Code Help” that helps to explain the purpose of the response team. Finally,

RRT/MET staff should be trained specifically in communication skills for the difference in responding to staff calls versus family calls. Family will need not only more reinforcement and encouragement, but explanations will need to be made in laymen’s terms.

Secondary Driver: Implementation of systematic methods to identify patients at risk of a serious event or complication.

Secondary Driver: Develop mechanisms for engaging the response team when necessary for intervention and/or treatment

Ideas to Test

- Use objective assessment criteria based on physiologic changes in patient status, such as the criteria in the Modified Early Warning System (MEWS).
- Include criteria that can be used by caregivers for subjective assessments of patient status.
- Embed alerts within electronic medical record systems which identify changes in vital signs that may signal impending deterioration of a patient’s condition.
- Develop a simple system for activating the Rapid Response Team (RRT) or Medical Emergency Team (MET) that is accessible to all staff, patients, and families.
- Develop a system to inform and educate staff, patients, and families about simple and accessible ways to activate the RRT or MET.

Suggested Process Measures

- The number of RRT/MET calls per 1,000 hospital discharges.
- The number of RRT/MET calls each month that had a response time greater than 15 minutes.
- The number of patients that met the criteria for calling in the RRT/MET for more than 15 minutes prior to the activation of the response team

CRISIS RESPONSE

The second component of a Rapid Response System is the efferent arm, i.e. the crisis response itself. A trained response team should respond immediately to assess the patient’s condition and needs, make recommendations for treatment, and provide interventions as needed. The two most common response team models are a Rapid Response Team (RRT), which is usually nurse-driven, and a Medical Emergency Team (MET), which is usually physician-led. There are advantages to both types of teams, and hospitals must choose the model that will work best within the framework of the organization’s resources and needs.

After choosing the model and make-up of their response team, hospitals also must establish a process for activating the team. This can be done in a variety of ways: direct pages via phones or beepers, overhead announcements or messages, in-house intercoms via cellular networks, etc. A mechanism for standardized communication with bedside staff regarding the patient's condition should be used when the team arrives at the patient's location and begins their assessment and intervention. Documentation of the team's interventions during the activation/event should also be standardized.

It is critical for an effective RRT or MET to be available to respond 24 hours a day, 7 days a week. Code Blue teams are operational and accessible in hospitals 24 hours a day; similarly, RRTs or METs must be functional day and night. Hospitals should develop protocols for RRT or MET activation that can be implemented quickly and easily; RRT or MET members are encouraged to educate other staff about these protocols and the benefits of immediate crisis response in patient outcomes. No calls to the Teams should be regarded as "false alarms," even if the Team assessment subsequently reveals that the patient is stable. Instead, a stable assessment affords Team members the opportunity to support and mentor the staff in detecting and preventing events. Some researchers suggest that, in order to avoid overlooking patients who need help (sensitivity), staff should demonstrate a high index of suspicion, with as few as 40% of their RRT or MET calls ending up being 'critical' (specificity). (DeVita M B. R., 2006)

Secondary Driver: Development and implementation of a method for assessing urgent unmet patient care needs.

Secondary Driver: Development of a protocol or process for obtaining resources (personnel and equipment) quickly.

Ideas to Test

- Staff an RRT or MET with clinical personnel with the expertise to (a) provide initial diagnoses; (b) undertake initial therapeutic interventions, (c) effectively make transfer decisions, and (d) collaborate with specialists and other care providers to ensure the appropriate level of care.
- Use standardized tools to document and review the effectiveness of assessments and treatment recommendations by the RRT or MET.
- Establish and utilize standardized language to describe changes in patient condition. Use a standardized method of communicating changes in a patient's condition to the RRT or MET, such as SBAR ("Situation, Background, Assessment, Recommendation").

- Develop a process to ensure that the RRT or MET has all the equipment and supplies needed readily available.

Suggested Process Measures

- The number of RRT or MET calls per 1,000 hospital discharges
- The number of cardiac arrests that occurred despite RRT or MET activation per month per 1,000 discharges
- The number of RRT or MET interventions that escalated to a Do Not Resuscitate level per 1,000 discharges.

PATIENT SAFETY/PROCESS IMPROVEMENT

The third component of the Rapid Response System is the Patient Safety/Process Improvement arm. The ultimate goal of a Rapid Response System is to save lives; analyzing interventions and using the lessons learned from cases with both positive and negative outcomes may improve the rates of successful rescues or event prevention. Without first measuring, then studying, and then continually making changes and revisions based on those data analyses and lessons learned, hospitals will continue to witness FTRs and patient harm.

Hospitals that are newly implementing a Rapid Response System will likely not be measuring the same data as institutions with a program in place for many years. Hospitals launching a system will need to measure the effectiveness of the new processes at each step of the way, starting, for example, with simple metrics such as the numbers of codes per 1,000 hospital discharges and the number of response team calls.

Hospitals with a long-standing Rapid Response System may be able to advance to providing and assessing a higher level of patient safety. Such an approach is analogous to purposeful hourly rounding in nursing: endeavoring to identify at-risk situations before they become problematic. For example, could an experienced response team begin pro-actively rounding on patients who have been transferred to the ward from the ICU in the past 12-24 hours, and then study if the number of response team calls and codes decrease? Could a hospital implement a new approach to palliative care for patients with a history of multiple response team activations? Should preemptive rounding could be done on patients with a MEWS score of 3, or patients with lab alerts that indicate sepsis or renal failure?

Advancing to the next level of patient safety and quality of care requires that data analyses and conclusions, as well as recommendations and changes, are communicated throughout the hospital and to all relevant staff.

Secondary Driver: Collection of input and feedback from providers, care teams, patients, and family members about experiences with and evaluations/reviews of events.

Secondary Driver: Application of process improvement strategies to prevent future occurrences.

Ideas to Test

- Develop a feedback loop through which hospital staff and leadership can debrief after events with both good and disappointing outcomes, and thereby share data, analyses, and lessons learned.
- Study the clinical signs and symptoms which preceded an RRT/MET call. Use information gleaned from these reviews to improve the effectiveness of the institution's Event Detection, Response Triggering, and Crisis Response protocols.

Suggested Process Measures

- The number of codes per 1,000 hospital discharges
- The utilization of the Response Team (i.e. How many calls were made?)
- The number of Response Team calls for patients who experienced pro-active rounding.

GOVERNANCE/ADMINISTRATIVE STRUCTURE

The active involvement of organizational leadership is essential to implement and maintain a successful Rapid Response System designed to decrease or eliminate Failure to Rescue. Medical staff and senior leadership can provide guidance, mitigate obstacles and barriers, and communicate necessary changes to hospital staff. In addition to publicly promoting quality improvement, senior leaders can ensure that necessary resources for program success such as sufficient equipment and skilled personnel are available.

To evaluate program effectiveness and sustainability, hospital and medical staff leadership should be provided with collected data, assessments, feedback, and analyses. A mechanism for ensuring that team members are – and remain – clinically competent to perform the tasks required of the Response Team is another critical component of a successful program.

Secondary Driver: Implement and maintain a rapid response system structure.

Secondary Driver: Implement initial and ongoing education and training of staff.

Secondary Driver: Use collected data to assess response team effectiveness and resource utilization.

Ideas to Test

- Develop an individualized hospital Rapid Response System that includes a plan for a RRT or MET.
- Educate hospital personnel about the hospital's Rapid Response System, including the criteria for activating a Rapid Response Team (RRT) / Medical Emergency Team (MET).
- Ensure RRT/MET personnel clinical competencies are kept current.
- Develop a reporting structure through hospital leadership that has oversight of the Rapid Response System to determine effectiveness in the areas of failure to rescue by measuring death rates among surgical inpatients with serious treatable complications, code blues outside of the ICU, availability of equipment and personnel/resources during RRT/MET calls, total number of code blues, etc.

POTENTIAL BARRIERS

One of the most common barriers reported by hospitals seeking to implement a Rapid Response System to reduce Failure to Rescue is “the lack of available resources” – especially clinical personnel. Hospitals have addressed similar challenges when creating and launching their Code Blue teams; developing and maintaining a functional Rapid Response System is equally critical to improving patient outcomes.

Instituting a Rapid Response System can also impact professional relationships with care providers. Physicians may express concerns that decisions are being made for their patients without their consent. To address physician concerns and promote buy-in, enlistment of a respected physician champion is recommended early in the development process. The champion can serve as an ambassador to transmit physician input and perspectives in the planning and implementation phases, as well as to serve as a mentor and educator for colleagues about the benefits of Rapid Response.

CONCLUSION

Modern medical care has become increasingly complex, but the responsibility of healthcare organizations to keep patients safe has remained unchanged. Deaths that occur in our hospitals from treatable conditions and complications are Failures to Rescue. Increasing positive outcomes for patients requires an organization-wide commitment to patient safety, continuous quality assessment, and institutional learning. A Rapid Response System is a successful evidence-based approach that addresses and strives to reduce Failure to Rescue events and supports a healthcare organization's commitment to improve quality of care.

Appendix I: Failure to Rescue Top Ten Checklist

Failure to Rescue Top Ten Checklist

TOP TEN EVIDENCE BASED INTERVENTIONS				
PROCESS CHANGE	IN PLACE	NOT DONE	WILL ADOPT	NOTES (RESPONSIBLE AND BY WHEN?)
Develop a simple system for activating the Rapid Response Team (RRT) or Medical Emergency Team (MET) that is easily accessible for all staff, patients and families.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
To identify at-risk patients, use objective assessment criteria based on physiologic changes in patient status, e.g. the Modified Early Warning System (MEWS).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Establish an RRT or MET which includes clinical personnel with the skills to be able to (a) provide initial diagnoses; (b) undertake initial therapeutic interventions, (c) make transfer decisions, and (d) consult and collaborate with other care providers as appropriate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Develop and implement a process to inform staff, patients, and families of simple and accessible ways to activate the RRT or MET.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Utilize electronic medical record features to flag changes in vital signs that may signal impending deterioration of a patient's condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Use standardized tools to document RRT or MET assessments and treatment recommendations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Establish and implement standardized language to describe changes in patient conditions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Use a standardized method of communicating changes in a patient's condition to the RRT or MET, e.g. SBAR ("Situation, Background, Assessment, Recommendation".)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Establish and ensure that the RRT or MET has all needed equipment and supplies readily available.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Establish proactive rounding by the RRT or MET on all patients discharged from ICU within the last 24 hours to assess condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Appendix II: Conditions That Could Contribute to Failure to Rescue

CONDITION	HOW CONDITION MIGHT CONTRIBUTE TO FAILURE TO RESCUE	IDEAS FOR NURSING/RRT/MET TO TEST
ADE	Over-sedation from opioids is one of the most common adverse drug events. Over-sedation is frequently seen post-operatively and in patients who are prescribed multiple pain medications.	<ul style="list-style-type: none"> • Use sedation assessment scales regularly. • Implement pro-active rounding on recent post-op patients.
Sepsis	Severe sepsis is not just a condition that develops in the ICU, or is only diagnosed in the ED. Sepsis can develop with any number of hospital-acquired infections. Sepsis screening assessments can identify signs and symptoms of sepsis in its early stages.	<ul style="list-style-type: none"> • Perform sepsis screening assessments on all patients at risk. • Ensure bundles of care are reliably followed for sepsis, CAUTI, CLABSI, and VAP.
Iatrogenic Delirium	Delirium is a condition that can develop within a very short period of time in the hospital, usually in ICU patients. Delirium is associated with sedation, and may result in weakness and losses of function that can be permanent if not addressed in a timely manner.	<ul style="list-style-type: none"> • Complete sedation assessment screening on all patients in the ICU. • Wean patients from ventilators as quickly as possible. • Follow evidence-based protocols from the ABCDE bundle/PAD guidelines.
OB Harm	Death from stroke due to severe preeclampsia and shock due to post-partum hemorrhage are two of the most common causes of maternal death. Early identification of these conditions can promote improved patient outcomes.	<ul style="list-style-type: none"> • Do screening assessments on all mothers to determine the risks for hemorrhage. • Follow evidence-based protocols to identify and address hemorrhage and preeclampsia.
Airway Safety	Over-sedation from opioids is a common cause of airway or ventilatory compromise. Patients with a history of sleep apnea or those who are elderly are disproportionately at risk for airway compromise in the hospital setting.	<ul style="list-style-type: none"> • Use sedation assessment scales regularly and designate a standard sedation level to trigger a call to the RRT. • Use capnography to assess patients at risk for airway or ventilatory compromise, and use abnormal results as a trigger to call the RRT.

Please refer to the 2014 Change Packages to obtain more detailed information about each condition above, as well as effective interventions that may prevent harm to patients. Change Packages can be downloaded free-of-charge at www.HRET-HEN.org.

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