

Sepsis Readmission Measure (CBE #5275)

The Hospital-Level, Risk-Standardized 30-day All-Cause Readmission measure is a risk-adjusted measure that assesses the readmission rate within 30 days following an index hospitalization for sepsis. The target population for this measure are Medicare Fee-For-Service (FFS) and Medicare Advantage (MA) beneficiaries that are 65 years and older.

The logic model illustrates how hospital infrastructure (inputs) and clinical practices (activities) work in tandem to produce measurable outputs that ultimately improve patient outcomes and generate broader system-level impacts. Foundational structures, such as adequately trained emergency medicine, inpatient and critical care staff as well as quality improvement (QI) tools such as electronic health record (EHR) dashboards and performance improvement teams, prepare and equip hospitals with timely, actionable data on patient care and quality performance. These tools support informed decision-making by enabling dedicated multidisciplinary QI teams from hospitals to monitor trends, identify gaps, and implement data-driven interventions based on a QI framework. Hospital-specific reports offer detailed insights into performance on the Sepsis Readmission measure which also include benchmarking results against state and national averages. These reports are instrumental in identifying high-risk patients and targeting areas for improvement, as well as tracking progress on quality metrics over time. Structural inputs facilitate the activation of coordinated improvement efforts through a set of interrelated processes and activities. Hospitals may form QI committees to interpret data and oversee the implementation of improvement projects, adopt and operationalize evidence-based guidelines and care protocols, such as sepsis management in emergency departments and critical care units, to ensure consistency in care delivery and reduce practice variation. Antibiotic stewardship programs are introduced to promote appropriate use of antimicrobials and reduce antimicrobial resistance. [Prescott et al., 2022] Within hospital interventions to support sleep and circadian rhythms, avoid excessive phlebotomy, improve nutritional and functional status have been shown to reduce readmission risk. [Lærum-Onsager et al., 2021] Additionally, transition-of-care protocols and structured peri-discharge collaboration plans are implemented to ensure continuity of care and to improve discharge care coordination. [Taylor et al., 2022, Kowalkowski et al., 2019]

These activities produce outputs that can be observed and measured in the short and long term. For instance, enhanced peri-discharge planning and coordination between discharge teams, primary care providers, specialists, sepsis care teams, and community-based programs and facilities enable more tailored discharge planning based on patients' clinical risks and comorbidities.[24] These efforts also improve communication between patients, caregivers, and post-discharge care teams, which foster trust, improve adherence to treatment plans, reduce reliance on emergency or acute care, in turn result in fewer inpatient readmissions, and improve patient satisfaction. Ultimately, successful implementation of these inputs and activities as evidenced through the outputs will result in sustained reductions in sepsis readmissions, improved post-discharge quality of life, and reductions in morbidity and mortality.

Inputs	Activities	Outputs	Outcomes	Impacts
<ul style="list-style-type: none"> Electronic health records (EHR) dashboards Quality improvement (QI) infrastructure 	<ul style="list-style-type: none"> Dedicated sepsis QI committee to evaluate dashboard and develop QI projects 	<ul style="list-style-type: none"> Improved communication between inpatient care teams, patients, family and caregivers, and 	Short-term <ul style="list-style-type: none"> Better adherence to treatment regimens Improved knowledge about sepsis and 	<ul style="list-style-type: none"> Reduced patient readmissions Reduced risk of hospital-acquired infections

Logic Model for the Sepsis Readmission Measure

<ul style="list-style-type: none"> • Hospital specific reports • Capacity to measure patient context and identify patients at high risk for readmission • Development of patient education materials • Development of staff training materials • Hospital-wide infection control mechanisms • Clinical care guidelines • Evidence-based care pathways 	<ul style="list-style-type: none"> • Policies around adoption of and adherence to relevant clinical guidelines² and established policies (such as hand hygiene) • Improved timeliness of sepsis treatment • Antibiotic stewardship committee • Sepsis guideline/care pathway implementation in ED, hospital inpatient, and critical care units • Care coordination with clinical teams • Implementation of a structured peri-discharge collaboration plan with primary care providers, specialists, and community-based programs • Adoption of transition of care procedures to improve safe discharge • Build structure for feedback to responsible parties • Nutrition appropriate to patients' clinical needs • Minimizing noise on the ward to support circadian rhythms and improve sleep quality 	<p>post-discharge care teams</p> <ul style="list-style-type: none"> • Increased trust between patients and the clinical care staff team • Improved attendance at ambulatory post-discharge appointments • Improved education for self-monitoring of signs of unresolved infections or recurrent infections • New or improved patient workflows to get care for signs and symptoms: post hospital visits, urgent care, calling PCP/Infectious Disease specialists • Support and education about completion of antibiotic courses and medication reconciliation • Medication reconciliation to ensure that long-term medications are not overlooked, while short-term medications prescribed during hospitalization are appropriately discontinued to prevent unnecessary long-term use 	<p>related conditions and better recognition of symptoms</p> <ul style="list-style-type: none"> • Reduced utilization of emergency department services <p>Intermediate term</p> <ul style="list-style-type: none"> • Avoidance of inappropriate care and/or inadequate communication • Improved collaboration between care teams and patients, family, and caregivers <p>Long-term</p> <ul style="list-style-type: none"> • More appropriate healthcare utilization • Reduced waste and/or redundancy • Improved patient experience • Reduced mortality 	<ul style="list-style-type: none"> • Better patient quality of life • Lower overall health system cost • Decreased morbidity and mortality
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	<ul style="list-style-type: none"> Reducing unnecessary blood draws to prevent anemia Shortening length of stay to lower the risk of healthcare-associated infections (HAIs) 	<ul style="list-style-type: none"> Consideration of the acute clinical intervention in the context of primary health problems and comorbid conditions Enhanced discharge planning Adoption of telemonitoring or remote patient monitoring 		
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Feedback Mechanisms

- Real-time provider dashboards tracking sepsis-related acute care visits and complications.
- Hospital specific reports for hospital performance on the Sepsis Readmission measure and benchmarking hospitals performance against national measure performance.
- Patient-reported outcomes on self-management confidence and inpatient and outpatient care experience.
- Regular case review meetings with care teams to refine discharge protocols.
- QI mechanisms.

Assumptions

- Hospitals have access to structured EHR data to build dashboards.
- Post-discharge interventions (case management, telemonitoring) are available and feasible.
- Patients have the ability and willingness to engage in self-management programs.
- Resource availability (staff, infrastructure, and time) to implement bundled or multifaceted interventions that address gaps in the transition process.
- Hospitals have established relationships with primary care providers and the community to further enhance the coordinating care transitions processes.
- Provider buy-in for standardized care pathways, discharge planning, follow-up protocols, and care transition interventions.
- QI infrastructure.
- Resources for training of staff.

External Factors

- Policy and reimbursement models for sepsis care transitions (e.g., CMS, private payers).

- Economic disadvantages affecting patient follow-up (e.g., transportation, ability to afford copays).
- Provider shortages, particularly infectious disease specialists and PCPs.
- Staff shortages: nursing

Summary:

The logic model demonstrates how hospital infrastructure (e.g., trained staff, EHR dashboards, and QI teams) supports clinical practices that improve patient outcomes. These foundational inputs enable hospitals to use real-time data for decision-making, implement evidence-based care protocols (e.g., sepsis guidelines, antibiotic stewardship), and engage in targeted quality improvement (QI) efforts. Hospitals use performance data including on the Sepsis Readmission measure reports benchmarked against state and national average to identify high-risk patients and gaps in care. Multidisciplinary teams use this information to coordinate improvement projects, enhance peri-discharge planning, and strengthen care transitions. These efforts result in measurable outputs such as tailored discharge planning, better communication among care teams, reduced readmission rates, and increased patient satisfaction. Ultimately, these activities drive long-term impacts, including lower sepsis-related morbidity and mortality and improved post-discharge quality of life.

References

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