Putting the Sepsis Puzzle Together and Saving Lives

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Background
A single sepsis group meeting monthly found core measures non-compliance to be beyond the capabilities of a single committee. Committee structure was revised with an oversight committee with a fulltime coordinator, to which a work group parsing all non-compliant cases reported. A web of subcommittees with specific expertise was charged with fixing identified problems (pharmacy, ED, ICU, Med-surg, laboratory, information systems, coding, and administration).

Project Aim
The goal is to reduce sepsis deaths by beneficially impacting both process and outcomes. This goal is achieved by utilizing as many people with talent, knowledge and initiative and requires a systemic approach to collaboration. Partnering and having the same insatiable drive to save lives is what made this team so successful. We all mandated the very best from each other each and every single day. The key to removing gridlock in improving sepsis care proved to be active collaborations. On the clinical side, this meant physicians and nurses from the departments of Emergency Medicine, Thoracic Medicine, Medicine and Surgery communicated actively and constructively. Clinical personnel needed face-to-face interaction with laboratory, radiology, palliative care, medical records, pharmacy, information systems and coding. The Performance Improvement team, with a fulltime Sepsis Coordinator, ensured that individuals with decision-making capabilities enacted appropriate interventions, often with repeated collaborative attempts until flaws were resolved.

Project Design
The overarching lesson from this institution is to not underestimate the necessity for active and ongoing participation from many hospital departments. Every institution has clinicians, non-clinicians, supervisors and end-users who need to be brought together to resolve the flaws and miscommunications that occur in managing a complex disease process within a complex organization. Seemingly simple interventions have unintended consequences, needing to be worked through by multiple participants.

Changes Made
- Educational—Sepsis coordinator provided real-time guidance.
- Information Systems—sepsis order bundle with prompts for usage.
- Laboratory—documented call to responsible physician when lactate elevated.
- Communications—use secure chat to ensure continuation at handoff between services.
- Pharmacy—availability of broad spectrum antibiotics in all units
- Documentation and coding—dedicated coder to review all possible sepsis cases.
- Medical records—Reports of noncompliance to determine underlying cause of failure.
- Feedback- letters to responsible physicians when failures occur, with explanation.
- Trending—core measures failouts as to type and location.
- Fluid administration—encouragement of physicians to consider aliquots of fluid replacement in cases of suspected pre-existing fluid overload.
- Sepsis committee—to interact horizontally with rapid response committee, antibiotic stewardship committee and ICU committee.

Results
There has been improved core measure compliance by over 50% and decrease in number of sepsis deaths by one third. The hospital rose from the bottom quartile of sepsis mortality indices compared to like hospitals to within the top 5% of peer institutions.

Lessons Learned
The key to removing gridlock in improving sepsis care proved to be active collaborations. On the clinical side, this meant physicians and nurses, as well as the emergency department, department of medicine and intensivists communicating actively and constructively. Clinical personnel needed face-to-face interaction with laboratory, radiology, palliative care, medical records, pharmacy, information systems and coding.

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![SEF-1 Compliance Percentage](chart1)

![Sepsis Mortality Index](chart2)