Code Sepsis Initiatives

Code Sepsis Core Team

St. Joseph Hospital

Orange, California

St. Joseph Hospital (SJO)

Providence St. Joseph Health

Overview of Presentation

- SJO Code Sepsis Program Goals
- Building a Team & Engagement
- St. Joseph Hoag Health (SJHH) - Southern California Sepsis Collaborative Goals
- Phase I: Code Sepsis Response Pilot & Implementation
- Phase II: 12 Hour Sepsis Pilot
- Phase III: 24/7 Dedicated Sepsis RN
- Outcomes
- Program Pearls

SJO Sepsis Program Goals

- ↓sepsis mortality rate.
- ↑recognition of sepsis to increase early treatment and survival.
- ↓ LOS and costs.
- Close gap between coding and documentation.
- Close gaps in care.
- Improve bundle compliance.
- Provide staff/physician education.
- Ensure seamless care for sepsis patients regardless of where diagnosed.

Building a Medical Team

- Nursing
- Pharmacy
- Case Management
- Support / ancillary staff
  - RTs
  - PT/OT
  - Nutrition
  - Etc.
- Admin
- Physicians

Our Sepsis Team

- Nursing
  - ICU
  - ER
  - MET/Rapid Response etc
  - Admin
- Pharmacy
- Administration
  - Nursing
  - Quality
  - EMR
- Physicians

Team Engagement

- Clear goals
- Give each individual a voice
- Be receptive to that voice - Hear everyone out
- Provide transparency in the process
- Explain the “why” if there are decisions that differ from individual voices
- Acknowledge mistakes
- Share in the successes

The Physician Component

- Key contributors
  - Emergency physicians
  - Intensivists
  - Hospitalists
- Other important role players (dotting your i's)
  - Other primary/admitting physicians
  - Surgeons

Herding Cats

- Alpha dog
- Medicine as art vs. science
- Variable data
- Multiple hats
- Multiple responsibilities
- Ownership
  - Process
  - Patient
- Desire to help / do no harm

The “Tool Chest”

- Involvement and input
- Transparency
- Education
- Support
- Incentive
- Alignment

Involvement and Input

- One of the most important components to physician engagement
- Also one of the hardest to balance
  - Too many cooks in the kitchen vs. diverse input
- The “who” matters
  - Physician administrators
  - Engaged and interested
    - Yes men/women
    - Working for the greater good
    - Working for individual wants/needs
  - disengaged

Transparency

- Important for continued involvement
- Facilitates trust
- Creates opportunity

Education

- One on one
- Departmental meetings
- Educational events
  - Grand rounds
  - Conferences
  - Multimedia
- Newsletters
- EMR embedded

Support Support Support

- Make people feel like you care about them and want to help them, and they will bend over backwards to help you.
- Make it easy
- Help provide physicians the tools they need
  - Equipment
  - Staff
  - EMR
- Foster an environment supporting team members (including physicians) as a general rule in your hospital

Incentives and Alignment

- Contracts
- Directorships
- Employment

SJHH Southern California Sepsis Collaborative

- PHASE I:
  - Ministry level Sepsis programs
  - Standardize Sepsis protocols (3/6 hour bundles)
  - Sepsis Coordinator
  - Sepsis RN/Team
  - Regional outcomes tracking/analytics
- PHASE II:
  - Level of Care/Patient Flow
  - Care of Patient after 1st 6hours
- PHASE III:
  - Discharge process
  - EOL approach
  - Preventing readmissions
  - Post Sepsis Syndrome

Three Phases

Phase 1: May-December 2015

- **Code Sepsis Response in ED**
- Mapping the new process (May/June)
- 4 day pilot (July 2015)
- Education: ED, ICU, DSU, MET Team
- Revised order sets & MET documentation
- SJO Code Sepsis Core Team & Workgroup

Phase 2: January – June 2016

- **Sepsis RN Pilot (12 Hours)**
- 6 Pilot MET RNs
- Facilitate the 3 and 6 hour bundle completions for ED Sepsis Calls
- Proactive Rounding for 24 hours for admitted Sepsis patients to Med Surg
- SoCal Collaborative: PDOC, MD Order Sets, ED Nursing Documentation

Phase 3: July 2016 - current

- **Dedicated Sepsis RN (24 Hours)**
- High Alert App
- NICOM
- Housewide caregiver education (all modalities)
- Patient Family Education
- Preventing Readmissions

Sepsis Coordinator vs Dedicated Sepsis RN

Coordinator Roles

- Monitor compliance: Guidelines & CMS
- Monitor patient Outcomes
- Education
- Networking
- Communication
- Global Facilitation

Sepsis RN Duties

- Expert in evidence-based treatment guidelines for sepsis
- Promote early goal directed therapy and compliance with all bundle elements
- Real-time education
- Follow sepsis patient across departments
- Local facilitation

Sepsis RN Checklist

Patient Sticker	Sepsis Identification (All suspected Sepsis patients)	3 Hr Bundle Compliance (For all identified Severe Sepsis patients)	6 Hr Bundle Compliance (For all identified Severe Sepsis & Septic Shock patients)	24 Hour Proactive Rounding (PTS NOT admitted to MICU)
NAME AA# MM# DOB	**DATE:** _____ **TIME ZERO:** _____ (severe sepsis first identified in ED or on the floor) **DEPARTMENT IDENTIFIED:** **ECC:** ☐ YES ☐ NO **If NO: Other unit** _____ **RRT Call Time:** _____ **TYPE OF CALL:** ☐ Code Sepsis (Emergent ED/IP) ☐ Sepsis Consult ☐ High Alert Report Positive Screen / Proactive Rounding **ORDER SET:** ☐ YES ☐ NO **PHYSICIAN:** _____	**3 HR TIME GOAL:** _____ **SEVERE SEPSIS CRITERIA:** **Suspected OR Known Infection:** ☐ YES ☐ NO **At least 2 SIRS:** ☐ YES ☐ NO **Lactate >2:** ☐ YES ☐ NO **Acute Organ Dysfunction:** ☐ YES ☐ NO **Type of Acute Organ Dysfxn** (Select below) **3 HR BUNDLE ELEMENTS** **Initial Lactate:** ☐ YES ☐ NO Time: _____ **Lactate Level:** _____ **BC:** ☐ YES ☐ NO Time: _____ **ABX:** ☐ YES ☐ NO Time: _____ **Initial Fluid Challenge:** ☐ YES ☐ NO Time: _____	**6 HR TIME GOAL:** _____ **SEPTIC SHOCK CRITERIA:** **Lactate >= 4 mmol:** ☐ YES ☐ NO **Hypotensive after initial fluid challenge complete:** ☐ YES ☐ NO **6 HR BUNDLE ELEMENTS** **2nd lactate drawn** (If initial lactate >2 & must be done AFTER fluid challenge): ☐ YES ☐ NO Time: _____ RESULT: _____ **Initial 30 mL/kg fluid challenge completed** (*only if shock*): ☐ YES ☐ NO Time: _____ **TOTAL FLUID GIVEN:** _____ **Provider Reassessment note completed** (*only if shock*) (check if done by provider by the 5th hour): ☐ YES ☐ NO Time: _____ **Vasopressors** (*only if shock, especially if still hypotensive after fluids*): ☐ YES ☐ NO Time: _____	**UNIT ADMITTED:** ☐ MICU/CVICU 7-12 ☐ DSU/ CVICU 1-6 ☐ OTHER (Rm #): _____ **1st Proactive Rounding completed :** ☐ YES ☐ NO Time: _____ **2nd Proactive Rounding completed :** ☐ YES ☐ NO Time: _____ **HANDED OFF TO MET RN:** ☐ YES ☐ NO

SIRS CRITERIA	ACUTE ORGAN DYSFUNCTION	WHY WAS AN ELELMENT NOT DONE OR DONE ON TIME? COMMENTS / ISSUES (Circle # or Write in Description)
☐ Temp > 100.4 F or < 97 F ☐ HR > 90 BPM ☐ RR > 20 breaths/min ☐ PaCO2 < 32 mmgHg ☐ WBC > 12,000 cells/mm3, <4,000 cells/mm3, > 10% Bands	☐ **NEURO:** ALOC, Confusion ☐ **RESPIRATORY:** Tachypnea, PaO2 <70mmHg, SaO2 <90%, PaO2/FiO2 <300 ☐ **CARDIAC:** Tachycardia, Hypotension, Altered CVP ☐ **GENITOURINARY:** Oliguria, Anuria, Elevated Creatinine (>2) ☐ **LIVER:** Jaundice, Increased enzymes, decreased Albumin, increased PT ☐ **COAGULATION:** decreased platelets, increased PT/APTT, decreased Protein C, increased D-Dimer	1) NO FLUIDS ORDERED / OR 30 ML/KG FLUIDS NOT ORDERED OR COMPLETED BECAUSE: a. ESRD (1A) b. CHF (1B) c. OTHER (1C): _____ 2) MD THINKS, "NOT SEPSIS" 3) MD SAYS, "It's a viral infection." 4) MD SAYS, "NO ABX because still working up patient/waiting for diagnostics." 5) Uncooperative Staff/MD: (please add description) 6) OTHER:

Sepsis SBAR Report from ED RN to admitting RN

- 3 HOUR elements completed:
  - Lactate: Time drawn and result
  - Blood cultures: Time drawn
  - Broad Spectrum Antibiotics: Time started
  - IV Fluids: Time started and amount completed
  - IV fluids & antibiotics still needing to be completed

- 6 HOUR elements completed or need follow up:
  - Repeat Lactate: Time drawn and result (*if initial >2*)
  - 30 ml/kg IV Fluids: Time completed and total amount given
  - Vasopressors: Time started (*if appropriate*)
  - Provider Reassessment Note: after IV Fluids completed

Make sure Sepsis RN has been notified when Sepsis patient is transferred/admitted to unit

MET RN vs Sepsis RN Roles

MET RN	Sepsis RN
Will address all initial positive Severe Sepsis screens in the inpatient units - will provide the initial Sepsis workup (Emergent Inpatient MET call / Consult Call)	**Will answer to all initial Code Sepsis and Sepsis Alert calls in the Emergency Care Center (ECC) –** assure 3 and 6 hour treatment bundles are completed
Will assume the both the roles of the MET and Sepsis RN if an ICU staff member is unavailable to be Sepsis RN	**Will proactively round on all patients admitted to the floors within 12 hours of admission and by the 24th hour since admission to the floor** – to assess for any decompensation since ED treatment
	Any patients that were initially seen by the MET RN - proactive rounds will resume with the Sepsis RN

New Severe Sepsis / Septic Shock or decompensating Sepsis patient – CALL MET RN (Cisco #54899)

Sepsis Patient Education

Sepsis

What you need to know

What is Sepsis?

Sepsis is a serious condition caused by the body's exaggerated response to an infection.

Common Sources of Infection Include:

- Pneumonia
- Urinary tract infections
- Wounds
- Abdominal infections including appendicitis or diverticulitis

Not all infections lead to sepsis. However, the body's response to an infection, with or without treatment, can sometimes attack its own organs and tissues. This inflammatory response is sepsis and it can progress to severe sepsis, septic shock, organ failure and even death.

Sepsis continues to be the third leading cause of death in the United States. Our goal at St. Joseph Hospital is to provide the best quality of care to identify, treat and stop sepsis by following treatment guidelines that result in positive outcomes.

Who is at Risk for Developing Sepsis?

Although anyone with an infection is at risk for sepsis, the following groups have an increased risk:

- Older patients
- Children less than one year old
- Patients with kidney or liver disease
- Patients with cancer or immune disorders
- Post-operative patients
- Patients with implanted medical devices or invasive catheters
- Patients with chronic respiratory diseases

Care for Patients with Sepsis

All sepsis patients will receive IV fluids, antibiotics, and tests or procedures to identify and treat the cause of infection. For the most serious cases, life supportive measures, such as mechanical ventilation and medications to support blood pressure, may be necessary. These patients will be in the Intensive Care Unit (ICU) and care will be managed by an Intensivist.

The patient's response to care will be monitored closely by physicians, nurses and other members of the healthcare team.

Planning for Ongoing Care

After the acute phase of the illness, many patients with sepsis continue their recovery at another facility. Discharge planners and case managers will work with patients and families to coordinate care and to facilitate a smooth transition to another facility for ongoing recovery.

Despite being provided the best care available, some patients do not recover from sepsis. For these patients, the medical, intensive care, and palliative care teams offer expert symptom management to minimize suffering and maximize quality of life.

MAGNET RECOGNIZED

www.sjo.org

St.JosephHealth
St. Joseph Hospital
A member of the St. Joseph Hoag Health alliance

Stages of Sepsis

	SEPSIS	SEVERE SEPSIS	SEPTIC SHOCK
Typical unit where care is provided	Medical surgical	Sub ICU or critical care	Critical care
Typical hospital stay	3-4 days	5-6 days	Up to 14 days
After care at another facility	20% of patients	30% of patients	50% of patients

Although provided the best care available today, sepsis continues to be the third leading cause of death in the United States.

Expectations of Patients and Families

It is expected that patients and families will be involved in care decisions.

Course of Hospital Treatment

Upon arrival in Emergency Care Center:

- Sepsis nurse introduction

Within 12-24 hours of admission:

- Meet with members of the medical team
- Sepsis nurse rounding
- Family spokesperson identified
- Orientation to unit/hospital routine and resources
- Review Advance Directive information and/or goals of treatment

Within 3-4 days:

- Meet with Social Services, Care Management and Spiritual Care (as desired)

Throughout the hospitalization:

To promote patient and family-centered outcomes and to assist in decision making:

- Families are encouraged to contact the healthcare team through the identified family spokesperson.
- A care conference with the family, the attending physician, the nurse, social worker, and other disciplines may be needed.

Members of Your Hospital Team

- Hospitalist
- ICU Team: Intensivist, sepsis nurse, Medical Emergency Team (MET) nurse
- Consulting physicians, infectious disease physicians, surgeons

Sepsis Resources

For general information about sepsis, visit:

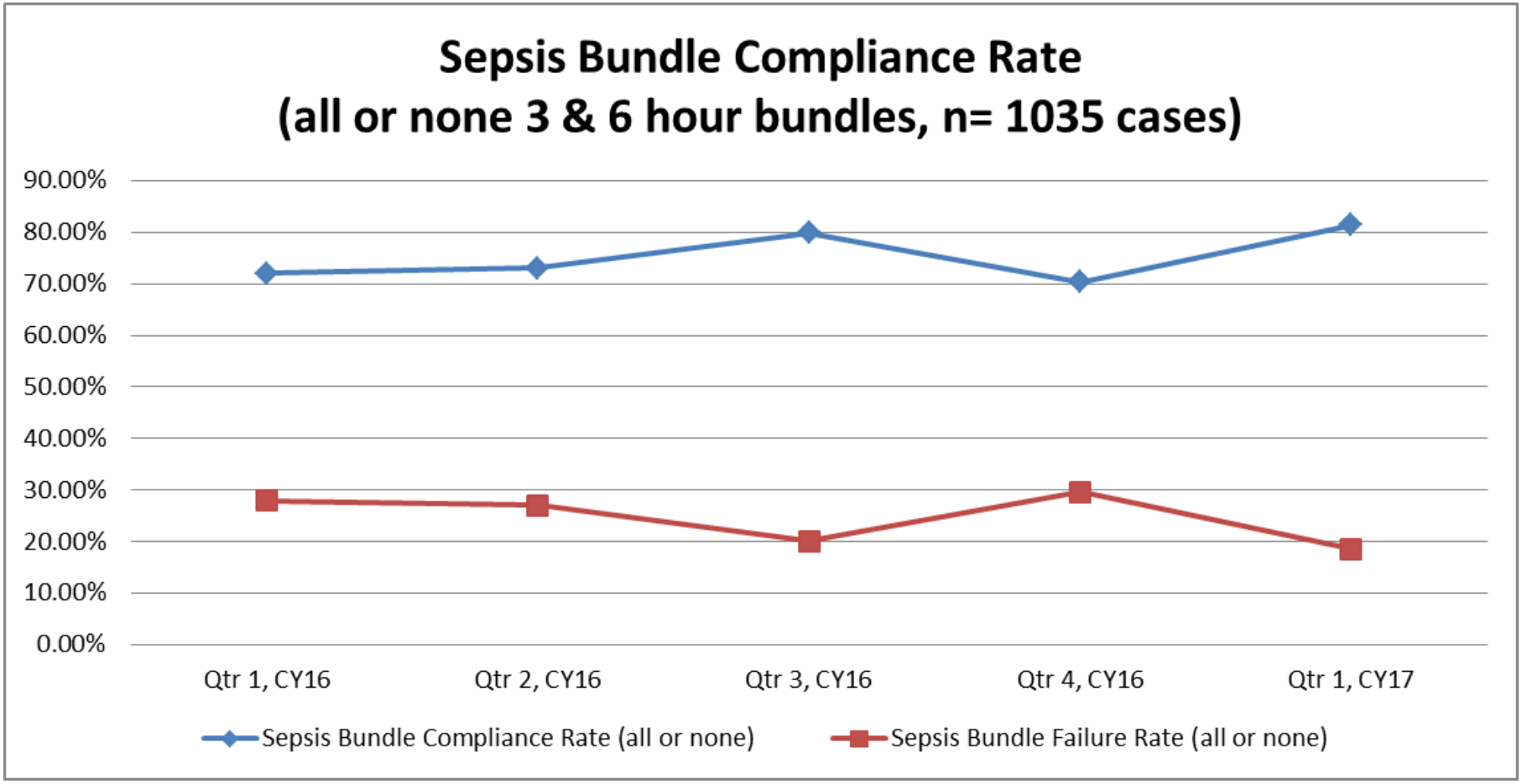
Sepsis Alliance
www.sepsisalliance.org

MedlinePlus
www.nlm.nih.gov

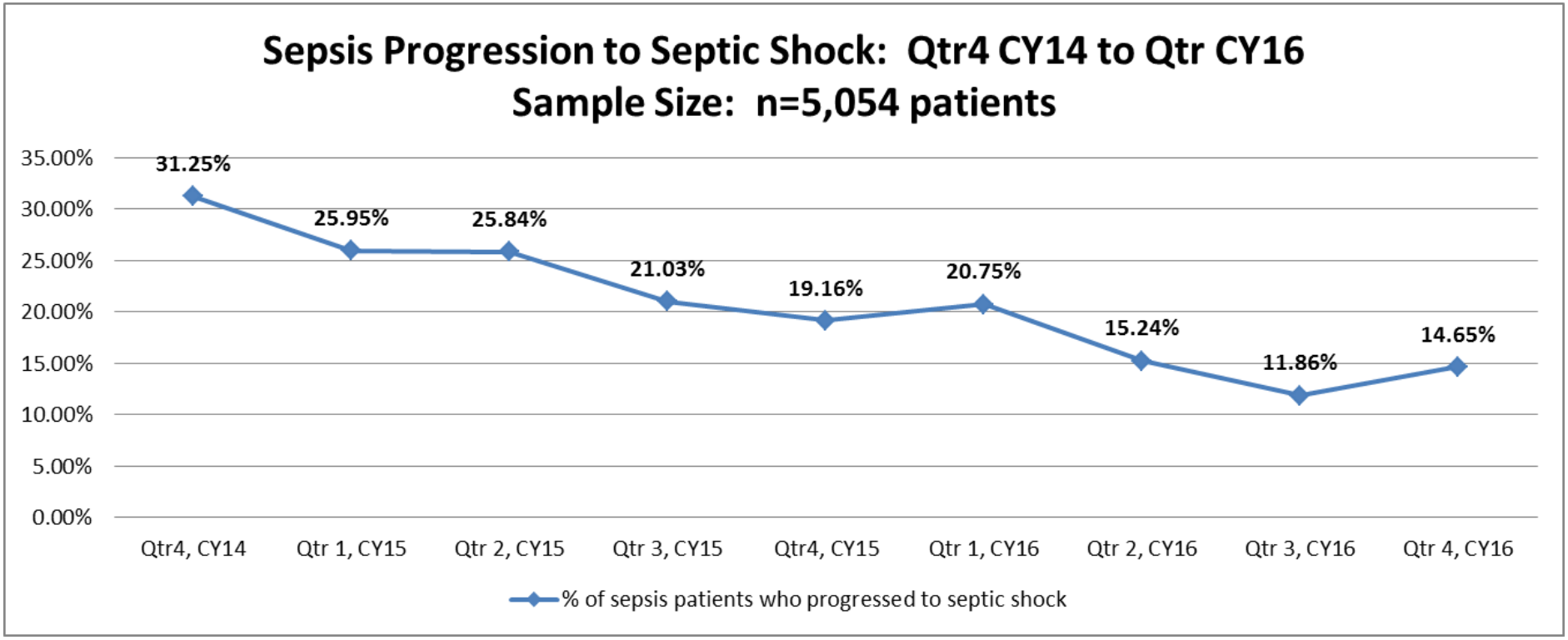
WebMD
www.webmd.com

CDC
www.cdc.gov

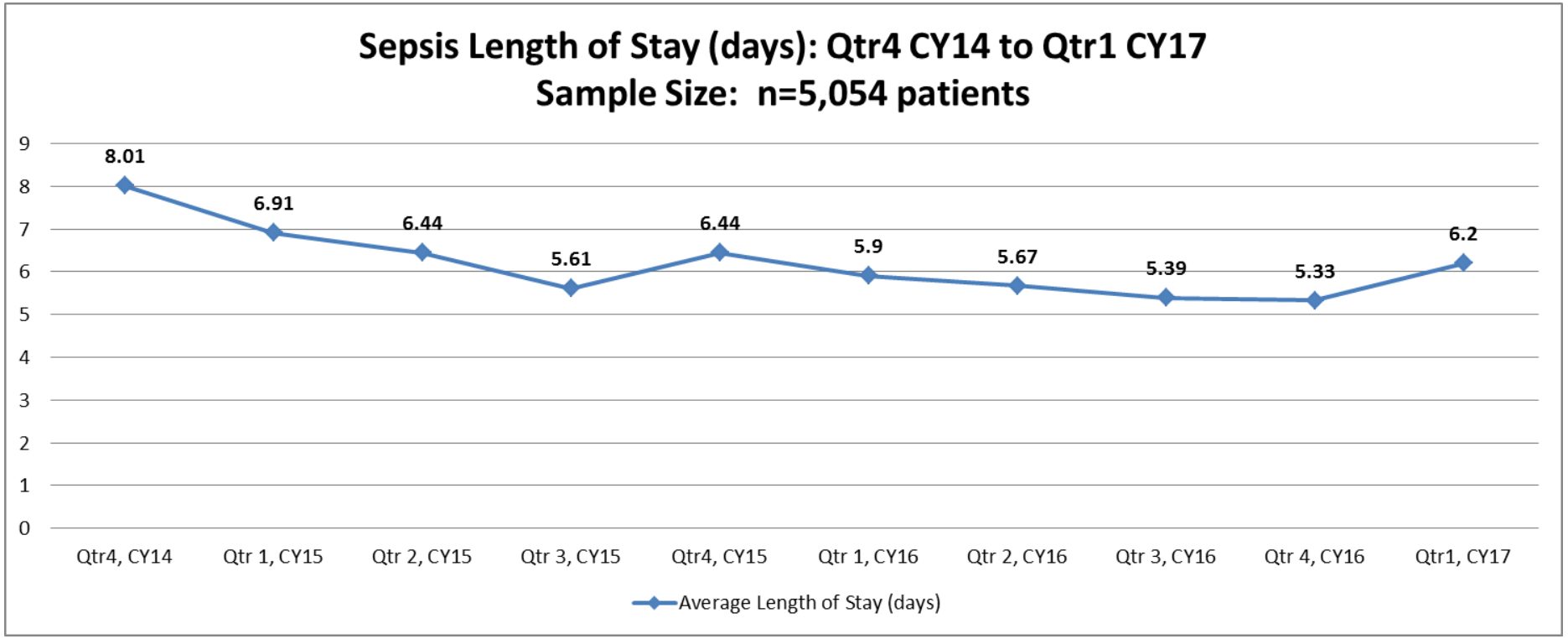
Outcomes


Sepsis Bundle Compliance Rate
(all or none 3 & 6 hour bundles, n= 1035 cases)
90.00%
80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
Qtr 1, CY16
Qtr 2, CY16
Qtr 3, CY16
Qtr 4, CY16
Qtr 1, CY17
Sepsis Bundle Compliance Rate (all or none)
Sepsis Bundle Failure Rate (all or none)

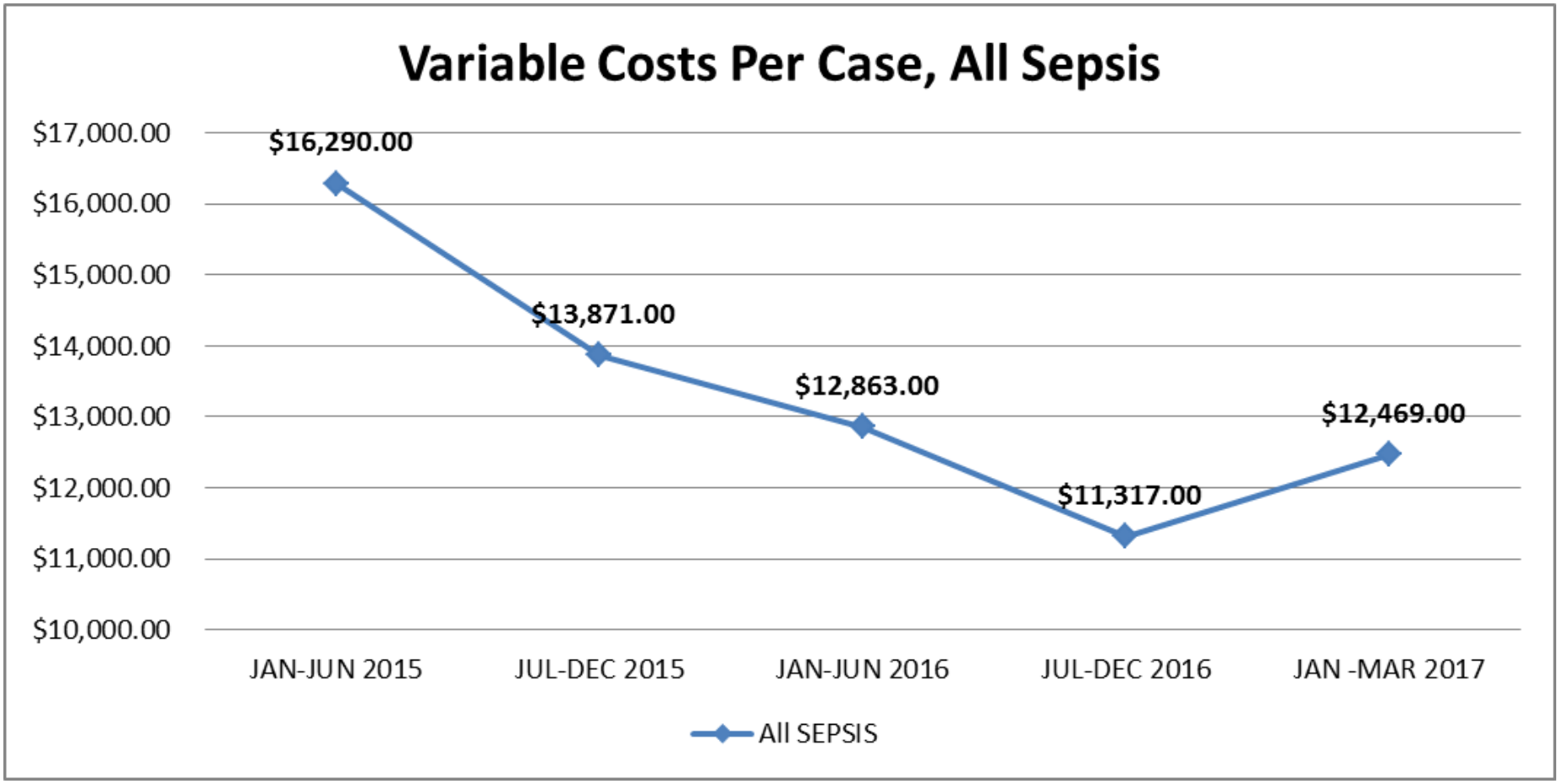
Outcomes, 2


Sepsis Progression to Septic Shock: Qtr4 CY14 to Qtr CY16
Sample Size: n=5,054 patients
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
31.25%
25.95%
25.84%
21.03%
19.16%
20.75%
15.24%
11.86%
14.65%
Qtr4, CY14
Qtr 1, CY15
Qtr 2, CY15
Qtr 3, CY15
Qtr4, CY15
Qtr 1, CY16
Qtr 2, CY16
Qtr 3, CY16
Qtr 4, CY16
% of sepsis patients who progressed to septic shock

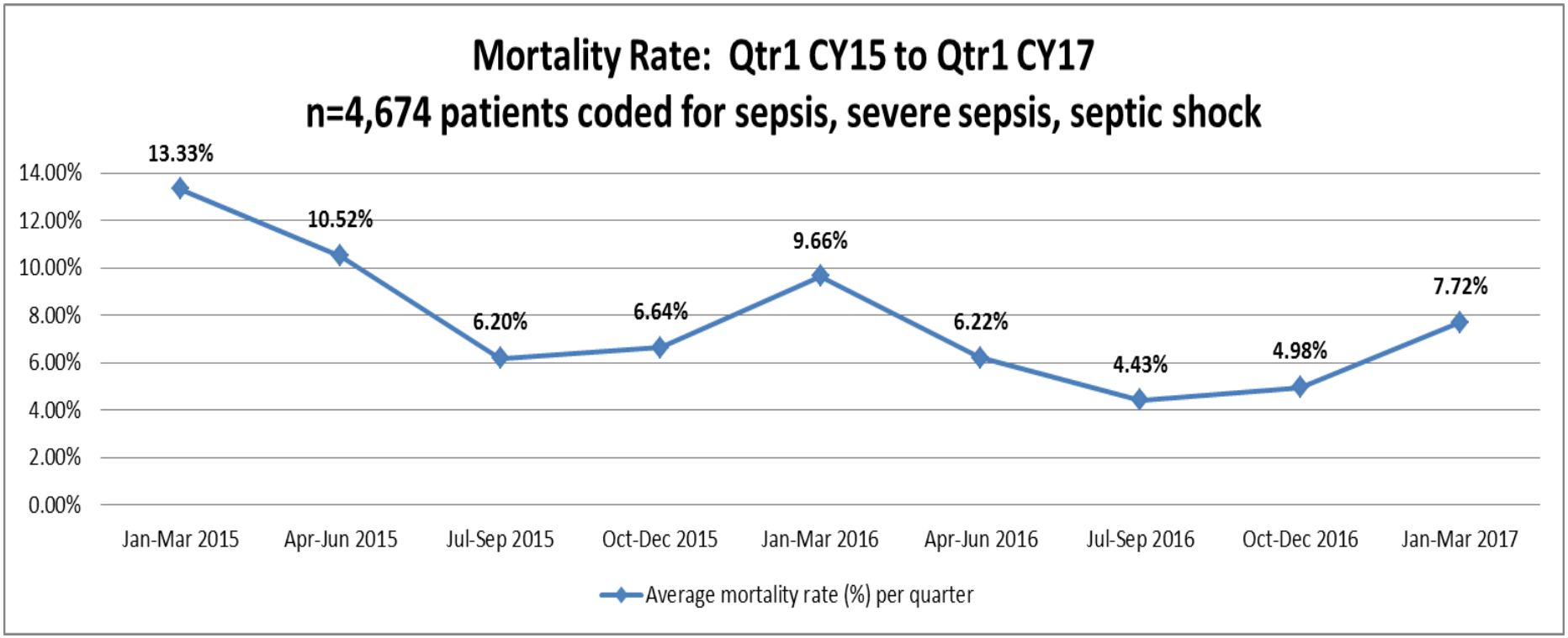
Outcomes, 3


Sepsis Length of Stay (days): Qtr4 CY14 to Qtr1 CY17
Sample Size: n=5,054 patients
9
8
7
6
5
4
3
2
1
0
8.01
6.91
6.44
5.61
6.44
5.9
5.67
5.39
5.33
6.2
Qtr4, CY14
Qtr 1, CY15
Qtr 2, CY15
Qtr 3, CY15
Qtr4, CY15
Qtr 1, CY16
Qtr 2, CY16
Qtr 3, CY16
Qtr 4, CY16
Qtr1, CY17
Average Length of Stay (days)

Outcomes, 4


Variable Costs Per Case, All Sepsis
$17,000.00
$16,000.00
$15,000.00
$14,000.00
$13,000.00
$12,000.00
$11,000.00
$10,000.00
$16,290.00
$13,871.00
$12,863.00
$11,317.00
$12,469.00
JAN-JUN 2015
JUL-DEC 2015
JAN-JUN 2016
JUL-DEC 2016
JAN -MAR 2017
All SEPSIS

Outcomes, 5


Mortality Rate: Qtr1 CY15 to Qtr1 CY17
n=4,674 patients coded for sepsis, severe sepsis, septic shock
14.00%
12.00%
10.00%
8.00%
6.00%
4.00%
2.00%
0.00%
13.33%
10.52%
6.20%
6.64%
9.66%
6.22%
4.43%
4.98%
7.72%
Jan-Mar 2015
Apr-Jun 2015
Jul-Sep 2015
Oct-Dec 2015
Jan-Mar 2016
Apr-Jun 2016
Jul-Sep 2016
Oct-Dec 2016
Jan-Mar 2017
Average mortality rate (%) per quarter

747 Lives Saved!

Pearls & Lessons Learned

- **Establish a Core Team of Champions & Stakeholders leading the effort:** physicians, nursing, administration, quality, ED, ICU, MET, and Med Surg areas

- **Establish & support a rapid response team infrastructure:** dedicated ICU RNs, policies, standardized procedures, rapid response processes, documentation

Pearls & Lessons Learned, 2

- **Frequent and consistent communication:** EDUCATION!, interdisciplinary collaborative meetings, outcomes monitoring (concurrent if possible), & data reporting
- **The "Code Sepsis" & "Sepsis Consult" alert communications:** between the ED staff and Sepsis RN are KEY in capturing patients

Questions? Comments?

"One step by 100 people is better than 100 steps taken by one person."

– Koichi Tsukamoto

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