



MVH
SEPSIS
COMMITTEE

March 25th, 2024

AGENDA

Data review

Mortality
Reviews













OFI for January/
February

Follow up items

MVH Sepsis Scorecard

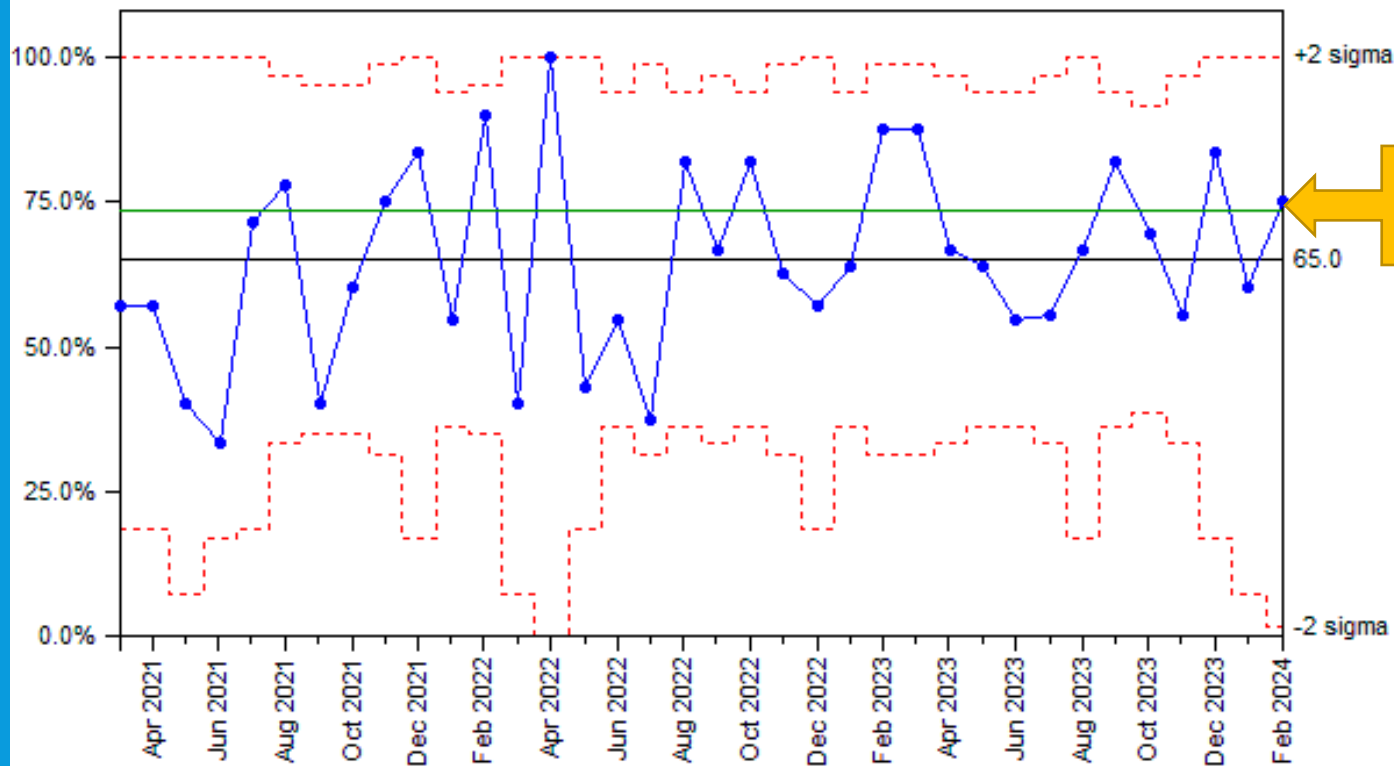
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All Indicators Scorecard: Core Sepsis Details MVH

Status	Indicator	Most Recent Value	Target	SPC Alert	Period	Cumulative Year (Indicator basis)	
						Value	Start
Core Measures > Sepsis							
	Core Sepsis Cases Qualifying for Study MVH	159	None		Mar 2024	744	Jan 2024
	Core Sepsis Early Management Bundle % MVH All	75.0%	73.2%		Feb 2024	66.7%	Jan 2024
	Severe Sepsis, Septic Shock Mortality % MVH	14.0%	14.5%		Feb 2024	15.5%	Jan 2024
	Core Sepsis ED % OFI Attributed to ED MVH All	50.0%	None		Jan 2024	50.0%	Jan 2024
	Core Sepsis ED 3 Hour Bundle Compliance MVH All	100.0%	None		Feb 2024	83.3%	Jan 2024
Core Measures > Sepsis > Sepsis 3 Hour Bundle							
	Core Sepsis Severe 3 Hour Bundle % MVH	75.0%	73.2%		Feb 2024	66.7%	Jan 2024
	SEP-1aa Initial Lactate in 3 Hours % MVH	75.0%	None		Feb 2024	85.7%	Jan 2024
	SEP-1ab Antibiotic within 3 Hours % MVH	100.0%	None		Feb 2024	88.9%	Jan 2024
	SEP-1ac Blood Cultures within 3 Hours % MVH	100.0%	None		Feb 2024	87.5%	Jan 2024
	SEP-1c Crystalloid Fluids within 3 Hours % MVH	100.0%	None		Feb 2024	100.0%	Feb 2024
Core Measures > Sepsis > Sepsis 6 Hour Bundle							
	Core Sepsis Severe 6 Hour Bundle % MVH	100.0%	None		Feb 2024	100.0%	Jan 2024
	SEP-1b Repeat Lactate within 6 Hours % MVH	100.0%	None		Feb 2024	100.0%	Jan 2024

EARLY MANAGEMENT BUNDLE

Core Sepsis Early Management Bundle % MVH All
Facility = ALL

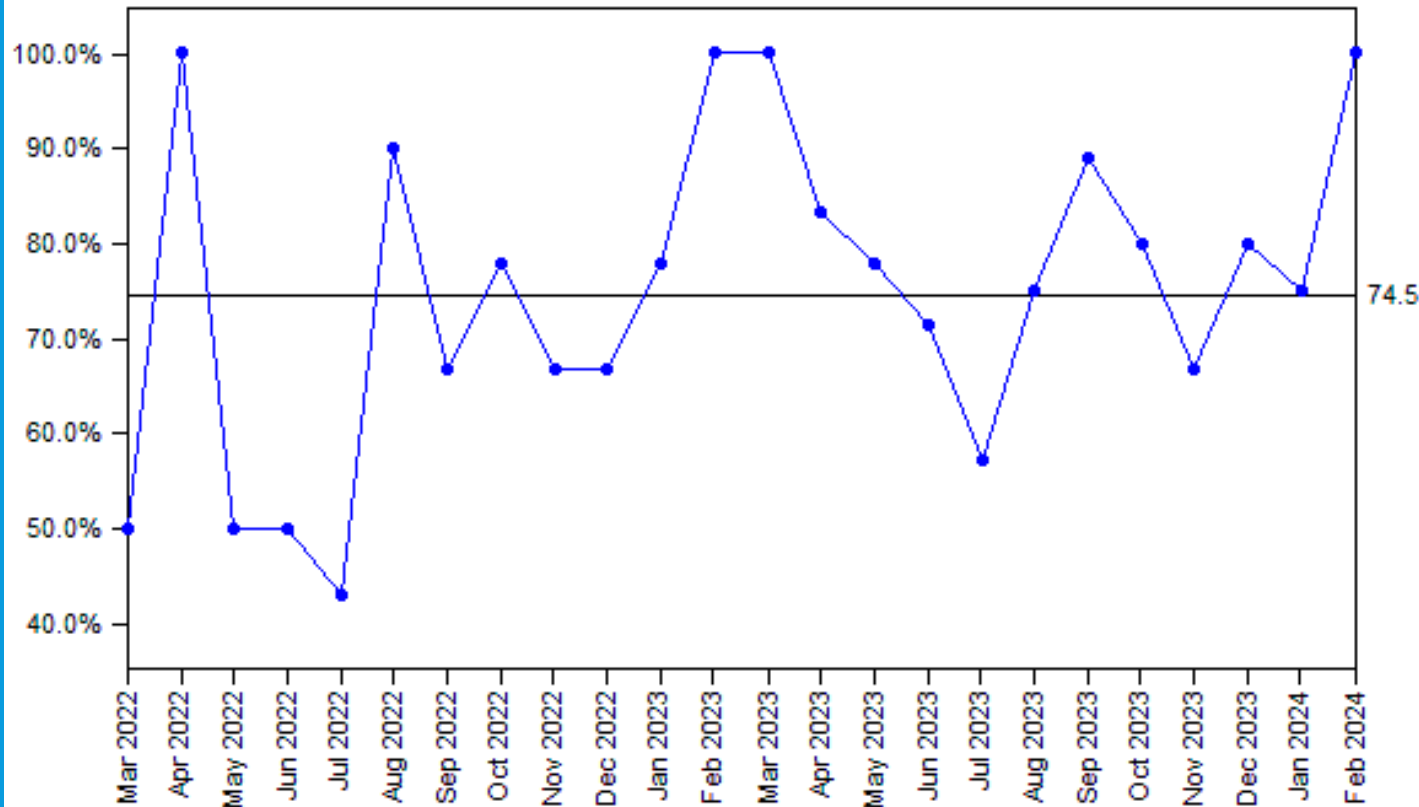


Target =
73.24%

Month	SEP 1 Numerator	SEP 1 Denominator	Early Management Bundle %
Feb 2024	3	4	75.0%
Jan 2024	3	5	60.0%
Dec 2023	5	6	83.3%
Nov 2023	5	9	55.6%
Oct 2023	9	13	69.2%
Sep 2023	9	11	81.8%
Aug 2023	4	6	66.7%
Jul 2023	5	9	55.6%
Jun 2023	6	11	54.5%
May 2023	7	11	63.6%
Apr 2023	6	9	66.7%
Mar 2023	7	8	87.5%
Feb 2023	7	8	87.5%

ED 3-HOUR BUNDLE COMPLIANCE

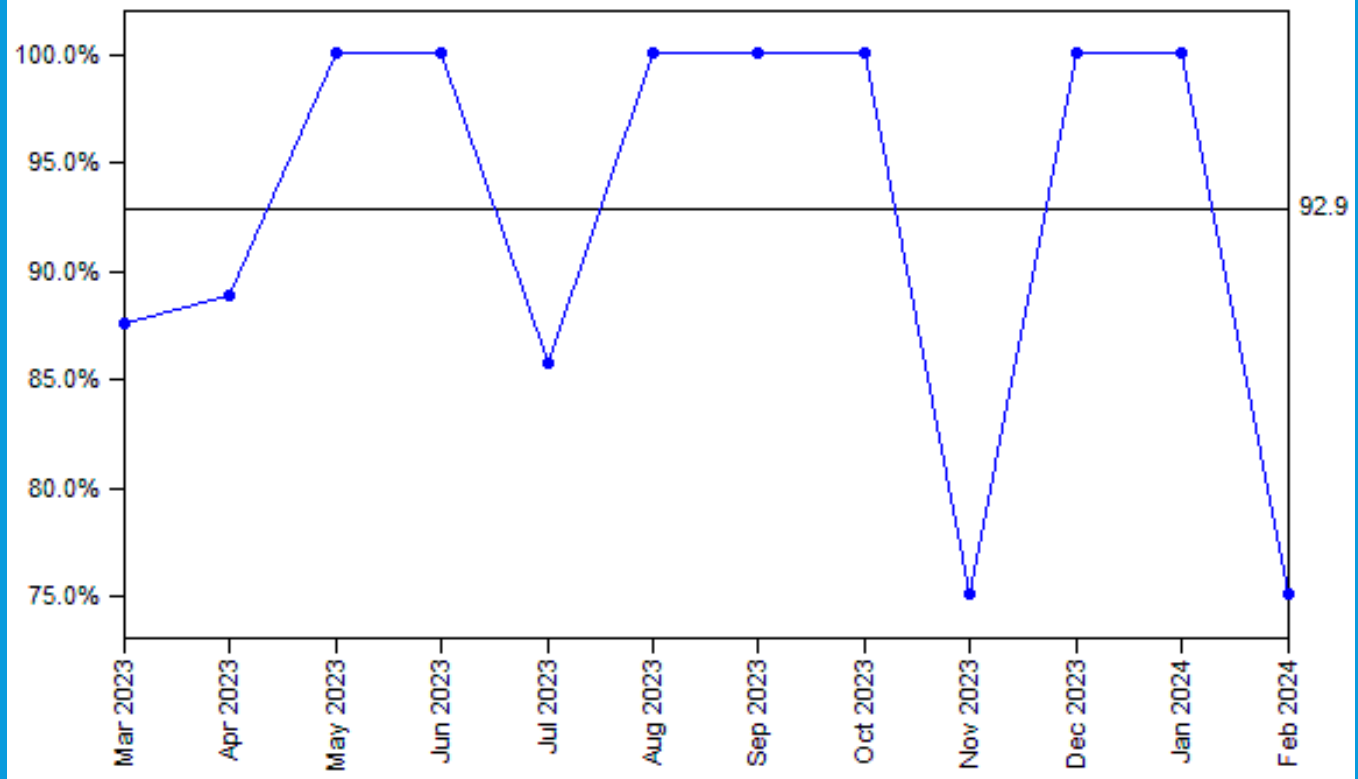
Core Sepsis ED 3 Hour Bundle Compliance MVH All
Facility = ALL



Month	Compliance	Eligible Cases	Compliance %
Feb 2024	2	2	100.0%
Jan 2024	3	4	75.0%
Dec 2023	4	5	80.0%
Nov 2023	4	6	66.7%
Oct 2023	8	10	80.0%
Sep 2023	8	9	88.9%
Aug 2023	3	4	75.0%
Jul 2023	4	7	57.1%
Jun 2023	5	7	71.4%
May 2023	7	9	77.8%
Apr 2023	5	6	83.3%
Mar 2023	5	5	100.0%
Feb 2023	7	7	100.0%

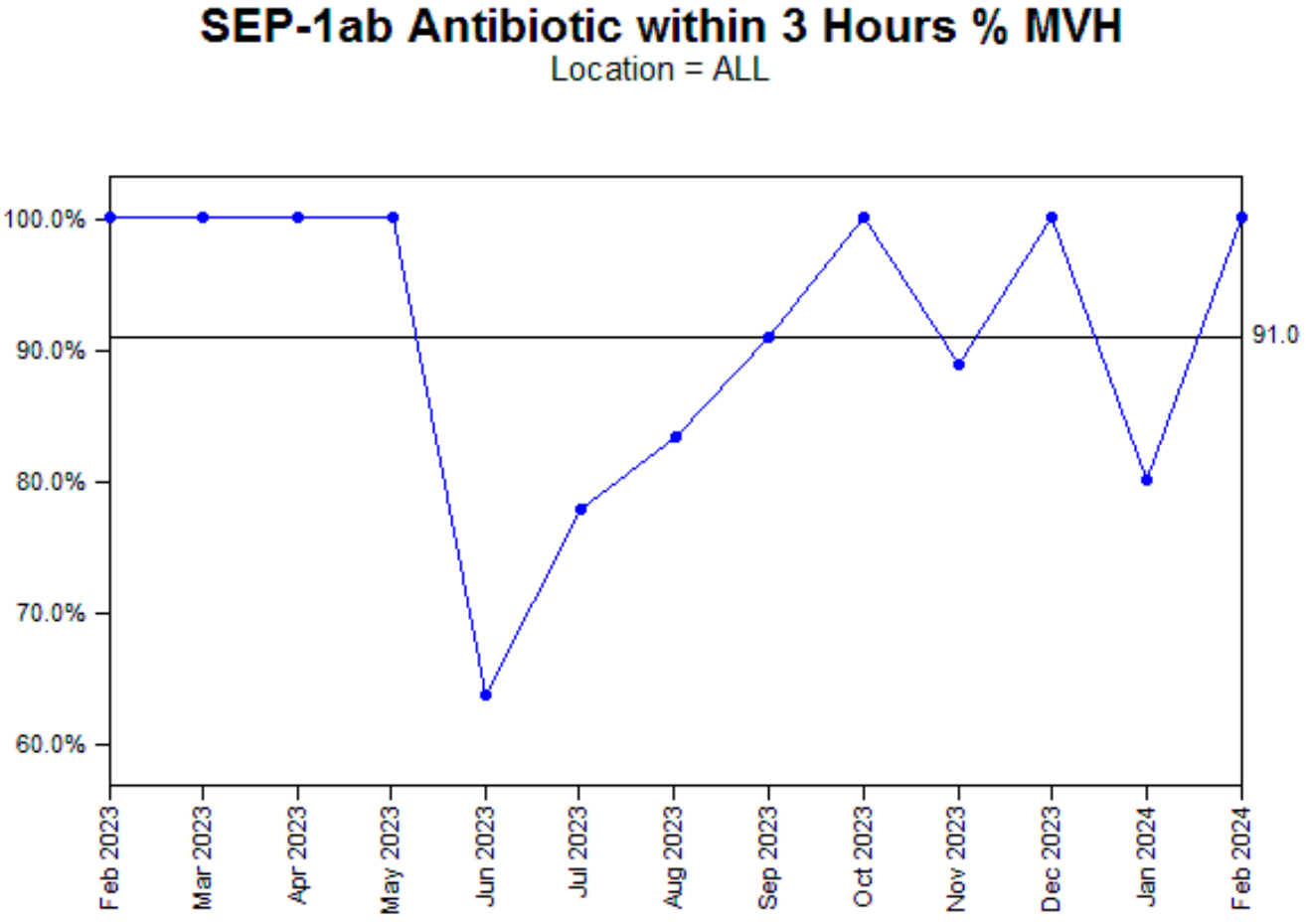
EARLY BUNDLE COMPLIANCE - INITIAL LACTATE WITHIN 3 HRS.

SEP-1aa Initial Lactate in 3 Hours % MVH
Location = ALL



Month	SEP 1aa Numerator	SEP 1aa Denominator	Percent
Feb 2024	3	4	75.0%
Jan 2024	3	3	100.0%
Dec 2023	6	6	100.0%
Nov 2023	6	8	75.0%
Oct 2023	10	10	100.0%
Sep 2023	10	10	100.0%
Aug 2023	4	4	100.0%
Jul 2023	6	7	85.7%
Jun 2023	7	7	100.0%
May 2023	8	8	100.0%
Apr 2023	8	9	88.9%
Mar 2023	7	8	87.5%

EARLY BUNDLE COMPLIANCE - ANTIBIOTICS WITHIN 3 HRS.

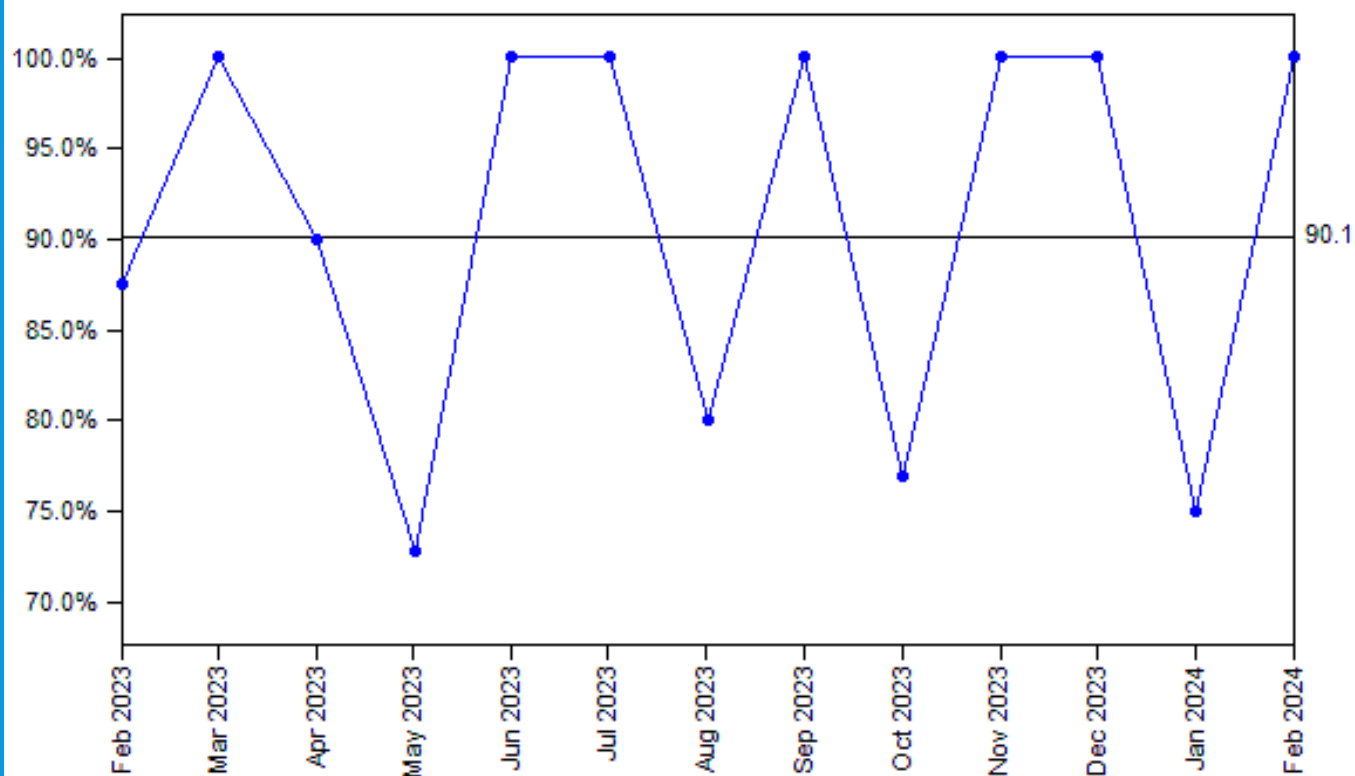


Month	SEP 1ab Numerator	SEP 1ab Denominator	Percent
Feb 2024	4	4	100.0%
Jan 2024	4	5	80.0%
Dec 2023	6	6	100.0%
Nov 2023	8	9	88.9%
Oct 2023	13	13	100.0%
Sep 2023	10	11	90.9%
Aug 2023	5	6	83.3%
Jul 2023	7	9	77.8%
Jun 2023	7	11	63.6%
May 2023	11	11	100.0%
Apr 2023	10	10	100.0%
Mar 2023	8	8	100.0%
Feb 2023	8	8	100.0%

EARLY BUNDLE COMPLIANCE - BLOOD CULTURES WITHIN 3 HRS.

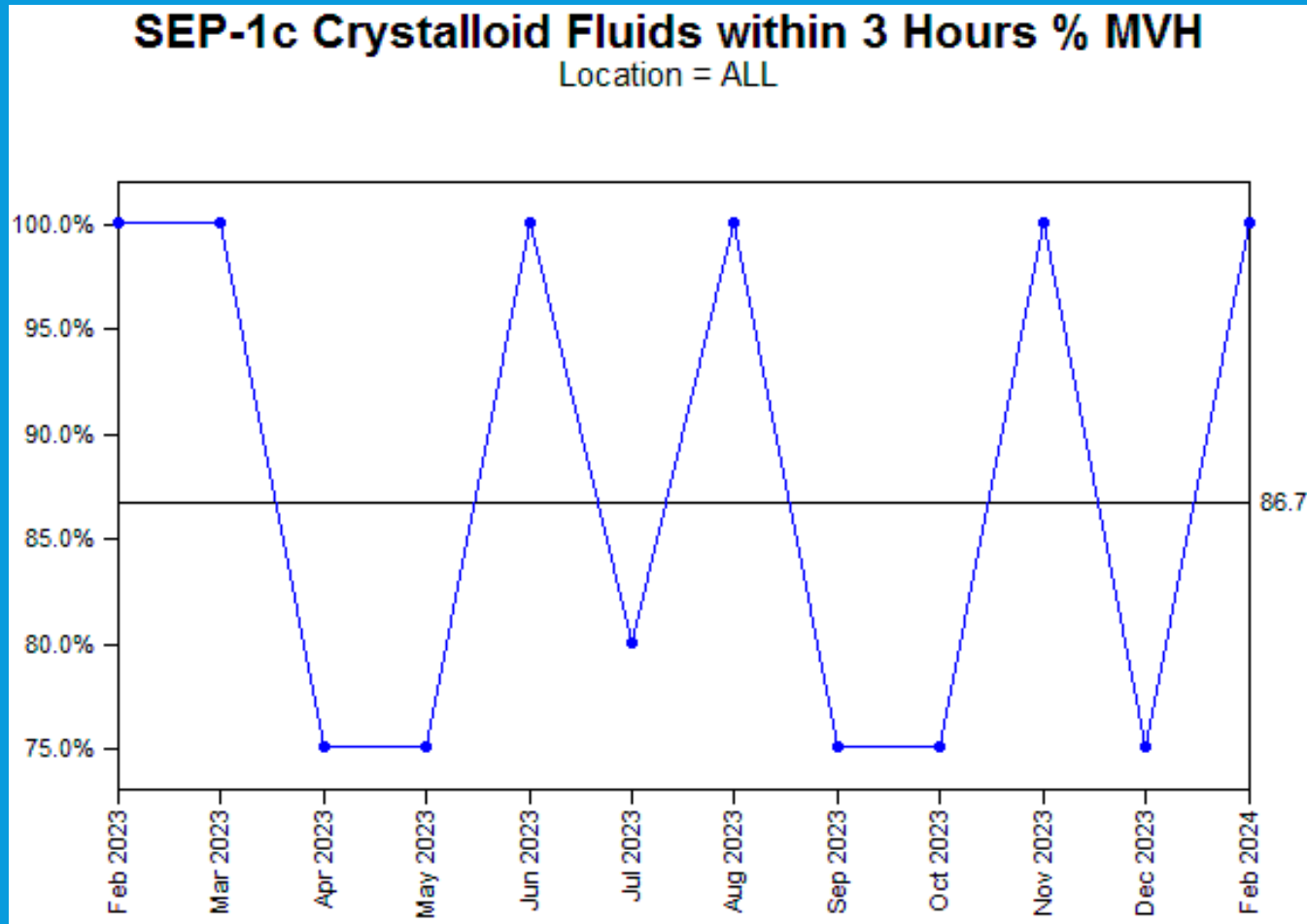
SEP-1ac Blood Cultures within 3 Hours % MVH

Location = ALL



Month	SEP 1ac Numerator	SEP 1ac Denominator	Percent
Feb 2024	4	4	100.0%
Jan 2024	3	4	75.0%
Dec 2023	6	6	100.0%
Nov 2023	8	8	100.0%
Oct 2023	10	13	76.9%
Sep 2023	10	10	100.0%
Aug 2023	4	5	80.0%
Jul 2023	7	7	100.0%
Jun 2023	7	7	100.0%
May 2023	8	11	72.7%
Apr 2023	9	10	90.0%
Mar 2023	8	8	100.0%
Feb 2023	7	8	87.5%

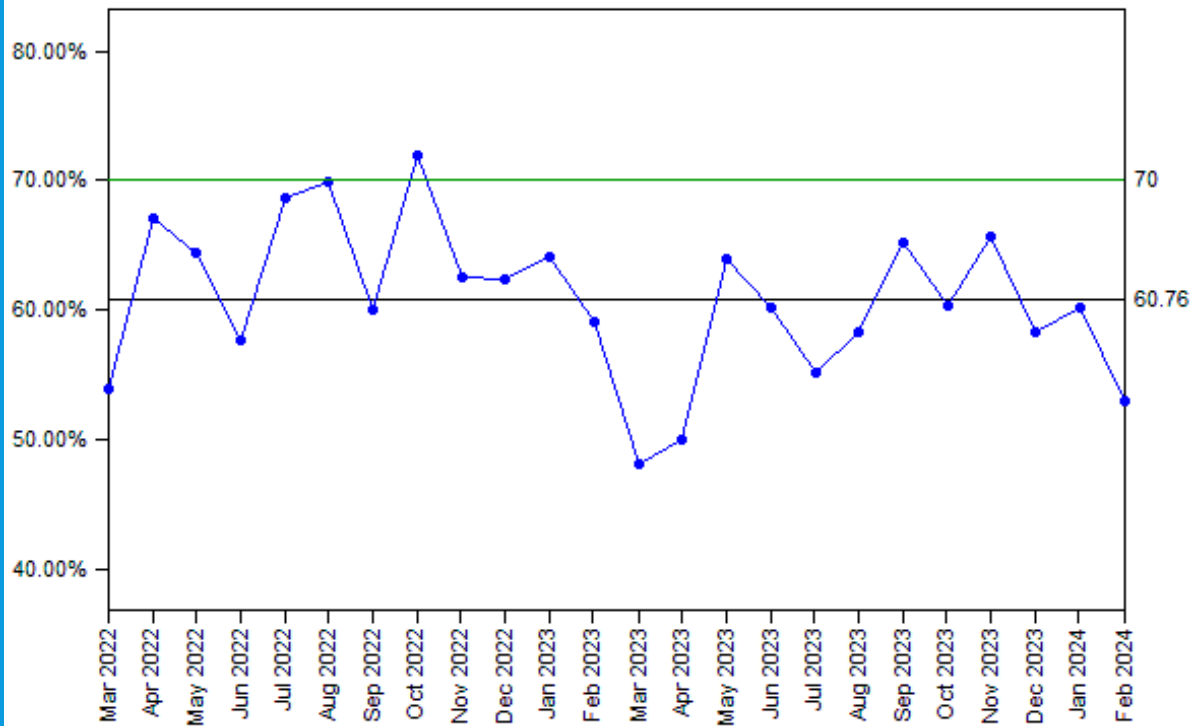
EARLY BUNDLE COMPLIANCE - CRYSTALLOID FLUID WITHIN 3 HRS.



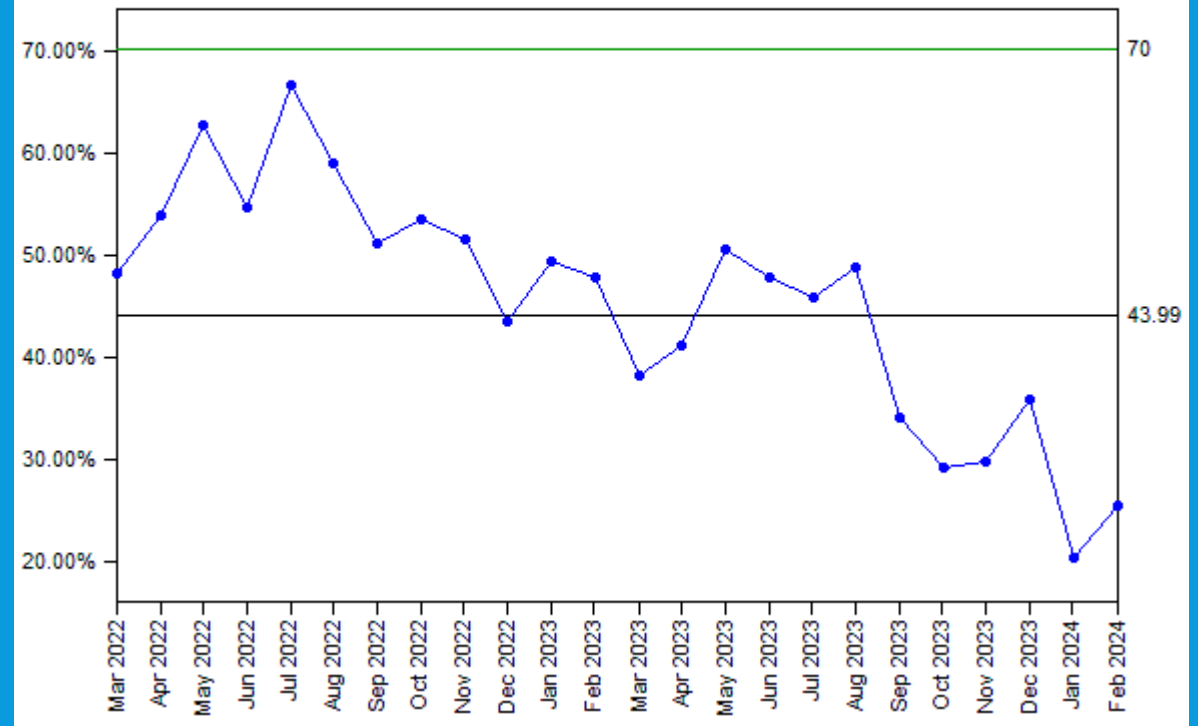
Month	SEP 1c Numerator	SEP 1c Denominator	Percent
Feb 2024	1	1	100.0%
Dec 2023	3	4	75.0%
Nov 2023	4	4	100.0%
Oct 2023	3	4	75.0%
Sep 2023	3	4	75.0%
Aug 2023	3	3	100.0%
Jul 2023	4	5	80.0%
Jun 2023	4	4	100.0%
May 2023	3	4	75.0%
Apr 2023	3	4	75.0%
Mar 2023	4	4	100.0%
Feb 2023	4	4	100.0%

ORDERS SET UTILIZATION – MVH MAIN

Sepsis ED Orderset Usage overall Rate - MVH Main

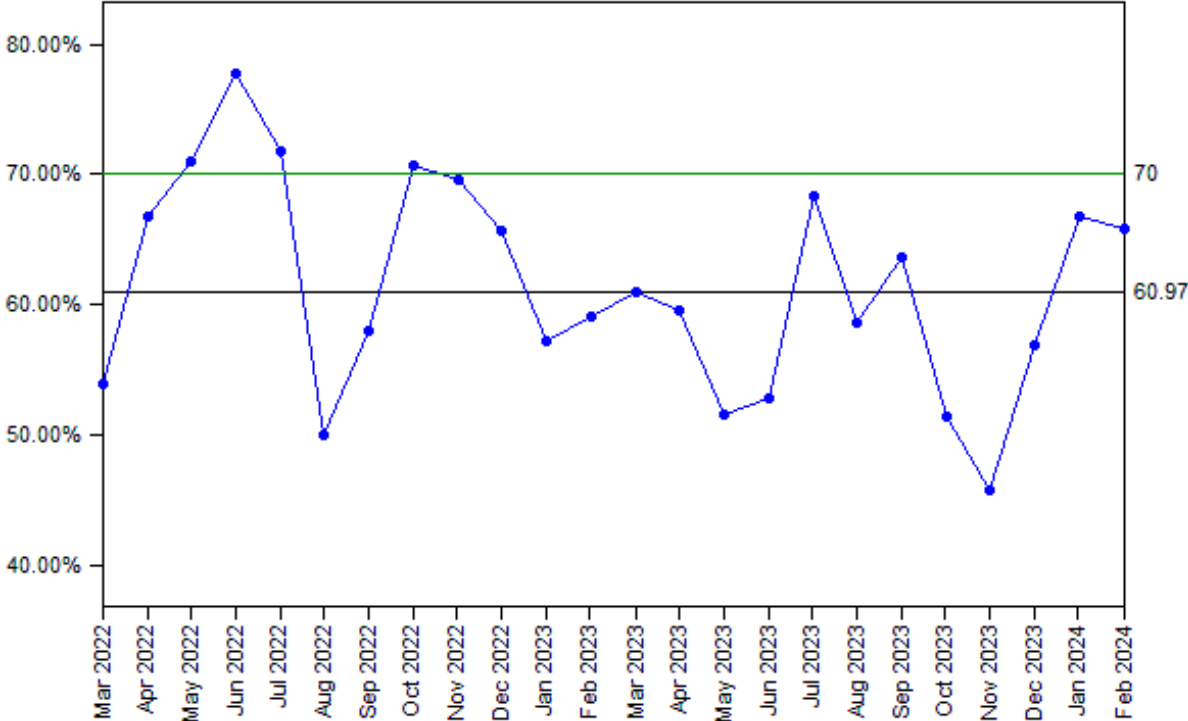


Sepsis IP Orderset Usage overall Rate - MVH Main

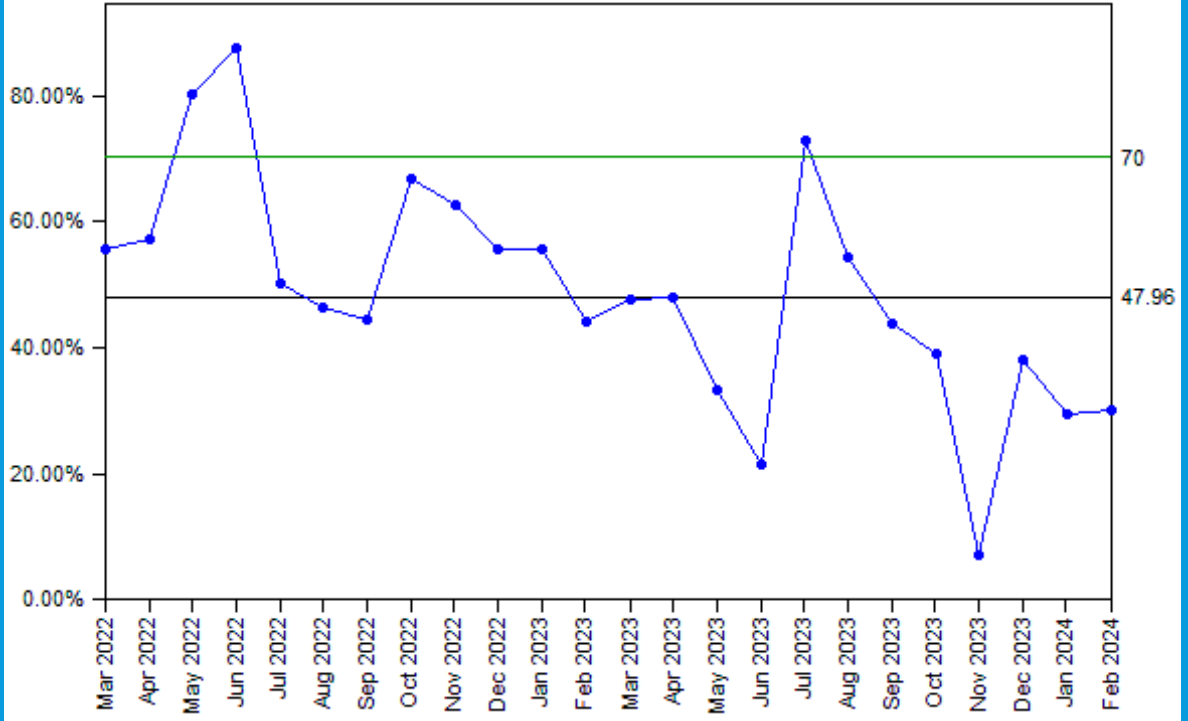


ORDERS SET UTILIZATION – MVH NORTH

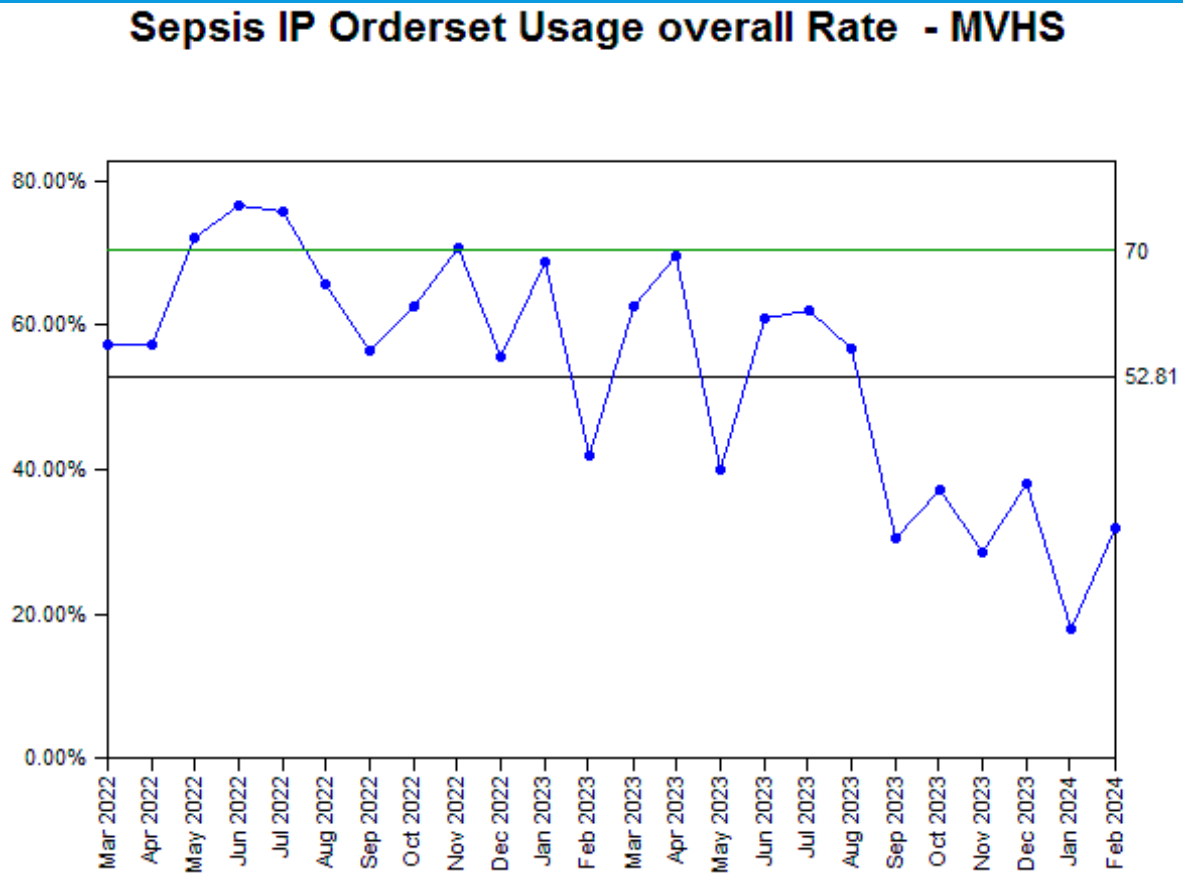
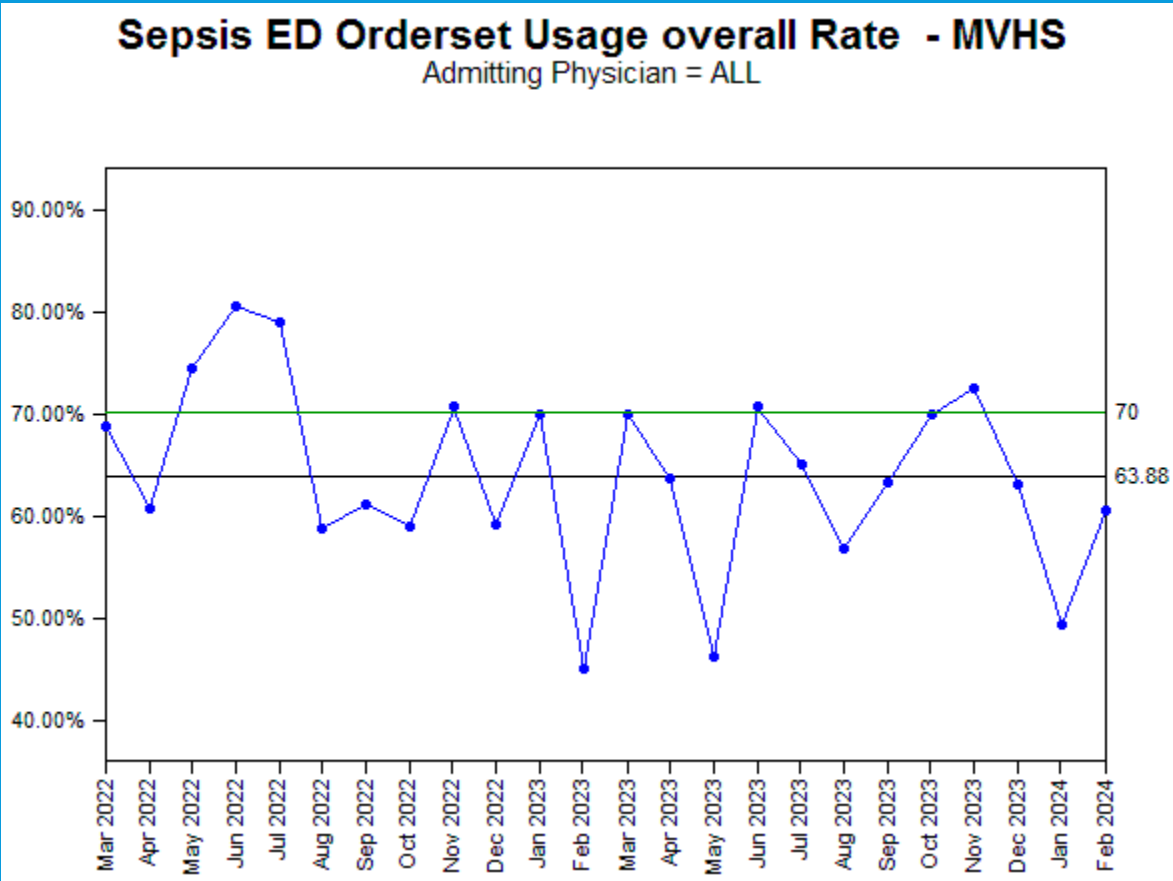
Sepsis ED Orderset Usage overall Rate - MVHN
 Admitting Physician = ALL



Sepsis IP Orderset Usage overall Rate - MVHN



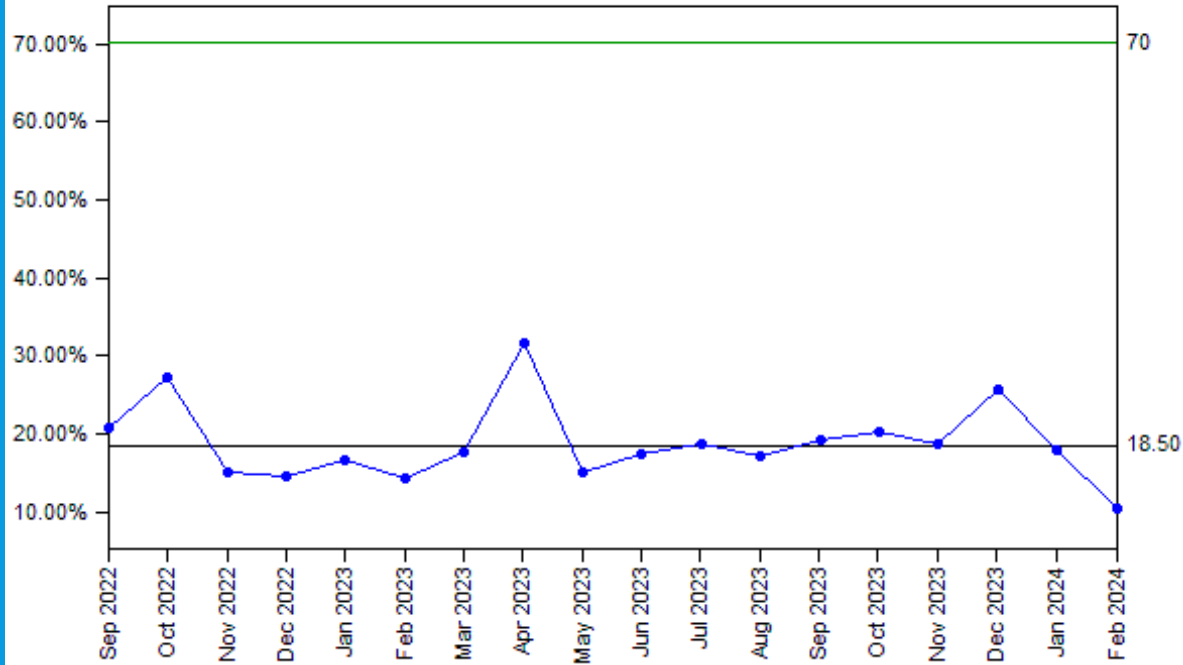
ORDERS SET UTILIZATION – MVH SOUTH



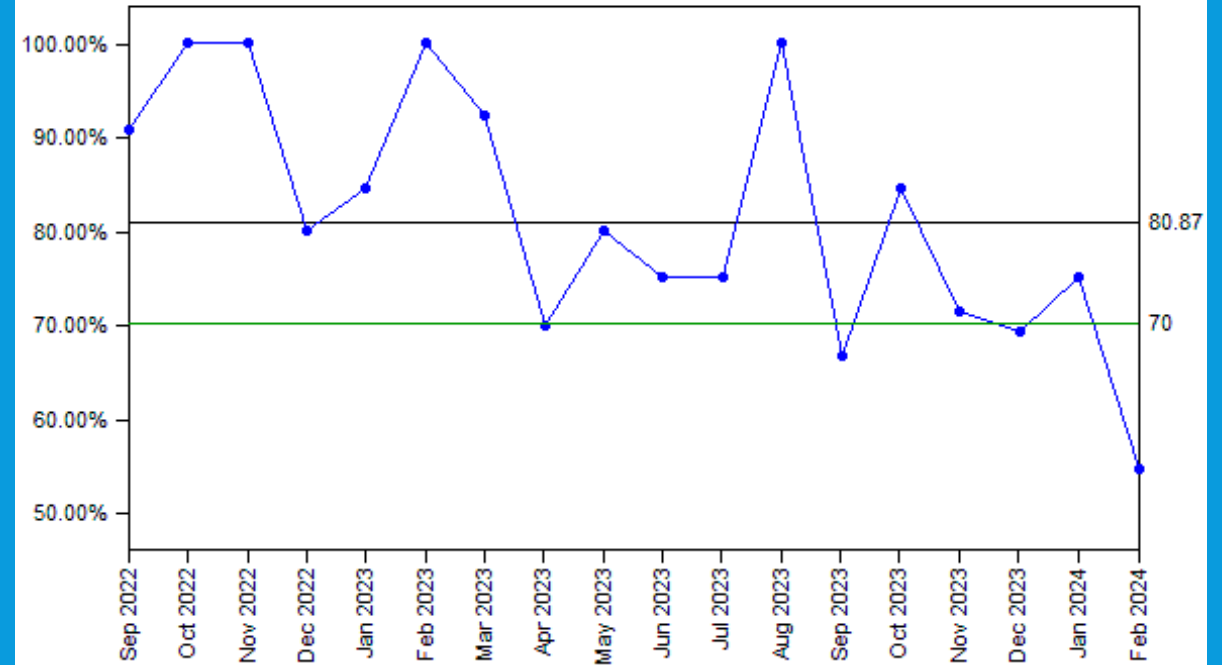
CRITICAL CARE ORDERS SET UTILIZATION

Sepsis Admission Order Set in ICU MVH

First IP ICU Location = ALL

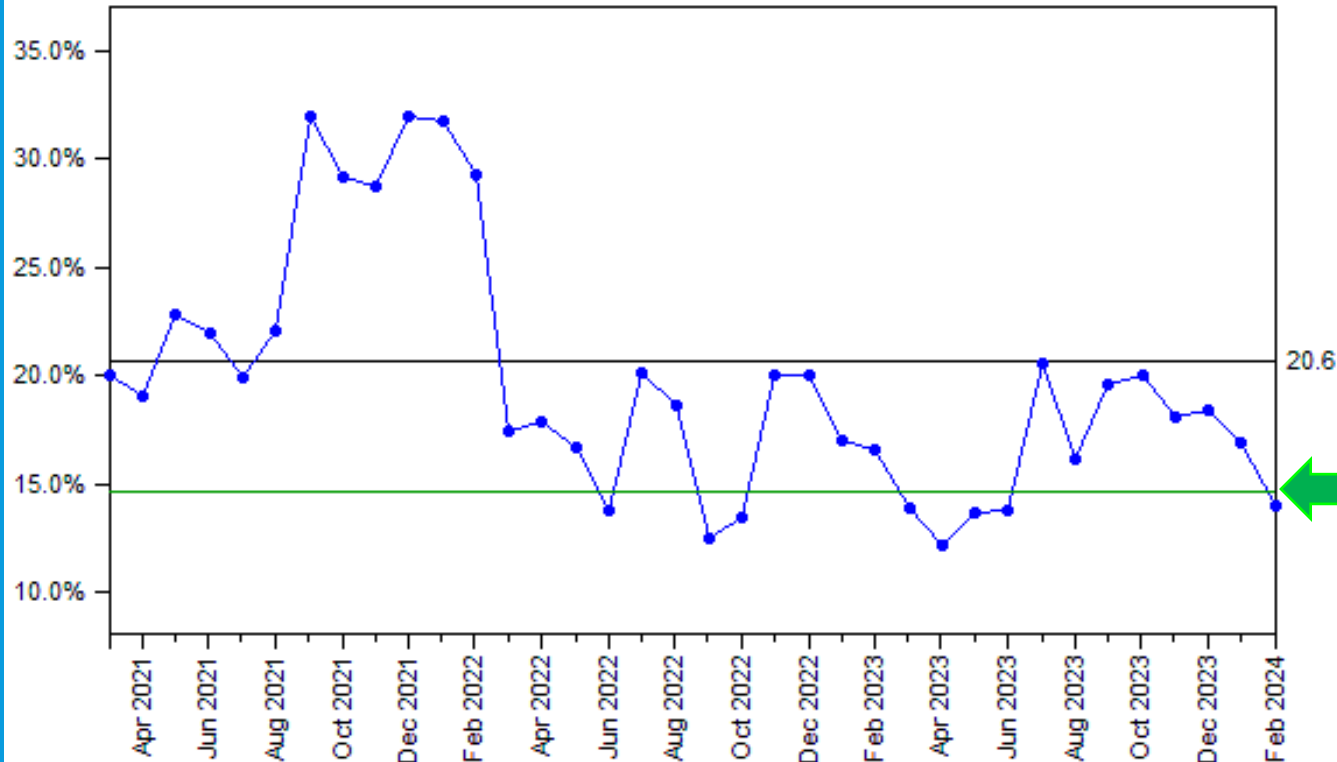


Sepsis Admission Order Set in ICU MVHS



FEBRUARY MORTALITIES

Severe Sepsis, Septic Shock Mortality % MVH
MVH Campus = ALL



Target = 14.52%

Month	Severe Sepsis Mortality	Severe Sepsis Eligible Discharges	Percent
Feb 2024	38	272	14.0%
Jan 2024	52	308	16.9%
Dec 2023	49	267	18.4%
Nov 2023	42	233	18.0%
Oct 2023	45	226	19.9%
Sep 2023	41	210	19.5%
Aug 2023	36	224	16.1%
Jul 2023	45	219	20.5%
Jun 2023	30	219	13.7%
May 2023	31	227	13.7%
Apr 2023	28	231	12.1%
Mar 2023	39	282	13.8%
Feb 2023	38	230	16.5%

FEBRUARY MORTALITIES PER OHA

	February	January
Mortalities	38	52
• Non Covid Mortalities	32	44
Sepsis POA	65.8%	65.4%
ICU vs non- ICU		
• Admitted to ICU	65.8%	50%
• Admitted to medical unit	34.2%	46.2%
From ECF (No trend, all separate facilities)	23.7%	26.9%
DNR on admit	18.4%	9.6%
Made DNR during encounter	73.7%	84.6%

JANUARY/FEBRUARY OFI OVERVIEW

***OFI – 4 (1 excluded)**

- Location/Attribution

- MVH Emergency – Lab
- MVN Emergency – Hospitalist (excluded)
- MVHS PCU5 – Nursing
- MVHS PCU4 – Hospitalist

- Sepsis order set

- Used in 3 of 4
 - 0 with both order sets
 - 2 with ED order set
 - 1 with IP order set
 - 1 with neither order set

OFI # 1 – MVH EMERGENCY

ATTRIBUTION: LAB

Details:

- Severe sepsis presentation: 12/31@2301 with documentation in the ED that severe sepsis met criteria.
- Severe sepsis criteria would have met: 12/31@2344.
- Zosyn: 1/1@0133

Notes:

- Initial lactate: 12/31@2327=4.6
 - Repeat lactate: 1/1@0332
- Patient was hypotensive, however did not meet criteria for initial hypotension.
- Septic shock was documented as present on admission, however will meet criteria with result of lactate >4.
- 30ml/kg of crystalloid fluids were not received.
 - This would have been OFI as well.
 - There was documentation noted in the ED that "cautious fluids 2/2 underlying CHF", however no amount ordered was documented.

Location responsible: MVH LAB

Discharge Date: 1/14/24

Admission Date: 1/1/24

Opportunity for Improvement: SEP1: A blood culture was not collected in the specified time frame.

Action needed to Recapture OFI: None. This will remain an OFI.

Deadline for Correction: NA

Staff/Provider Responsible: LAB

OFI:

- Blood culture: 1/1@0353 - This is not prior to the antibiotic or within 3hrs of severe sepsis presentation (by criteria or documentation that severe sepsis was present).
 - Blood culture was ordered: 12/31@2319.

Follow Up:

- Shared with Shelly Smith and Nicole Fisher for lab follow up

OFI – MVH EMERGENCY

EXCLUDED

Details:

- Severe sepsis presentation: 1/17@1348:
 - a) infection: 1/17@1348 - H&P(1454) documented sepsis d/t intra-abd infection present on admission, therefore infection time will be admission time. (1348).
 - b) SIRS: 1/17@1200 - RR=24 and 1/17@1232 - wbc=12.1
 - c) OD: 1/17@1250 - result of creatinine=2.2 (baseline 1.1).

OFI:

- Flagyl: 1/17@1727 - this is >3hrs of severe sepsis presentation
- Blood culture: 1/17@1712 - this is >3hrs of severe sepsis presentation
- Initial lactate: 1/17@1650=2.5 - this is >3hrs of severe sepsis presentation.

Notes:

- Because the infection was documented as present on admission, the infection time will be Inpatient order time.
- System sepsis order set was initiated.

Discharge Date: 1/21/24

Admission Date: 1/17/24

Opportunity for Improvement: SEP1: No antibiotic was administered within the specified time frame.

- Same with blood culture and lactate level

REASON FOR ADMISSION/CHIEF COMPLAINT: DKA, type 2, not at goal (HC CODE) [E11.10]

PRINCIPAL DIAGNOSIS* AND HOSPITAL PROBLEM LIST:

Principal Problem:

DKA, type 2, not at goal (HC CODE)

Active Problems:

New onset atrial flutter (HC CODE)

Acute kidney injury (AKI) with acute tubular necrosis (ATN) (HC CODE)

Sepsis with organ dysfunction was considered a differential but upon further workup the diagnosis of sepsis was ruled out

Follow Up:

- Discharge summary addendum adding that sepsis was ruled out, re-coded, excluded from sepsis case sample

OFI # 2 – MVHS PCU5

ATTRIBUTION: NURSING

Details:

- Severe sepsis presentation: 1/26@1745:
 - a) infection: 1/26@1745 - admission order. There was no infection source, however there was documentation that sepsis was present on admission.
 - Other infection sources: 1/26@1810 - indication on antibiotic and H&P documented sepsis present on admission.
 - b) SIRS: 1/26@1352 - result of wbc=27.7 and 1/26@1652 - RR=26
 - c) OD: 1/26@1633 - result of lactate=2.4

OFI:

- Zosyn: 1/27@0141 - this was not administered within 3hrs. of severe sepsis presentation.
- Antibiotic was ordered on 1/26@1810, Nursing acknowledged the order on 1/26@1957, however was not received until 1/27@0141.
- There was a time on the MAR (1830), but did not state the antibiotic was administered.

Discharge Date: 12/19/23

Admission Date: 12/12/23

Opportunity for Improvement: SEP1: Blood cultures were drawn after the antibiotic administration. No acceptable delay noted.

Action needed to Recapture OFI: If there was a reason for the antibiotic to be given prior to the blood culture, the ED provider would need to document the reason.

- Nursing order to give antibiotic prior.

Notes:

- Blood culture and lactate were collected timely.
- "flu-like symptoms" was documented, however sepsis also was documented. Infection does not seem to have a source via documentation.
- Discussed with admitting hospitalist – bacteremia was still in the differential on admission, so abx required.
- ED sepsis orderset was initiated.

Follow Up:

- Shared with Morgan Nichols, PCU5 NM, for nursing follow up

OFI # 3 – MVHS PCU4

ATTRIBUTION: HOSPITALIST

Details:

- Severe sepsis presentation: 2/10@0758:
 - a) infection: 2/10@0758 - acute diverticulitis/sepsis documentation
 - b) SIRS: 2/10@0200 - HR=91 and 2/10@0522 - result of wbc=13.9
 - c) OD: 2/10@0336 - SBP<90
- Flagyl: 2/9@1529
- Rocephin: 2/9@1534
- Zosyn: 2/9@1629
- Blood culture: 2/9@1529

Notes:

- The only organ dysfunction was 1 SBP<90 on 2/10@0336.
 - If this reading was felt not related to sepsis, an amendment can be made in the H&P stating the SBP<90 was not related to infection.
- No BPA fired
- No sepsis order set was initiated.

Location responsible: PCU4

Discharge Date: 2/11/24

Admission Date: 2/9/24

Opportunity for Improvement: SEP1: An initial lactate level was not drawn in the time window between six hours prior to and three hours following the presentation of severe sepsis.

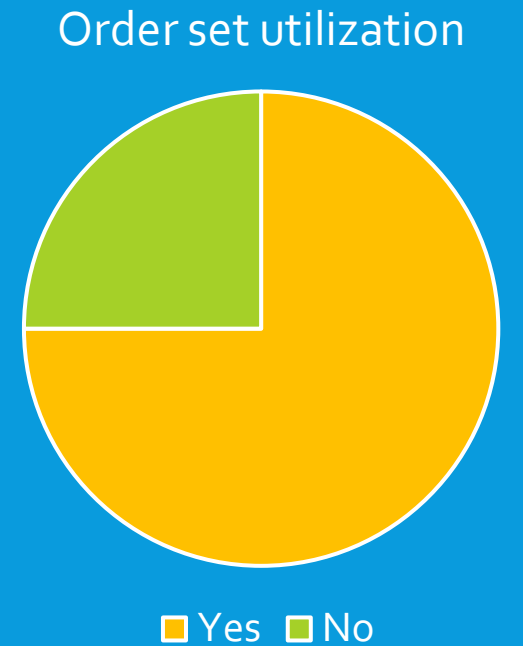
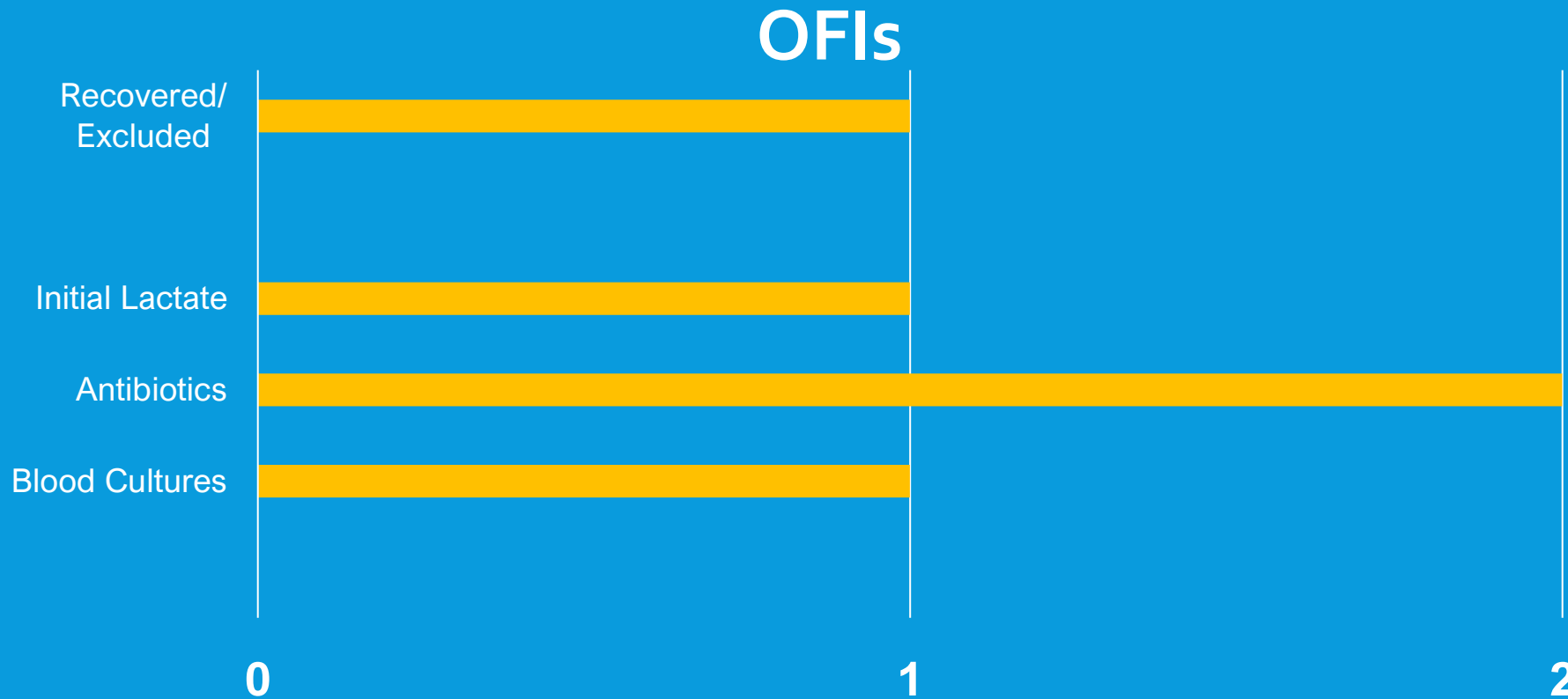
OFI:

- No lactate was ordered/collected.

Follow Up:

- Shared with Dr. Poulos. More education regarding order set utilization to be shared to MVHS Hospitalist group.

JANUARY/FEBRUARY OFI THEMES

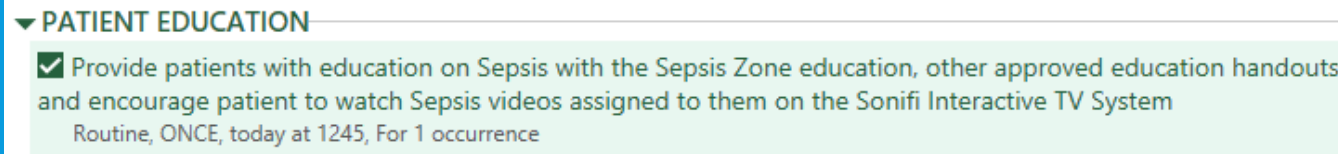


FOLLOW UP ITEMS

- ECF Education re: early recognition of sepsis and post-discharge education
 - Evaluated Sepsis readmission list from Q4 2023
 - Met with Dawn Hipp to discuss readmissions, identify facilities with highest sepsis readmission rates
 - Attended SpringMeade/PH Collaboration call to start introduction
 - Need to develop more meaningful questions to ask ECFs at this meeting more specific to sepsis
- Early Identification Alert – System process for ED early detection
 - Went live 2/7
 - Nursing Education sent from Wendy Mitchell
 - Erin sent Q/A to ED Educators
 - Provider education sent by Tech ED prior to go live

ACTION PLAN

- System-wide Sepsis Gap Analysis complete 1/2024
 - Opportunities for multidisciplinary collaboration, sepsis education, post-discharge sepsis care
 - Adding below order to System Sepsis Order Set, adding mobility instructions



- Daily review of “MVH Predictive Sepsis” list - shows patients with high sepsis scores and signs of organ dysfunction (not just patients with BPA triggers)
 - Communicate opportunities with providers to prevent fallouts
- Monthly review of Sepsis mortalities
 - Determine if sepsis was mentioned in discharge summary
 - If it wasn't, see if it was ruled out and coded wrong
- Ongoing nursing education, i.e. Nurse Residency program, annual competencies, HealthStream Q4 education
 - First ED Nursing Orientation Sepsis class on May 21st

ROUNDTABLE

NEXT MEETING SCHEDULED FOR MONDAY, MAY 27TH – MEMORIAL DAY

- Do we want to shift forward to May 20th or back to June 3rd?
- Let me know if you have anything to add for the next meeting agenda

Contact Information:

- Erin Macsay, MSN, APRN, ACCNS-AG
eemacsay@premierhealth.com
- Office phone: 937-208-3534