Bryan Health

Sepsis QAPI 2022

POOR	Meeting Benchmark	Exceeding Benchmark

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
56.25%	100%	91.67%	72.23%	81.82%	88.89%						
9/16	7/7	11/12	8/11	9/11	8/9						
6 excluded	11 excluded	13 excluded	10 excluded	10 excluded	6 excluded						

KRMC Sepsis Bundle Compliance

KEARNEY REGIONAL Medical Center

CY 2019=48.89%

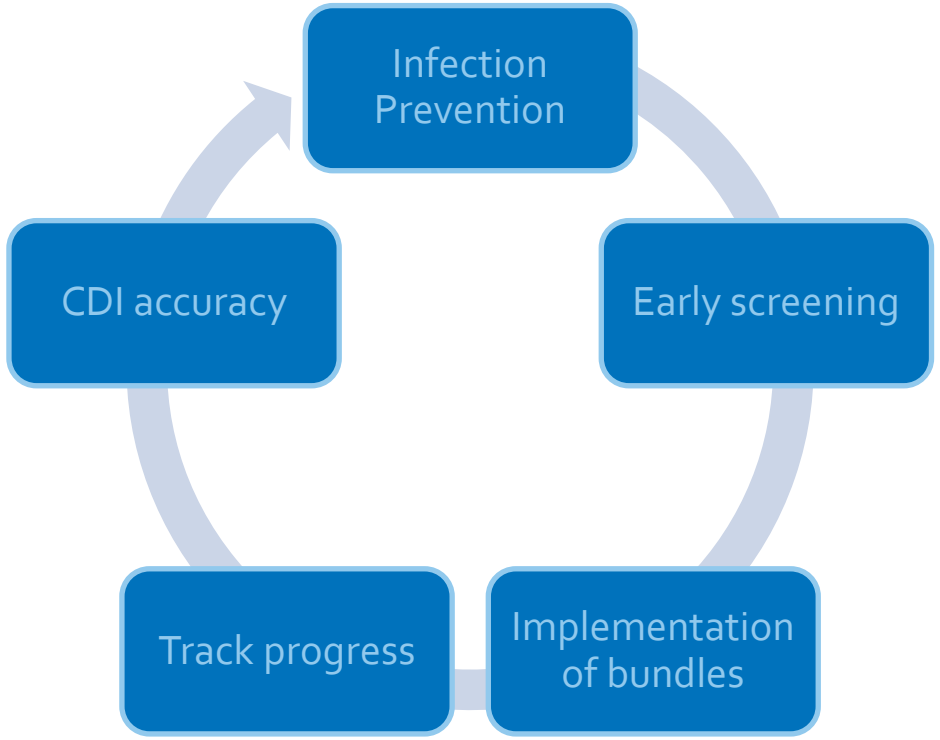
CY 2020=60.42%

CY 2021=65.49%

CY 2022=78.79%

Where we are at:

- Continue:
  - PI program with multi-disciplinary collaboration
    - Monthly meetings
    - Gap analysis with NHA (done)
  - Sepsis surveillance and screening
  - Data dashboard
    - Manual abstraction and tracking
  - Timely feedback for outliers
  - ER provider OPPE (concurrent)
  - EMR optimization
  - Education
- Goals: (70% overall compliance goal)
  - Communication to help drive bundle compliance
  - T2 Biosystems analysis (hold)
  - Track ER specific data and readmissions
  - Door/Order to antibiotic time



Outliers by Quarter:

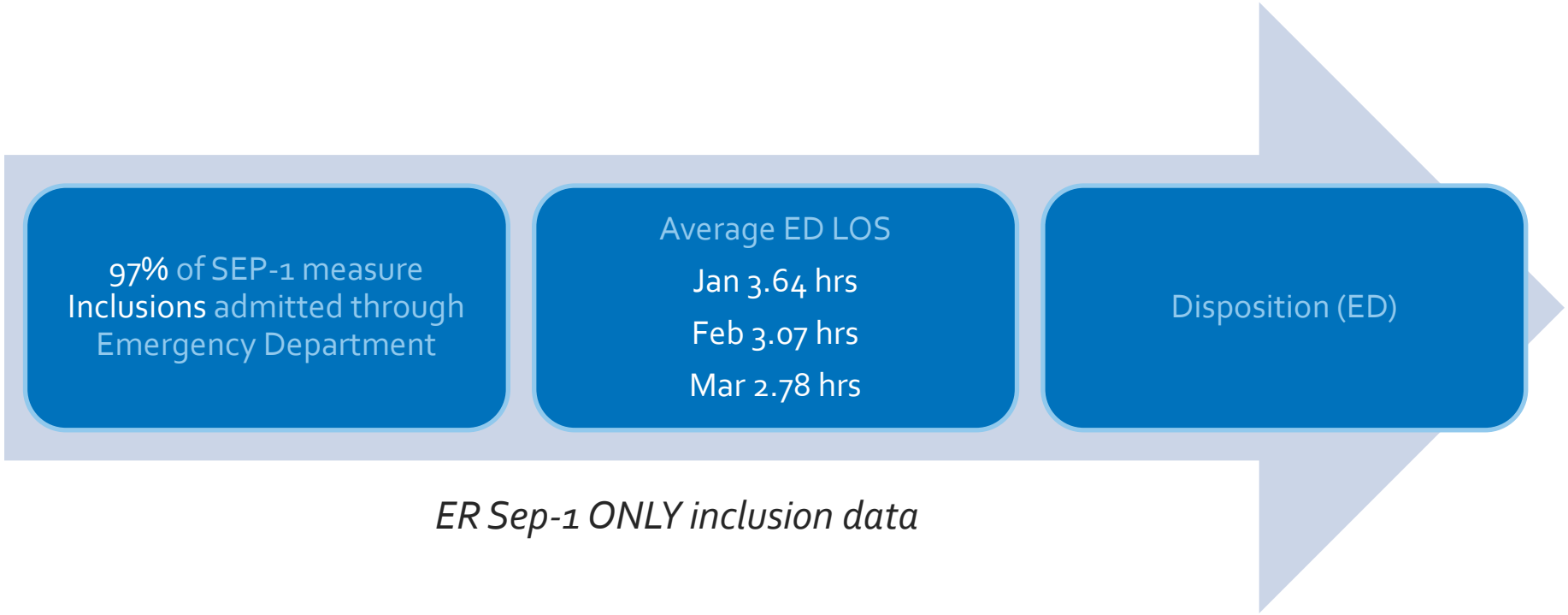
	Initial Lactate	Blood Cultures	Late Antibiotic	Repeat Lactate	Fluid bolus 30ml/kg	Persistent hypotension	Vasopressor Initiated	Focused Exam (within 6 hrs of fluid bolus)
Q1	2	3	3	2	4	1	--	2
Q2	1	1	1	1	1	--	1	2

Outlier opportunities:

- AKI baseline if available within 6 hrs OR any reason for AKI besides infection
- Sepsis workup on known infectious patients with non-infectious visits
- Provider documentation of 1) target fluid volume 2) reason WHY giving <30ml/kg
- Tissue perfusion exam: Attest or review 5/8 parameters

This does not match # of fallouts, as looking at all bundle requirements for each case.

ER Specific data: Q1

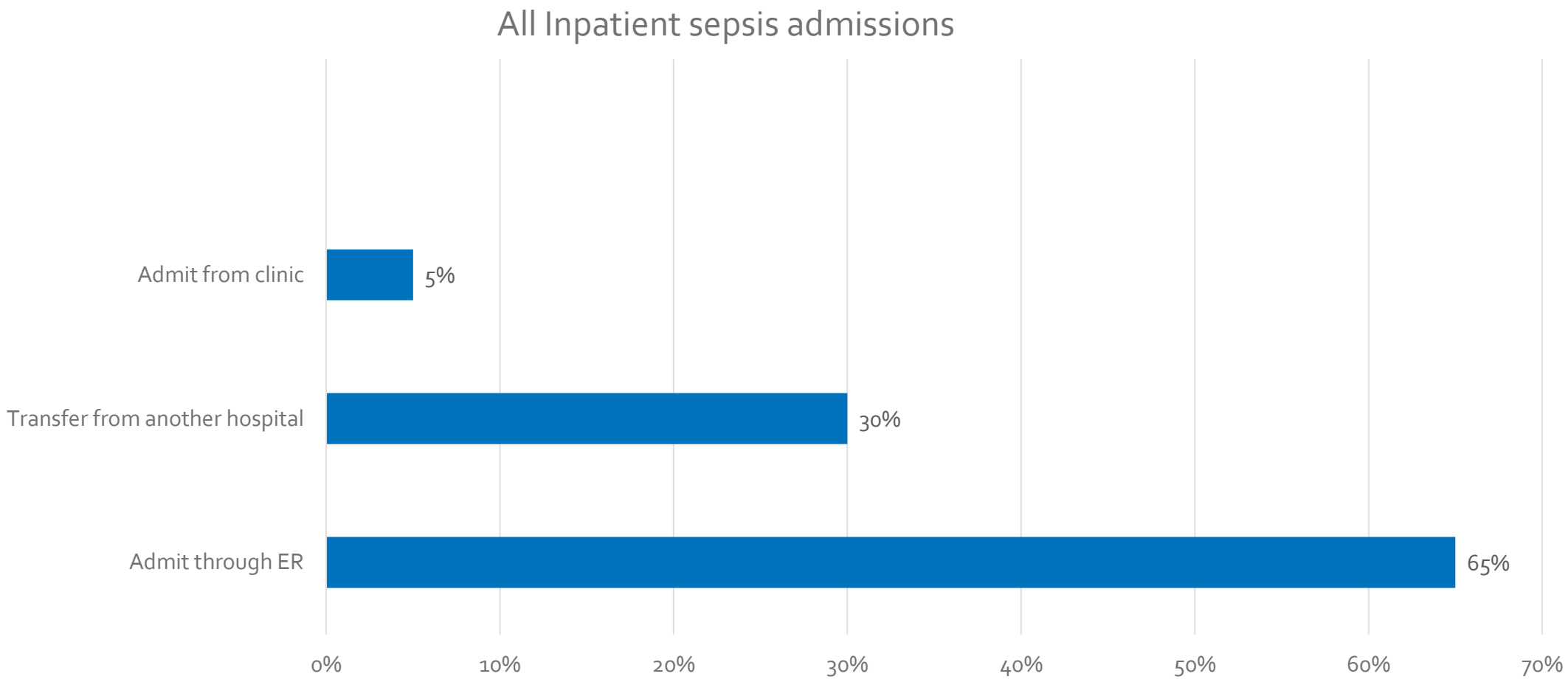


Home x16
SNF x8
ALF x1
Inpt rehab x2
LTAC x1
Xfer acute care x2
Hospice x1
Expire x4

ER Sep-1 ONLY inclusion data

- ED outliers:
  - ----------(late antibiotics)
  - ---------(nursing error fluids)
  - ----------(no blood culture, lactic, abx documentation)
  - ----------(fluid ordered, then discontinued by pharmacy-no explanation)

Hospital-wide data: Q1



Average LOS: (includes all inpt sepsis diagnoses)

DRG	LOS	Q1	Q2	Q3	Q4
DRG 907 Other OR Procedures for injuries with MCC	Ave (9.6 days)	1			
DRG 896 Alcohol, drug abuse or dependence without rehab	Ave (7.0 days)	1			
DRG 870 Septicemia or severe sepsis with MV >96 hrs	Ave (14.5 days)	1			
DRG 871 Septicemia or severe sepsis without MV >96 hrs with MCC	Ave (6.2 days)	39			
DRG 872 Septicemia or severe sepsis without MV >96 hrs without MCC	Ave (4.2 days)	4			
DRG 853 Infectious and parasitic disease with OR procedure with MCC	Ave (12.5 days)	5			
DRG 854 Infectious and parasitic disease with OR procedure with CC	Ave (6.6 days)	1			
DRG 720 Septicemia and disseminated infections	Based on severity	2			
DRG 710 Infectious and parasitic disease including HIV W OR Procedure	Based on severity	2			
DRG 441 Disorders of liver except malignancy, cirrhosis, or alcoholic hepatitis	Ave (6.4 days)	1			
DRG 521 Hip Replacement with Principal Diagnosis of Hip Fx with MCC	Ave (7.2 days)	1			
DRG 314 Other Circulatory System Diagnosis with MCC	Ave (6.6 days)	3			
DRG 070 Non-specific Cerebrovascular Disorders with MCC	Ave (6.2 days)	1			

Jan	Feb	Mar							
7.04 days	7.72 days	7.05 days							

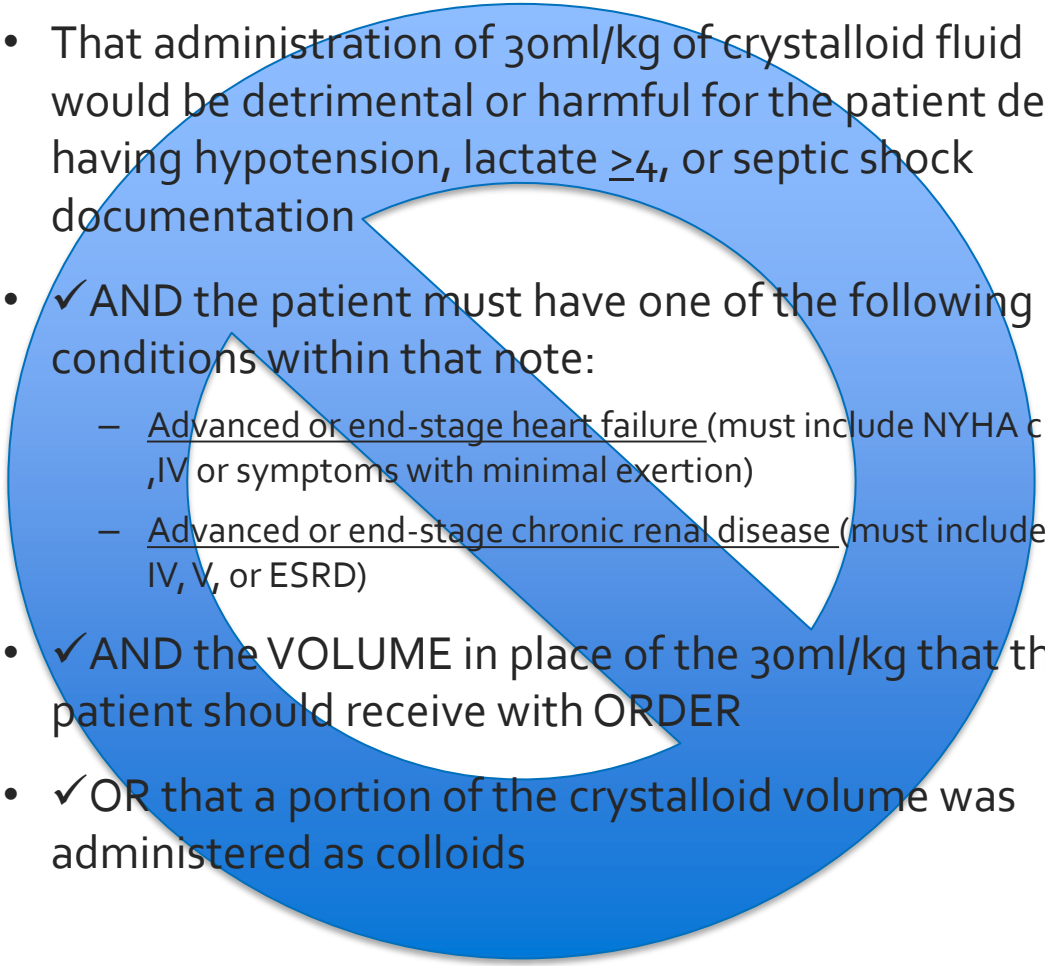
MCC=Major complication or comorbidity

Readmissions: January

Initial Account Number	Patient Name	Financial Class Name	Initial Attending Provider	Initial DRG ID	Initial DRG	LOS	Initial Discharge Disposition	Initial Admit Date	Initial Discharge Date	Readm Account Number	Readm DRG ID	Readmission Summary	Readm LOS	Readm Date	Readm DC Disposition

patient information removed

V5.11 Fluid Updates: (OLD to NEW)



- That administration of 30ml/kg of crystalloid fluid would be detrimental or harmful for the patient despite having hypotension, lactate ≥4, or septic shock documentation
- ✓AND the patient must have one of the following conditions within that note:
  - Advanced or end-stage heart failure (must include NYHA class III ,IV or symptoms with minimal exertion)
  - Advanced or end-stage chronic renal disease (must include stage IV, V, or ESRD)
- ✓AND the VOLUME in place of the 30ml/kg that the patient should receive with ORDER
- ✓OR that a portion of the crystalloid volume was administered as colloids

- **The amount of volume to bolus**
  - •This can be a specific volume (ex: 1500ml) OR weight based (ex: 20ml/kg)
  - •Still must be a balanced crystalloid fluid, but once target reached could change to bicarb, etc.

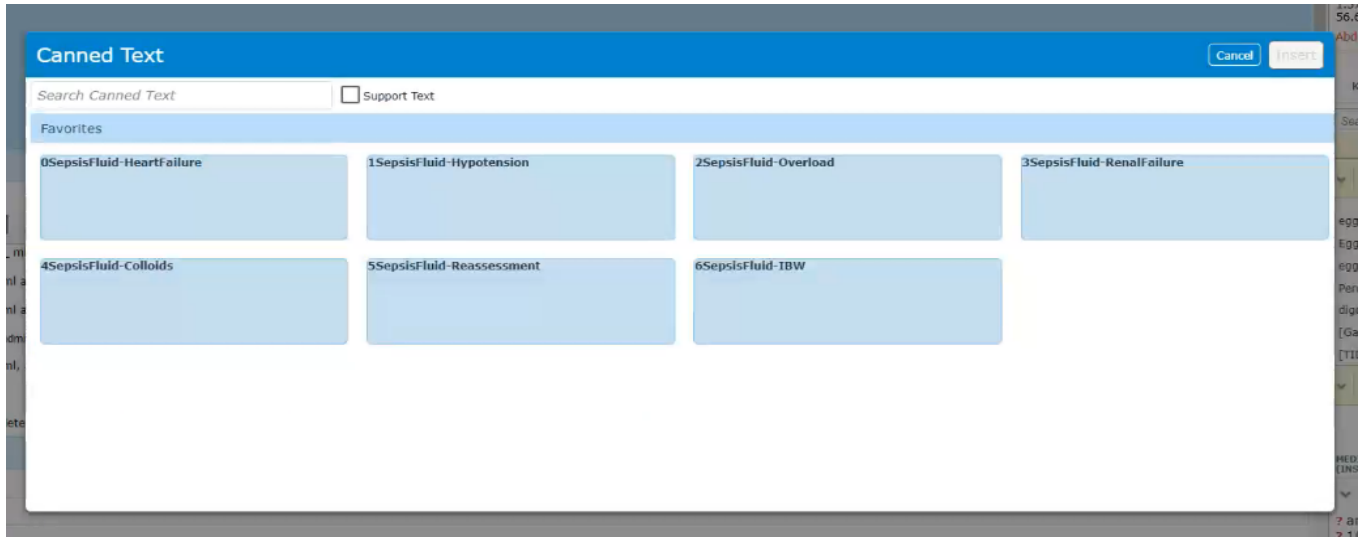
- **The reason for the lesser volume (not limited to):**
  - Heart Failure
  - Renal Failure
  - Fluid Overload
  - Blood Pressure responded to lesser volume
  - Portion given as colloids

- **Evaluate tissue perfusion/volume reassessment (within 6hrs of crystalloid start time)**
  - I have evaluated the patient post fluid bolus
  - Patient evaluated after 1L NS, plan to give 500ml additional
  - Sepsis re-examination complete

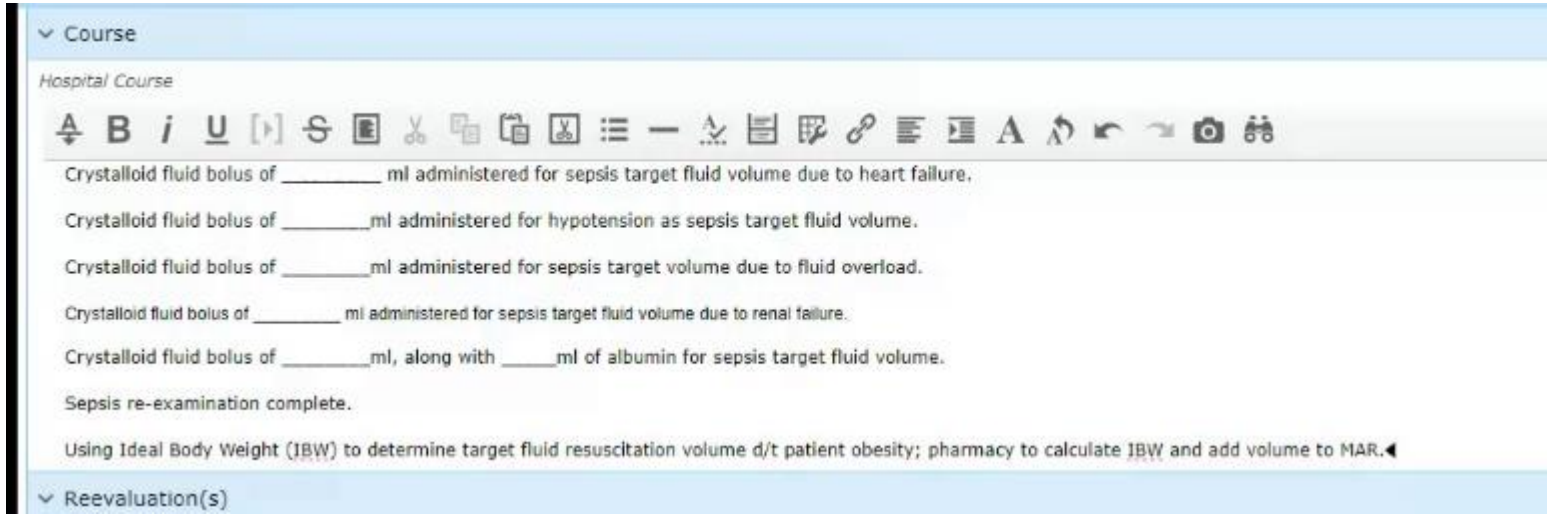
IBW always an option if the patient BMI >30. MUST document "IBW fluid orders due to obesity" or use specific IBW order

Canned Text

0SepsisFluid-HeartFailure
1SepsisFluid-Hypotension
2SepsisFluid-Overload
3SepsisFluid-RenalFailure
4SepsisFluid-Colloids
5SepsisFluid-Reassessment
6SepsisFluid-IBW



Opportunity:
Providers please add date/time with sepsis reassessment



Fluid research

- Sepsis Alliance
  - SMART and SALT-ED Trials with 29k patients comparing saline to balanced crystalloid
    - Saline led to a higher incidence of AKI (acute kidney injury)
      - Issues:
        - » High sodium and chloride content
        - » Hyperchloremia may lead to renal vasoconstriction, reduced renal blood flow, & kidney injury
        - » Acidosis
          - Recommendations=
            - Balanced crystalloids instead of NS (LR and Normosol)
            - Albumin in patients who receive large volumes of crystalloids over just using crystalloids alone

Surviving Sepsis Campaign: International Guidelines for the Management of Sepsis and Septic Shock 2021. Evans,
Rhodes, Alhazzani et al. *Crit Care Med 2021*;49(11):e1063-e1143
Neyra JA et al *Crit Care Med*. 2017:43(9): 1938-1944. Yunos et al. (2012)
Self et al *NEJM* (2018); 378:9. Semler et al *NEJM* (2018); 378:9

Repeat volume status and tissue perfusion assessment

- Specified time frame (start of fluid bolus to 6-hrs post septic shock presentation)
- May consist of any one of the following three:
  1. **<u>Provider documentation attesting to performing exam:</u>**
     - Example: Sepsis focused exam performed (yes) or "review of systems complete"
     - Does the heading "exam" or "review of systems" count?
  2. **<u>Provider documentation indicating they completed a review of at least 5 of the following 8 parameters:</u>**
     - O2 saturation, Capillary refill, Cardiopulmonary assessment, Peripheral pulses, Shock index, Skin color or condition, UOP, VS
  3. **<u>Documentation that one of the following was completed:</u>**
     - CVP
     - Svo2
     - ECHO

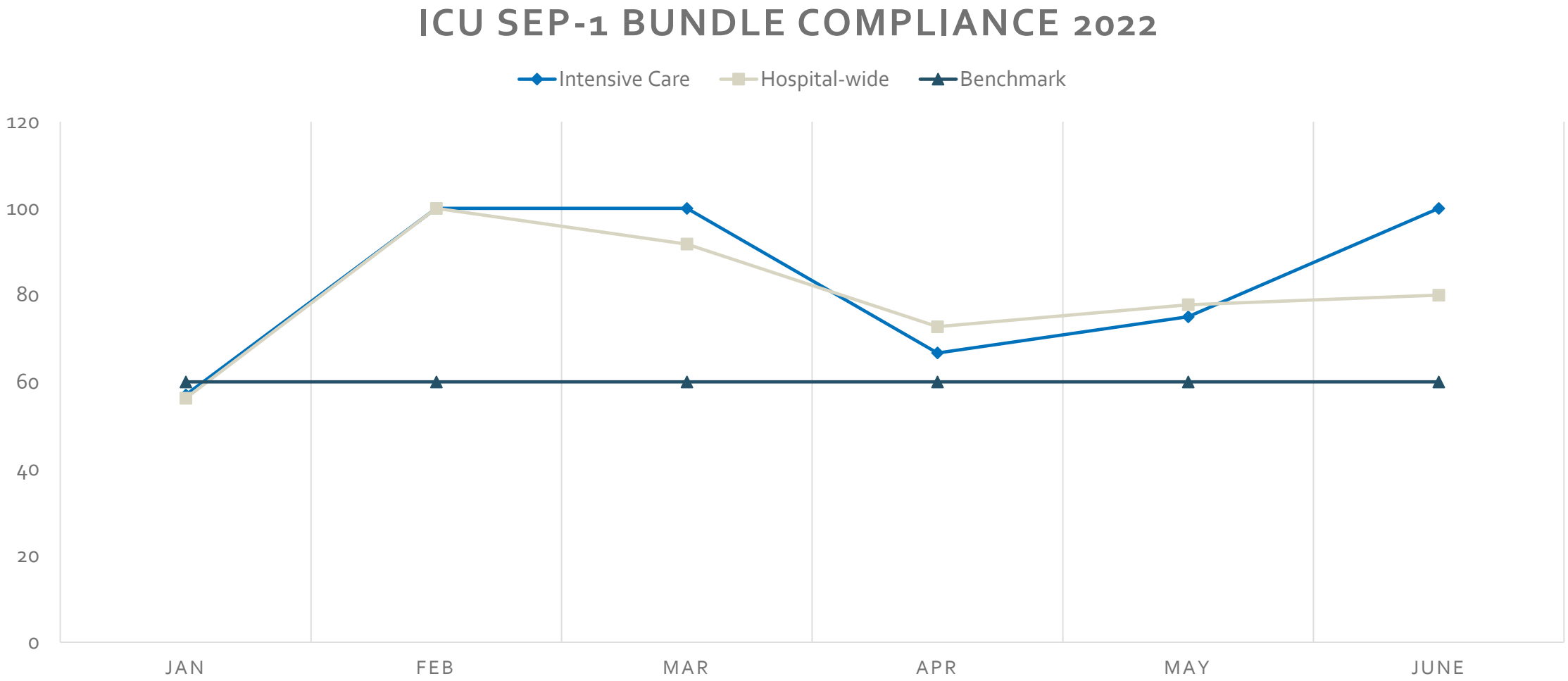
CMS v5.12 Update

- New documentation allowed for blood culture (Can select YES if there is an attempt to collect the specimen, but the attempt resulted in failure to collect (dehydrated etc); there must be a time directly associated with documentation indicating that the blood culture was collected during the specified time.
  - ✓ Blood culture attempted
  - ✓ Blood culture x 3 attempts
  - ✓ Unable to collect blood cultures
- Colloids are now included for crystalloid fluid requirement if given at greater than 125ml/hr
  - ✓ Must have start/stop in designated time period of at least 126ml/hr
  - ✓ Example: Target goal 1100ml with 1L NS + 100ml albumin
- New criteria for pregnant 20 weeks through day 3 post-delivery
  - ✓ Account for physiologic changes during pregnancy
    1. SBP <85 (non-pregnant <90)
    2. If lactate >2, was obtained during active delivery DO NOT USE; active delivery defined as documentation of uterine contractions resulting in cervical change (dilation or effacement)
    3. SIRS differences: Temperature ≥100.4 or <96.8F (non-pregnant >100.9); Heart rate >110 (non-pregnant >90); RR >24 (non-pregnant >20); WBC >15,000 (non-pregnant >12,000)
    4. Organ dysfunction differences: Cr >1.2 (non-pregnant 2.0)

Maternal sepsis has increased over the last decade due to older maternal age, multi-fetal gestation, obesity, diabetes, and assisted reproductive technologies

ICU Sepsis Bundle Performance

Sep-1 Hospital-wide	76.67%
Sep-1 Intensive Care	79.17%
Sep-1 National Benchmark	60.00%



KRMC Sep-1 Outcomes (Nebraska Hospital Association) submission

- Sep-1 measure compliance: Up 30 percentage points from 2019 (49% to 79%)
- Mortality (2019) 16.7%, (2020) 16.5%, (2021) 12.9%, (2022) 13.9%
  - *Note: (2021) 15.5% of Sep-1 patients met septic shock criteria, CY 2022 32% YTD.*
- Length of stay for Sep-1 MEETS (2021) 4.61 days vs 7.27 days for those who did not pass the measure (2022 thru Q2) 5.79 days vs 7.29 days.
- Patients discharging to home from severe sepsis/septic shock has increased 10% from 2019, at a current rate of 55%.
- Sep-1 Readmission rates have increased from 2019/2020-this is an active agenda item. Our current rate is 13.6%.