2024 HMS Performance Index Scorecard Cheat Sheet

Sites Enrolled in 2020, 2021, & 2022: Measures 5-9

Measure 5. Increase Use of 5 Days of Antibiotic Treatment in Uncomplicated CAP (Community Acquired Pneumonia) Cases (i.e., reduce excess durations)

$$\textbf{Measure 5} = \frac{Pneumonia\ cases\ classified\ as\ uncomplicated\ CAP\ that\ recieved\ 5\ days\ (+\ or-\ 1\ day)\ of\ antibiotics}{Pneumonia\ cases\ classified\ as\ uncomplicated\ CAP}$$

- Higher is better.
- A measure of x/y means that x Uncomplicated CAP cases had an appropriate duration of antibiotics (5 days +/- 1 days) out of the y Uncomplicated CAP cases included in the measure.
    - Example: 2/3 means that 2 Uncomplicated CAP cases received appropriate antibiotic treatment out of the 3 cases that were assessed in this measure. There will be 1 fall out case for this measure.
- NOTES:
    - 5 days of treatment is assessed starting with the first day of effective antibiotic treatment during the hospital encounter.
    - For the HMS definitions of Uncomplicated CAP, please see your Site's ABX Use Report.
    - There are two ways to receive either full or partial points for this measure:
        - Achieving a certain percentage of uncomplicated CAP cases receiving 5 days (+/- 1 day) of antibiotic treatment as specified on the Performance Index.
        - Achieving a certain percentage of relative increase during the current performance year. Rate of change will be based on the adjusted method and may not reflect raw rates from quarter to quarter.

          $$\textbf{Relative Change} = \frac{\text{Change in performance via the adjusted model}}{\text{Beginning performance via the adjusted model}}$$
- **Full points:* ≥ 70% uncomplicated CAP cases receive 5 days (+/- 1 day) of antibiotics OR ≥ 70% relative increase in the number of uncomplicated CAP cases that receive 5 days of antibiotics during the current performance year.

  **Partial points:* 55-69% uncomplicated CAP cases receive 5 days (+/- 1 day) of antibiotics OR 50-69% relative increase in the number of uncomplicated CAP cases that receive 5 days of antibiotics during the current performance year.

  **No points:* < 55% uncomplicated CAP cases receive 5 days (+/- 1 day) of antibiotics AND < 50% relative increase during the current performance year

Measure 6. Reduce Use of Antibiotics in Patients with ASB (Asymptomatic Bacteriuria) and Questionable Pneumonia

$$\textbf{\textit{Measure 6}} = \frac{\textit{Number of postive urine culture cases that are treated with an antibiotic on day 2 or later of the hospital encounter that are ASB cases}}{\textit{Number of positive urine culture cases}}$$

AND

$$\frac{\textit{Number of pneumonia cases that are treated with an antibiotic on day 3 or later of the hospital encounter that are questionable pneumonia}}{\textit{Number of pneumonia cases}}$$

- Lower is better
- **ASB Details:**
  - A measure of x/y means that x positive urine culture cases treated with antibiotics on day 2 or later of the hospital encounter were classified as ASB cases out of the y positive urine culture cases included in the measure
    - Example: 4/6 means 4 positive urine culture cases were classified as ASB cases AND were inappropriately treated on day 2 or later of the encounter out of the 6 positive urine culture cases included in the measure. There will be 4 fallout cases for this measure.
  - NOTES:
    - ASB Treatment is assessed based on antibiotic treatment given Day 2 or later during the hospital encounter.
    - For the HMS definition of ASB, please see your Site's ABX Use Report.
    - Cases meeting criteria for severe sepsis on the day before, day or, or day after positive urine culture collection are not classified as ASB and are not included in the numerator or denominator of the ASB performance measure.
      - Criteria for severe sepsis include suspected or documented infection and two or more of the following:
        - SBP < 90 mmHg or mean arterial pressure < 65 mmHg, SBP decrease of more than 40 mmHg
        - Lactate > 2 mmol/L
        - INR > 1.5
        - Platelet count < 100,000 µL−1
        - Bilirubin > 2mg/dL
        - Creatinine > 2 mg/dL
        - Acute respiratory failure by need for new invasive or noninvasive ventilation
    - Cases where patients with baseline dementia (captured in the co-morbids section) and have functional decline or falls noted in the UTI Window AND have fever, hypotension, leukocytosis, and/or >= 2 SIRS criteria the day before, day of, or day after positive urine culture collection are not included in the numerator or denominator of the ASB performance measure. Clinical judgement is advised for these patients.
    - The document "Guidelines for Treatment of Urinary Tract Infections" available on Zendesk and on the HMS website contains information regarding ASB and signs/symptoms of UTI for which a urine culture is appropriate.

- **Questionable Pneumonia Details:**
  - A measure of x/y means that x pneumonia cases that were treated with antibiotics on day 3 or later of the hospital encounter were classified as questionable pneumonia cases out of the y pneumonia included in the measure
    - Example: 4/6 means 4 pneumonia cases were classified as questionable pneumonia cases AND were treated with antibiotics on day 3 or later of the hospital encounter out of the 6 pneumonia cases included in the measure. There will be 4 fallout cases for this measure.
  - Questionable pneumonia is defined as cases abstracted into the pneumonia registry who do not meet the clinical and radiographic criteria to be classified as Community Acquired Pneumonia.
    - For further detail of Questionable Pneumonia, please see your site's ABX Site Report.
  - Questionable pneumonia treatment is based on antibiotic treatment received on day 3 or later of the hospital encounter.

- **Full points:* ≤ 13% of positive urine culture cases treated with an antibiotic are ASB cases AND ≤ 11% of pneumonia cases treated with an antibiotic are questionable pneumonia
  **Partial points:* ≤ 13% of positive urine culture cases treated with an antibiotic are ASB cases OR ≤ 11% of pneumonia cases treated with an antibiotic are questionable pneumonia
  **No points:* > 13% of positive urine culture cases treated with an antibiotic are ASB cases AND > 11% of pneumonia cases treated with an antibiotic are questionable pneumonia

Measure 7: Increase Antibiotics Delivered within 3 Hours of Arrival for Septic Shock Patients

$$\textbf{Measure 7} = \frac{Septic\ Shock\ cases\ that\ receive\ antibiotics\ within\ 3\ hours\ of\ hospital\ arrival}{All\ non-viral\ sepsis\ cases}$$

- Higher is better.
- A measure of x/y means that x septic shock cases received antibiotics within 3 hours of hospital arrival out of the y non-viral sepsis cases assessed in this measure.
  - Example: 2/10 means that 2 septic shock cases received antibiotics within 3 hours of hospital arrival out of the 10 non-viral sepsis cases assessed in this measure. There will be 8 fallout cases for this measure.
- NOTES:
  - Non-viral sepsis is defined as those with a primary discharge diagnosis of:
    - Sepsis
    - Pneumonia
    - Respiratory Failure
  - Cases with septic shock are defined as those with hypotension:
    - Vasopressors initiated within 2 hours of arrival OR
    - Systolic blood pressure < 90 mmHg within 2 hours of arrival OR
    - Calculated MAP < 65mmHg within 2 hours of arrival
  - Cases excluded from this measure include:
    - < 2 SIRs, Normal WBC on day 1, Non-elevated first lactate measurement, & no symptoms of infection
    - Positive COVID testing within the 3 days prior or on day 1 or 2 of the hospital encounter

- *Full points:* ≥ 67% septic shock cases receive antibiotics within 3 hours of arrival
  Partial points: 55-66% septic shock cases receive antibiotics within 3 hours of arrival
  No points: < 55% septic shock cases receive antibiotics within 3 hours of arrival

Measure 8: Increase Discharge/Post-Discharge Care Coordination for Sepsis Patients Discharged to Home-like Setting

$$\textbf{Measure 8} = \frac{Sepsis\ cases\ receiving\ at\ least\ 1\ of\ 3\ discharge\ or\ post-discharge\ coordination\ of\ care\ measures}{All\ sepsis\ cases\ discharged\ to\ home-like\ setting}$$

- Higher is better.
- A measure of x/y means that x sepsis cases receive at least 1 of 3 discharge/post-discharge coordination of care measures out of the y sepsis cases discharged to a home-like setting assessed in this measure.
  - Example: 4/10 means that 4 sepsis cases receive at least 1 of 3 discharge/post-discharge coordination of care measures out of the 10 sepsis cases discharged to a home-like setting assessed in this measure. There will be 6 fallout cases for this measure.
- NOTES:
  - Home-like setting = home (with or without home health services), assisted living, custodial nursing, temporary shelter
  - Discharge/post-discharge coordination of care measures:
    - Hospital contact information provided at discharge in discharge paperwork
    - Scheduled visit with Primary Care Physician (PCP) or Specialist within 2 weeks (at time of discharge)
    - Post-discharge telephone call or PCP visit within 3 calendar days of hospital discharge or patient is discharged with home health services

- *Full points:* ≥ 65% sepsis cases discharged to home-like setting received at least 1 of 3 discharge/post-discharge coordination of care measures
  Partial points: 45-64% sepsis cases discharged to home-like setting received at least 1 of 3 discharge/post-discharge coordination of care measures
  No points: < 45% sepsis cases discharged to home-like setting received at least 1 of 3 discharge/post-discharge coordination of care measures

Measure 9. Reduce PICCs (Peripherally-Inserted Central Catheters) in for ≤5 days (excluding deaths)

$$\textbf{Measure 9} = \frac{PICC\ Cases\ in\ for \leq 5\ days\ (excluding\ deaths\ within\ 5\ days\ of\ PICC\ placement)}{Total\ PICC\ Cases(\ excluding\ deaths\ occuring\ within\ 5\ days\ of\ PICC\ placement)}$$

- Lower is better.
- A measure of x/y means that x PICCs had a dwell of less than or equal to 5 days out of the y PICCs assessed in this measure.
  - Example: 2/10 means that 2 PICCs had a dwell time of less than 5 days out of the 10 PICCs assessed for this measure. There will be 2 fallout cases for this measure.
- NOTES:

- The date of PICC placement is defined as Day 0 of the PICC's dwell time with the day after PICC placement being Day 1.

- **Full points:* ≤ 10% of cases with PICC in for ≤ 5 Days
  **Partial points:* 11-15% of cases with PICC in for ≤ 5 Days
  **No points:* > 15% of cases with PICC in for ≤ 5 Days

Measure 10: Increase Use of Single Lumen PICCs in Non-ICU (Intensive Care Unit) Cases

$$\textbf{Measure 10} = \frac{Single\ Lumen\ PICCs\ in\ Non-ICU\ Cases}{Total\ Non-ICU\ Cases}$$

- Higher is better.
- A measure of x/y means that x Non-ICU PICCs inserted were single lumen out of the y PICCs assessed in this measure.
  - Example: 18/20 means that 18 Non-ICU PICCS inserted were single lumen out of the 20 PICC cases assessed in this measure. There will be 2 fallout cases for this measure.
- NOTES:
  - Single lumen use is assessed based on the number of lumens of the index PICC.
  - Non-ICU Double Lumen PICCs placed with an indication of "Parenteral Nutrition" AND another indication is removed from the numerator and denominator of this measure.

- **Full points:* ≥ 85% of non-ICU cases with PICC have a single lumen
  **Partial points:* 70-84% of non-ICU cases with PICC have a single lumen
  **No points:* < 70% of non-ICU cases with PICC have a single lumen

Measure 11: PICCs in Patients with eGFR (estimated glomerular filtration rate) < 45 (without Nephrology approval)

$$\textbf{Measure 11} = \frac{PICC\ Cases\ with\ eGFR<45\ without\ Nephrology\ Approval\ (eGFR\ reported\ or\ calculated\ based\ on\ Creatinine\ level)}{PICC\ Cases\ excluding\ cases\ without\ an\ eGFR\ or\ Creatinine\ reported}$$

- Lower is better.
- A measure of x/y means that x PICCs were inserted where patients had an eGFR < 45 without having prior Nephrology approval out of the y PICCs assessed in this measure.
  - Example: 10/30 means that 10 PICCS that were inserted in patients who had an eGFR<45 did not have prior Nephrology approval out of 30 PICC assessed for this measure. There will be 10 fallout cases for this measure.
- NOTES:
  - eGFR value is assessed on lab values within the 48 hours prior to PICC placement or, if unavailable in that timeframe, the 48 hours after PICC placement.
  - PICC cases without eGFR or Creatinine reported and line exchanges are not included in this measure.
  - Nephrology approval is assessed based on nephrology consults/approval prior to PICC placement in which the nephrologist approves the PICC. Hospital-specific policies that cover Nephrology approval for

certain eGFR values and are approved by the Coordinating Center are also counted as Nephrology approval.

- **Full points:* ≤ 5% of cases with PICC have eGFR < 45 without Nephrology approval
  **Partial points:* 6-12% of cases with PICC have eGFR < 45 without Nephrology approval
  **No points:* >12% of cases with PICC have eGFR < 45 without Nephrology approval

Measure C (Collaborative Wide Measure): Reduce Use of Inappropriate Empiric Broad-Spectrum Antibiotics for Patients with Uncomplicated CAP (Community Acquired Pneumonia)

$$\textbf{Measure C} = \frac{Pneumonia\ cases\ classified\ as\ uncomplicated\ CAP\ that\ recieved\ inappropriate\ empiric\ broad-spectrum\ antibiotics}{Pneumonia\ cases\ classified\ as\ uncomplicated\ CAP\ eligible\ for\ 5\ days\ of\ antibiotic\ treatment}$$

- Lower is better.
- A measure of x/y means that x Uncomplicated CAP cases received an inappropriate empiric broad-spectrum antibiotic out of the y Uncomplicated CAP cases included in the measure.
  - Example: 2/3 means that 2 Uncomplicated CAP cases received an inappropriate empiric broad-spectrum antibiotic out of the 3 cases that were assessed in this measure. There will be 2 fall out cases for this measure.
- NOTES:
  - Empiric broad-spectrum antibiotics include antibiotics administered on day 2 of the hospital encounter.
  - For the HMS definitions of Uncomplicated CAP, please see your Site's ABX Use Report. For the purposes of this measure, this includes Uncomplicated CAP cases that would have been eligible for 5 days of antibiotic treatment but transferred to ICU or died at end of abstraction.
  - To determine appropriateness of broad-spectrum therapy, HMS is assessing the following:
    - Respiratory/blood cultures from the prior year, including MRSA in culture or nasal swab or Pseudomonas (or other gram negative) in culture
    - If cultures do not provide information as noted above, HMS is assessing if the patient had an inpatient hospitalization in the prior 90 days + IV antibiotics in the prior 90 days + severe CAP on days 1/2 of the hospital encounter
      - See your site's ABX Use Report for Severe CAP criteria
  - Anti-MRSA antibiotics: Vancomycin, Linezolid, Ceftaroline
  - Anti-PSA/Gram-Negative antibiotics: Ciprofloxacin, Ceftazidime, Piperacillin-Tazobactam, Cefepime, Meropenem, Meropenem-Vaborbactam, Imipenem, Doripenem, Aztreonam, Ceftolozane-Tazobactam, Ceftazidime-avibactam, and Cefiderocol
  - For 2024, this measure is based on a **collaborative-wide average** for the final quarter of data entered in the data registry during the 2024 performance year. This is different than the other performance measures in the index, which are based on the rates at each individual hospital.

- **Full points:* ≤ 10% **collaborative-wide average** of uncomplicated CAP cases receive an inappropriate broad-spectrum antibiotic empirically.
  No points:* > 10% **collaborative-wide average of uncomplicated CAP cases receive an inappropriate broad-spectrum antibiotic empirically.

*Cut-off values for full, partial, and no points are included as reference only in this document. The 2024 Performance Index should be consulted and used as the source of truth for determining cut-off values for each measure.