HMS Antimicrobial Use (ABX) Data Definitions

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PNEUMONIA ELIGIBILITY

Inclusion: Eligible cases will include patients at the time of abstraction who are:

- Admitted to a medicine service (day #1/day #2 of inpatient or observation stay)
- Discharged from the participating hospital with a billed discharge ICD 10 code of pneumonia
  INCLUDE: J09.X1, J10.0, J10.00, J10.01, J10.08, J11.0, J11.00, J11.08, J12, J12.0, J12.1, J12.2, J12.3, J12.8, J12.81, J12.89, J12.9, J13, J14, J15, J15.0, J15.1, J15.2, J15.20, J15.21, J15.211, J15.212, J15.29, J15.3, J15.4, J15.5, J15.6, J15.61, J15.69, J15.7, J15.8, J15.9, J16, J16.0, J16.8, J17, J18, J18.0, J18.1, J18.2, J18.8, J18.9, J84.11, J84.111, J84.116, J84.117, J84.2
  Note: The discharge ICD 10 codes should be through your billing department
- Received an antibiotic (any) on day #1 or day #2 of the hospital encounter (not antibiotics that are intended for prophylaxis, surgery, C.Diff, etc.)
- No other pneumonia exclusion criteria apply

Exclusion: If the patient meets any of the following criteria, they will be Ineligible:

- *Patient pregnant and/or breastfeeding*
- *Patient under the age of 18*
- *Patient admitted (day #1 or day #2 of inpatient hospitalization) to an ICU level of care.*
  ELIGIBLE: Patients admitted to an ICU level of care on day 3 or later of the inpatient hospitalization.
- *Patient admitted to a non-medicine service (example: gynecology, Subacute rehab floor).*
- *Patient discharge falls within the 30-day window of a previously recorded/abstracted admission (Pneumonia or UTI)*
- *Patient transferred from another hospital (including inpatient short stay unit, inpatient psych unit, inpatient rehab, observation)*
  INELIGIBLE: Patient is transferred to an inpatient or observation unit at your hospital from an inpatient rehab or inpatient psychiatric unit within your hospital. Patients who transfer in from an outside inpatient rehab or inpatient psychiatric unit. Patients transferred from another observation unit to your hospital's observation unit.
  ELIGIBLE: Patients transferred from emergency department to emergency department (ED to ED).
- *Patient has any history of a heart, liver, lung, pancreas, bone marrow, stem cell, or hematopoietic stem cell transplant*
- *Patient has a history of a kidney (renal) transplant within the year prior to the hospital encounter or has received treatment for the rejection of a kidney (renal) transplant in the 6 months prior to the hospital encounter*
- *Patient has an order for palliative care/comfort care during the hospital encounter (before transfer to ICU, if applicable)*

INELIGIBLE: Patients discharged to hospice with their antibiotic course altered or discontinued as a result of discharge to hospice.
ELIGIBLE: Palliative care or hospital consult ONLY and no orders for palliative care or comfort care during the encounter. Patient on palliative care for pain management only. Patients discharged to hospice WITHOUT change or alteration to their antibiotic course.

- *Patient left against medical advice (AMA) or refused recommended medical care during the hospital encounter (before transfer to ICU, if applicable)*
  INELIGIBLE: Patients who refused any dose of antibiotic intended for the treatment of pneumonia.
  ELIGIBLE: Patients who refuse medications not related to the infectious disease state or if they refuse care other than their antibiotics (respiratory treatments, vital signs, etc.)
- *Patient on mechanical ventilation during the hospital encounter (before transfer to ICU, if applicable)*
  INELIGIBLE: Patients on a ventilator, have mechanical ventilation, or have a documented intubation during a surgical procedure.
  ELIGIBLE: Patients who use BiPAP or CPAP.
- *Patient with Cystic Fibrosis*
  ELIGIBLE*:* Patients with cystic lung disease
- *Patient with lung abscess documented during the index hospital encounter*
- *Patient on antibiotic treatment (except topical antibiotics) for a concomitant bacterial infection anytime during the hospital encounter (ex: UTI, Osteomyelitis, Pertussis) or upon discharge from the hospital encounter*
  INELIGIBLE: Patients receiving antibiotic treatment for sinusitis, strep throat, Bell's Palsy, or Travelers' diarrhea. Patients receiving antibiotic treatment for prophylaxis of a potential concomitant infection. Patients receiving antibiotic treatment for bacteremia that is stated to be unrelated to the patient's pneumonia diagnosis
  ELIGIBLE: Patients receiving antibiotic treatment for infections secondary to Pneumonia (sepsis, empyema, bacteremia, COPD, acute chest syndrome, C. difficile infection, upper respiratory infection, bronchitis). Treatment with topical antibiotics (ointments, salves, powders, eye drops, ear drops, vaginal gel). Patients receiving antibiotics for surgery pre- or peri-operative. Patients who receive antibiotics given for conditions which are not concomitant infections such as Common Variable Immune Deficiency (CVID), rosacea, hepatic encephalopathy, Non-Alcoholic Steatohepatitis (NASH), Rheumatoid Arthritis (RA), Syndrome of Inappropriate Antidiuretic Hormone Secretion (SIADH), and GI motility. Patients who are admitted on treatment for C. Diff and continue that treatment throughout the hospitalization.
- *Patient has a diagnosis of HIV with CD4 count <200 on day 1 or day 2 of the hospital encounter or within the 90 days prior to the hospital encounter*
  ELIGIBLE: Patients with a diagnosis of HIV without a CD4 count < 200. Patients with a CD4 count of < 200 without a diagnosis of HIV.
- *Patient has neutropenia (ANC <0.5) on Day #1 or Day #2 of the hospital encounter*

INELIGIBLE: Patients with an Absolute Neutrophil Count (ANC) value listed as "Suppressed" with a White Blood Cell (WBC) count of 0. Patients with an Abs Polynuc Neutrophil Count or Neutrophil number < 0.5 on days 1 or 2 of the hospital encounter.

- *Patient with documentation of fungal pneumonia, mycobacterium/mycobacterial infection, tuberculosis, Legionella Pneumonia, aspergillus/Aspergillosis, or Mycoplasma Pneumoniae within the 14 days prior to or during the hospital encounter*
  INELIGIBLE: Patients with Aspergillus or Actinomycosis. Patients with a positive Urine Legionella Antigen or Respiratory Legionella PCR in the 14 days prior to or during the hospital encounter. Patients discharged from the hospital encounter on treatment for fungal pneumonia. Patients with positive Mycoplasma Pneumoniae test in the 14 days prior to or during the hospital encounter. Patients with a respiratory culture (sputum, BAL, ETA, or upper respiratory) positive for any of the following with the 14 days prior to or during the hospital encounter, even if results show after conclusion of hospital encounter:
    - AFB
    - Actinomyces
    - Blastomyces
    - Coccidioides
    - Cryptococcus
    - Fusarium
    - Histoplasma
    - Mucor
    - Rhizopus
    - Scedosporium

  ELIGIBLE: Patients with only a respiratory Gram stain positive for yeast. Patients with Candida as the only fungal result on a respiratory culture without corresponding physician documentation of fungal pneumonia during the hospital encounter.
- *Patient with Pneumocystis jirovecii pneumonia (PJP) or Pneumocystis carinii pneumonia (PCP) noted either in physician documentation or in culture results during the hospital encounter or in the 30 days prior to the hospital encounter*
- *Patient with documentation of a positive (including patient reported) COVID test/PCR in the 30 days prior to or during the hospital encounter, a discharge ICD-10 code for COVID-19 for the index hospitalization (B97.29 or U07.1), or patient receives COVID treatment during the hospital encounter even after negative COVID test results (including Decadron, Remdesivir, other steroids, etc.)*
  ELIGIBLE: Patients with a discharge ICD-10 code of Z20.828, Z20.822, Z86.16 and meet none of the criteria listed above.

POSITIVE URINE CULTURE ELIGIBILITY

Inclusion: Eligible cases will include patients at the time of abstraction who:

- Admitted to a medicine service (day #1/day #2 of inpatient or observation stay)
- Had a positive urine culture during the hospital encounter (a urine culture that is flagged as positive by your lab/institution)
  ELIGIBLE: Patients treated for positive urine culture that was later determined to be contaminated (and no other exclusion criteria apply). Patients with a first positive urine culture collected during the hospital encounter at your institution with results that were not finalized until after the patient's discharge.
  INELIGIBLE: Patients where their first and only urine culture during the hospital encounter did not have a colony count.

Exclusion: If the patient meets any of the following criteria, they will be Ineligible

- *Patient pregnant and/or breastfeeding*
- *Patient under the age of 18*
- *Patient admitted to a non-medicine service (example: gynecology, Subacute Rehab floor)*
- *Patient discharge falls within the 30-day window of a previously recorded/abstracted admission (Pneumonia or UTI)*
- *Patient has any history of a kidney, heart, liver, lung, pancreas, bone marrow, stem cell, or hematopoietic stem cell transplant*
- *Patient has ICU level of care ordered on the day the first positive urine culture was collected, the 3 calendar days before the first positive urine culture was collected, or the 3 days after the first positive urine culture was collected*
  ELIGIBLE: Patients with an ICU level of care ordered more than 3 calendar days prior to the collection of the first positive urine culture during the hospital encounter. Patients with an ICU level of care ordered more than 3 calendar days after the collection of the first positive urine culture during the hospital encounter.
- *Patient has an order for palliative care/comfort care during the hospital encounter (before transfer to ICU, if applicable)*
  INELIGIBLE: Patients discharged to hospice with their antibiotic course altered or discontinued as a result of discharge to hospice.
  ELIGIBLE: Palliative care or hospital consult ONLY and no orders for palliative care or comfort care during the encounter. Patient on palliative care for pain management only. Patients discharged to hospice WITHOUT change or alteration to their antibiotic course.
- *Patient left against medical advice (AMA) or refused recommended medical care during the hospital encounter (before transfer to ICU, if applicable).*
  INELIGIBLE: Patients who refused any dose of antibiotic intended for the treatment of the urinary tract infection.

ELIGIBLE: Patients who refuse medications not related to the infectious disease state or if they refuse care other than their antibiotics (catheter placement, vital signs, etc.)

- *Presence of urinary stents anytime during the hospital encounter*
  INELIGIBLE: Patients with documentation of urinary stent placement in their medical history without a known placement and removal date. Patients with documentation of urinary stent placement within the 3 months prior to the hospital encounter without documentation of removal.
  ELIGIBLE: Patients with documentation of urinary stent placement within the 3 months prior to the index hospitalization with documentation of stent removal. Patients with documentation of urinary stent placement that occurred more than 3 months prior to the hospital encounter, regardless of documentation of removal.
- *Urologic surgery or procedure in the 30 days prior to or during the encounter*
  INELIGIBLE: Patients with documentation of a cystoscopy, lithotripsy, ureteroscopy, new suprapubic catheter placement, cystogram, transurethral resection of the prostate (TURP) in the 30 days prior to or during the hospital encounter.
  ELIGIBLE: Patients who only have a suprapubic catheter change during the hospital encounter. Patients who have a renal biopsy in the 30 days prior to or during the hospital encounter.
- *Patient has a history of urinary diversion surgery or urinary anatomical issues*
  INELIGIBLE: Patients with a past/present history of a nephrostomy, nephrostomy tube, urostomy, urethra reconstruction, neobladder, ileal conduit, pelvic kidney, horseshoe kidney, medullary sponge kidney, augmentation cystoplasty (ileum), vesico-vaginal fistula (repaired or not), Mitrofanoff construction of a continent urinary reservoir, urethrovaginal fistula (repaired or not), direct vision internal urethrotomy, repair for traumatic rupture of bladder, autosomal dominant polycystic kidney disease (ADPKD), cystic dysplasia of one kidney, cystectomy, gender reassignment surgery, urethral dilation, colovesical fistula (repaired or not), vesico-cutaneous fistula (repaired or not), kidney that died and was not removed, chronic ulcerating interstitial cystitis, kidney atrophy, atrophic kidney, presence of a bladder stimulator.
  ELIGIBLE: Patients with any of the following completed more than 30 days prior to the hospital encounter: TURP, cystocele repair, nephrectomy, urethroplasty, renal artery stent, bladder suspension, bladder sling, urethral sling, placement of a new suprapubic catheter, pyeloplasty, anastomotic urethroplasty, prostatectomy, transurethral resection of bladder tumor (TURBT), surgically corrected hypospadias, penile implant, or transurethral resection of bladder (TURB). Patients with any of the following: congenital absence of one kidney, rectovaginal fistula, neurogenic bladder, chronic radiation cystitis, bladder diverticulum.
- *Patient with urinary obstruction in the 30 days prior to or during the hospital encounter*
  - INELIGIBLE: Documentation of obstruction along the urinary tract, referring to any condition that restricts or blocks the flow of urine; blocked/occluded indwelling catheters

- *Patient with active urologic cancer during the hospital encounter (bladder cancer, prostate cancer, or kidney/renal cancer)*
  INELIGIBLE: Patients with active prostate adenocarcinoma, Gleason Score X of X, renal cell carcinoma, renal cell cancer, or renal sarcoma
  ELIGIBLE: Patients with suspected urologic cancer that is unconfirmed during the hospital encounter
- *Patient is receiving active treatment and/or prophylaxis for a UTI at time of presentation to the hospital encounter*
  INELIGIBLE: Patients receiving antifungals or antibiotics prescribed for chronic UTI symptoms at the time of presentation to the hospital encounter.
  ELIGIBLE: Patients receiving gentamicin bladder rinses at the time of presentation to the hospital encounter. Patients receiving Hiprex at the time of presentation to the hospital encounter.
- *Patient received antibiotic prophylaxis for surgery (pre- or peri-operative antibiotics) within the 7 days after collection of the first positive urine culture during the encounter*
  ELIGIBLE: Patients who receive pre-operative antibiotics for prophylaxis prior to the collection of the first positive urine culture during the hospital encounter. Patients who receive pre-operative antibiotics 8 days or more after collection of the first positive urine culture during the hospital encounter.
- *Patient on treatment (except topical antibiotics) for a concomitant bacterial infection* ***anytime*** *during the hospital encounter (ex: Epididymo-orchitis, Osteomyelitis, prostatitis, perinephric abscess, diverticulitis) or upon discharge from the hospital encounter*
  INELIGIBLE: Patients receiving antibiotic treatment for prophylaxis of a potential concomitant infection. Patients who have a pathogen identified on one or more blood cultures collected during the hospital encounter that is NOT a pathogen identified on the first positive urine culture during the hospital encounter – including pathogens noted to be contaminants). Patients receiving antibiotic treatment for COPD, Traveler's diarrhea or Bell's Palsy.
  ELIGIBLE: Patients receiving antibiotic treatment for infections secondary to UTI (sepsis, bacteremia, C. difficile infection). Treatment with topical antibiotics (ointments, salves, powders, eye drops, ear drops, vaginal gel). Patients who receive antibiotics given for conditions which are not concomitant infections such as Common Variable Immune Deficiency (CVID), rosacea, hepatic encephalopathy, Non-Alcoholic Steatohepatitis (NASH), Rheumatoid Arthritis (RA), Syndrome of Inappropriate Antidiuretic Hormone Secretion (SIADH), and GI motility. Patients who are admitted on treatment for C. Diff and continue that treatment throughout the hospitalization.
- *Patient has a diagnosis of HIV with CD4 count less than 200 on day 1 or day 2 of the hospital encounter or within the 90 days prior to the hospital encounter*
  ELIGIBLE: Patients with a diagnosis of HIV without a CD4 count < 200. Patients with a CD4 count of < 200 without a diagnosis of HIV.
- *Patient has neutropenia (ANC <0.5) on Day 1 or Day 2 of the hospital encounter*

INELIGIBLE: Patients with an Absolute Neutrophil Count (ANC) value listed as "Suppressed" with a White Blood Cell (WBC) count of 0. Patients with an Abs Polynuc Neutrophil Count or Neutrophil number < 0.5 on days 1 or 2 of the hospital encounter.

- *Patient with documentation of a positive (including patient reported) COVID test/PCR in the 30 days prior to or during the hospital encounter, a discharge ICD-10 code for COVID-19 for the index hospitalization (B97.29 or U07.1), or patient receives COVID treatment during the hospital encounter even after negative COVID test results (including Decadron, Remdesivir, other steroids, etc.)*
  ELIGIBLE: Patients with a discharge ICD-10 code of Z20.828, Z20.822, Z86.16 and meet none of the criteria listed above.

ENROLLMENT

1. **HOSPITAL DETERMINED PATIENT ID**

   Instructions: This ID is determined by each hospital to track patient data.
   Note 1: Entries into this field are not visible to the HMS Coordinating Center; however, the database administrator may be able to view this information to maintain the database. Abstractors can search this field in addition to the HMS ID # in order to locate patient records. This is a required field, and the form cannot be submitted without an entry in this field.

2. **STATUS**

   Instructions: Indicate the status of the case being abstracted. This question refers to the status of the HMS record and not the status of the patient.
   This is a required field, and the form cannot be submitted without an entry in this field.
   Select one of the following:
   - *"Active"* if you are actively entering information into the patient's HMS record or are waiting to enter follow-up information.
   - *"Completed"* if the patient's HMS record is complete and you do not anticipate entering additional information.

3. **SELECT THE INFECTIOUS DISEASE STATE**

   Instructions: Indicate the type of infectious disease state in which you are abstracting.
   Note: Depending on the disease state that you select, the necessary forms for the case will populate. Also, once you click "Submit" to create a new record, this information cannot be changed when editing the Enrollment/Demographics page.
   This is a required field, and the form cannot be submitted without an entry in this field.
   Select one of the following (required):
   - *"Pneumonia"*
   - *"Urinary Tract Infection (UTI)"*

4. **PATIENT STATUS – PNEUMONIA/UTI**

   Instructions: The patient status indicates whether the case being abstracted is eligible or ineligible at the time of enrollment (i.e., the time at which the baseline medical record review begins). The patient status should be set as eligible (given that your sampling strategy and case list should lead you to eligible cases); however, there may be an instance when you find information during abstraction that indicates the case should really be ineligible. If a case if found to be ineligible once you have already started to abstract data, simply return to this section and mark the case as ineligible. This is a particularly important step, as the patient status determines whether the case is included for data analysis.
   Note: Please utilize the "Unable to Finish Abstraction" selection when you would like to move an eligible case from "Active" to "Completed", but you were unable to finish abstracting the case. This will prevent the case from being included in data analysis.

5. **PATIENT'S DATE OF BIRTH (MM/YYYY)**

Instructions: Record the patient's month and year of birth in the MM/YYYY format.
This is a required field, and the form cannot be submitted without an entry in this field.

6. **SEX ASSIGNED AT BIRTH**

Instructions: Review the medical record to determine the patient's sex assigned at birth.
This is a required field, and the form cannot be submitted without an entry in this field.
Select one of the following:

- *"Male"*
- *"Female"*
- *"Intersex"*
- *"Unknown"*

7. **ZIP CODE**

Instructions: Review the medical record to determine the zip code of the patient's *primary residence*.
Note 1: This zip code must be 9 digits in length. Please enter the 9-digit zip code to the greatest extent possible.
Note 2: This is a required field, and the form cannot be submitted without an entry in this field.

- If unable to find the 9-digit zip codes in the medical record, it should be determined using the United States Postal Service Zip Code Look up tool: https://tools.usps.com/zip-code-lookup.htm?byaddress
- If the patient's Zip Code is Unknown and cannot be found in the medical record or the patient is homeless, please enter 999990000 into this field
- If you are unable to locate a 9-digit zip code with the USPS tool, please add four zeroes after the first 5 digits of the zip code. Example: 48109 should be entered as 481090000 if you are unable to locate the 9-digit zip code for this patient.

8. **INSURANCE PAYER**

Instructions: Review the medical record to determine the patient's primary insurance. The patient may have multiple insurers, so be sure to select only the primary insurance.
Select one of the following:

- *"BCBSM Michigan"*
- *"BCN Michigan"*
- *"Commercial- HMO"*
- *"Medicaid- HMO"*
- *"Medicaid- Straight"*
- *"Medicare- All"*
- *"Medicare Advantage- BCBSM"*
- *"Medicare Advantage- BCN"*

- *"No Insurance/ Self Pay"*
- *"Other Payer- Government"*
- *"Other Payer- Michigan and Outstate"*

Please utilize the following table to determine which Insurance to select. If you have an insurance provider that is not listed below, please reach out to the Coordinating Center.

BCBSM Michigan			
BC BCBSM FEP or Trust	BCBSM Out of Area	Blue Cross Blue Shield Traditional	Blue Cross Trinity Foreign with a Detroit address
BC Trust or PPO B15/Blue Cross	BCBSM PPO	Blue Cross Insurance Out of State PPO	BSBS
Blue Cross Blue Shield (BCBS)	BCBSM PPO Teamsters	Blue Cross IP or OP	Community Blue
BCBS - Blue Preferred PPO	BCBSM- Traditional	Blue Cross MI Trust	Federal Blue Cross with a Detroit address
BCBS IP, PPO, Out of Area or Traditional	BCBSM Trust	Blue Cross Other, Blue Cross PPO	Healthy Blue Outcomes
BCBS- Messa	Blue Cross Blue Shield Insurance PPO	Blue Cross PPO or Trust	Preferred PPO Blue Cross
BCBSM Co-Ded/Care	Blue Cross Blue Shield Insurance Trust PPO	Blue Cross Preferred Plus Blue Cross	Preferred PPO Blue Cross, BCBS Other - Medicare
BCBSM- Custom Community Blue	Blue Cross Blue Shield of Michigan (BCBSM)	Blue Cross Traditional - Michigan Blue Cross	Simply Blue HAS or HRA
BCBSM Fed. Emp.	Blue Cross Blue Shield OOA or PPO	Blue Cross Trinity Domestic (MI address)	

BCN Michigan			
BCBSM BCN	BCN M Premier	Blue Cross Complete	Healthy Blue HMO HRA
BCBSM BCN IP	BCN/BCN Medicaid/BC Complete	Blue Cross HMO (BCN Michigan)	Healthy Blue Living
Blue Care Network (BCN)	Blue Care Network - BCBS HMO	Blue Elect Plus	U of M Premier Care
BCN - BCN HMO Non-Beaumont Network	Blue Care Network Blue Cross	Blue Essentials	
BCN Genesys PHO	Blue Care Network HMO HRA	E- BCN/BCN Medicaid BC Complete UM PCP	
BCN HMO	Blue Care Network, Medicaid	E- BCN/BCN Premier Care non- UM PCP	

Commercial - HMO			
Alliance Health/HAP	HAP Senior Plus	ME McLaren Health Plan	Healthscope Benefits (United Healthcare)
Health Alliance Plan (HAP)	HAP unassigned DS HMO	Midwest Health Plan IP (Subsidiary of HAP)	HAP DMC Assigned
HAP - Preferred Cigna Open Access Plus	Health Plus HMS PAR (with Flint address)	Priority Health HMO	United Healthcare (incl. HMO/Managed Care)

Medicaid - HMO			
Coventry Cares	McLaren HMO	Meridian Health Plan of Michigan (Public Aid HMO)	Paramount Medicaid
Great Lakes Health Plan	McLaren Health Plan Medicaid	Molina Healthcare of MI OP	ProCare Health Plan
HAP Caresource	Medicaid HMO	Molina Medicaid or MMCD	United Health Care Community Plan - Medicaid
Harbor Health Plan	Medicaid United Healthcare	Molina Medicaid HMO	
Healthplus Medicaid	Medicaid UPHP HMP	Omnicare Coventry	

Medicaid - Straight			
Buckeye Health Plan/Medicaid	MDCD ESO	Medicaid IP	MIChild
Healthy Michigan Plan (no mention of Meridian)	ME HMP Medicaid ESO Only	Medicaid IP OP	Pace of Southeastern MI
Huron Valley PACE	Medicaid	Medicaid PRH Healthy M	Pace of Southwest Michigan
Life Circles Pace	Medicaid HMP Blue Cross	Medicaid Priority or OOS	Total Health Caid

Medicare - All			
Aetna Better Health Premier Medicare Dual Eligible/MI Health Link Medicare Dual Eligible	HAP Senior Plan / Medicare Advantage / MMCR	Medicare App/Buy IP	Molina MIHealth Link / MCare Advantage / Senior Plan
Aetna Medicare Advantage	Health Plus MedicarePlus Advantage PPO / Seniors HMO	Medicare Covenant Advantage/Medicare Covenant Advantage Plus HMO	NGS
Align Senior Care	Humana Gold CHC PFFS PTA /Medicare HMO	Medicare HMO Cigna Health Spring	PHP Medicare UM Health St. Joe's Advantage
Blue Cross Other-Medicare A	Humana Medicare Advantage (MA) / Senior Plan	Medicare Hospital Insurance	Priority Health Medicare / Medicare Advantage
Care Improvement Plus Medicare	MA Health Plus Medicare	Medicare Meridian / Meridian Advantage	Priority Medicare Part A and/or Part B
Center of Senior Independence/MCare Adv IP	MA United Healthcare Advantage	Medicare of Michigan	United Health Care Community Plan Medicare
Erikson Advantage	MCare Adv IP/BC = Medicare Advantage	Medicare Railroad Insurance	United Health Care Medicare / Medicare Advantage / Dual
Fedelis/Mcare Advantage	MCare B Only IP MCaid (Dual Medicare/Medicaid)	Medicare Traditional Part A & Part B	Upper Penninsula Health Plan Medicare-All
GLHP/Mcare Advantage	McLaren Health Plan Medicare Advantage	Medicare Blue Cross Blue Shield (not Michigan)	WellCare Medicare Health Plan
HAP Empowered MI Health Link Dual	Medicare / Medicare Advantage	Medicare United Health Care	
HAP Medicare Open SYS PCPC	Medicare / Medicare Advantage Part A	Michigan Complete Health MMCR	

Medicare Advantage - BCBSM			
Assure	BCBS Medicare Advantage PPO IP	Medicare Plus Blue IP (Plus Blue Insurance Policy)	Prescription Blue PDP
BCBS Medicare Advantage	Legacy Medigap	Medicare Plus Blue PPO: Essential	Signature or Vitality

Medicare Advantage - BCN			
BCN Advantage HMO-POS	Blue Care Network/ MCare Advantage	Blue Care Network (BCN) Advantage Part A & Part B	MA BCN Medicare advantage
BCN Blue ADV-PHO	Group options: The UAW Retiree Medical Benefits Trust- URMBT Hourly Retirees: Chrysler, Ford, GM; Michigan Public School Employees Retirement System	HMO-POS options: Elements, Basic, Classic, Prestige, Focus (Wayne County Only)	My Blue Medigap plan

No Insurance/Self-Pay		
Benefit Administrative Systems	Medicaid pending and free care; Advomas	Public aid
Medicaid Emergency Services Only (ESO)	Patient Self-Pay	Self Pay/No Insurance

Other Payer - Government			
Bay Health Plan	Federal Blue Cross	Saginaw Health Plan	CHAMPVA (Civilian Health and Medical Program of the Department of Veterans Affairs)
BCBS Government	Genesee Health Plan	Tricare	
Commercial Campus Tri-Care Standard	Indian Health Services (IHS)	TriCare East Humana	
Community Care Associates/HealthChoice of Michigan	MeridianCare Elite (HMO)	VA (Veteran's Affairs) Health Care Benefits	
COVID-19 HRSA Uninsured Program	Prisoner	Washtenaw Health Plan	

Other Payer – Michigan and Out State			
Aetna Healthcare	Connect Care Key Benefits	LifeTrac - LifeTrac Transplant	Sisco
Aetna PPO	Consolidated Healthplans Group: HCCUA	Magellan	Smart Health (Ascension)
Amerihealth Caritas VIP Care Plus	DMC Care	McLaren Health Plan	Sparrow Profession Health Network (SPHN)
Anthem Blue Cross Blue Shield	E- HAP/Alliance HLT Life EPA EPO	McLaren Health Advantage	Thrivent Financial for Lutherans
Any BCBS plan that does not say Michigan or Blue Care Network	Frontpath Insurance	Medassist	Total Healthcare
Ascension Complete	Gateway	Medi-bill Inc	Transamerica
ASR Insurance / COM - ASR	General Commercial	Meridian/Ambetter from Meridian	Trustmark and Starmark
Auto (State Farm, GEICO, Allstate)	Global Care Insurance	Meritain Health	United Medical Resources (UMR)
BCBS – Out of State Traditional and PPO	Golden Rule Insurance	Misc Ins 1-T99- the Financial Class is T Commercial	United Healthcare (without mention of HMO)
BCBS Transplant	Grange Auto Insurance	Molina Healthcare APC	United Healthcare PPO
Blue Cross NASCO	HAP PPO or Preferred	NGS Coresource County Health Insurance	United Healthcare Shared
Blue Cross PPO (without mention of Michigan)	Health Plus (no additional information)	NHI Out of State	United Healthcare-Choice Plus (without mention of HMO)
Blue Cross Trinity Domestic	Health Plus of Michigan	Northern Group Service - Cofinity	Upper Peninsula Health Plan
Blue Cross Trust insurance (Unknown if Michigan or out of state)	Health Plus PPO	OptumHealth - OptumHealth Transplant	Varipro
Blue Preferred PPO (If a non-Michigan or unknown state plan)	Healthplus Partners	Paramount Elite	Workers Comp
Cigna	Healthplus-Genesys PHO	Physician's Health Plan (PHP) / UM Health Plan	WPS
Cigna HAP PPO/POS	Humana	PPOM Cofinity	
Cofinity	Humana Choice PPO Part A	Priority Health (not a Medicare product)	
Commercial Health Plus	Humana X Connect - 160	Priority Health (without mention of HMO)	
Commercial Workers' compensation	IHC Solutions /St.Paul Minnesota	Priority Health Full Funded	
Connect Care	Interlink - Interlink Transplant	Priority Health PPO	

9. **PNEUMONIA: HOSPITAL ENCOUNTER DATE (ER, OBS, INPATIENT)**
   UTI: DATE OF COLLECTION OF THE FIRST POSITIVE URINE CULTURE DURING THE HOSPITAL ENCOUNTER
   For Pneumonia Patients:
   Instructions: Review the medical record to determine the date the patient first entered the hospital system (or the date the patient made first contact with the hospital). Indicate the date in the MM/DD/YYYY format.
   For UTI Patients:
   Instructions: Review the medical record to determine the date of the first positive urine culture was **collected** during the hospital encounter. Indicate the date in the MM/DD/YYYY format.

10. **DATE OF FIRST ANTIBIOTIC ADMINISTRATION (IF NO ANTIBIOTIC ADMINISTRATION, ENTER THE HOSPITAL ENCOUNTER DATE)**
    Instructions: Review the medical record to determine the date that the patient first received an antibiotic during the hospital encounter. Utilize the date the patient received the antibiotic vs. the order date of the antibiotic if they differ. Indicate the date in the MM/DD/YYYY format. If patient did not receive an antibiotic during the hospital encounter, then enter the "Hospital Encounter Date (ER, Obs, Inpatient)."
    Note: As a reminder, all Pneumonia cases are required to have an antibiotic on day #1 or day #2 of the hospital encounter to be eligible for abstraction. For UTI cases, please enter the date of first antibiotic administration given during the encounter. This can include antibiotics given up to 3 days prior to the collection of the first positive urine culture.

11. **DISCHARGE DATE (OR DATE OF TRANSFER TO ICU)**
    Instructions: Review the medical record to determine the date the patient was discharged or the date of transfer to the ICU (if applicable). Indicate the date in the MM/DD/YYYY format.

12. **CHANGE LOG MESSAGE**
    Instructions: Whenever a change is made to an HMS patient record after it has been created and saved, provide a written explanation of the change in the available text box.
    Note: A written explanation is required to save any changes made to the record.

Baseline

Instructions: For all questions in the database, "No Answer" is the default selection. This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question.

Demographics

1. **RACE/ETHNICITY**

Instructions: Review the medical record to determine the patient's race and/or ethnicity.
Select all that apply:

- *"American Indian or Alaskan Native"*
  INCLUDE: Native American, American Indian, or Alaskan Native.
- *"Asian"*
  INCLUDE: Chinese, Asian Indian, Filipino, Vietnamese, Korean, and Japanese, Another group (for example, Pakistani, Hmong, Afghan, etc.)
- *"Black or African American"*
  INCLUDE: African American, Jamaican, Haitian, Nigerian, Ethiopian, Somali, Another group (for example, Trinidadian and Tobagonian, Ghanaian, Congolese, etc.)
- *"Hispanic or Latino"*
  INCLUDE: Mexican, Puerto Rican, Salvadoran, Cuban, Dominican, Guatemalan, Another group (for example, Colombian, Honduran, Spaniard, etc.)
- *"Middle Eastern or North African"*
  INCLUDE: Lebanese, Iranian, Egyptian, Syrian, Iraqi, Israeli, Another group (for example, Moroccan, Yemeni, Kurdish, etc.)
- *"Native Hawaiian or Pacific Islander"*
  INCLUDE: Native Hawaiian, Samoan, Chamorro, Tongan, Fijian, Marshallese, Another group (for example, Chuukese, Palauan, Tahitian, etc.)
- *"White or Caucasian"*

INCLUDE: English, German, Irish, Italian, Polish, Scottish, Another group (for example, French, Swedish, Norwegian, etc.)
- *"Other"* if patient demographic information indicates the patient is a race/ethnicity other than what is listed above.
- *"Unknown"*

2. **PATIENT'S GENDER IDENTITY**

Instructions: Review the medical record to determine the patient's gender identity. This may be different than the patient's sex assigned at birth.
Select one of the following:
- *"Woman"*
- *"Man"*
- *"Transgender Woman/Transgender Female"*
- *"Transgender Man/Transgender Male"*
- *"Non-binary/Genderqueer"*
- "*Other (e.g., gender-diverse, or gender fluid)"*
- *"Choose not to disclose"*
- *"Unknown"*

3. **WHAT IS THE PATIENT'S PREFERRED LANGUAGE FOR DISCUSSING HEALTH CARE?**

Instructions: Review the medical record to determine the patient's preferred language for discussing healthcare.
Select one of the following:
- "*Albanian"*
- "*American Sign Language (ASL)"*
- "*Arabic"*
- "*Bengali"*
- "*Bosnian"*
- "*Chaldean/Aramaic"*
- "*Chinese"*
- "*English"*
- "*Hindi"*
- "*Italian"*
- "*Japanese"*
- "*Korean"*
- "*Polish"*
- "*Russian"*

- *"Spanish"*
- *"Ukranian"*
- *"Urdu"*
- *"Vietnamese"*
- *"Other"* Please ensure the other language is in the free text box provided.
- *"Unknown"*

4. **WHAT IS THE PATIENT'S MARITAL STATUS?**

Instructions: Review the medical record to determine the patient's marital status at the time of the hospital encounter.
Select one of the following:

- *"Single (Never Married)"*
- *"Domestic Partnership"*
- *"Married"*
- *"Separated"*
- *"Divorced"*
- *"Widowed"*
- *"Unknown"*

5. **WHAT IS THE HIGHEST DEGREE OR LEVEL OF SCHOOLING THE PATIENT HAS COMPLETED?**

Instructions: Review the medical record to determine the highest degree or level of schooling the patient has completed at the time of hospitalization.
Note: Choose the lowest/minimum attained education level that fits what is reported in the medical record.
Select one of the following:

- *"Less than a high school diploma"*
- *"High school degree or equivalent (e.g., GED)"*
- *"Some college, no degree"*
- *"Associate degree (e.g., AA, AS)"*
- *"Bachelor's degree (e.g., BA, BS)"*
- *"Master's degree (e.g., MA, MS, MEd)"*
- *"Professional degree (e.g., MD, DDS, DVM)"*
- *"Doctorate (e.g., PhD, EdD, JD)"*
- *"Unknown"*

6. **WHAT IS THE PATIENT'S RELIGION?**

Instructions: Review the medical record to determine the patient's religion at the time of hospitalization.
Select one of the following:

- "*Agnosticism*"
- "*Atheism*"
- "*Buddhism*"
- "*Christianity (including Protestant, Catholic, Orthodox Christian, Mormon, Jehovah's Witness, Baptist, Lutheran, Pentecostal, etc.)*"
  INCLUDE: Methodist, Episcopalian/Episcopal, Non Denominational Christian, Orthodox Serbian, Unity, Roman Catholic, Seventh Day Adventist, Orthodox Greek, Apostolic, Holiness, Latter Day Saints, United Church of Christ
- "*Hinduism*"
- "*Islam (including Muslim, Sunni, Shia, Sufism, etc.)*"
  INCLUDE: Muslim, Non Denominational Muslim
- "*Judaism*"
  INCLUDE: Non Denominational Judaism
- *"Non-denominational"*
  INCLUDE: Non-denominational noted as a religion without further specification
  EXCLUDE: Non-denominational Christianity, Non-denominational Judaism, Non-denominational Muslim
- *"No Religion/None"*
  INCLUDE: Not specified, Not listed, Unknown, Spiritual, No religious affiliation
- "*Other*"
  INCLUDE: Wiccan, Other is listed in the medical record as the religion, Sikh/Sikhism
  Please contact the HMS Coordinating Center prior to selecting this option, if the Other religion seen is not specified above.
- "*Unknown*"

Admission Detail

1. **DATE OF HOSPITAL ADMISSION AS AN INPATIENT OR DATE OF OBSERVATION ADMISSION (IF THIS IS AN OBSERVATION ONLY STAY)**

Instructions: Review the medical record to determine the date the patient was admitted to the hospital. Do not record the date the patient arrived in the emergency

room as the date of inpatient or observation admission. Record the date in (MM/DD/YYYY) format.

2. **INDICATE THE ADMISSION SOURCE**

Instructions: Review the medical record to determine the source from which the patient was admitted. Check any admission sources that apply. Once the admission source(s) is selected, a new category will appear to input further data.
Select all that apply:

- *"Emergency Room"* ***Answer question 2.1***
  INCLUDE: Only include admissions from the emergency room (ER), emergency department (ED), urgent care center directly associated with your hospital. Include ER to ER transfers.
- *"Direct Admit"*
  INCLUDE: Direct admits from home or doctor's office, or if patient told by their doctor to go to the hospital to be admitted through the hospital's admission office (not emergency room). Direct admit from an outside hospital ED.
- *"Transfer from Another Facility"* ***Answer questions 2.2 and 2.3***
  Reminder: Patients transferred from another hospital are excluded for Pneumonia cases.

INCLUDE FOR TRANSFER FROM ANOTHER FACILITY	EXCLUDE FOR TRANSFER FROM ANOTHER FACILITY

• Transfer from:
  ◦ Sub-acute rehab
  ◦ Skilled nursing facility/home
  ◦ Acute rehab center
  ◦ Assisted living
  ◦ Memory care
  ◦ Custodial nursing care
  ◦ Inpatient psychiatric unit
  ◦ Inpatient rehab unit
  ◦ Inpatient hospitalization
	• Adult foster care which is the patient's usual place of residence
	• Direct admits from home or doctor's office, urgent care, or outside hospital ED

2.1. DATE OF ER ADMIT

Instructions: Indicate the date of the ER admit in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

2.2. DATE OF TRANSFER (MM/DD/YYYY)

Instructions: Indicate the date of the transfer in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

2.3. PLEASE SPECIFY THE TYPE OF TRANSFER

Instructions: Review the medical record to determine the type (i.e. sub-acute rehabilitation center, skilled nursing home, acute rehabilitation center, or assisted living) of facility the patient was transferred from.

Select one of the following:

- *"Sub Acute Rehabilitation Center"*
  INCLUDE: post-acute rehabilitation center
- *"Skilled Nursing Home"*
  INCLUDE: nursing home, skilled nursing facility (SNF)
- *"Acute Rehabilitation Center"*
  INCLUDE: acute rehabilitation services, acute rehab
- *"Assisted Living"*
  INCLUDE: memory care, or custodial care
- "*Transfer from another hospital (Note: if pneumonia case, this patient is excluded)"*
  INCLUDE: Any transfer from another hospital. If a patient is discharged from an inpatient psychiatric unit within your institution and readmitted to medicine, it is considered a hospital-to-hospital transfer and is included in this selection.

3. **INDICATE THE FIRST ORDERED LEVEL OF CARE (AFTER EMERGENCY, IF APPLICABLE)**

Instructions: Review the medical record to determine the first ordered level of care for the patient (after Emergency, if applicable).

Note 1: This is the level of care (from the physician order) that the patient is receiving after an Emergency level of care, not the physical location of the patient.

Select one of the following:

- *"Observation"* ***Answer questions 3.1 and 3.2***
  INCLUDE: Observation with telemetry.
- *"Floor/Ward"* ***Answer question 3.1***
  INCLUDE: Hospital at Home, General Inpatient
- *"Step-down"* ***Answer question 3.1***
  INCLUDE: Intermediate Care, Progressive Care, Telemetry care, Admissions to inpatient or progressive care with telemetry ordered
- *"Intensive/Critical Care"* ***Answer question 3.1***

Note: Please review to ensure this patient is eligible for abstraction.

3.1. ENTER THE DATE OF THE [SELECTED LEVEL OF CARE] ORDER

Instructions: Review the medical record to determine the date the order for the selected level of care was placed. Record the date in (MM/DD/YYYY) format. Enter 01/01/1900 if the date is unknown.
Note: This should be the date that the *order* for the selected level of care was placed, not the date that the patient's physical location changed to a different location of care.

3.2. WAS THE PATIENT ADMITTED TO THE HOSPITAL AS AN INPATIENT?

Instructions: Review the medical record to determine if the patient had an order for admission to the hospital as an inpatient *after* their order for Observation status was placed.
Select one of the following:

- *"Yes"* ***Answer questions 3.2.1 and 3.2.2***
- *"No"*
  INCLUDE: Hospitalizations where the patient remained under Observation status for the entirety of the encounter

3.2.1. INDICATE THE FIRST ORDERED LEVEL OF CARE AFTER OBSERVATION

Instructions: Review the medical record to determine the first ordered level of care after Observation.
Note: This is the level of care (from the physician order) that the patient is receiving after an Observation level of care, not the physical location of the patient.
Select one of the following:

- *"Floor/Ward"*
  INCLUDE: Hospital at Home, General Inpatient
- *"Step-Down"*
  INCLUDE: Telemetry, progressive care, intermediate care, Admissions to inpatient or progressive care with telemetry ordered
- *"Intensive/Critical Care"*
  Note: Please review to ensure the case is eligible for abstraction.

3.2.2. DATE OF ORDER FOR ADMISSION TO [SELECTED LEVEL OF CARE]

Instructions: Review the medical record to determine the date the order for the selected level of care was placed. Record the date in (MM/DD/YYYY) format. Enter 01/01/1900 if the date is unknown.
Note: This should be the date that the *order* for the selected level of care was placed, not the date that the patient's physical location changed to a different location of care.

4. **INDICATE THE FIRST PHYSICAL LOCATION OF CARE (AFTER THE EMERGENCY DEPARTMENT, IF APPLICABLE)**

Instructions: Review the medical record to determine the first physical location of care for the patient (after the Emergency Department, if applicable).
Note: This is the first physical location of care for the patient after the Emergency Department (if applicable), not the first ordered level of care for the patient.
Select one of the following:

- *"Remined in ED until end of hospital encounter"*
- *"Observation/Short Stay Unit"* ***Answer questions 4.1 and 4.2***
- *"Hospital at Home"* ***Answer question 4.1***
  INCLUDE: Patients receiving an acute level of care while physically located in their home, rather than a hospital. Hospital Care at Home.
- *"Floor/Ward"* ***Answer question 4.1***
  INCLUDE: General Inpatient
- *"Step-down"* ***Answer question 4.1***
  INCLUDE: Intermediate Care Unit, Progressive Care Unit, Telemetry Unit
- *"Intensive/Critical Care Unit"* ***Answer question 4.1***
  Note: Please review this case to ensure that it is eligible for abstraction.
  INCLUDE: All types of Intensive Care Units (i.e., medical, surgical, neuro, cardiac, etc.)

4.1. ENTER THE DATE ON WHICH THE PATIENT'S PHYSICAL LOCATION OF CARE CHANGED TO [SELECTED LEVEL OF CARE]

Instructions: Review the medical record to determine the date on which the patient's physical location of care was changed to the selected physical location. Record the date in (MM/DD/YYYY) format. Enter 01/01/1900 if the date is unknown.
Note: This should be the date that the patient's physical location changed to a different location of care, not the date the order for a different level of care was placed.

4.2. DID THE PATIENT'S PHYSICAL LOCATION EVER CHANGE FROM THE OBSERVATION/SHORT STAY UNIT TO AN INPATIENT UNIT (INCLUDING STEP-DOWN AND ICU) OR HOSPITAL AT HOME DURING THE HOSPITAL ENCOUNTER?

Instructions: Review the medical record to determine if the patient's physical location ever changed from the Observation/Short Stay Unit to an Inpatient Unit (including Step-Down and Intensive/Critical Care Unit) or Hospital at Home during the hospital encounter.

Note: This is related to the physical location of the patient, not the ordered level of care for the patient after their stay on the Observation/Short Stay Unit.

Select one of the following:

- *"Yes"* ***Answer questions 4.2.1 and 4.2.2***
- *"No"*
  INCLUDE: Hospitalizations where the patient remained in an Observation/Short Stay Unit for the entirety of the admission
- *"Unknown"*

4.2.1. INDICATE THE FIRST PHYSICAL LOCATION OF CARE AFTER THE OBSERVATION/SHORT STAY UNIT

Instructions: Review the medical record to determine the first physical location of care for the patient after the Observation/Short Stay Unit.

Note: This is the first physical location of care for the patient after the Observation/Short Stay Unit, not the first ordered level of care for the patient.

Select one of the following:

- *"Hospital at Home"*
  INCLUDE: Patients receiving an acute level of care while physically located in their home, rather than a hospital. Hospital Care at Home.
- *"Floor/Ward"*
  INCLUDE: General Inpatient
- *"Step-down"*
  INCLUDE: Intermediate Care Unit, Progressive Care Unit, Telemetry Unit
- *"Intensive/Critical Care Unit"*
  Note: Please review this case to ensure that it is eligible for abstraction.
  INCLUDE: All types of Intensive Care Units (i.e., medical, surgical, neuro, cardiac, etc.)

4.2.2. ENTER THE DATE ON WHICH THE PATIENT'S PHYSICAL LOCATION OF CARE CHANGED TO [SELECTED LEVEL OF CARE]

Instructions: Review the medical record to determine the date on which the patient's physical location of care was changed to the selected physical location. Record the date in (MM/DD/YYYY) format. Enter 01/01/1900 if the date is unknown.
Note: This should be the date that the patient's physical location changed to a different location of care, not the date the order for a different level of care was placed.

5. **DURING THE HOSPITAL ENCOUNTER, WAS THE PATIENT EVER ADMITTED TO HOSPITAL AT HOME?**

Instructions: Review the medical record to determine if the patient was ever admitted under a Hospital at Home status.
Note: This question will only appear if "Hospital at Home" was not selected as a physical location of care in the questions above.
INCLUDE: Patients receiving an acute level of care while physically located in their home, rather than a hospital. Hospital Care at Home.
Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

6. **WHAT IS THE ICD-10 CODE THAT CORRESPONDS WITH THE PRIMARY ADMITTING DIAGNOSIS?**

Instructions: Review the medical record to determine the ICD-10 code corresponding with the principal reason for admission or admitting diagnosis as defined in the admitting history and physical. Use the free text box to enter the ICD-10 code that corresponds with the primary admitting diagnosis, which may be looked up at https://icd10cmtool.cdc.gov/?fy=FY2025
Note1: Enter in one ICD-10 code and make sure that it is capitalized. Do not hit enter while inputting ICD-10 codes into the box.
Note2: As a general rule, it is always important to use what the physician reports as the reason for admission. In situations where the reason is unclear, it may be helpful to refer to your institutions diagnosis codes provided by your IT or Medical Records departments.

7. **CLASSIFICATION OF THE ATTENDING PHYSICIAN ON ADMISSION**

Instructions: Review the medical record to determine the classification of the attending physician on admission to the inpatient hospitalization. Choose the option

that best describes the attending physician's practice specialty. This information should be found on the admitting H&P.
Note: Patients admitted by a surgeon to a medical service for a medical condition may be included.
Select one of the following:

- *"Emergency Medicine"*
- *"Family Medicine"*
  INCLUDE: Physicians that specializes in family medicine, family practice. Family physician, family doctor, etc.
- *"General Internist"*
  INCLUDE: Physicians that specialize in Adult Medicine or Internal Medicine.
- *"Hematologist/ Oncologist"*
  INCLUDE: Physicians that specialize in hematology and/or oncology.
- *"Hospitalist"*
- *"Infectious Disease"*
  INCLUDE: Physicians that specialize in Infection Diseases (ID) or Infectious Diseases Specialist.
- *"Medicine Sub Specialist"*
  INCLUDE: Physicians that specialize in General Medicine and have sub-specialized in another area such as Endocrinology, Cardiology, or Gastroenterology.
- *"Observation Medicine"*
- *"Other"* if the medical record indicates that the attending physician on admission was of a specialty not listed above.

8. **PROVIDER DETAILS**

Note: This for site use only. The HMS Coordinating Center does not maintain a list of these providers. The local site can use this field at their discretion and tracking is performed at the local level). Note: The entry will default to 'Not Applicable' and must be manually changed from the drop down list if you choose to utilize this field.

Medications

Examples of appropriate documentation for medication administration history:

- Documentation in an outpatient note from a healthcare professional that the patient received the medication (Exp: "Patient has taken prednisone for the last two days")
- Documentation in the medical record in a medication administration record (MAR)
- Any documentation that the patient received an immunosuppressant within the applicable time frame

Examples of inappropriate documentation for medication administration history:

- Documentation of a medication as being ordered on discharge
- Documentation of a steroid as being listed as a patient's current medication

1. **IN THE 6 MONTHS PRIOR TO THE HOSPITAL ENCOUNTER, HAS THE PATIENT RECEIVED ANY OF THE FOLLOWING IMMUNOSUPPRESSIVE TREATMENTS?**

Instructions: Review the medical record to determine if the patient received any of the below immunosuppressive treatments in the 6 months prior to the hospital encounter.
EXCLUDE: Antiretrovirals
Select all that apply:

- *"Abatacept"*
- "*Adalimumab (Humira)"*
- "*Alemtuzumab"*
- "*Anakinra (Kineret)"*
- "*Basiliximab (Simulect)"*
- "*Belimumab (Benlysta)"*
- "*Canakinumab (Ilaris)"*
- "*Certolizumab (Cimzia)"*
- "*Daclizumab (Zinbryta)"*
- "*Efalizumab (Raptiva)"*
- "*Etanercept (Enbrel)"*
- "*Golimumab (Simponi)"*
- "*Infliximab (Remicade)"*
- "*Ipilimumab (Yervoy)"*
- "*Ixekizumab (Taltz)"*
- "*Natalizumab (Tysabri)"*

- *"Nivolumab (Opdivo)"*
- *"Olaratumab (Lartruvo)"*
- *"Pembrolizumab (Keytruda)"*
- *"Rituximab (Rituxan)"*
- *"Secukinumab (Cosentyx)"*
- *"Tocilizumab (Actemra)"*
- *"Ustekinumab (Stelara)"*
- *"Other Biologic Immunotherapy"*
  INCLUDE: Nonspecific Immunomodulating agents, Monoclonal Antibodies (not listed above), Mepolizumab, JAK Inhibitors (ex: Upadacitinib), Pamrevlumab, Abemaciclib, Durvalumab (Imfinzi), Pertuzumab, Risankizumab-rzaa (Skyrizi)
  EXCLUDE: Evolocumab
  Note: Please contact the Coordinating Center prior to making this selection.
- *"None of the above"*

2. **IN THE 30 DAYS PRIOR TO THE HOSPITAL ENCOUNTER, HAS THE PATIENT RECEIVED STEROIDS/CORTICOSTEROIDS/IMMUNOSUPPRESSIVE TREATMENT?**

Instructions: Review the medical record to determine if the patient received any of the below steroid, corticosteroid, or immunosuppressive treatments in the 30 days prior to the hospital encounter.
EXCLUDE: Inhaled steroids, Topical steroids/corticosteroids, steroids given for prevention of allergic reaction only, intra-articular/local steroid injections into joints, Antiretrovirals
Select one of the following:

- *"Yes"* ***Answer questions 2.1 and 2.2***
- *"No"*
- *"Unknown"*

2.1. NAME OF MEDICATION RECEIVED IN 30 DAYS PRIOR TO HOSPITAL ENCOUNTER

Instructions: Review the medical record to determine the name of the steroid, corticosteroid or immunosuppressive treatment the patient received in the 30 days prior to the hospital encounter (ER, Obs, Inpt). There are thirty (30) options for this question.
Select one of the following:

- *"Abciximab (Reopro)"*
- *"Alefacept (Amevive)"*

- *"Azathioprine"*
- *"Betamethasone"* ***Answer questions 2.1.1 through 2.1.3***
- *"Bezlotoxumab (Zinplava)"*
- *"Budesonide"* ***Answer questions 2.1.1 through 2.1.3***
- *"Cetuximab (Erbitux)"*
- *"Chlorambucil"*
- *"Cortisone"* ***Answer questions 2.1.1 through 2.1.3***
- *"Cyclophosphamide"*
- *"Cyclosporine"*
- *"Denosumab (Prolia, Xgeva)"*
- *"Dexamethasone"* ***Answer questions 2.1.1 through 2.1.3***
- *"Everolimus (Zortress)"*
- *"Fludrocortisone"*
  EXCLUDE: Fludrocortisone by inhalation
- *"Hydrocortisone"* ***Answer questions 2.1.1 through 2.1.3***
- *"Hydroxychloroquine"*
- *"Leflunomide"*
- *"Lenalidomide (Revlimid)"*
- *"Methotrexate"*
- *"Methylprednisolone"* ***Answer questions 2.1.1 through 2.1.3***
- *"Mycophenolate (Cellcept)"*
  INCLUDE: Myfortic, Mycrophenolate sodium
- *"Omalizumab (Xolair)"*
- *"Palivizumab (Synagis)"*
- *"Panitumumab (Vectibix)"*
- *"Prednisolone"* ***Answer questions 2.1.1 through 2.1.3***
- *"Prednisone"* ***Answer questions 2.1.1 through 2.1.3***
- *"Sirolimus"*
- *"Tacrolimus"*
- *"Teriflunomide (Aubagio)"*
- *"TK Inhibitor"*
  INCLUDE: Acalabrutinib (Calquence), Afatinib (Gilotrif), Alectinib (Alecensa), Avapritinib, Axitinib (Inlyta), Bosutinib (Bosulif), Cabozantinib (Cabometyx, Cometriq), Caprelsa, Crizotinib (Xalkori), Dacomitinib (Vizimpro), Dasatinib (Sprycel), Entrectinib (Rozlytrek), Erlotinib (Tarceva), Gilteritinib (Xospata), Ibrutinib (Imbruvica), Imatinib Mesylate (Gleevec), Lapatinib (Tykerb), Lenvatinib, Midostaurin (Rydapt), Neratinib (Nerlynx), Nilotinib (Tasigna), Pacritinib, Pazopanib (Votrient), Pexidartinib (Turalio), Pirobrutinib (Jayprica),

Ponatinib (Iclusig), Quizartinib, Regorafenib (Stivarga), Ruxolitinib (Jakafi), Sorafenib (Nexavar), Sunitinib (Sutent), Vandetanib, Zanubrutinib (Brukinsa), Ziv-Aflibercept (Zaltrap), Ripretinib (Qinlock), Nintedanib

- *"Tofacitinib"*
- *"Trastuzumab (Herceptin)"*
- *"Other Immunosuppressive"*

Note: Please contact the Coordinating Center prior to making this selection.

2.1.1. DOSE

Instructions: Review the medical record to determine the dose of the steroid/corticosteroid/immunosuppressive treatment that was administered. If the dose is unknown enter "0". If the medication (e.g., prednisone, methylprednisolone, etc.) was administered as a taper or with varying doses, enter as a single entry using the highest total daily dose.

Reminder: If the medication is a tapered dose with varying doses, please enter as a single entry using the highest total daily dose.

Note: If a patient was prescribed a loading dose of a steroid (for example 125mg) and then followed up with a regular daily dose (for example 60mg), please enter the regularly scheduled dose (for example 60mg).

Note2: If the patient was prescribed a steroid with multiple doses of the medication per day (i.e., twice daily, three times daily, etc.), please enter the total daily dose of the medication received.

2.1.2. UNITS

Instructions: Indicate the unit of measure for the dose of the steroid/corticosteroid/immunosuppressive treatment listed above.

Select one of the following:

- *"mg"*
  INCLUDE: milligrams, mg
- *"g"*
  INCLUDE: grams, g, gm
- "*Unknown*"

2.1.3. NUMBER OF DAYS THE PATIENT WAS TAKING THE STEROID TREATMENT IN THE 30 DAYS PRIOR TO THE HOSPITAL ENCOUNTER

Instructions: Indicate the number of days the patient was taking the steroid treatment. Only enter the number of days of treatment in the 30 days prior to

the hospital encounter. Do not include administration during the hospital encounter.

Note: If documentation states, "long term steroid use" or "on chronic steroids" (and there is no other documentation indicating the period of time the patient is on this medication) enter 30 days and select "Estimated".

Note 2: If the patient is prescribed a Medrol dose pack and ordered to take "per package instructions", please capture this as 6 days duration.

Select one of the following:

- *"1-30"* ***Answer question 2.1.3.1***
- *"Unknown"*

2.1.3.1. IS THIS ESTIMATED OR CONFIRMED?

Instructions: Indicate whether the number of days is estimated or confirmed.

Select one of the following:

- *"Estimated"*
- *"Confirmed"*

2.2. IN THE 30 DAYS PRIOR TO THE HOSPITAL ENCOUNTER, WAS THE PATIENT TAKING ANOTHER STEROID/CORTICOSTEROID/IMMUNOSUPPRESSIVE TREATMENT?

Instructions: Review the medical record to determine if the patient received another steroid, corticosteroid or immunosuppressive treatment in the 30 days prior to the hospital encounter.

Note: This section repeats so that up to three (3) steroid/corticosteroid/immunosuppressive treatments may be entered.

3. DID THE PATIENT RECEIVE STEROIDS/CORTICOSTEROIDS/IMMUNOSUPPRESSIVE TREATMENT ON DAYS 1 OR 2 OF THE HOSPITAL ENCOUNTER?

Instructions: Review the medical record to determine if the patient received a steroid, corticosteroid, or immunosuppressive treatment on day #1 or day #2 of the hospital encounter.

INCLUDE: All steroid doses visible in the medical record these calendar days, including those from prior to the index hospital encounter

EXCLUDE: Inhaled steroids, Topical steroids/corticosteroids, steroids given for prevention of allergic reaction only, intra-articular/local steroid injections into joints

Select one of the following:

- *"Yes"* ***Answer questions 3.1. and 3.2.***
- *"No"*
- *"Unknown"*

3.1. NAME OF MEDICATION

Instructions: Review the medical record to determine the name of the steroid, corticosteroid or immunosuppressive treatment the patient received on day #1 or day #2 of the hospital encounter.

Select one of the following:

- *"Abatacept"*
- *"Abciximab (Reopro)"*
- *"Adalimumab"*
- *"Alefacept (Amevive)"*
- *"Alemtuzumab"*
- *"Anakinra"*
- *"Azathioprine"*
- *"Basiliximab (Simulect)"*
- *"Belimumab"*
- *"Betamethasone"* ***Answer questions 3.1.1 through 3.1.3***
- *"Bezlotoxumab (Zinplava)"*
- *"Budesonide"* ***Answer questions 3.1.1 through 3.1.3***
- *"Canakinumab"*
- *"Certolizumab"*
- *"Cetuximab (Erbitux)"*
- *"Chlorambucil"*
- *"Cortisone"* ***Answer questions 3.1.1 through 3.1.3***
- *"Cyclophosphamide"*
- *"Cyclosporine"*
- *"Daclizumab (Zenapax, Zinbryta)"*
- *"Denosumab (Prolia, Xgeva)"*
- *"Dexamethasone"* ***Answer questions 3.1.1 through 3.1.3***
- *"Efalizumab (Raptiva)"*
- *"Etanercept"*
- *"Everolimus (Zortress)"*
- "*Fludrocortisone"*
  EXCLUDE: Fludrocortisone by inhalation
- *"Golimumab"*
- *"Hydrocortisone"* ***Answer questions 3.1.1 through 3.1.3***

- *"Hydroxychloroquine"*
- *"Infliximab"*
  INCLUDE: Remicade
  NOTE: This medication may be used for treatment of chronic ulcerative colitis.
- *"Ipilimumab (Yervoy)"*
- *"Ixekizumab (Taltz)"*
- *"Leflunomide"*
- *"Lenalidomide (Revlimid)"*
- *"Methotrexate"*
- *"Methylprednisolone"* ***Answer questions 3.1.1 through 3.1.3***
- *"Mycophenolate (Cellcept)"*
  INCLUDE: Myfortic, Mycrophenolate sodium
- *"Natalizumab (Tysabri)"*
- *"Nivolumab (Opdivo)"*
- *"Olaratumab (Lartuvo)"*
- *"Omalizumab (Xolair)"*
- *"Palivizumab (Synagis)"*
- *"Panitumumab (Vectibix)"*
- *"Pembrolizumab (Ketruda)"*
- *"Prednisolone"* ***Answer questions 3.1.1 through 3.1.3***
- *"Prednisone"* ***Answer questions 3.1.1 through 3.1.3***
- *"Rituximab"*
- *"Secukinumab (Cosentyx)"*
- *"Sirolimus"*
- *"Tacrolimus"*
- *"Teriflunomide (Aubagio)"*
- *"TK Inhibitor"*
  INCLUDE: Acalabrutinib (Calquence), Afatinib (Gilotrif), Alectinib (Alecensa), Avapritinib, Axitinib (Inlyta), Bosutinib (Bosulif), Cabozantinib (Cabometyx, Cometriq), Caprelsa, Crizotinib (Xalkori), Dacomitinib (Vizimpro), Dasatinib (Sprycel), Entrectinib (Rozlytrek), Erlotinib (Tarceva), Gilteritinib (Xospata), Ibrutinib (Imbruvica), Imatinib Mesylate (Gleevec), Lapatinib (Tykerb), Lenvatinib, Midostaurin (Rydapt), Neratinib (Nerlynx), Nilotinib (Tasigna), Pacritinib, Pazopanib (Votrient), Pexidartinib (Turalio), Ponatinib (Iclusig), Quizartinib, Regorafenib (Stivarga), Ruxolitinib (Jakafi), Sorafenib (Nexavar), Sunitinib (Sutent), Vandetanib, Zanubrutinib (Brukinsa), Ziv-Aflibercept (Zaltrap), Ripretinib (Qinlock), Nintedanib
- *"Tocilizumab"*

- *"Tofacitinib"*
- *"Trastuzumab (Herceptin)"*
- *"Ustekinumab (Stelara)"*
- *"Other Biologic Immunotherapy"*
  INCLUDE: Nonspecific Immunomodulating agents, Monoclonal Antibodies (not listed above), Mepolizumab, JAK Inhibitors (ex: Upadacitinib), Pamrevlumab, Abemaciclib, Durvalumab (Imfinzi), Pertuzumab, Risankizumab-rzaa (Skyrizi)
  EXCLUDE: Evolocumab
  Note: Please contact the HMS Coordinating Center prior to making this selection.
- *"Unknown"*

3.1.1. DOSE

Instructions: Review the medical record to determine the dose of the steroid/corticosteroid treatment that was administered. If the dose is unknown enter "0". If the medication (e.g., prednisone, methylprednisolone, etc.) was administered as a taper or with varying doses, enter as a single entry using the highest ordered total daily dose.
Reminder: If the medication is a tapered dose with varying doses, please enter as a single entry using the highest total daily dose.
Example: When 60 mg QID is ordered, but the patient only receives 3 doses, please capture the highest ordered total daily dose as 240 mg and the associated frequency as Other-QID
Note: If a patient was prescribed a loading dose of a steroid (for example 125mg) and then followed up with a regular daily dose (for example 60mg), please enter the regularly scheduled dose (for example 60mg).
Note2: If the patient was prescribed a steroid with multiple doses of the medication per day (i.e., twice daily, three times daily, etc.), please enter the total daily dose of the medication received.

3.1.2. UNITS

Instructions: Indicate the unit of measure for the dose of the steroid/corticosteroid treatment listed above.
Select one of the following:

- *"mg"*
  INCLUDE: milligrams, mg
- *"g"*

INCLUDE: grams, g, gm
- *"Unknown"*

3.1.3. FREQUENCY

Instructions: Review the medical record to determine the frequency of the steroid/corticosteroid treatment listed above.
Select one of the following:

- *"Daily"*
- *"BID"*
  INCLUDE: Twice daily, two times per day
- *"TID"*
  INCLUDE: Three times per day
- *"QID"*
  INCLUDE: Four times per day
- *"Other"* Please enter the other dosing in the free text box provided. Please contact the HMS Coordinating Center prior to making this selection.

3.2. WAS THE PATIENT TAKING ANOTHER STEROID/CORTICOSTEROID/ IMMUNOSUPPRESSIVE TREATMENT ON DAYS 1 OR 2 OF THE HOSPITAL ENCOUNTER?

Instructions: Review the medical record to determine if the patient received more than one steroid, corticosteroid or immunosuppressive treatment on day #1 or day #2 of the hospital encounter (ER, Obs, Inpt).
Note: This section repeats so that up to three (3) steroid/corticosteroid/immunosuppressive treatments may be entered.

3.3. WHAT WAS THE TOTAL DURATION OF ANY STEROID TREATMENT DURING THE HOSPITAL ENCOUNTER OR AT DISCHARGE?

Instructions: If the patient was **not receiving steroids/corticosteroids in the 30 days prior** to the hospital encounter, but **did receive steroids/corticosteroids on days 1 or 2 of the hospital encounter**, this question will display. It will display only once no matter how many steroids/corticosteroids are entered. Please enter in the free text box provided the total duration (number of days) of ANY steroid treatment during the hospital encounter and on discharge.
Note 1: If the patient is transferred to the ICU during the hospital encounter, please include the total duration of steroid treatment through the time of transfer.

Note 2: If unable to determine total duration of steroid treatment during the hospital encounter and on discharge, please enter "9999".
Note 3: If the patient is prescribed a Medrol dose pack and ordered to take "per package instructions", please capture this as 6 days duration.

4. **DID THE PATIENT HAVE AN ORDER FOR AND RECEIVE A PROTON PUMP INHIBITOR (EX: PRILOSEC, PREVACID, PROTONIX, ETC) ON DAY #1 OR DAY #2 OF THE HOSPITAL ENCOUNTER?**

Instructions: Review the medical record to determine if the patient received a proton pump inhibitor on day #1 or day #2 of the hospital encounter.
Select one of the following:

- *"Yes"* ***Answer question 4.1***
- *"No"*
- *"Unknown"*

4.1. MEDICATION NAME

Instructions: Review the medical record to determine the name of the proton pump inhibitor the patient received day #1 or day #2 of the hospital encounter.
Select one of the following:

- *"Dexlansoprazole (Kapidex, Dexilant)"*
- *"Esomeprazole (Nexium)"*
- *"Lansoprazole (Prevacid)"*
- *"Omeprazole (Prilosec)"*
- *"Pantoprazole (Protonix)"*
- *"Rabeprazole (AcipHex)"*

5. **DID THE PATIENT HAVE AN ORDER FOR AND RECEIVE A HISTAMINE H2 ANTAGONIST (AXID, PEPCID, TAGAMET, ZANTAC) ON DAY #1 OR DAY #2 OF THE HOSPITAL ENCOUNTER?**

Instructions: Review the medical record to determine if the patient received a histamine H2 antagonist on day #1 or day #2 of the hospital encounter.
Select one of the following:

- *"Yes"* ***Answer question 5.1***
- *"No"*
- *"Unknown"*

5.1. MEDICATION NAME

Instructions: Review the medical record to determine the name of the histamine H2 antagonist the patient received day #1 or day #2 of the hospital encounter. Select one of the following:

- *"Axid (Nizatidine)"*
- *"Pepcid (Famotidine)"*
- *"Tagamet (Cimetidine)"*
- *"Zantac (Ranitidine)"*

Co-Morbid Conditions

1. **CHECK ALL THAT APPLY**

Instructions: Review the medical record to determine if the patient has any of the following co-morbid conditions. Please select all conditions that are present on admission (Day 1/Day 2 of the inpatient hospitalization or observation hospitalization [if obs only stay]).

Note 1: If a patient is receiving treatment with a medication alone without documentation of a condition, it should not be entered as a co-morbid condition.

Note 2: Within emergency department notes, physician progress notes, and the H&P, capture co-morbid conditions documented in the narrative, active problem list, or assessment and plan. Exclude past conditions which have resolved.

Note 3: For efficiency of abstraction, please review the primary medical team's notes (ED provider, observation provider, admitting provider) for this information. If the primary medical team states that they will be engaging a consulting service to help manage the patient's infectious process or organ dysfunction related to their infectious process, please review that consulting service's notes as well.

Examples of Timing for Comorbid Condition Capture:

Example One:

Day of Hospital Encounter Presentation	Hospital Encounter Day 2	Hospital Encounter Day 3
In ED until 1200 then Admit to Inpt	Inpatient	Inpatient

Capture Comorbids	Capture Comorbids	Do not capture Comorbids

Example Two:

Day of Hospital Encounter Presentation	Hospital Encounter Day 2	Hospital Encounter Day 3	Hospital Encounter Day 4
In ED until 1200 then Admit to Observation	Observation until 1200 then admit to inpatient	Inpatient	Inpatient
Capture Comorbids	Capture Comorbids	Capture Comorbids	Do not capture comorbids

Example Three:

Day of Hospital Encounter Presentation	Hospital Encounter Day 2	Hospital Encounter Day 3
In ED until 1200 then admit to observation	In observation	In observation until 1500 then discharged home
Capture Comorbids	Capture Comorbids	Do not capture comorbids

Select all that apply:

- *"Acquired immune deficiency syndrome (AIDS)/ Human Immunodeficiency Virus (HIV)"*
  Reminder: HIV/AIDS patients with a CD4 count less than 200 are excluded from abstraction.

INCLUDE	EXCLUDE
• Acquired immune deficiency syndrome (AIDS) • AIDS-related complex (ARC) • Symptomatic or asymptomatic Human Immunodeficiency Virus (HIV)	• Exposure to HIV virus • Nonspecific serologic evidence of HIV

- "*Cardiovascular disease*"

INCLUDE	EXCLUDE

• Heart disease
• Atherosclerosis
• Heart attack
• Arrhythmia/heart murmur
  ◦ Atrial/ventricular fibrillation
  ◦ Atrial flutter
  ◦ Bradycardia
  ◦ Conduction disorder
  ◦ Bundle branch block
  ◦ Heart block
  ◦ Long QT syndrome
  ◦ Premature atrial/ventricular contractions
  ◦ Atrial/supraventricular tachycardia
  ◦ Tachycardia
• Cardiomegaly
• Adams-stokes disease (morgangni)
• Sick sinus syndrome
• Wolff-Parkinson-White Syndrome
• Valve stenosis
• Mitral valve prolapse
• Valve regurgitation
• Endocarditis
• Ischemic Cardiomyopathy
	• Tachycardia that is a result of the patient's infectious state and not a baseline condition
	• Non-specific chest pain

- *"Cerebrovascular disease"*

INCLUDE	EXCLUDE
• Cerebrovascular accident (CVA) • Transient ischemic attack (TIA) • Intracranial/intraparenchymal/subarachnoid hemorrhage • Hemorrhage of the cerebrum • Carotid stenosis/atherosclerosis • Stroke • Subclavian steal syndrome • Non-ruptured cerebral aneurysm	• Cerebellar ataxia • Seizure disorder/epilepsy • Traumatic brain injury (TBI)

• Pseudotumor cerebri (idiopathic intracranial hypertension) • Acute spinal cord infarct • Cerebral arteriovenous (AV) malformation	

- *"Chronic obstructive pulmonary disease (COPD)"*

INCLUDE	EXCLUDE
• Chronic obstructive airway disease (COAD) • Chronic obstructive lung disease (COLD) • Chronic bronchitis/tracheobronchitis • Chronic obstructive bronchitis • Chronic airflow limitation • Chronic obstructive respiratory disease (CORD) • Emphysema	• Bronchiectasis • Asthma (without note of COPD)

- *"Congestive heart failure (CHF)/Cardiomyopathy"* ***Answer question 1.1***

INCLUDE	EXCLUDE
• Heart failure (HF) • Ischemic/dilated/hypertrophic cardiomyopathy • Takotsubo cardiomyopathy (Broken heart syndrome) • Heart failure with preserved ejection fraction (HFPEF)	• Grade 1 diastolic dysfunction

- *"Dementia"*

INCLUDE	EXCLUDE
• Alzheimer's disease with long term cognitive dysfunction/dementia • Cerebral anoxia • Delirium caused by chronic alcoholism, CO2 poisoning, hypothyroidism, multiple brain	• Temporary loss of cognitive function • Acute delirium • Drug- or alcohol-related delirium/withdrawal • Developmental delay/cognitive impairment

infarcts, subdural hematoma, or Vitamin B12 deficiency • Vascular dementia • Parkinson's with long term cognitive dysfunction/dementia • Lewy body dementia	

- *"Diabetes - Complicated"*

INCLUDE	EXCLUDE

• Diabetes type 1 or 2 with any of the following impairments noted:
  ◦ Renal (nephropathy)
  ◦ Ophthalmic (retinopathy)
  ◦ Neurologic (neuropathy)
  ◦ Circulatory (cardiac, cerebral, peripheral vascular)
• Diabetic gastroparesis
• Brittle diabetes
• Diabetic ketoacidosis (with or without coma)
• Hyperosmolar Hyperglycemic State (HHS) with or without coma
• Diabetic hypoglycemic coma
• Insulin coma
	• Diabetes without note of complication
	• Prediabetes

- *"Diabetes - Uncomplicated"*

INCLUDE	EXCLUDE
• Diabetes type 1 or 2 WITHOUT any noted complications ◦ Patient can be controlled with insulin, oral medications, or diet	• Diabetes with note of complication • Prediabetes

- *"GERD"*

INCLUDE
• Gastroesophageal reflux disease • Acid reflux

- *"Hemiplegia"*

INCLUDE	EXCLUDE
• Quadriplegia • Paraplegia • Tetraplegia • Spastic quadriplegia	• Functional quadriplegia

- *"Inflammatory Bowel Disease (i.e. Crohn's or Ulcerative Colitis)"*

INCLUDE	EXCLUDE
• Crohn's disease (regional enteritis) • Microscopic colitis • Ulcerative colitis/proctolitis	• Celiac disease • Diverticulitis/diverticulosis • Colitis • Spastic colitis • C. Diff colitis • Ischemic colitis • Lymphocytic colitis • Infectious colitis • Collagenous colitis • Irritable bowel disease/syndrome (IBS)

- *"Mild Liver Disease"*

INCLUDE	EXCLUDE

• Alcoholic cirrhosis of liver
• Non-alcoholic cirrhosis of liver
  ◦ NOS
  ◦ Cryptogenic
  ◦ Macronodular
  ◦ Micronodular
  ◦ Post-hepatic
  ◦ Post-necrotic
• Laennec's cirrhosis
• Chronic unspecified/persistent hepatitis
• Autoimmune hepatitis
• Healed yellow atrophy (liver)
	• Hepatitis A, B, C, D, or G <u>with</u> mention of end-stage liver disease
	• Transaminitis
	• Elevated liver enzymes without mention of liver disease
	• Acute liver failure
	• Acute on chronic liver failure
	• Shock liver (ischemic hepatitis)
	• Any condition listed as an inclusion for moderate/severe liver disease
	• History of liver transplant without complication/failure

• Portal cirrhosis • Biliary/cholestatic cirrhosis • Chronic nonsuppurative destructive cholangitis • Hepatitis A, B, C, D, or G without mention of end-stage liver disease • Lesions on liver from sarcoidosis • Fatty liver • Liver cyst/hemangioma • Cholangitis • Non-alcoholic fatty liver disease • Liver disease without any further explanation • Gilbert's disease	

- *"Moderate or Severe Liver Disease"*

INCLUDE	EXCLUDE
• Esophageal varices with or without mention of bleeding • Hepatic coma • Hepatic encephalopathy • Hepatocerebral intoxication • Porto-systemic encephalopathy • Portal hypertension • Hepatorenal syndrome • End-stage liver disease • Hepatitis A, B, C, D, or G with mention of end-stage liver disease • Non-alcoholic steatohepatitis (NASH) • Liver transplant failure	• Elevated liver enzymes without mention of liver disease • Acute liver failure • Shock liver (ischemic hepatitis) • Transaminitis • Any condition listed as an inclusion for mild liver disease • Gilbert's disease

- *"Moderate or Severe Chronic Kidney Disease"*

INCLUDE	EXCLUDE
• Chronic renal failure (CRF) • Chronic kidney disease (CKD)	• Cardiorenal syndrome with no classification of the severity of the

• End-stage renal disease (ESRD) • Chronic renal insufficiency stage 3 or greater (GFR ≤ 59 ml/min/1.73m^2) • Renal osteodystrophy • Chronic irreversible failure of both kidneys, as a result of which either regular renal dialysis or renal transplant process is initiated • Documentation that the serum creatinine is 3+ times the upper limit of normal chronically	patient's renal disease • Acute renal injury/failure • Acute on chronic renal injury/failure • An eGFR < 59 *without* documentation of chronic renal failure or insufficiency

- *"Myocardial Infarction (MI)"* ***Answer question 1.2***

INCLUDE	EXCLUDE
• Heart attack • Myocardial infarction with ST elevation (STEMI) • Non-ST elevation myocardial infarction (NSTEMI) • Cardiac infarction • Unstable angina • Coronary artery embolism/occlusion/thrombus • Infarction of the heart/myocardium/ventricle • Old myocardial infarction	• Angina pectoris • Stable angina • Cardiac ischemia without meeting criteria for MI • Non-specific chest pain • Rule out (r/o) MI

- *"Peptic Ulcer Disease"*

INCLUDE	EXCLUDE
• Active gastric/esophageal/duodenal ulcers • Gastritis • Barret's esophagus • Duodenitis	• Gastroesophageal reflux disease (GERD) • Acid reflux

- *"Peripheral Vascular Disorders"*

INCLUDE	EXCLUDE

• Amputation as a result of a peripheral vascular disorder (PVD) • Aortoiliac/femoral/axillary occlusive disease • Atherosclerosis of the abdominal aorta • Claudication • Peripheral vascular occlusive disease (PVOD) • Prior vascular surgeries related to PVD (e.g., femoral-popliteal bypass) • Peripheral arterial disease (PAD) with or without ulcerations • Venous stasis/insufficiency • Abdominal aortic aneurysm without documentation of repair • Dermatitis stasis • Thoracic aneurysm • Superior Mesenteric Artery (SMA) syndrome • Aortic abdominal aneurysm (AAA) repair with or without further issues • Chronic aortic dissection	• Esophageal varices (capture under Moderate/Severe Liver Disease) • Ischemic colitis • Lymphedema • Raynaud's disease • Peripheral edema

- *"Rheumatoid Arthritis or Related Arthropathy/Connective Tissues Disease"*

INCLUDE	EXCLUDE
• Rheumatologic disorders • Connective tissue disorders • Systemic Lupus Erythematous (SLE) • Scleroderma • CREST Syndrome • Dermatomyositis • Polymyositis • Polymyalgia rheumatica (PMR) • Sjogren's syndrome • Polyarthritis nodosa (PAN) • Antineutrophil cytoplasmic antibody (ANCA)-associated vasculitis	• Osteoarthritis • Gout • Fibromyalgia • Reflex sympathetic dystrophy • Sarcoidosis • Neuropathic arthropathy • Psoriasis without documentation of psoriatic arthritis • Raynaud's disease • Urticarial vasculitis • Charcot Marie Tooth syndrome

• Microscopic polyangiitis/polyarteritis • Wegener's granulomatosis • Midline granulomatosis • Granulomatosis with polyangiitis (GPA) • Behcet's disease • Buerger's disease (thromboangiitis obliterans) • Central nervous system (CNS) vasculitis • Churg-Strauss syndrome (eosinophilic granulomatosis with polyangiitis or EGPA) • Cryoglobulinemic/hypersensitivity vasculitis • Giant Cell/Temporal/Cranial arteritis • Henoch-Schonlein Purpura (HSP)/IgA vasculitis • Rheumatoid vasculitis • Takayasu's arteritis • Polychondritis • Antisynthetase syndrome • Akylosing spondylitis • Seronegative arthritis • Psoriatic arthritis • Kawasaki disease • Inflammatory arthritis • Diffuse systemic sclerosis • Ehler's Danlos • Marfan's Syndrome	• Pyogenic arthritis

- *"Sickle Cell"*

INCLUDE
• Sickle Cell Disease • Sickle Cell Anemia • Drepanocytosis

- *"None of the above"*

1.1. WAS THE 'CONGESTIVE HEART FAILURE (CHF)/CARDIOMYOPATHY' ACTIVE ON ADMISSION (DAY #1 OR DAY #2) OR IN THE 30 DAYS PRIOR TO ADMISSION?

Instructions: Review the medical record to determine if the congestive heart failure (CHF)/Cardiomyopathy is active on admission (day #1 or day #2 of the inpatient admission or observation admission [if observation only stay]) or if active in the 30 days prior to the inpatient admission or observation admission [if observation only stay].
INCLUDE: Documentation of new or recent onset of HF (i.e. diagnosis of HF or an exacerbation of the patient's known HF) that is active at the time of admission of in the 30 days prior.
Select one of the following:

- "*Yes*"
- "*No*"
- "*Unknown*"

1.2. WAS THE MYOCARDIAL INFARCTION (MI) ACTIVE ON ADMISSION (DAY #1 OR DAY #2) OR ACTIVE IN THE 30 DAYS PRIOR TO ADMISSION?

Instructions: Review the medical record to determine if the myocardial infarction is active on admission (day #1 or day #2 of the inpatient admission or observation admission [if observation only stay]) or if active in the 30 days prior to the inpatient admission or observation admission [if observation only stay].
Select one of the following:

- "*Yes*"
- "*No*"
- "*Unknown*"

Physical Findings

1. **IS THERE DOCUMENTATION OF THE PATIENT'S HEIGHT?**

Instructions: Review the medical record to determine if the patient's height is documented. Use height documented closest to the admission within the past year.
INCLUDE: Estimated heights, heights stated by the patient.

Select one of the following:

- *“Yes”* ***Answer questions 1.1 through 1.2***
- *“No”*
- *“Unknown”*

1.1. HEIGHT

Instructions: Indicate the patient’s height (numeric only).

1.2. UNIT OF HEIGHT

Instructions: Indicate the unit of measurement for the patient's height.
Select one of the following:

- *"Inches"*
- *"Centimeters"*

2. IS THERE DOCUMENTATION OF THE PATIENT’S WEIGHT?

Instructions: Review the medical record to determine if the patient’s weight is documented. Use weight documented closest to the admission and captured within the past year.
EXCLUDE: Patient-reported weights
Select one of the following:

- *“Yes”* ***Answer questions 2.1 through 2.2***
- *“No”*
- *“Unknown”*

2.1. WEIGHT

Instructions: Indicate the patient’s weight (numeric only).

2.2. UNIT OF WEIGHT

Instructions: Indicate the unit of measurement for the patient's weight.
Select one of the following:

- *"Pounds"*
- *"Kilograms"*

Social History

1. **DOES THE PATIENT HAVE A HISTORY OF ALCOHOL ABUSE?**

Instructions: Review the medical record to determine if the patient has a history of alcohol abuse.
INCLUDE: Any documentation of the following: alcoholism, alcohol withdrawal, admission for acute intoxication, alcohol abuse, alcohol dependence, hazardous drinking, alcohol use disorder, binge drinking, and alcohol overuse.
EXCLUDE: Social drinking, occasional alcohol use
Select one of the following:

- *"Current"*
  INCLUDE: The patient was admitted for acute intoxication and/or alcohol withdrawal or alcoholism.
- *"Former"*
  INCLUDE: The patient has a history of alcohol abuse or is a recovering alcoholic. Alcoholism is not a current problem.
- *"Never"*
  INCLUDE: No evidence of alcohol abuse or patient denies history of alcohol abuse.
- *"Unknown"*
  INCLUDE: No social assessment present in the medical record

2. **DOES THE PATIENT HAVE A HISTORY OF INTRAVENOUS (IV) DRUG ABUSE?**

Instructions: Review the medical record to determine if the patient has a history of intravenous (IV) drug abuse (i.e. heroin, cocaine, etc.).
INCLUDE: Intravenous injection of any drug not medically prescribed (i.e. heroin, cocaine, etc.), any documentation of IV drug abuse
EXCLUDE: IV therapy prescribed for medical reasons
Select one of the following:

- *"Current"*
  INCLUDE: The patient has received treatment for acute IV drug overdose or IV drug withdrawal is a problem during the current admission.
- *"Former"*
  INCLUDE: The patient has a history of IV drug abuse but it is not a current problem.
- *"Never"*
  INCLUDE: no IV drug use, or patient denies history of IV drug use.
- *"Unknown"*
  INCLUDE: No social assessment present in the medical record

3. **DOES THE PATIENT HAVE A HISTORY OF TOBACCO USE?**

Instructions: Review the medical record to determine if the patient has a history of tobacco use (i.e. nicotine).

INCLUDE: Any form of tobacco products: cigarettes, cigars, chew, etc. This includes smoking, chewing, snuffing, or dipping tobacco. To be considered a "former" smoker, there must be documentation that states the patient quit smoking prior to the admission of interest.

EXCLUDE: Marijuana, electronic cigarettes, second hand smoking

Select one of the following:

- *"Current"*
- *"Former"*
- *"Never"*
- *"Unknown"*

Medical History

1. **DOES THE PATIENT HAVE A HISTORY (PAST/PRESENT) OF CANCER?**

Instructions: Review the medical record to determine if the patient has a past or present history of cancer. Malignant tumors (cancers) are usually named using –oma (which means tumor) as a suffix (i.e. -carcinoma, -sarcoma, -lymphoma, or –blastoma).

INCLUDE	EXCLUDE

• Malignant brain tumors
  ○ Chordoma, glioma, glioblastoma, schwannoma, meningioma
• Hematologic malignancies
• Lymphoma
  ○ Hodgkin's
  ○ Non-Hodgkin's
  ○ Waldenstrom's macroglobulinemia
• Leukemia
• Myeloma/Multiple Myeloma
	• Basal cell carcinoma
	• Non-melanoma skin cancer
	• Squamous cell skin cancer
	• Inflammatory myofibroplastic pseudotumor without mention of malignancy
	• Brain masses that are not noted as malignant
	• Benign prostatic hyperplasia

• Sarcoma
• Myelofibrosis
• Myelodysplastic syndrome
• Lung cancer (small cell or non-small cell)
  ○ Adenocarcinoma, epidermoid carcinoma, squamous cell carcinoma
  ○ Carcinoid tumor of the lung
• Oat cell carcinoma
• Ovarian/uterine/endometrial/cervical cancer
• Colon cancer
• Prostate cancer (Note: if this is Active on admission and this is a Positive Urine Culture case, this case should be excluded from abstraction)
• Stomach/gastric/colon cancer
• Pancreas/pancreatic cancer
• Kidney/renal cancer (Note: if this is Active on admission and this is a Positive Urine Culture case, this case should be excluded from abstraction)
• Breast/mammary cancer
• Rectal/rectum cancer
• Bladder cancer (Note: if this is Active on admission and this is a Positive Urine Culture case, this case should be excluded from abstraction)
• Liver cancer
• Melanoma
• Fibrosarcoma
• Histiocytoma
• Malignant pleural effusion
• Appendiceal cancer
• Cancer suspected on admission and confirmed during the hospital encounter	

Select one of the following:

- *"Yes"* ***Answer questions 1.1 through 1.3***

- *"No"*
- *"Unknown"*

1.1. INDICATE THE TYPE(S) OF CANCER

Instructions: Review the medical record to determine the type(s) of cancer, indicate only primary site of the cancer and not sites of metastasis.
Select all that apply:

- *"Malignant Brain Tumor"* ***Answer question 1.1.1***
  INCLUDE: Chordomas, Gliomas, Glioblastoma, schwannoma, meningioma, etc.
  EXCLUDE: Brain masses that are not noted as being malignant
- *"Hematologic Malignancies"* ***Answer question 1.1.1***
  INCLUDE: Leukemia's, Myeloma, Myelodysplastic syndrome, Multiple myeloma, sarcoma, myelofibrosis, etc.
- *"Lymphoma"* ***Answer question 1.1.1***
  INCLUDE: Hodgkin's lymphoma, non-Hodgkins lymphomas, Waldenstroms macroglobulinemia
- *"Lung- Small Cell"* ***Answer question 1.1.1***
  INCLUDE: Small cell lung cancer (SCLC) (not to be mistaken for squamous cell lung cancer), Oat-cell carcinoma.
  Note: If the type of lung cancer is unknown, please select Lung-Non small cell.
- *"Lung-Non-Small Cell"* ***Answer question 1.1.1***
  INCLUDE: non-small cell lung cancer (NSCLC), Non-small cancers of the lung: adenocarcinomas, epidermoid carcinoma, large cell carcinomas, squamous cell carcinoma, carcinoid tumor of the lung
  Note: If the type of lung cancer is unknown, please select Lung-Non small cell.
- *"Ovarian"* ***Answer question 1.1.1***
  INCLUDE: epithelial ovarian tumor, Germ cell tumor, sex cord stromal ovarian tumor.
- *"Colon"* ***Answer question 1.1.1***
  INCLUDE: colorectal cancer, bowel cancer, gastrointestinal, rectosigmoid cancer
- *"Prostate"* ***Answer question 1.1.1***
  INCLUDE: prostate adenocarcinoma, Gleason Score X of X.
  EXCLUDE: Benign prostatic hyperplasia
- *"Stomach/Gastric"* ***Answer question 1.1.1***
  INCLUDE: spindle cell cancer, GIST tumor
- *"Pancreas/Pancreatic"* ***Answer question 1.1.1***

INCLUDE: pancreatic adenocarcinoma

- *"Kidney"* ***Answer question 1.1.1***
  INCLUDE: renal cell carcinoma (RCC), renal cell cancer, renal Cancer, renal sarcoma
- *"Breast"* ***Answer question 1.1.1***
  INCLUDE: mammary cancer
- *"Rectal/Rectum"* ***Answer question 1.1.1***
- *"Bladder"* ***Answer question 1.1.1***
- *"Melanoma"* if the medical record indicates that the patient has a past/ present history of melanoma. ***Answer question 1.1.1***
  INCLUDE: malignant melanoma
- *"Liver"* if the medical record indicates that the patient has a past/present history of liver/hepatic cancer. ***Answer question 1.1.1***
  INCLUDE: hepatic carcinoma, hepatic cancer, hepatocellular carcinoma, hepatic adenocarcinoma, ampullary carcinoma
- *"Uterine"* ***Answer question 1.1.1***
  INCLUDE: endometrial cancer, cervical cancer
- *"Metastatic with Unknown Primary"* ***Answer question 1.1.1***
  INCLUDE: cancer with an unknown primary location, Metastatic Cancer with unknown origin, Original cancer location cannot be identified
- *"Other, not including basal cell, Non-Melanoma Skin Cancer, Squamous Cell Skin Cancer"* ***Answer question 1.1.1***
  INCLUDE: Cancer type not listed above, Fibrosarcoma, Squamous cell carcinoma (non-lung derived), Histiocytoma, Malignant pleural effusion without the type of cancer specified, appendiceal cancer, Skin cancer without specification as to the type of skin cancer, Esophageal Cancer
  EXCLUDE: Basal cell carcinoma
- *"Unknown"*

1.1.1. FOR (CANCER TYPE), PLEASE SPECIFY.

Instructions: Review the medical record to determine whether or not the cancer reported was metastatic, non-metastatic, or unknown.
Select one of the following:

- "*Metastatic*" ***Answer question 1.1.1.1***
  DEFINITION: Metastatic means the spread of a disease (typically cancer) from one organ or part to another non-adjacent organ or part. Stage 4 cancer.
- "*Not Metastatic*"

DEFINITION: Non-Metastatic means the disease (typically cancer) has not spread to another organ or part, but rather it is confined to its original location.

- *"Unknown"*

1.1.1.1. DID THE METASTASIS INCLUDE THE LUNG?

Instructions: Review the medical record to determine if the metastasis of the patient's primary source of cancer included metastasis to the lung.
Select one of the following:

- *"Yes"*
  INCLUDE: malignant pleural effusions indicated to be metastasis of the patient's primary source of cancer
- *"No"*
- *"Unknown"*

1.2. HAS THE PATIENT RECEIVED ANY TREATMENT RELATED TO THEIR DIAGNOSIS OF CANCER IN THE LAST SIX MONTHS?

Instructions: Review the medical record to determine if the patient has received any treatment related to their diagnosis of cancer within the six months prior to the hospital encounter. This information may be found within past history & physical (H & P) notes, outpatient infusion notes, procedure notes, radiology notes, etc.
INCLUDE: Any treatment such as chemotherapy, hormonal therapy, surgery, radiation therapy, bone marrow transplant, etc. Any surgical treatment for a complication of cancer-related treatment (i.e. colostomy for radiation proctitis).
Select one of the following:

- *"Yes"* ***Answer question 1.2.1***
- *"No"* ***Answer question 1.2.2***
- *"Unknown"* ***Answer question 1.2.2***

1.2.1. TYPE OF CANCER TREATMENT

Instructions: Review the medical record to determine the type treatment the patient received related to their diagnosis of cancer in the last six months (i.e. six months from the date of admission).
Select all that apply:

- *"Chemotherapy"* ***Answer question 1.2.1.1***
  Examples include (but not limited to):

- Nitrogen mustards: mechlorethamine (nitrogen mustard), chlorambucil, cyclophosphamide (Cytoxan®), ifosfamide, and melphalan.
- Nitrosoureas: streptozocin, carmustine (BCNU), and lomustine
- Alkyl sulfonates: busulfan
- Triazines: dacarbazine (DTIC) and temozolomide (Temodar®)
- Ethylenimines: thiotepa and altretamine (hexamethyl-melamine)
- Platinum drugs: cisplatin, carboplatin, and oxalaplatin
- Antimetabolites include: 5-fluorouracil (5-FU), 6-mercapto-purine (6-MP), Capecitabine (Xeloda®), Cladribine, Clofarabine, Cytarabine (Ara-C®), Floxuridine, Fludarabine, Gemcitabine (Gemzar®), Hydroxyurea, Methotrexate, Pemetrexed (Alimta®), Pentostatin, Thioguanine
- Taxanes: paclitaxel (Taxol®) and docetaxel (Taxotere®) Ixabepilone (Ixempra®)
- Vinca alkaloids: vinblastine (Velban®), vincristine (Oncovin®), and vinorelbine (Navelbine®), Estramustine (Emcyt®).
- Epothilones: ixabepilone (Ixempra®), ruxolitinib (Jakafi), Olaparib (Lynparza®), Carfilzomib (Kyprolis®), Erlotinib (Tarceva®).

- *"Hormonal therapy"*
  Examples include (but not limited to):
  - Anti-estrogens: fulvestrant (Faslodex®), tamoxifen, and toremifene (Fareston®)
  - Aromatase inhibitors: anastrozole (Arimidex®), exemestane (Aromasin®), and letrozole (Femara®).
  - Progestins: megestrol acetate (Megace®)
  - Anti-androgens: bicalutamide (Casodex®), flutamide (Eulexin®), and nilutamde (Nilandron®).
  - Gonadotropin-releasing hormone (GnRH), also known as luteinizing hormone-releasing hormone (LHRH) agonists or analogs: leuprolide (Lupron®) and goserelin (Zoladex®).
- *"Surgical therapy"*
  INCLUDE: Any surgery (billed OR time) that the patient had related to their diagnosis of cancer. This may include tumor resection, biopsies, lymph node biopsies, exploratory surgery, etc.
- *"Radiation therapy"*
  INCLUDE: external-beam radiation, or internal radiation therapy (i.e. brachytherapy). Electromagnetic radiation, intensity-modulated radiation therapy (IMRT), image-guided radiation therapy (IGRT), tomotherapy, stereotactic radiation therapy, proton therapy, radioactive iodine.

- *"Other"*
  INCLUDE: Revlimid, Pomalidomide, Opdivo, Keytruda, Procrit, Pertuzumab, Nplate

1.2.1.1. WAS THE CHEMOTHERAPY ADMINISTERED IN THE 30 DAYS PRIOR TO THE HOSPITAL ENCOUNTER (ER, OBS, INPT)?

Instructions: Review the medical record to determine if the patient has received chemotherapy treatment in the 30 days prior to the hospital encounter.
Select one of the following:

- *"Yes"* ***Answer question 1.2.1.1.1***
- *"No"*
- *"Unknown"*

1.2.1.1.1. TYPE OF CHEMOTHERAPY

Instructions: Review the medical record to determine the route in which the chemotherapy was administered.
Select all that apply:

- *"Oral (PO)"*
- *"Intravenous (IV)"*
- *"Intrathecal"*
  INCLUDE: Administration of chemotherapy into the spinal canal
- *"Other"*
- *"Unknown"*

1.2.2. IS THERE DOCUMENTATION IN THE MEDICAL RECORD THAT THE PATIENT'S CANCER IS OR HAS BEEN ACTIVE WITHIN THE LAST 6 MONTHS, BUT IT WAS NOT TREATED (I.E. CHEMOTHERAPY, RADIATION) DURING THIS TIMEFRAME?

Instructions: Review the medical record to determine if the patient's cancer is known and is active or has been active within the last 6 months but they have not received any type of treatment for it.
Select one of the following:

- "*Yes*"
- *"No"*
- "*Unknown*"

1.3. HAS THE PATIENT HAD A HOSPITALIZATION WHERE THE PRIMARY ADMISSION DIAGNOSIS WAS CANCER RELATED IN THE LAST SIX MONTHS?

Instructions: Review the medical record to determine if the patient had a hospitalization where the primary admission diagnosis was cancer related in the six months prior to the hospital encounter.
INCLUDE: Any hospital admission that had a primary admission diagnosis related to cancer or cancer treatment within the six months prior to the hospital encounter. Hospital or observation admissions of any length should be included.
EXCLUDE: Emergency Room visits; observation admission or inpatient hospital admission that occurred more than six months prior to the hospital encounter.
Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

2. **DOES THE PATIENT HAVE A HISTORY OF ASPLENIA?**

Instructions: Review the medical record to determine if the patient has a history of asplenia.
INCLUDE: Congenital asplenia, heterotaxy syndrome, isolated congenital asplenia, acquired asplenia, splenectomy, functional asplenia, polysplenia, anatomical asplenia, surgical asplenia
Select one of the following:

- "*Yes*"
- "*No*"
- "*Unknown*"

3. **DOES THE PATIENT HAVE A CONGENITAL OR ACQUIRED IMMUNODEFICIENCY (I.E. COMMON VARIABLE IMMUNE DEFICIENCY, SPECIFIC ANTIBODY DEFICIENCY, IMMUNOGLOBULIN SUBCLASS DEFICIENCY, IMMUNOGLOBULIN IGA DEFICIENCY, COMPLEMENT DEFICIENCIES, CHRONIC GRANULOMATOSIS DISEASE)?**

Instructions: Review the medical record to determine if the patient has a history of a congenital or acquired immunodeficiency or if one is present on admission.

INCLUDE	EXCLUDE
• Common variable immune deficiency	• Provider documentation of "immunocompromised" without any of these

• Specific antibody deficiency
• Immunoglobulin subclass deficiency
  ○ Immunoglobulin IgA deficiency
  ○ Immunoglobulin IgG deficiency
• Complement deficiencies (C1-C4)
• Chronic granulomatosis disease
• B or T lymphocyte deficiency
• Phagocytic cell disorders
• Hypogammaglobulinemia
	conditions listed
	• Documentation of human immunodeficiency virus alone

Select one of the following:

- "*Yes*"
- "*No*"
- "*Unknown*"

4. **DOES THE PATIENT HAVE A HISTORY OF MRSA INFECTION?**

Instructions: Review the medical record to determine if the patient has a past or present history of methicillin resistant staphylococcus aureus (MRSA) infection or a MRSA infection is present/active on admission.

EXCLUDE: MSSA (Methicillin-Susceptible Staph Aureus), positive results for MRSA from nasal swab testing

Select one of the following:

- *"Active on admission"*
- *"≤ 30 days"*
- *">30 days and ≤ 90 days"*
- *"No"*
  INCLUDE: Only documentation is that patient is a 'MRSA carrier' without a positive culture.
- *"Unknown"*

5. **DOES THE PATIENT HAVE A DOCUMENTED HISTORY OF AORTIC ANEURYSM, AORTIC DISSECTION, AORTIC RUPTURE, OR AORTIC REPAIR?**

Instructions: Review the medical record to determine if the patient has a past or present history of Aortic Aneurysm, Aortic Dissection, Aortic Rupture, or Aortic Repair.
Select one of the following:

- *"Yes"* ***Answer question 5.1***
- *"No"*
- *"Unknown"*

5.1. WHICH OF THE FOLLOWING DOES THE PATIENT HAVE A HISTORY OF?

Instructions: Review the medical record to determine the type(s) of Aortic disorder the patient has a past or present history of.
Select all that apply:

- *"Aortic dissection"*
- *"Aortic aneurysm"*
  INCLUDE: All types of Aortic Aneurysms (cardiac, abdominal, etc.), dilated aortic root, ectasia of the aorta.
- *"Aortic rupture"*
- *"Aortic repair"*
  EXCLUDE: Aortic Valve Replacement without documentation of aortic root repair.

Other History

1. **HAS THE PATIENT HAD A HOSPITALIZATION (OBSERVATION OR INPATIENT) FOR ANY REASON IN THE 90 DAYS PRIOR TO THE HOSPITAL ENCOUNTER?**

Instructions: Review the medical record to determine if the patient had a hospitalization (at your institution or elsewhere) in the 90 days prior to the current hospital encounter.
Note: This hospitalization does not have to be for greater than 24 hours.

INCLUDE	EXCLUDE

• Inpatient hospitalizations • Observation hospitalizations • Long-term acute care hospitalizations • Inpatient rehab hospitalizations • Inpatient psychiatric hospitalizations	• Subacute rehab/extended care facility stays • Assisted living stays • Skilled nursing facility stays

Select one of the following:

- *"Yes"* ***Answer question 1.1***
- *"No"*
- *"Unknown"*

1.1. DID ANY HOSPITALIZATION IN THE 90 DAYS PRIOR TO THE HOSPITAL ENCOUTER OCCUR WITHIN ANOTHER INSTITUTION/SYSTEM?

Instructions: Review the medical record to determine if any inpatient or observation hospitalization in the 90 days prior to the hospital encounter occurred within another institution/system.

Select one of the following:

- *"Yes"* ***Answer questions 1.1.1 and 1.1.2***
- *"No"*
- *"Unknown"*

1.1.1. IS THERE DOCUMENTATION WITHIN THE MEDICAL RECORD THAT THE PATIENT RECEIVED ANY ANTIBIOTICS DURING THIS/ANY OF THESE HOSPITALIZATION(S)?

Instructions: Review the medical record to determine if the patient received any antibiotics during any of the hospitalizations that occurred within another institution/system.

Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

1.1.2. BASED ON YOUR REVIEW OF THE MEDICAL RECORD, DID THE DISCHARGE DIAGNOSIS OR REASON FOR HOSPITALIZATION FOR THIS/ANY OF THESE HOSPITALIZATION(S) INCLUDE AN INFECTION DIAGNOSIS?

Instructions: Review the medical record to determine if the discharge diagnosis or reason for hospitalization for any of the hospitalizations that occurred within another institution/system included an infection diagnosis. Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

2. **HAS THE PATIENT RECEIVED HEMODIALYSIS IN THE 30 DAYS PRIOR TO THE HOSPITAL ENCOUNTER?**

Instructions: Review the medical record to determine if the patient received hemodialysis in the 30 days prior to the hospital encounter.

INCLUDE	EXCLUDE
• Hemodialysis (HD) • Peritoneal Dialysis (PD) • Continuous hemofiltration (CHF) • Continuous hemodiafiltration (CHDF) • Continuous veno-venous hemofiltration (CVVH) • Continuous renal replacement therapy (CRRT) • Hemofiltration (HF) • Intermittent hemofiltration (IHF) • Intermittent hemodiafiltration (IHDF) • Slow extended hemofiltration (SLEF)	• Electrophoresis • Plasmapheresis • Aquapheresis

Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

4. **HAS THE PATIENT BEEN ADMITTED TO, RESIDED IN A NURSING HOME (EX: SAR, ECF), OR TRANSFERRED FROM ANOTHER HOSPITAL IN THE 30 DAYS PRIOR TO THE HOSPITAL ENCOUNTER?**

Instructions: Review the medical record to determine if the patient was admitted to or resided in a nursing home or transferred from another hospital in the 30 days

prior to the hospital encounter.
INCLUDE: Extended care facility (ECF), sub-acute rehab (SAR), Group homes that provide skilled nursing care
EXCLUDE: Assisted living facility/Group Home if this is the patient's primary residence. Also exclude if the patient attends an Adult Day Care.
Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

4. **IS THE PATIENT ON HOME OXYGEN?**

Instructions: Review the medical record to determine if the patient was on home oxygen prior to the hospital encounter or on presentation to the hospital encounter.
INCLUDE: Home O2
EXCLUDE: Oxygen only at night used with Bipap, CPAP
Select one of the following:

- *"Yes"* ***Answer question 4.1***
- *"No"*
- *"Unknown"*

4.1. LITERS

Instructions: Review the medical record to determine the number of liters the patient was receiving prior to the hospital encounter (ER, Obs, Inpt).
Note 1: If the oxygen level is listed in .5 liters, for example 2.5 or 3.5, please round up to the nearest whole number. Example: 2.5= 3, 3.5= 4.
Note 2: If oxygen level is documented at rest and with activity, use the home oxygen level documented at rest. Example: If a patient uses 2L of Oxygen at rest and 4L with activity at home - select 2L.
Note 3: If oxygen level is documented in a range and does not specify at rest or with activity, use the highest value. Example: If a patient uses 4-6L of oxygen at home – select 6L.
Note 3: If oxygen level is documented in a range
Select one of the following:

- *"1 L (22-26% FM)"*
- *"2 L (27-30% FM)"*
- *"3 L (31-34% FM)"*
- *"4 L (35-38% FM)"*
- *"5 L (39-42% FM)"*

- *"6 L (43-49% FM)"*
- *"7-10 L or 50-90% Face Mask"*
- *"11 L or more or 91-100% Face Mask"*
- *"Not Available"*

Antibiotic History

1. **DID THE PATIENT RECEIVE AN IV ANTIBIOTIC, ORAL FLUOROQUINOLONE, OR ORAL LINEZOLID IN THE 90 DAYS PRIOR TO THE HOSPITAL ENCOUNTER?**

Instructions: Review the medical record to determine if the patient received an antibiotic in the 90 days prior to the hospital encounter (ER, Obs, Inpatient). Review the previous 1-90 days prior to the hospital encounter for IV antibiotic(s), PO Fluoroquinolone(s), or PO Linezolid. Enter the first of these antibiotics that is identified. You only need to enter one antibiotic and do not need to review the chart past the date of the first identified IV antibiotic, PO Fluoroquinolone or PO Linezolid.
Note: Fluoroquinolones= Moxifloxacin, Levofloxacin, Ciprofloxacin

Examples of <u>appropriate</u> documentation for antibiotic history:

- Documentation in an outpatient note from a healthcare professional that the patient received the medication (example: "Patient has taken Vancomycin for the last two days")
- Documentation in the medical record in a medication administration record (MAR)

Examples of <u>inappropriate</u> documentation for antibiotic history:

- Documentation of a medication as being ordered on discharge
- Documentation of a medication as being listed as a patient's current medication

Select one of the following:

- *"Yes"* ***Answer questions 1.1 and 1.2***
  INCLUDE: Antibiotics documented to have been administered pre-procedure
- *"No"*

INCLUDE: Select "no" if the patient only received the antibiotic x1 dose at any outside ED or urgent care within 1 calendar day prior to presentation for index encounter, and then presented to your hospital to begin the index encounter.

- *"Unknown"*

1.1. ARE YOU ABLE TO DETERMINE THE NAME OF THE ANTIBIOTIC?

Instructions: Review the medical record to determine if the name of the antibiotic is available.

Select one of the following:

- *"Yes"* ***Answer question 1.1.1***
- *"No"*

1.1.1. NAME OF THE ANTIBIOTIC

Instructions: Review the medical record to determine the name of the antibiotic the patient received in the 90 days prior to the hospital encounter.

Note: If the patient received more than one qualifying antibiotic in the 90 days prior to the hospital encounter, please enter the information for the antibiotic administered *closest* to the hospital encounter admission date.

Select one of the following:

- *"Amikacin (Amikin)"*
- *"Amoxicillin (Novamox, Amoxil, Amoxicot, Dispermox, Moxatag, Moxilin, Trihydrate Trimox, Wymox)"*
- *"Amoxicillin-clavulanic acid (Augmentin, Co-Amoxiclav)"*
- *"Ampicillin (Omnipen, Principen, Totacillin)"*
- *"Ampicillin/sulbactam (Unasyn)"*
- *"Azithromycin (Zithromax, Sumamed, Zitrocin)"*
- *"Aztreonam (Azactam)"*
- *"Bactrim (Co-Trimoxazole, Sulfamethoxazole, Sulfisoxazole, Trimethoprim, Trimethoprim-Sulfamethoxazole, TMP/SMX)"*
- *"Cefaclor (Ceclor, Ceclor CD)"*
- *"Cefadroxil (Cephadroxil, Duricef)"*
- *"Cefalotin (Cephalothin)"*
- *"Cefazolin (Ancef, Kefzol, Zolicef)"*
- *"Cefdinir (Omnicef, Cefdiel)"*
- *"Cefditoren (Spectracef)"*
- *"Cefepime (Maxipime)"*
- *"Cefiderocol"*
- *"Cefixime (Suprax)"*

- *"Cefoperazone (Cefobid, Cefoperazone Sodium)"*
- *"Cefotaxime (Cephotaxime, Claforan)"*
- *"Cefotetan (Cefotan)"*
- *"Cefoxitin (Mefoxin)"*
- *"Cefpodoxime"*
- *"Cefprozil (Cefzil)"*
- *"Ceftaroline"*
- *"Ceftazidime (Ceptaz, Fortaz, Tazicef)"*
- *"Ceftazidime-avibactam (Avycaz)"*
- *"Ceftizoxime"*
- *"Ceftolozane/Tazobactam (Zerbaxa)"*
- *"Ceftibuten (Cedax)"*
- *"Ceftriaxone (Rocephin)"*
- *"Cefuroxime (Ceftin, Kefurox, Zinacef)"*
- *"Cephalexin (Cefalexin, Keflex, Keftal, Cefanox, Biocef, Panixine, Zartan)"*
- *"Ciprofloxacin (Cipro, Ciproxin, Ciprobay) "*
- *"Clarithromycin (Biaxin)"*
- *"Clindamycin (Cleocin) "*
- *"Cloxacillin (Tegopen, Coxapen)"*
- *"Colistin (Xylistin, Polymyxin E, Colistimethate)"*
- *"Dalbavancin"*
- *"Daptomycin"*
- *"Delafloxacin (Baxdela)"*
- *"Dicloxacillin (Dycill, Dynapen)"*
- *"Doripenem (Doribax)"*
- *"Doxycycline (Doxycycline hyclate, Doxy, Vibra, Vibramycin)"*
- *"Eravacycline"*
- *"Ertapenem (Invanz)"*
- *"Erythromycin (E-mycin, Ery-tab, Benzamycin)"*
- *"Fosfomycin (Monurol)"*
- *"Gemifloxacin"*
- *"Gentamicin (Gentamycin, Garamycin, Cidomycin, Septopal)"*
- *"Imipenem (Primaxin)"*
  INCLUDE: Imipenem/Cilastatin
- *"Imipenem-Relebactam"*
  INCLUDE: Imipenem-cilastatin-relebactam (Recarbrio)
- *"Lefamulin"*
- *"Levofloxacin (Levaquin, Quixin)"*

- *"Linezolid (Zyvox)"*
- *"Meropenem (Merrem)"*
- *"Meropenem Vaborbactam (Vabomere)"*
- *"Metronidazole (Flagyl)"*
- *"Minocycline (Minocycline hydrochloride, Minocin, Dynacin, Myrac, Solodayn, Vectrin)"*
- *"Moxifloxacin (Avelox)"*
- *"Nafcillin (Unipen, Nafcil, Nallpen)"*
- *"Nitrofurantoin (Macrobid)"*
- *"Norfloxacin (Noroxin)"*
- *"Ofloxacin (Floxin)"*
- *"Omadycycline"*
- *"Oritavancin (LY333328)"*
- *"Oxacillin (Prostaphilin, Bactocil, Prostaphlin)"*
- *"Penicillin (Benzylpenicillin, Penicillin G, Bicillin C-R/L-A, Pfizerpen, Wycellin)"*
- *"Piperacillin-tazobactam (Zosyn)"*
- *"Polymixin B"*
- *"Streptomycin"*
- *"Tedizolid"*
- *"Telavancin (TD-6424, Vibativ)"*
- *"Tetracycline (Ala-Tet, Panmycin, Sumycin)"*
- *"Tigecycline (Tigacyl)"*
- *"Tobramycin (Tobrex, Nebcin, Kitabis Pak, Tobi TOBI)"*
- *"Vancomycin (Vancocin, Lyphocin)"*
- *"Other, please specify"*
  NOTE: Please contact the HMS Coordinating Center prior to making this selection with details of the Other antibiotic that you see in the medical record.

1.2. INDICATE THE TIME FRAME IN WHICH THE ANTIBIOTIC WAS ADMINISTERED.

Instructions: Review the medical record to determine the time frame during which the first identified antibiotic in the previous 90 days was administered. Select all that apply:

- *"1-30 Days Prior to the Encounter"*
- *"31-60 Days Prior to the Encounter"*
- *"61-90 Days Prior to the Encounter"*

- *"Unknown"*

Mobility

1. **CHECK ANY THAT APPLY**

Instructions: Review the medical record to determine if any of the following conditions apply.
Select any that apply:

- "*Active order for bed rest on Day #1 or Day #2 of the Admission*"

INCLUDE	EXCLUDE
• Bed rest with bathroom privileges • Do not ambulate orders	• Up ad lib • Suspended orders for bed rest • Bed rest orders for a limited amount of time post-procedure

- "*Braden Score(s) of ONLY 1 (Bedfast) or 2 (Chairfast) on Day #1 or Day #2 of Admission*"
  EXCLUDE: If there is documentation of at least one of the following: 3 (Walks Occasionally) or 4 (Walks Frequently) on Day #1 or Day #2 of the admission.
- "*Immobilized >72 hours due to bed rest or paralysis*"

INCLUDE	EXCLUDE
• Patients who have been on bed rest more than 72 hours prior to admission, including quadriplegics • Bed rest/bed bound upon admission	• Patients able to ambulate, even with assistance • Bilateral amputees without note of immobilization or bed rest

- "*Immobilizing plaster cast*"

INCLUDE	EXCLUDE
• Casts on one or both lower extremities	• Waffle boots • Casts on upper body • Casts on upper extremities

- "*Fracture of hip, pelvis or leg on admission or within the 30 days prior to admission*"

INCLUDE	EXCLUDE
• Fractures/breaks of any of the following bones: ◦ Hip ◦ Pelvis ◦ Femur ◦ Acetabulum ◦ Ilium ◦ Ischium ◦ Pubis ◦ Sacrum ◦ Coccyx ◦ Patella ◦ Lateral/medial condyle ◦ Tibia ◦ Fibula ◦ Malleolus	• Toe fracture

- "*Paralyzed on Day #1 or Day #2 of admission*"

INCLUDE	EXCLUDE
• Paraplegia • Tetraplegia • Quadriplegia	• Todd's paralysis

- "*Suffered a spinal cord injury with paralysis on admission or within 30 days prior to admission*"
  INCLUDE: Patients with paraplegia or quadriplegia due to traumatic spinal cord injury, paraplegia or quadriplegia resulting from spinal lesions (e.g. transverse myelitis), and/or spinal tumors, epidural abscess, neuromyelitis, Spina Bifida, Cerebral Palsy, Multiple Sclerosis.
- "*Trauma requiring hospitalization on admission or within the 30 days prior to admission*"
  Note: Most patients who fit this definition would be admitted to a trauma service rather than a medicine unit and would be excluded. Please double check eligibility in those scenarios.

INCLUDE	EXCLUDE

• Hospitalizations for any of the following:
  ◦ Stroke
  ◦ Acute spinal cord injury
  ◦ Blunt trauma to an organ requiring surgery
  ◦ Multiple bone fractures that may or may not require surgery
  ◦ Trauma from a high velocity impact/motor vehicle crash
  ◦ Trauma related to military service
  ◦ Significant burns
  ◦ Gunshot wounds
  ◦ Near drowning
	• Hospitalizations for any of the following:
	  ◦ Mechanical falls
	  ◦ Falls out of bed even with one or more broken bone(s)

- "*None of the Above*"

Antimicrobial Allergies

1. **DOES THE MEDICAL RECORD INDICATE AN ALLERGY TO AN ANTIBIOTIC PRIOR TO THE HOSPITAL ENCOUNTER (ER, OBS, INPT)?**

Instructions: Review the medical record to determine if there is documentation that the patient had an allergy/allergic reaction to an antibiotic prior to the hospital encounter.

INCLUDE	EXCLUDE
• Systemic antibiotic allergies present upon arrival to the hospital encounter • Notations that the patient had any of the following as a reason not to receive an antibiotic OR any of the following were present on admission:	• Systemic antibiotic allergies that develop during or after the hospital encounter • Antibiotic eye drop allergies • Seasonal allergies • Food allergies • Topical antibiotic allergies

○ Aortic aneurysm ○ Myasthenia Gravis ○ Neuropathy ○ Prolonged QT	• Antibiotic ear drop allergies

Select one of the following:

- "*Yes*" ***Answer questions 1.1 through 1.3***
- "*No*"
- "*Unknown*"

1.1. ANTIBIOTIC NAME

Instructions: Review the medical record to determine the type of antibiotic that is indicated as causing the allergy or adverse event. In the drop down box available select the name of the antibiotic.

Select one of the following:

- *"Amikacin (Amikin)"*
- *"Aminoglycoside Antibiotic Allergy"*
- *"Amoxicillin (Novamox, Amoxil, Amoxicot, Dispermox, Moxatag, Moxilin, Trihydrate Trimox, Wymox)"*
- *"Amoxicillin-clavulanic acid (Augmentin, Co-Amoxiclav)"*
- *"Ampicillin (Omnipen, Principen, Totacillin)"*
- *"Ampicillin/sulbactam (Unasyn)"*
- *"Azithromycin (Zithromax, Sumamed, Zitrocin)"*
- *"Aztreonam (Azactam)"*
- *"Bactrim (Co-Trimoxazole, Sulfamethoxazole, Sulfisoxazole, Trimethoprim, Trimethoprim-Sulfamethoxazole, TMP-SMX)"*
- *"Carbapenem Antibiotic Allergy"*
- *"Cefaclor (Ceclor, Ceclor CD)"*
- *"Cefadroxil (Cephadroxil, Duricef)"*
- *"Cefalotin (Cephalothin)"*
- *"Cefazolin (Ancef, Kefzol, Zolicef)"*
- *"Cefdinir (Omnicef, Cefdiel)"*
- *"Cefditoren (Spectracef)"*
- *"Cefepime (Maxipime)"*
- *"Cefiderocol"*
- *"Cefixime (Suprax)"*
- *"Cefoperazone (Cefobid, Cefoperazone sodium)"*
- *"Cefotaxime (Cephotaxime, Claforan)"*

- *"Cefotetan (Cefotan)"*
- *"Cefoxitin (Mefoxin)"*
- *"Cefpodoxime"*
- *"Cefprozil (Cefzil)"*
- *"Ceftaroline"*
- *"Ceftazidime (Ceptaz, Fortaz, Tazicef)"*
- *"Ceftazidime-avibactam (Avycaz)"*
- *"Ceftizoxime"*
- *"Ceftolozane/Tazobactam (Zerbaxa)"*
- *"Ceftibuten (Cedax)"*
- *"Ceftriaxone (Rocephin)"*
- *"Cefuroxime (Ceftin, Kefurox, Zinacef)"*
- *"Cephalexin (Cefalexin, Keflex, Keftal, Cefanox, Biocef, Panixine, Zartan)"*
- *"Cephalosporin Antibiotic Allergy"*
  INCLUDE: Allergies to Lorabid/Loracarbef, Velosef/Cefradine, or Cefamandole
- *"Ciprofloxacin (Cipro, Ciproxin, Ciprobay)"*
- *"Clarithromycin (Biaxin)"*
- *"Clindamycin (Cleocin)"*
- *"Cloxacillin (Tegopen, Coxapen)"*
- *"Colistin (Xylistin, Polymyxin E, Colistimethate)"*
- *"Dalbavancin"*
- *"Daptomycin"*
- *"Delafloxacin (Baxdela)"*
- *"Dicloxacillin (Dycill, Dynapen)"*
- *"Doripenem (Doribax)"*
- *"Doxycycline (Doxycycline hyclate, Doxy, Vibra, Vibramycin)"*
- *"Eravacycline"*
- *"Ertapenem (Invanz)"*
- *"Erythromycin (E-mycin, Ery-tab, Benzamycin)"*
- *"Fidaxomicin"*
- *"Fluoroquinolone Antibiotic Allergy"*
  INCLUDE: Allergies to Alatrofloxacin, Gatifloxacin/Tequin, Lomefloxacin/Maxaquin, Trovafloxacin/Trovan, or Cinoxacin/Cinobac, Quinolone allergy
  NOTE: Please select this if patient has Myasthenia Gravis, even if that is not noted as a medication that the patient is allergic to. In the next section regarding reaction, you should select "Contraindication – Myasthenia Gravis".

- *"Fosfomycin (Monurol)"*
- *"Gemifloxacin"*
- *"Gentamicin (Gentamycin, Garamycin, Cidomycin, Septopal)"*
- *"Imipenem (Primaxin)"*
  INCLUDE: Imipenem/Cilastatin
- *"Imipenem-Relebactam"*
  INCLUDE: Imipenem-cilastatin-relebactam (Recarbrio)
- *"Lefamulin"*
- *"Levofloxacin (Levaquin, Quixin)"*
- *"Linezolid (Zyvox)"*
- *"Macrolide Antibiotic Allergy"*
  INCLUDE: Allergies to Dirithromycin, Ketek/Telithromycin, or Troleandomycin
- *"Meropenem (Merrem)"*
- *"Meropenem Vaborbactam (Vabomere)"*
- *"Metronidazole (Flagyl)"*
- *"Minocycline (Minocycline hydrochloride, Minocin, Dynacin, Myrac, Solodayn, Vectrin)"*
- *"Moxifloxacin (Avelox)"*
- *"Nafcillin (Unipen, Nafcil, Nallpen)"*
- *"Nitrofurantoin (Macrobid)"*
- *"Norfloxacin (Noroxin)"*
- *"Ofloxacin (Floxin)"*
- *"Omadycycline"*
- *"Oritavancin (LY333328)"*
- *"Oxacillin (Prostaphilin, Bactocil, Prostaphlin)"*
- *"Penicillin (Benzylpenicillin, Penicillin G, Bicillin C-R/L-A, Pfizerpen, Wycellin, Penicillin V)"*
  INCLUDE: Documentation of allergy to one of these specific medications
- *"Penicillin Antibiotic Allergy"*
  INCLUDE: Documentation of "penicillin" allergy without further clarification about what type of penicillin. Allergy to Floxacillin
- *"Piperacillin-tazobactam (Zosyn)"*
- *"Polymixin B"*
- *"Streptomycin"*
- *"Sulfonamide Antibiotic Allergy"*
- *"Tedizolid"*
- *"Telavancin (TD-6424, Vibativ)"*
- *"Tetracycline Antibiotic Allergy"*

INCLUDE: Allergies to Declomycin/Demeclocycline or Oxytetracycline/Terramycin

- *"Tetracycline (Ala-Tet, Panmycin, Sumycin)"*
- *"Tigecycline (Tigacyl)"*
- *"Tobramycin (Tobrex, Nebcin, Kitabis Pak, Tobi TOBI)"*
- *"Vancomycin (Vancocin, Lyphocin)"*
- *"Other"* - ***For other please specify***
  NOTE: Please contact the HMS Coordinating Center prior to making this selection with details of the Other antibiotic that you see in the medical record.

1.2. SELECT THE REACTION(S)

Instructions: Review the medical record to determine the type of reaction that occurred as a result of the antibiotic selected.

Select all that apply:

- *"Abdominal/GI Discomfort"*
  INCLUDE: Abdominal pain, abdominal cramping, anorexia/appetite change, GI distress, bloating and gas, dry heaves, gastric upset, GI complaints, heartburn/GERD/increased reflux, severe upset stomach, stomach spasm/pain, epigastric pain, "feeling sick", dysgeusia, dry mouth
- *"Altered Mental Status"*
  INCLUDE: Agitation, delirium, encephalopathy/metabolic encephalopathy, change in mentation, confusion, hallucinations, lethargy
- "*Anaphylaxis*"
  INCLUDE: hypotension
- "*Anemia*"
- INCLUDE: low hemoglobin
- "*Angioedema/Facial Swelling*"
  INCLUDE: Quincke's edema
- *"Arrhythmia"*
  INCLUDE: Heart rhythm changes, bigeminy, Bradycardia
  EXCLUDE: Prolonged QT (this should be entered under "Contraindication – Prolonged QT")
- *"Blistering/Skin Peeling"*
  INCLUDE: Blistering on lips, blisters and bumps, skin peeled
- *"Chills"*
- "*Contraindication*" ***Answer question 1.2.1***

INCLUDE: Notations that the patient had any of the following as a reason not to receive an antibiotic OR any of the following were present on admission: Aortic aneurysm, Myasthenia Gravis, Neuropathy, Prolonged QT

- *"Diaphoresis/Sweating"*
  INCLUDE: Hot and cold sweats
- "*Diarrhea*"
  INCLUDE: Loose stools
- *"Dizziness"*
  INCLUDE: Light-headedness, vertigo
- "*DRESS (Drug Reaction with Eosinophilia and Systemic Symptoms)*"
- *"Eosinophils in Blood or Urine"*
  INCLUDE: Eosinophilia
- "*Fever*"
- *"Headache"*
  INCLUDE: Migraine
- "*Hives*"
  INCLUDE: Urticaria
- "*Hyperkalemia*"
  INCLUDE: high potassium
- *"Hypertension"*
  INCLUDE: Elevated blood pressure
- "*Hypokalemia*"
  INCLUDE: low potassium
- *"Increased INR"*
- "*Itching*"
  INCLUDE: pruritus
- "*Leukopenia*"
  INCLUDE: Low white blood cell count
- "*Liver Abnormalities*"
  INCLUDE: Hepatitis, include documentation by clinician that antibiotic may have been associated with elevated liver enzymes, transaminitis
- "*Myalgias*"
  INCLUDE: Muscle pain, rhabdomyolysis
- *"Myoclonic Jerks"*
  INCLUDE: Tremors, hand cramping, dystonia of hands, muscle spasms/tightness
- "*Nausea*"
- *"Neuropathy/Paresthesia"*

INCLUDE: Leg tingling, tingling in fingers, tingling, feeling of "body being on fire"

- "*Neutropenia*"
- "*Other Skin Rash*" ***Answer question 1.2.2***
  INCLUDE: Eruption
- *"Ototoxicity/Tinnitus"*
  INCLUDE: Ear ringing, hearing loss
- "*Palpitations*"
- *"Pancytopenia"*
- *"Phlebitis"*
  INCLUDE: Arm redness near IV site, burning and stinging in arm, burning at infusion site, warmth/swelling at IV site, local reaction, reaction at IV site, hand swelling with pain/erythema
- *"Redness/Flushing"*
  EXCLUDE: Redness/erythema at IV site (this should be entered under "Phlebitis"). Red Man Syndrome (this should be entered under "Vancomycin Flushing Syndrome").
- "*Renal Failure*"
  INCLUDE: Acute Kidney Injury (AKI), note of the antibiotic "affecting the patient's kidneys"
- "*Seizures*"
- "*Stevens-Johnson Syndrome or Toxic Epidermal Necrolysis (TENS)"*
- *"Swelling"* ***Answer question 1.2.3***
- EXCLUDE: Facial swelling (this should be noted under the selection of "Angioedema/Facial Swelling")
- *"Syncope"*
  INCLUDE: Near syncope, pre-syncope, passing out, almost passed out, fainting
- *"Tachycardia"*
  INCLUDE: Increased/elevated heart rate
- "*Tendonitis*"
  INCLUDE: Tendon rupture
- "*Throat Tightness*"
  INCLUDE: throat swelling
- "*Thrombocytopenia*"
  INCLUDE: low platelet count
- "*Trouble Breathing*"
  INCLUDE: Stridor, Respiratory Difficulty

- *"Vancomycin Flushing Syndrome"*
  INCLUDE: Red Man Syndrome
- "*Vomiting*"
  INCLUDE: Episodes of emesis
- "*Wheezing*"
- *"Yeast Infection"*
  INCLUDE: Candida Stomatitis, esophageal yeast infection, vaginal itching/burning/irritation, mycoses, vaginal yeast infection, oral candida/thrush, possible thrush, Candidiasis, yeast vaginitis, vaginal discharge, yeast rash in armpits
- "*Other*" if a reaction other than what is listed above is indicated as the reaction to the antibiotic indicated from the drop down above.
  Please contact the HMS Coordinating Center with the details of this allergy prior to making this selection.
  INCLUDE: Intolerance, Anxiety, Crawling out of skin, Chest Tightness, Photosensitivity
  EXCLUDE: Forgetfulness
- "*Not Specified/Unknown*"

1.2.1. FOR CONTRAINDICATION, PLEASE SPECIFY.

Instructions: Review the medical record to determine the type of contraindication that the patient had to receiving the selected antibiotic or if any of these were noted on presentation to the hospital encounter.
Select all that apply:

- "*Aortic Aneurysm*"
- "*Myasthenia Gravis*"
- "*Neuropathy*"
- *"Prolonged QT"*
- "*Unknown*"
- *"Other"*
  Please contact the HMS Coordinating Center before entering the "other" contraindication in the free text box provided.

1.2.2. FOR OTHER SKIN RASH, PLEASE SPECIFY TYPE.

Instructions: Review the medical record to determine the type/severity of other skin rash that the patient experienced.
Select all that apply:

- "*Mild*"

- *"Moderate"*
- *"Severe"*
- *"Unknown/Not Documented"*

1.2.3. FOR SWELLING, PLEASE SELECT THE BODY SITE OF THE SWELLING.

Instructions: Review the medical record to determine the body site of the swelling that occurred.

Select all that apply:

- *"Upper Extremity"*
  INCLUDE: Swelling in right arm or swelling in left arm.
- *"Lower Extremity"*
  INCLUDE: Swelling in right leg or swelling in left leg.
- *"Other"*
  Please contact the HMS Coordinating Center before entering the "other" site of swelling in the free text box provided.
  EXCLUDE: Facial swelling (this should be noted under the selection of "Angioedema/Facial Swelling)

1.3. DOES THE MEDICAL RECORD INDICATE A SECOND ALLERGY TO AN ANTIBIOTIC PRIOR TO THE HOSPITAL ENCOUNTER (ER, OBS, INPATIENT)?

Instructions: Review the medical record to determine if there is documentation that the patient had a second allergy/allergic reaction to an antibiotic prior to the hospital encounter (ER, Obs, Inpt).

EXCLUDE: Allergies to medications (other than antibiotics), seasonal allergies, etc. Allergies/adverse events that occurred during the hospital encounter or in the 30 days following the admission of interest.

Note: This section repeats so that up to ten (10) allergies/allergic reactions/contraindications may be entered.

- *"Yes"*
- *"No"*
- *"Unknown"*

Abstractor Notes

1. **DO YOU HAVE ANY NOTES?**

Instructions: Indicate whether you have any notes that you would like to include regarding any of the entries in this form or if you would like to exclude this form. Select one of the following:

- *"Yes"* if you have notes that you would like to include or you would like to exclude this form. ***Answer questions 1.1 and 1.2***
- *"No"* if you do not have notes that you would like to include and you do not want to exclude this form.

1.1. ABSTRACTOR NOTES

Instructions: Use free text to input your notes. IMPORTANT: Please do not enter any Protected Health Information (PHI) into this text box.

Antibiotics

Instructions: For all questions in the database, "No Answer" is the default selection. This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question.
This is a repeating form. Please enter all antibiotics ordered and administered during the hospital encounter (ER, Obs, Inpatient).

Reminder:
Pneumonia: All antibiotics ordered and administered during the hospital encounter (ER, Observation, Inpatient (except ICU)) should be included. One antibiotic per form.
Urinary Tract Infection (UTI): All antibiotics administered in the 3 calendar days prior to the date of collection of the first positive urine culture during the hospital encounter and all antibiotics administered subsequently during the hospital encounter.

Orders written for the same antibiotic administered via different routes during the hospital encounter, regardless of dosing, may be entered on a single form, with the exception of an antibiotic (such as Vancomycin) which is ordered and administered for a different indication (e.g., C-diff). An antibiotic that is held and then restarted, or discontinued and then reordered during the hospital encounter may be entered on a single form as the administration information will be captured on the Daily Entry tab.

INCLUDE: Antibiotics ordered for the treatment of C. Difficile infections.
EXCLUDE: Exclude antibiotics ordered but never given. Exclude entering perioperative antibiotics including those administered pre-operative, during surgery, and post-operative up to one day after surgery (e.g., antibiotics ordered/administered for surgery only). Antibiotics given for prophylaxis of non-concomitant infections/conditions such as Common Variable Immune Deficiency (CVID), rosacea, Hepatic Encephalopathy, Rheumatoid Arthritis, Symptom of Inappropriate Antidiuretic Hormone Secretion (SIADH), and GI motility. Antifungal or antiviral agents. Exclude an antibiotic if the only route it is given is via irrigation or

a bladder wash. Exclude Amoxicillin given for Penicillin allergy challenge. Exclude antibiotics given only for desensitization. Antibiotics administered in the 3 calendar days prior to the date of collection of the first positive urine culture that did not occur during the hospital encounter.

REMINDER: Patients who refuse any dose of antibiotic intended for treatment of their infectious disease state during the hospital encounter are excluded from abstraction.

Antibiotic Administration

1. **INDICATE THE NAME OF THE ANTIBIOTIC**

Instructions: Review the medical record (medication administration record) to determine the name of the antibiotic that was administered during the hospital encounter. Select the name of the antibiotic from the drop down menu.
Select one of the following:

- *"Amikacin (Amikin)"*
- *"Amoxicillin (Novamox, Amoxil, Amoxicot, Dispermox, Moxatag, Moxilin, Trihydrate Trimox, Wymox)"*
- *"Amoxicillin-clavulanic acid (Augmentin, Co-Amoxiclav)"*
- *"Ampicillin (Omnipen, Principen, Totacillin)"*
- *"Ampicillin/Sulbactam (Unasyn)"* ***Answer question 1.1***
- *"Azithromycin (Zithromax, Sumamed, Zitrocin)"*
- *"Aztreonam (Azactam)"*
- *"Bactrim (Co-Trimoxazole, Sulfamethoxazole, Sulfisoxazole, Trimethoprim, Trimethoprim-Sulfamethoxazole, TMP-SMX)"*
- *"Cefaclor (Ceclor, Ceclor CD)"*
- *"Cefadroxil (Cephadroxil, Duricef)"*
- *"Cefalotin (Cephalothin)"*
- *"Cefazolin (Ancef, Kefzol, Zolicef)"*
- *"Cefdinir (Omnicef, Cefdiel)"*
- *"Cefditoren (Spectracef)"*
- *"Cefepime (Maxipime)"*
- *"Cefiderocol"*
- *"Cefixime (Suprax)"*

- *"Cefoperazone (Cefobid, Cefoperazone Sodium)"*
- *"Cefotaxime (Cephotaxime, Claforan)"* ***Answer question 1.2***
- *"Cefotetan (Cefotan)"*
- *"Cefoxitin (Mefoxin)"*
- *"Cefpodoxime"*
- *"Cefprozil (Cefzil)"*
- *"Ceftaroline"*
- *"Ceftazidime (Ceptaz, Fortaz, Tazicef)"*
- *"Ceftazidime-avibactam (Avycaz)"*
- *"Ceftizoxime"*
- *"Ceftolozane/Tazobactam (Zerbaxa)"*
- *"Ceftibuten (Cedax)"*
- *"Ceftriaxone (Rocephin)"* ***Answer question 1.2***
- *"Cefuroxime (Ceftin, Kefurox, Zinacef)"*
- *"Cephalexin (Cefalexin, Keflex, Keftal, Cefanox, Biocef, Panixine, Zartan)"*
- *"Ciprofloxacin (Cipro, Ciproxin, Ciprobay)"*
- *"Clarithromycin (Biaxin)"*
- *"Clindamycin (Cleocin)"*
- *"Cloxacillin (Tegopen, Coxapen)"*
- *"Colistin (Xylistin, Polymyxin E, Colistimethate)"*
- *"Dalbavancin"*
- *"Daptomycin"*
- *"Delafloxacin (Baxdela)"*
- *"Dicloxacillin (Dycill, Dynapen)"*
- *"Doripenem (Doribax)"*
- *"Doxycycline (Doxycycline hyclate, Doxy, Vibra, Vibramycin)"*
- *"Eravacycline"*
- *"Ertapenem (Invanz)"*
- *"Erythromycin (E-mycin, Ery-tab, Benzamycin)"*
- *"Fidaxomicin"*
- *"Fosfomycin (Monurol)"*
- *"Gemifloxacin"*
- *"Gentamicin (Gentamycin, Garamycin, Cidomycin, Septopal)"*
- *"Imipenem (Primaxin)"*
  INCLUDE: Imipenem/Cilastatin
- *"Imipenem-Relebactam"*
  INCLUDE: Imipenem-cilastatin-relebactam (Recarbrio)
- *"Lefamulin"*

- *"Levofloxacin (Levaquin, Quixin)"* ***Answer question 1.2***
- *"Linezolid (Zyvox)"*
- *"Meropenem (Merrem)"*
- *"Meropenem Vaborbactam (Vabomere)"*
- *"Metronidazole (Flagyl)"*
- *"Minocycline (Minocycline hydrochloride, Minocin, Dynacin, Myrac, Solodayn, Vectrin)"*
- *"Moxifloxacin (Avelox)"* ***Answer question 1.2***
- *"Nafcillin (Unipen, Nafcil, Nallpen)"*
- *"Nitrofurantoin (Macrobid)"*
- *"Norfloxacin (Noroxin)"*
- *"Ofloxacin (Floxin)"*
- *"Omadycycline"*
- *"Oritavancin (LY333328)"*
- *"Oxacillin (Prostaphilin, Bactocil, Prostaphlin)"*
- *"Penicillin (Benzylpenicillin, Penicillin G, Bicillin C-R/L-A, Pfizerpen, Wycellin, Penicillin V)"*
- *"Piperacillin-tazobactam (Zosyn)"*
- *"Polymixin B"*
- *"Streptomycin"*
- *"Tedizolid"*
- *"Telavancin (TD-6424, Vibativ)"*
- *"Tetracycline (Ala-Tet, Panmycin, Sumycin)"*
- *"Tigecycline (Tigacyl)"*
- *"Tobramycin (Tobrex, Nebcin, Kitabis Pak, Tobi TOBI)"*
- *"Vancomycin (Vancocin, Lyphocin)"*
- *"None"* select if form was completed in error so that antibiotic administration entry fields will not appear on the Daily Entry tab
- *"Other (If other please specify)"*
  EXCLUDE: Antifungal agents, antiviral agents, Rifaximin for the treatment of hepatic encephalopathy
  NOTE: Please contact the HMS Coordinating Center prior to making this selection with details on the Antibiotic you would like to enter for which there is no selection above.

1.1. INDICATE THE DOSE (INDICATED ON THE INITIAL ORDER)
Instructions: Review the medical record to determine the dose of the antibiotic

Note1: If the dose is not available in the drop down list please contact the HMS Coordinating Center.
Note2: If there is a second order for the antibiotic that you are utilizing to answer "Indicate the Frequency" question, use the dose associated with the order you used to answer "Indicate the Frequency" question.
Select one of the following:

- *"1.5"*
- *"3"*
- *"Other"*
- *"Unknown/Not Available"*

1.2. INDICATE THE DOSE (INDICATED ON THE INITIAL ORDER)
Instructions: Enter the numerical dosage information in the free text box provided.

2. **ANTIBIOTIC ORDER DATE (THE INITIAL ORDER)**

Instructions: Review the medical record to determine the first date that the medication was ordered. Format is MM/DD/YYYY.

3. **INDICATE THE FREQUENCY**

Instructions: Review the medical record to determine the frequency that was ordered for the given medication. If the frequency is not available in the drop down list please contact the HMS Coordinating Center.
Note 1: If the first order for the antibiotic has a frequency of "Once" and is then ordered again during the encounter for a regular frequency (ex: Q4H), enter the regularly scheduled frequency in this field.

- *"Q4H"*
  INCLUDE: six times per day
- *"Q6H"*
  INCLUDE: QID, four times per day
- *"Q8H"*
  INCLUDE: TID, three times per day
- *"Q12H"*
  INCLUDE: BID, twice a day
- *"Q18H"*
- *"Q24H"*
  INCLUDE: Daily
- "*Q48H*"

- "*Post-Hemodialysis*"
- *"Once"*
- *"Custom"* ***Answer question 3.1.***

3.1. FOR CUSTOM, PLEASE SPECIFY THE FREQUENCY.
Instructions: Enter in the custom frequency using the free text box provided.

4. **WHO ORDERED THE ANTIBIOTIC SELECTED ABOVE? UTILIZE THE FIRST ORDER OF THE ANTIBIOTIC.**

Instructions: Review the medical record to determine the provider that ordered the antibiotic.
Note1: If the antibiotic is initially ordered for a one-time dose (ONCE) and then ordered again, utilize the FIRST order of the antibiotic to determine who ordered the antibiotic.
Note2: If a resident or advanced practice professional orders the antibiotic, select the service or provider they are working under.
Note3: If a pharmacist writes the order for the antibiotic, select the clinician they are signing under or the clinician that places the original pharmacy-to-dose order as the ordering provider.
Select one of the following:

- *"Emergency Room Provider"* ***Answer question 4.1.***
- *"Observation/Short Stay Provider"* ***Answer question 4.1.***
- *"Hospitalist"* ***Answer question 4.1.***
- *"Medicine Sub Specialist"* ***Answer question 4.1.***
  INCLUDE: Physicians that specialize in General Medicine and have sub-specialized in another area such as Endocrinology, Cardiology, or Gastroenterology.
- *"General Internist"* ***Answer question 4.1.***
  INCLUDE: Internal Medicine physicians
- *"Infectious Disease"* ***Answer question 4.1.***
- *"Hematologist/Oncologist"* ***Answer question 4.1.***
- *"Family Medicine"* ***Answer question 4.1.***
- *"Other"* ***Answer question 4.1.***
- *"Unknown"*

4.1. WAS THE ORDERING PROVIDER FOR THE ANTIBIOTIC AN ADVANCED PRACTICE PROVIDER (I.E., PHYSICIAN ASSISTANT, NURSE PRACTITIONER, ETC.)?

Instructions: Review the medical record to determine if the provider who ordered the antibiotic is an Advanced Practice Provider, such as a Physician Assistant or Nurse Practitioner. This should be the ordering provider of the antibiotic, not the authorizing provider of the order.
Select one of the following:

- *"Yes"*
  INCLUDE: Physician Assistants, Nurse Practitioners
  EXCLUDE: Registered nurses, Attending physicians, Resident physicians.
- *"No"*
- *"Unknown"*

5. **DOES THE INITIAL ORDER FOR THE ANTIBIOTIC DETAIL THE INDICATION?**

Instructions: Review the medical record (medication administration record) to determine if the initial order for the antibiotic detailed the indication (or the reason for administration).
Note: This should only be found in the actual order (not in the notes, H&P or infectious disease consult note).
Select one of the following:

- "*Yes*"
- "*No*"
- "*Unknown*"

5.1. INDICATE THE INDICATION DOCUMENTED IN THE ANTIBIOTIC ORDER.

Instructions: Review the medical record to determine the indication documented in the order for the antibiotic.
Select all that apply:

- *"Pneumonia"*
  INCLUDE: Indication of "Lower Respiratory" if your facility does not have a selection option for "Pneumonia" for antibiotic orders and no other indication is listed,
  Suspected/rule out/concern for/possible pneumonia, Postobstructive pneumonia, Hospital Acquired Pneumonia (HAP), Community Acquired Pneumonia (CAP), Recent failed treatment of pneumonia, Atypical Pneumonia, Cryptogenic Organizing Pneumonia, Viral Pneumonia, Bilateral Interstitial Pneumonia, CHF vs Pneumonia, Necrotizing Pneumonia, MRSA Pneumonia, Pneumonia vs. Bronchitis
  Note: If this is a Positive Urine Culture case, please review the case for eligibility.

- *"Urinary Tract Infection"* ***Answer question 5.1.1.***
  INCLUDE: Indication of "Genitourinary" if your facility does not have a selection option for "Urinary Tract Infection" for antibiotic orders and no other indication is listed. Suspected/rule out/concern for/possible UTI, Cystitis, Pyelonephritis, Urosepsis
  Note: If this is a Pneumonia case, please review the case for eligibility.
- *"Respiratory Tract Infection (Not Pneumonia)"*
  INCLUDE: Suspected/rule out/concern for/possible respiratory tract infection
  Note: If this is a Positive Urine Culture case, please review the case for eligibility.
- *"Bacteremia"*
  INCLUDE: Suspected/rule out/concern for/possible bacteremia,
  EXCLUDE: Sepsis
- *"Sepsis"*
  INCLUDE: Suspected/rule out/concern for/possible sepsis, "Due to patient being septic", Septic shock, Septicemia, Urosepsis
  EXCLUDE: Bacteremia
- *"C. Difficile"*
  INCLUDE: Suspected/rule out/concern for/possible C. diff, Medications ordered for C. Difficile prevention and prophylaxis.
- *"Bronchitis"*
  INCLUDE: Suspected/rule out/concern for/possible bronchitis, Tracheobronchitis,
  Pneumonia vs. Bronchitis
  Note: If this is a Positive Urine Culture case, please review the case for eligibility.
- *"Upper Respiratory Infection (URI)/Cold"*
  INCLUDE: Suspected/rule out/concern for/possible upper respiratory infection
  Note: If this is a Positive Urine Culture case, please review the case for eligibility.
- *"Double Coverage"*
- *"Triple Coverage"*
- *"COPD Exacerbation"*
  INCLUDE: Suspected/rule out/concern for/possible COPD Exacerbation
  Note: If this is a Positive Urine Culture case, please review the case for eligibility.
- *"Prophylaxis/Preventative (i.e. Pre-Op)"*

EXCLUDE: Medications ordered for C. Difficile prevention and prophylaxis
Note: If this is a Positive Urine Culture case, please review the case for eligibility.

- *"Other"* ***Answer question 5.1.2***
  Please reach out to the HMS Coordinating Center prior to making this selection.

5.1.1. FOR URINARY TRACT INFECTION, PLEASE SPECIFY.
Instructions: Review the medical record to determine the type of Urinary Tract Infection. NOTE: If both pyelonephritis and cystitis are noted, please select pyelonephritis.
Select one of the following:

- *"Pyelonephritis"*
- *"Cystitis (Lower Urinary Tract Infection)"*
- *"Not specified"*
  INCLUDE: Documentation of Urinary Tract Infection or UTI alone

5.1.2. FOR OTHER, PLEASE SPECIFY
Instructions: Review the medical record to determine the Other indication and input the indication into the free text box.

6. **DID THE PRIMARY MEDICAL TEAM DOCUMENT THE INDICATION FOR THE ANTIBIOTIC IN THE PROGRESS NOTES ON THE DAY PRIOR TO THE ANTIBIOTIC ORDER, DAY OF ANTIBIOTIC ORDER OR DAY AFTER THE ANTIBIOTIC ORDER?**

Instructions: Review the medical record to determine whether the primary medical team indicated the indication/reason for the antibiotic in the progress notes and or H&P on the day prior to the antibiotic order, day of antibiotic order or day after antibiotic order.
Note: The primary medical team can include Infectious Disease or Pulmonary providers who are overseeing the antibiotic administration. The primary medical team also includes ED providers, if the patient is seen in the ED prior to admission.
EXCLUDE: Indication for antibiotic in the order
Select one of the following:

- "*Yes*" ***Answer question 6.1.***
- "*No*"
- "*Unknown*"

6.1. INDICATE THE INDICATION DOCUMENTED IN THE PROGRESS NOTES.

Instructions: Review the medical record to determine the indication documented in the progress notes by the primary medical team.

Select all that apply:

- *"Pneumonia"*
  INCLUDE: Indication of "Lower Respiratory" if your facility does not have a selection option for "Pneumonia" for antibiotic orders and no other indication is listed, Suspected pneumonia
  Note: If this is a Positive Urine Culture case, please review the case for eligibility.
- *"Urinary Tract Infection"* ***Answer question 6.1.1.***
  INCLUDE: Indication of "Genitourinary" if your facility does not have a selection option for "Urinary Tract Infection" for antibiotic orders and no other indication is listed. Suspected UTI
  Note: If this is a Pneumonia case, please review the case for eligibility.
- *"Respiratory Tract Infection (Not Pneumonia)"*
  INCLUDE: Suspected respiratory tract infection
  Note: If this is a Positive Urine Culture case, please review the case for eligibility.
- *"Bacteremia"*
  INCLUDE: Suspected bacteremia
  EXCLUDE: Sepsis
- *"Sepsis"*
  INCLUDE: Suspected sepsis
  EXCLUDE: Bacteremia
- *"C. Difficile"*
  INCLUDE: Suspected C. diff
- *"Bronchitis"*
  INCLUDE: Suspected bronchitis
  Note: If this is a Positive Urine Culture case, please review the case for eligibility.
- *"Upper Respiratory Infection (URI)/Cold"*
  INCLUDE: Suspected upper respiratory infection
  Note: If this is a Positive Urine Culture case, please review the case for eligibility.
- *"Double Coverage"*
- *"Triple Coverage"*
- *"COPD Exacerbation"*

INCLUDE: Suspected COPD Exacerbation
Note: If this is a Positive Urine Culture case, please review the case for eligibility.

- *"Prophylaxis/Preventative (i.e. Pre-Op)"*
  EXCLUDE: Medications ordered for C. Difficile prevention and prophylaxis. "C. Difficile" should be selection as the indication in this scenario.
  Note: If this is a Positive Urine Culture case, please review the case for eligibility.
- *"Other"* ***Answer question 6.1.2***
  Please reach out to the HMS Coordinating Center prior to making this selection.

6.1.1. FOR URINARY TRACT INFECTION, PLEASE SPECIFY.
Instructions: Review the medical record to determine the type of urinary tract infection.
NOTE: If both pyelonephritis and cystitis are noted, please select pyelonephritis.
Select one of the following:

- *"Pyelonephritis"*
- *"Cystitis (Lower Urinary Tract Infection)"*
- *"Not specified"*
  INCLUDE: Documentation of Urinary Tract Infection or UTI alone

6.1.2. FOR OTHER, PLEASE SPECIFY.
Instructions: Review the medical record to determine the Other indication and input the indication into the free text box.

Antibiotic Discontinuation

1. **IF ANY OF THE FOLLOWING ARE TRUE, PLEASE ANSWER 'YES', OTHERWISE ANSWER 'NO':**
   - **ANTIBIOTIC WAS DISCONTINUED ON THE DAY OF DISCHARGE**

- **ANTIBIOTIC WAS CONTINUED AFTER DISCHARGE FROM THE HOSPITALIZATION**
- **ANTIBIOTIC WAS DISCONTINUED ON THE DAY OF TRANSFER TO THE ICU**
- **ANTIBIOTIC WAS CONTINUED AFTER THE TRANSFER TO THE ICU**

Instructions: Review the medical record to determine if any of the above statements are true.
INTENT: The intent of this question is to determine whether additional laboratory information needs to be collected to determine the reasoning for the discontinuation of antibiotics prior to discharge.
Select one of the following:

- "*Yes*"
- "*No*" ***Answer questions 1.1. and 1.2.***

1.1. ANTIBIOTIC DISCONTINUATION DATE

Instructions: Review the medical record for the final discontinuation date of the antibiotic (including review of order discontinuation date and MAR). Enter in mm/dd/yyyy format.
Note: This is not necessarily the final date of *administration* for this antibiotic. We are specifically looking for the discontinuation date of the order.

1.2. ARE LAB RESULTS FROM THE DAY OF DISCONTINUATION THE SAME AS ANOTHER ANTIBIOTIC DISCONTINUED ON THIS DAY THAT YOU HAVE ALREADY ENTERED INTO THE ANTIBIOTIC FORM LAB SECTION?

Instructions: Review the medical record to determine if labs from the day of discontinuation match labs of another antibiotic discontinued on the same day that you have already entered into the database. If the antibiotic discontinuation labs have already been entered under another antibiotic, select "Yes". If this is the first antibiotic discontinued on this day and no other antibiotics discontinued on this day have been entered, select "No".
Select one of the following:

- "*Yes*" ***Answer question 1.2.1.***
  Note: if this option is selected, question 4 will not populate.
- "*No*" ***Answer questions 1.2.2. through 1.2.5.***
- "*Unknown*"

1.2.1. INDICATE THE ANTIBIOTIC DISCONTINUED ON THE SAME DAY WITH SAME RESULTS.

Instructions: Select from the drop down the name of the antibiotic discontinued on the same day with the same discontinuation labs.
Note: If you enter multiple antibiotics that are discontinued on the same day, please always choose the first antibiotic lab entered. Example: Vancomycin, Ampicillin and Cefepime are discontinued on the same day and have the same discontinuation labs. Vancomycin is the first antibiotic entered and the discontinuation labs are entered under Vancomycin. When selecting the antibiotic with matching discontinuation labs for Ampicillin and Cefepime, you would choose Vancomycin for both options.

1.2.2. IS THERE A CREATININE AVAILABLE FROM THE DAY OF THE ANTIBIOTIC DISCONTINUATION?

Instructions: Review the medical record to determine if a creatinine was drawn on the day the order for the antibiotic (indicated from the drop down) was discontinued (or the last date it was scheduled to be administered).
NOTE: If the patient was receiving an antibiotic up to the point of transfer to an ICU, please record value on day of transfer.
Select one of the following:

- *"Yes"* ***Answer question 1.2.2.1***
  INCLUDE: Cr
- *"No"*
- *"Unknown"*

1.2.2.1 HIGHEST CREATININE LEVEL

Instructions: Review the patient's laboratory data and record the highest creatinine on the day the order for the antibiotic was discontinued. Indicate the creatinine value as a numeric only in mg/dL.

1.2.3. IS THERE A WBC AVAILABLE FROM THE DAY OF THE ANTIBIOTIC DISCONTINUATION?

Instructions: Review the medical record to determine if a white blood cell count (WBC) was drawn on the day the order for the antibiotic (indicated from the drop down) was discontinued (or the last date it was scheduled to be administered).
Select one of the following:

- *"Yes"* ***Answer question 1.2.3.1***
- *"No"*
- *"Unknown"*

1.2.3.1. LOWEST WBC COUNT

Instructions: Review the patient's laboratory data and record the lowest white blood cell (WBC) count on the day the order for the antibiotic was discontinued. Indicate the white blood cell (WBC) count as a numeric only in K/uL.

1.2.4. IS THERE A PLATELET AVAILABLE FROM THE DAY OF THE ANTIBIOTIC DISCONTINUATION?

Instructions: Review the medical record to determine if a platelet was drawn on the day the order for the antibiotic (indicated from the drop down) was discontinued (or the last date it was scheduled to be administered).
Select one of the following:

- "*Yes*" ***Answer question 1.2.4.1***
  INCLUDE: Plt
- "*No*"
- *"Unknown"*

1.2.4.1. LOWEST PLATELET COUNT

Instructions: Review the patient's laboratory data and record the lowest platelet on the day the order for the antibiotic was discontinued. Indicate the platelet value as a numeric only in ",000" mcL. Example, platelets of 500,000 should be inputted as 500.

1.2.5. IS THERE AN ABSOLUTE NEUTROPHIL COUNT (ANC) AVAILABLE FROM THE DAY OF THE ANTIBIOTIC DISCONTINUATION?

Instructions: Review the medical record to determine if an absolute neutrophil count (ANC) was drawn on the day the order for the antibiotic (indicated from the drop down) was discontinued (or the last date it was scheduled to be administered).
Select one of the following:

- "*Yes*" ***Answer question 1.2.5.1***
- "*No*"
- "*Unknown*"

1.2.5.1. LOWEST ABSOLUTE NEUTROPHIL COUNT (ANC)

Instructions: Review the patient's laboratory data and record the lowest absolute neutrophil count (ANC) on the day the order for the antibiotic was

discontinued. Indicate the absolute neutrophil count (ANC) count as a numeric only in K/uL.

2. **ON THE DAY OF ANTIBIOTIC DISCONTINUATION (DURING THE HOSPITAL ENCOUNTER), WAS RENAL FAILURE INDICATED IN THE MEDICAL RECORD?**

Instructions: Review the medical record to determine if renal failure was documented on the day the order for the antibiotic (indicated from the drop down) was discontinued (or the last date it was scheduled to be administered).
Select one of the following:

- "*Yes*" ***Answer question 2.1***
  INCLUDE: renal failure (acute or chronic), acute kidney injury (AKI), end stage renal disease, Stage 5 Chronic Kidney Disease, or worsening renal function was documented on the day the order for the antibiotic was discontinued (or the last date it was scheduled to be administered).
  EXCLUDE: Documentation of an eGFR of $\leq$ 59 without documentation of any of the conditions listed above.
- "*No*"
- "*Unknown*"

2.1. DID THE PHYSICIAN/ADVANCED PRACTICE PROFESSIONAL INDICATE RENAL FAILURE AS THE REASON FOR ANTIBIOTIC DISCONTINUATION?

Instructions: Review the medical record to determine if the renal failure or acute kidney injury (AKI) that was documented on the day of antibiotic discontinuation was indicated by the physician/advanced practice professional as the reason for discontinuation the antibiotic.
Select one of the following:

- "*Yes*"
- "*No*"
  Example: If the patient had chronic renal failure but it was not documented by the physician/advanced practice professional as the reason for antibiotic discontinuation, then you would select 'no'.
- "*Unknown*"

3. **ON THE DAY OF ANTIBIOTIC DISCONTINUATION (DURING THE HOSPITAL ENCOUNTER) WAS A RASH INDICATED IN THE MEDICAL RECORD?**

Instructions: Review the medical record to determine if a rash was documented on the day the order for the antibiotic (indicated from the drop down) was discontinued (or the last date it was scheduled to be administered).

Select one of the following:

- "*Yes*" ***Answer question 3.1***
- "*No*"
- "*Unknown*"

3.1. DID THE PHYSICIAN/ADVANCED PRACTICE PROFESSIONAL INDICATE THAT THE RASH WAS THE REASON FOR ANTIBIOTIC DISCONTINUATION?

Instructions: Review the medical record to determine if the rash that was documented on the day of antibiotic discontinuation was indicated by the physician/advanced practice professional as the reason for discontinuation the antibiotic.

Select one of the following:

- "*Yes*"
- "*No*"
- "*Unknown*"

4. **INDICATE THE REASON(S) FOR ANTIBIOTIC DISCONTINUATION (CHECK ALL THAT APPLY) INDICATED BY THE PRIMARY MEDICAL TEAM THE DAY PRIOR TO THE ANTIBIOTIC DISCONTINUATION, DAY OF DISCONTINUATION AND/OR THE DAY AFTER DISCONTINUATION DURING THE HOSPITAL ENCOUNTER:**

Instructions: Review the medical record to determine the reason for antibiotic discontinuation that is indicated by primary medical professional overseeing antibiotic administration the day prior to antibiotic discontinuation, the day of discontinuation, and/or the day after discontinuation. Note: this has to be specifically stated by the physician/advanced practice professional as the reason for discontinuing the antibiotic. Documentation by a pharmacist can be used if prescription monitoring was delegated to pharmacy by the physician/advanced practice professional for a specific antibiotic (i.e. "Pharmacy to Dose" orders). The only exceptions to this are those listed below (discharge, therapy complete and transfer to ICU).

Reminder: Please enter the reason that is associated with the ultimate discontinuation of the antibiotic (no more doses of the same antibiotic are given or the patient is discharged). The only exception to this are patients transferred to the ICU.

Select all that apply:

- "*Susceptibility/culture results or non-culture results*" ***Answer question 4.1***

INCLUDE: physician/advanced practice profession indicated an antibiotic change as a result of pathogen identification where susceptibility results were reported for this pathogen, False positive blood culture, MRSA swab negative

- "*Clinical deterioration/progressive worsening/lack of clinical response*"
- "*Clinical improvement*"
- "*Antibiotic shortage*"
- "*Leukopenia*"
  INCLUDE: Low white blood cells (WBC)
- "*Procalcitonin*" ***Answer question 4.2***
- "*Thrombocytopenia/Low platelets*"
- "*Allergic reaction/Adverse event*"
  INCLUDE: Review ABX Reaction list in Antimicrobial Allergies/Adverse Events form for items included as "adverse events"
  REMINDER: Please complete the antimicrobial allergies or adverse events form.
- "*Per antimicrobial stewardship/Recommended by Antimicrobial Stewardship Team*"
- "*Based on Guidelines*"
  INCLUDE: Discontinuation based on hospital or national guidelines
- "*De-escalation (narrowing antibiotic regimen or reducing number of antibiotics*"
- "*Change in type of pneumonia diagnosis (i.e. HCAP->CAP, etc.)*"
- "*HCAP Coverage*"
- "*CAP Coverage*"
- "*Sepsis*"
- "*Aspiration Pneumonia*"
- "*No Pneumonia/Questionable Infection/Questionable Infectious Origin/No Pneumonia Signs or Symptoms*"
- "*Broad Spectrum*"
- "*C. Diff Risk*"
  INCLUDE: MD Progress note states "C-Diff diarrhea, start on Flagyl, stop Omnicef".
- "*Drug Interaction*"
- "*Concerned for….*" ***Answer question 4.3***
- "*No concern for…*" ***Answer question 4.4***
- "*Per infectious disease*"
  INCLUDE: Pseudomonas risk-new orders per ID consult
- "*Per pharmacy*"
- "*Per other consult service*"
  INCLUDE: Per heme (hematology)/onc (oncology) progress note

- "*Change in diet order*" ***Answer question 4.5***
- *"Arrhythmia/QT prolongation (or risk of)"*
  INCLUDE: QTc prolongation
- "*Other*" ***Answer question 4.6***
  Please reach out to the HMS Coordinating Center prior to making this selection.
- "*Change from ED Regimen*"
  Note: This does not have to be specifically stated by the healthcare professional as the reason for antibiotic discontinuation.
- "*Transition to oral antibiotic*"
  Note: This does not have to be specifically stated by the healthcare professional as the reason for antibiotic discontinuation.
- "*Discharge, antibiotic continued post discharge, or death*"
  Note: This does not have to be specifically stated by the healthcare professional as the reason for antibiotic discontinuation.
- "*Therapy complete*"
  Note: This does not have to be specifically stated by the healthcare professional as the reason for antibiotic discontinuation.
- "*Transfer to ICU (Reminder: Data collection of antibiotics stops at time of ICU transfer)*"
  Note: This does not have to be specifically stated by the healthcare professional as the reason for antibiotic discontinuation.
- "*Unknown/No reason documented*"

4.1. FOR SUSCEPTIBILITY/CULTURE RESULTS, INDICATE THE FOLLOWING.
Instructions: Review the medical record to determine if any of the following additional details are provided regarding discontinuing the antibiotic for susceptibility/culture results.
Select all that apply:

- "*Susceptibility (not covered previously)"*
  INCLUDE: pathogen was not sensitive to the antibiotic discontinued).
  Example: "sputum culture showing GPC's, added vancomycin"
- "*Susceptibility (narrowing coverage)"*
  Example: "sputum culture showed pseudomonas sensitive to Levaquin, Zosyn discontinued'
- "*Cultures negative (NGTD/NGF)"*
- "*Non-culture tests negative"*
- *"None of the above"*
- *"Unknown"*

4.2. FOR PROCALCITONIN, INDICATE THE FOLLOWING

Instructions: Review the medical record to determine if any of the following additional details are provided regarding discontinuing the antibiotic for the procalcitonin results.

Select all that apply:

- "*Rising (worsening)*"
- "*Falling (improving)*"
- "*None of the above*"
- "*Unknown*"

4.3. FOR "CONCERNED FOR…", INDICATE THE FOLLOWING

Instructions: Review the medical record to determine if any of the following additional details are provided regarding discontinuing the antibiotic.

Select all that apply:

- "*Staph (MRSA/MSSA)*"
- "*Pseudomonas*"
- "*Viral*"
  INCLUDE: Viral pneumonia
- "*Aspiration*"
- "*Anaerobes*"
- "*Other*" ***Answer question 4.3.1***
  Please reach out to the HMS Coordinating Center prior to making this selection.

4.3.1. FOR OTHER, PLEASE SPECIFY.

Instructions: Please enter the "Other" concern using the free text box provided.

4.4. FOR "NO CONCERN FOR…", INDICATE THE FOLLOWING

Instructions: Review the medical record to determine if any of the following additional details are provided regarding discontinuing the antibiotic.

Select all that apply:

- "*Staph (MRSA/MSSA)*"
- "*Pseudomonas*"
- "*Infection/Bacterial Pneumonia*"
- *"Urinary Tract Infection (UTI)"*

INCLUDE: If the primary medical team discontinued the antibiotic because the provider stated that the patient had asymptomatic bacteriuria.

- *"Other"* ***Answer question 4.4.1***
  Please reach out to the HMS Coordinating Center prior to making this selection.

4.4.1. FOR OTHER, PLEASE SPECIFY.
Instructions: Please enter the "Other" reason for no concern in the free text box provided.

4.5. FOR CHANGE IN DIET ORDER, INDICATE THE FOLLOWING
Instructions: Review the medical record to determine if any of the following additional details are provided regarding discontinuing the antibiotic for a change in diet order.
Select all that apply:

- *"NPO to PO"*
  INCLUDE: Switch from nothing by mouth to allowing food by mouth
- *"PO to NPO"*
  INCLUDE: Switch from allowing food by mouth to nothing by mouth
- *"None of the above"*
- *"Unknown"*

4.6. FOR OTHER, PLEASE SPECIFY.
Instructions: Enter the "other" reason in the free text box provided.

ANTIBIOTIC-SPECIFIC QUESTIONS:

1. **IS A VANCOMYCIN LEVEL AVAILABLE DURING THE HOSPITAL ENCOUNTER (ER, OBS, INPATIENT)?**

Instructions: Review the medical record to determine if a vancomycin level is available during the hospital encounter.
Note: This question will only populate if "Vancomycin" is selected as the "Antibiotic Name" in the Antibiotic Administration section.
Select one of the following:

- *"Yes"* ***Answer questions 1.1 through 1.3***
- *"No"*
- *"Unknown"*

1.1. VANCO LEVEL

Instructions: Review the medical record to determine the vancomycin level that is closest to the date of the vancomycin discontinuation.
Note: if multiple levels are available before and after the vancomycin discontinuation, enter the value that is prior to discontinuation.

1.2. DATE OF VANCO LEVEL

Instructions: Review the medical record to determine the date the vancomycin level was drawn closest to the date of vancomycin discontinuation. Indicate the date in the MM/DD/YYYY format.

1.3. INDICATE THE FOLLOWING:

Instructions: Review the medical record to determine the type of vancomycin test that was drawn on the date entered above.
Select one of the following:

- "*Peak*"
- "*Trough*"
- "*Random*"
- "*Unknown*"

2. IS AN AMIKACIN LEVEL AVAILABLE DURING THE HOSPITAL ENCOUNTER (ER, OBS, INPATIENT)?

Instructions: Review the medical record to determine if an amikacin level is available during the hospital encounter.
Note: This question will only populate if "amikacin" is selected as the "Antibiotic Name" in the Antibiotic Administration section.
Select one of the following:

- "*Yes*" ***Answer questions 2.1 through 2.3***
- "*No*"
- "*Unknown*"

2.1. AMIKACIN LEVEL

Instructions: Review the medical record to determine the amikacin level that is closest to the date of the amikacin discontinuation.
Note: If multiple levels are available before and after the amikacin discontinuation, enter the value that is prior to discontinuation.

2.2. DATE OF AMIKACIN LEVEL

Instructions: Review the medical record to determine the date the amikacin level was drawn closest to the date of amikacin discontinuation. Indicate the date in the MM/DD/YYYY format.

2.3. INDICATE THE FOLLOWING:

Instructions: Review the medical record to determine the type of amikacin test that was drawn on the date above.
Select one of the following:

- "*Peak*"
- "*Trough*"
- "*Random*"
- "*Unknown*"

3. IS A TOBRAMYCIN LEVEL AVAILABLE DURING THE HOSPITAL ENCOUNTER (ER, OBS, INPATIENT)?

Instructions: Review the medical record to determine if a tobramycin level is available during the hospital encounter.
Note: This question will only populate if "tobramycin" is selected as the "Antibiotic Name" in the Antibiotic Administration section.
Select one of the following:

- "*Yes*" ***Answer questions 3.1 through 3.3***
- "*No*"
- "*Unknown*"

3.1. TOBRAMYCIN LEVEL

Instructions: Review the medical record to determine the tobramycin level that is closest to the date of the tobramycin discontinuation.
Note: If multiple levels are available before and after the tobramycin discontinuation, enter the value that is prior to discontinuation.

3.2. DATE OF TOBRAMYCIN LEVEL

Instructions: Review the medical record to determine the date the tobramycin level was drawn closest to the date of tobramycin discontinuation. Indicate the date in the MM/DD/YYYY format.

3.3. INDICATE THE FOLLOWING:

Instructions: Review the medical record to determine the type of tobramycin test that was drawn on the date indicated above.

Select one of the following:

- *"Peak"*
- *"Trough"*
- *"Random"*
- *"Unknown"*

4. **IS A GENTAMICIN LEVEL AVAILABLE DURING THE HOSPITAL ENCOUNTER (ER, OBS, INPATIENT)?**

Instructions: Review the medical record to determine if a gentamicin level is available during the hospital encounter.
Note: This question will only populate if "gentamicin" is selected as the "Antibiotic Name" in the Antibiotic Administration section.
Select one of the following:

- *"Yes"* ***Answer questions 4.1 through 4.3***
- *"No"*
- *"Unknown"*

4.1. GENTAMICIN LEVEL

Instructions: Review the medical record to determine the gentamicin level that is closest to the date of the gentamicin discontinuation.
Note: If multiple levels are available before and after the gentamicin discontinuation, enter the value that is prior to discontinuation.

4.2. DATE OF GENTAMICIN LEVEL

Instructions: Review the medical record to determine the date the gentamicin level was drawn closest to the date of gentamicin discontinuation. Indicate the date in the MM/DD/YYYY format.

4.3. INDICATE THE FOLLOWING:

Instructions: Review the medical record to determine the type of gentamicin test that was drawn on the date indicated above.
Select one of the following:

- *"Peak"*
- *"Trough"*
- *"Random"*
- *"Unknown"*

Abstractor Notes

1. **DO YOU HAVE ANY NOTES OR DO YOU WANT TO EXCLUDE A FORM?**

Instructions: Indicate whether you have any notes that you would like to include regarding any of the entries in this form or if you would like to exclude this form.
Select one of the following:

- *"Yes"* if you have notes that you would like to include or you would like to exclude this form. ***Answer questions 1.1 and 1.2***
- *"No"* if you do not have notes that you would like to include and you do not want to exclude this form.

1.1. ABSTRACTOR NOTES

Instructions: Use free text to input your notes. IMPORTANT: Please do not enter any Protected Health Information (PHI) into this text box.

1.2. DO YOU WANT TO EXCLUDE THIS FORM?

Instructions: Indicate whether you would like to exclude this form from data analysis. This question will default to "No". If you would like to exclude this form, you must manually change the answer to "Yes".
Select one of the following:

- *"Yes"* if you would like to exclude this form from data analysis. ***Answer question 1.2.1***
- *"No"* if you would not like to exclude this form from data analysis.

1.2.1. ARE YOU SURE YOU WANT TO EXCLUDE THIS FORM?

Instructions: Indicate whether you would like to exclude this form from data analysis. This question will default to "No". If you would like to exclude this form, you must manually change the answer to "Yes".
Select one of the following:

- *"Yes"* if you would like to exclude this form from data analysis. Enter the reason for form removal in the abstractor notes section above.
- *"No"* if you would not like to exclude this form from data analysis.

Culture

Instructions: For all questions in the database, "No Answer" is the default selection. This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question.

This is a repeating form. Please only enter one culture per form.

Reminder:

For **Blood, Bronchoalveolar Lavage (BAL), Endotracheal Aspirate (ETA), Pleural Fluid, Sputum, Upper Respiratory, Stool-C. Diff** --- Please enter any positive cultures in the one year prior to the hospital encounter. Please also enter any cultures (positive or negative) during the entire hospital encounter (ER, Obs, Inpt, ICU [on day of transfer only if applicable]). Please DO NOT enter any respiratory cultures (BAL, ETA, Sputum, or Upper Respiratory) for Positive Urine Culture cases.

For **Urine**- Please enter any positive cultures in the 90 days prior to the hospital encounter. Include any culture (positive or negative) during the entire hospital encounter (ER, Obs, Inpt, ICU [on day of transfer only if applicable]). Please DO NOT enter any urine cultures for Pneumonia cases.

For **Sputum, Bronchoalveolar Lavage (BAL) and Endotracheal Aspirate (ETA)**- Please DO NOT enter any of these cultures for UTI cases.

For **MRSA Swab, VRE Swab, CRE Swab** - Please enter any positive swabs in the one year prior to the hospital encounter. If there are multiple positive swabs in the one year prior to the hospital encounter, please only enter the information for the one most recent to the hospital encounter. Please also enter any swabs (positive or negative) during the entire hospital encounter (ER, Obs, Inpt, ICU [on day of transfer only if applicable]). If there are multiple positive swabs of the same type collected during the hospital encounter, only enter the first positive swab of that type during the hospital encounter.

1. **TYPE OF CULTURE**

Instructions: Review the medical record to determine the type of culture that was drawn. Select the type from the drop-down menu.
INCLUDE: Cultures listed in the drop-down menu that were collected on the day of transfer (e.g., ICU).
Note: Make your selection below using the SOURCE of the culture.
Select one of the following:

- *"Blood"* ***Answer questions 1.3 and 1.4***
  Note: If the only blood culture evaluated for a single day was collected using Biofire® FilmArray® system, enter the information for the Biofire® as a blood culture form. If this is a urine culture case, please ensure that you are checking the results of this Biofire® test against the first positive urine culture for eligibility.
  Note 2: If there is a full blood culture run AND a Biofire® test run on the same blood sample, the results of the full blood culture should be entered and the results of the Biofire® test SHOULD NOT be entered.
- *"Bronchoalveolar Lavage (BAL)"* ***Answer questions 1.3 and 1.4***
  INCLUDE: Bronchial lung washing, culture bronchoscopy wash, bronchial wash.
- "*CRE Culture/Swab*" ***Answer questions 1.6 through 1.8***
  INCLUDE: Carbapenem-Resistant Enterobacterales cultures/swabs
- *"Endotracheal Aspirate (ETA)"* ***Answer questions 1.3 through 1.5***
  INCLUDE: tracheal aspirate, trachea
- *"MRSA Culture/Swab"* ***Answer questions 1.9 through 1.11***
  INCLUDE: nasal swab for MRSA. MRSA = Methicillin-resistant Staphylococcus Aureus
  EXCLUDE: MSSA Swabs negative for MRSA, MSSA Swabs positive for ONLY MSSA
- *"Pleural Fluid"* ***Answer questions 1.3 through 1.5***
  INCLUDE: Thoracentesis, thoracentesis fluid. Pleural peel
- *"Sputum"* ***Answer questions 1.3 through 1.5***
  INCLUDE: Pneumonia Panel PCR (Sputum)
  EXCLUDE: A sputum culture that was rejected due to contamination with oral flora, negative fungal sputum cultures for pneumonia cases, negative mycobacterium tuberculosis (TB) cultures for pneumonia cases
- *"Stool- C. Diff"* ***Answer questions 1.12 through 1.14***
  INCLUDE: Clostridium difficile (C.Diff) specimens only; C.Diff toxin by PCR or EIA
  EXCLUDE: Stool specimens/collections for all other pathogens
- *"Upper Respiratory"* ***Answer questions 1.3 through 1.5***

INCLUDE: Nasal pharyngeal.

- *"Urine"* ***Answer questions 1.1 through 1.3 and 1.5***
- *"VRE Culture/Swab"* ***Answer questions 1.15 through 1.17***
  Note: This is a rectal swab. VRE = Vancomycin-resistant Enterococci
- *"Other"* when approved for entry by the HMS Coordinating Center, select if the medical record indicates a culture other than what is indicated in the drop-down field. Free text the type of other culture in the text box provided. ***Answer questions 1.3 and 1.5***
  INCLUDE: ureteral stent cultures
  EXCLUDE: H. Pylori; ascites body fluid; peritoneal fluid; strep throat cultures; stool cultures other than for Clostridium difficile (C-Diff); Other nasal swabs (other than VRE, CRE or MRSA); Central Venous Catheter/PICC tip cultures; Wound/Abscess cultures; synovial fluid culture; bile fluid culture; negative mycobacterium tuberculosis (TB) cultures for pneumonia cases; negative fungal sputum cultures for pneumonia cases; rectal swab screening cultures (i.e. MDR-ESBL)

1.1. WHO ORDERED THE URINE CULTURE?

Instructions: Review the medical chart to determine which provider ordered the urine culture on the collection date selected.
Choose one of the following answers:
Note1: This question will ONLY populate for Urine cultures.
Note2: If this is a positive culture within the 90 days prior to the encounter, and you can determine the provider, include that provider. If you are unable to determine the provider who ordered the positive culture, you can select "Unknown". For cultures during the encounter, please select the provider that ordered the urine culture or urinalysis with reflex culture.

- *"Emergency Room provider"* ***Answer question 1.1.1***
- *"Observation/Short Stay provider"* ***Answer question 1.1.1***
- *"Hospitalist"* ***Answer question 1.1.1***
- *"Medicine Sub Specialist"* ***Answer question 1.1.1***
  INCLUDE: Physicians that specialize in General Medicine and have sub-specialized in another area such as Endocrinology, Cardiology, or Gastroenterology.
- *"General Internist"* ***Answer question 1.1.1***
  INCLUDE: Internal Medicine physicians
- *"Infectious Disease"* ***Answer question 1.1.1***
- *"Hematologist/Oncologist"* ***Answer question 1.1.1***

- *"Family Medicine"* ***Answer question 1.1.1***
- *"Other"* ***Answer question 1.1.1***
  INCLUDE: Urgent care provider
- *"Unknown"*

1.1.1. PLEASE SELECT THE CLASSIFICATION OF THE ORDERING PROVIDER FOR THE URINE CULTURE.

Instructions: Review the medical record to determine the classification of the ordering provider for the urine culture. This should be the ordering provider of the urine culture, not the authorizing provider of the order.
NOTE: If the urine culture was sent/ordered as a result of a Urinalysis with reflex to culture, please utilize the ordering provider for that urinalysis with reflex culture to answer this question.

- *"Physician"*
  INCLUDE: Attending physician. Resident physician.
- *"Advanced Practice Provider (i.e., Physician Assistant, Nurse Practitioner)"*
  INCLUDE: Physician Assistant or Nurse Practitioner.
- *"Registered Nurse"*
- *"Other"*
  NOTE: Please contact the HMS Coordinating Center with the details of the ordering provider of the urine culture prior to making this selection.
- *"Unknown"*

1.2. CULTURE COLLECTION DATE (DATE DRAWN)

Instructions: Review the medical record to determine the date the culture was collected/drawn. Indicate the date in the MM/DD/YYYY format.

1.4. INDICATE THE FINAL RESULT OF THE CULTURE

Instructions: Review the medical record to the final result of the culture.
Note: this may take a few days to determine after the culture is drawn.
Select one of the following:

- "*Positive*"
  Note: Select if culture result is deemed 'positive' per hospital protocol in the absence of an identifiable isolate. ***Answer questions 1.4.1 through 1.4.5***
- "*Negative (No Growth)*". ***Answer question 1.4.6***
  INCLUDE: For **positive urine cultures only,** if there is no colony count, please capture the result as "negative". If this is the only positive urine culture of the encounter for this UTI case, please exclude this case.

- *"Unknown"*

1.4.1. THIS IS THE _____ POSITIVE URINE CULTURE COLLECTED ON THIS DATE.

Instructions: Review the medical record to determine if the positive urine culture collected on this date is the first, second, third, etc. collected on that date.

Note1: This question will only populate for Urine cultures.

Select one of the following:

- *"First"*
- *"Second"*
- *"Third"*
- *"Fourth"*
- *"Fifth"*

1.4.2. IS THERE DOCUMENTATION THAT THE POSITIVE CULTURE IS CONTAMINATED?

Instructions: Review the medical record to determine if there is documentation that the positive culture was contaminated or possibly contaminated.

INCLUDE: Results from lab culture or notes after culture has resulted.

EXCLUDE: Documentation of contamination before the culture has resulted.

Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

1.4.3. IS THERE DOCUMENTATION THAT THE CULTURE GREW 'NORMAL FLORA' OR 'ORAL FLORA'?

Instructions: Review the medical record to determine if there is documentation that the culture grew normal flora or oral flora.

Select one of the following:

- *"Yes"*
  INCLUDE: Likely grew normal flora/oral flora, too many pathogens to quantify, more than 3 species, mixed oral flora, mixed flora, urogenital flora, perineal flora.
- *"No"*
- *"Unknown"*

1.4.4. TYPE OF URINE SPECIMEN

Instructions: Review the medical record to determine the type of urine specimen.

Note: This question will ONLY populate for Urine cultures.

Select one of the following:

- *"Urine clean catch"*
- *"Urine collected from an indwelling catheter"*
  INCLUDE: Urine culture collected from a foley or suprapubic catheter
- *"Urine collected from Condom Catheter"*
- *"Urine collected from External Female Catheter"*
  INCLUDE: Urine collected from PureWick catheter
- *"Urine collected from an intermittent straight catheter (ISC)"*
- *"Urine collected from other source"*
- *"Unknown"*

1.4.5. PATHOGEN #1 IDENTIFIED

Instructions: Review the medical record to determine the pathogen identified in the positive culture. Pathogens are classified by genus and species. The genus and species of the pathogen will likely be found on the laboratory report. Indicate the genus, which is the broad or the generic name. Once genus is selected, you will be prompted to indicate the species for some pathogens (not all).

Select one of the following:

- *"Achromobacter"*
  - Subspecies options in the registry:
    - *"Xylosoxidans"*
    - *"Other"*
      INCLUDE: Achromobacter arsenitoxydans, cholinophagum, clevelandea, cycloclastes, denitrificans, insolitus, lyticus, marplatensis, obae, piechaudii, ruhlandii, or spanius
- *"Acinetobacter"*
  - Subspecies options in the registry:
    - *"Baumannii"*
    - *"Other"*
      INCLUDE: Acinetobacter lwoffii
- *"Actinomyces"*

INCLUDE: Schaalia odontolyticus, Pseudopropinibacterium propionicum, Winkia neuii

- *"Actinotignum"*
- *"Aerococcus"*
  - Subspecies options in the registry:
    - *"Christensenii"*
    - *"Sanguicola"*
    - *"Sanguincola"*
    - *"Spp."*
    - *"Urinae"*
    - *"Urinaeequi"*
    - *"Urinaehominis"*
    - *"Viridans"*
    - *"Other"*
      INCLUDE: Aerococcus suis
- *"Aeromonas"*
  - Subspecies options in the registry:
    - *"Caviae"*
    - *"Hydrophila"*
    - *"Punctata"*
    - *"Salmonicida"*
    - *"Other"*
- *"Alcaligenes"*
  - Subspecies options in the registry:
    - *"Faecalis"*
    - *"Other"*
      INCLUDE: Alcaligenes aquatilis, endopyhticus, nematophilus, or pakistanensis
- *"Alloiococcus"*
- *"Anaerococcus"*
- *"Arcanobacterium"*
  - Subspecies options in the registry:
    - *"Haemolyticum"*
    - *"Variabilis"*
    - *"Other"*
      INCLUDE: Arcanobacterium bovis, canis, hippocoleae, ihumii, phocae, phocisimile, pinnipediorum, pluranimalium, urinimassiliense, or wilhelmae

- *"Aspergillus"*
  NOTE: If this is a Pneumonia case, please review this case for eligibility.
  - Subspecies options in the registry:
    - *"Fumigatus"*
    - *"Other"*
      INCLUDE: Aspergillus flavus, nidulans, oryzae, or terreus
- *"Bacillus"*
  INCLUDE: Brevibacillus
- *"Bacteroides"*
  INCLUDE: Parabacteroides
  - Subspecies options in the registry:
    - *"Fragilis"*
    - *"Other"*
      INCLUDE: Parabacteroides distasonis
- *"Bifidobacterium"*
  INCLUDE: Alloscardovia omnicolens
- *"Bordetella"*
- *"Brevibacterium"*
- *"Brevundimonas"*
- *"Burkholderia"*
  - Subspecies options in the registry:
    - *"Cepacia"*
    - *"Other"*
- *"Campylobacter"*
  - Subspecies options in the registry:
    - *"Jejuni"*
    - *"Ureolyticus"*
    - *"Other"*
- *"Candida"*
  - Subspecies options in the registry:
    - *"Albicans"*
    - *"Glabrata"*
      INCLUDE: Nakaseomyces glabratus
    - *"Krusei"*
      INCLUDE: Pichia Kudriavzevii
    - *"Parakrusei"*
    - *"Parapsilosis"*
    - *"Paratropicalis"*

        - *“Tropicalis”*
        - *“Other”*
          INCLUDE: Clavispora (Candida) Lusitaniae, Candida kefyr, Kluyveromyces marxianus, Cyberlindnera Fabianii
- *“Capnocytophaga”*
- *“Citrobacter”*
  - Subspecies options in the registry:
    - *“Diversus”*
    - *“Freundii”*
    - *“Koseri”*
    - *“Other”*
- *“Clostridium”*
  - Subspecies options in the registry:
    - *“Clostridioforme”*
    - *“Difficile”*
    - *“Histolyticum”*
    - *“Innocuum”*
    - *“Paraputrificum”*
    - *“Perfringens”*
    - *“Ramosum”*
    - *“Septicum”*
    - *“Sordellii”*
    - *“Sporogenes”*
    - *“Tertium”*
    - *“Other”*
- *“Corynebacterium”*
  INCLUDE: Diptheroids, Dermatobacter hominis
- *“Cryptococcus”*
- *“Desulfovibrio”*
- *“Eggerthella”*
  INCLUDE: Eubacterium
- *“Eikenella”*
- *“Elizabethkingia”*
  - Subspecies options in the registry:
    - *"Meningoseptica”*
    - *“Other”*
- *“Enterobacter”*
  - Subspecies options in the registry:

        - *"Aerogenes"*
          INCLUDE: Klebsiella Aerogenes
        - *"Clocae"*
        - *"Other"*
          INCLUDE: Cronobacter sakazakii, Pluralibacter gergoviae, Rahnella aquatilis
- *"Enterococcus"*
  - Subspecies options in the registry:
    - *"Faecalis"*
    - *"Faecium"*
      INCLUDE: Vancomycin Resistant EC faecium/VRE Faecium as Enterococcus faecium with Vancomycin listed as Resistant in Culture and Sensitivity results
    - *"Other"*
- *"Escherichia"*
  - Subspecies options in the registry:
    - *"Coli"*
    - *"Other"*
      INCLUDE: Leclercia adecarboxylata
- *"Finegoldia"*
- *"Francisella"*
  - Subspecies options in the registry:
    - *"Tularensis"*
    - *"Other"*
- *"Fusobacterium"*
- *"Gardnerella"*
  - Subspecies options in the registry:
    - *"Vaginalis"*
    - *"Other"*
- *"Gemella"*
- *"Granulicatella"*
- *"Haemophilus"*
  - Subspecies options in the registry:
    - *"Influenzae"*
    - *"Other"*
- *"Hafnia"*
- *"Klebsiella"*

EXCLUDE: Klebsiella aerogenes as it should be included as Enterobacter aerogenes

- Subspecies options in the registry:
  - *"Oxytoca"*
  - *"Pneumoniae"*
  - *"Other"*

- *"Kocuria"*
- *"Lactobacillus"*
- *"Legionella"*

  NOTE: If this is a Pneumonia case, please review this case for eligibility.

  Reminder: Do not enter urine legionella antigen testing in the culture section. For UTI cases, it should not be entered. For Pneumonia cases, it should be entered in the Pneumonia Labs Non-Culture form.
  - Subspecies options in the registry:
    - *"Pneumophila"*
    - *"Other"*
- *"Listeria"*
  - Subspecies options in the registry:
    - *"Monocytogenes"*
    - *"Other"*
- *"Microbacterium"*
- *"Micrococcus"*
- *"Mold"*

  INCLUDE: Mould, Dematiaceous sterile mycelia
- *"Moraxella"*
  - Subspecies options in the registry:
    - *"Catarrhalis"*
    - *"Other"*
- *"Morganella"*
  - *"Morganii"*
  - *"Other"*
- *"Myroides"*
- *"Neisseria"*
  - Subspecies options in the registry:
    - *"Gonorrhea"*
    - *"Meningitidis"*
    - *"Catarrhalis"*
    - *"Other"*

- *"Nocardia"*
- *"Paeni"*
  - Subspecies options in the registry:
    - *"Bacillus"*
      INCLUDE: Paenibacillus
    - *"Other"*
- *"Pantoea"*
- *"Parvimonas"*
- *"Pasteurella"*
  - Subspecies options in the registry:
    - *"Multocida"*
    - *"Other"*
- *"Peptoniphilus"*
- *"Peptostreptococcus"*
- *"Pneumocystis"*
  - Subspecies options in the registry:
    - *"Jiroveci (Carinii)"*
    - *"Other"*
- *"Prevotella"*
  INCLUDE: Disiens
- *"Propionibacterium"*
  INCLUDE: Cutibacterium Propionibacterium Acnes, Cutibacterium Acnes
- *"Proteus"*
  - Subspecies options in the registry:
    - *"Mirabilis"*
    - *"Other"*
- *"Providencia"*
  - Subspecies options in the registry:
    - *"Stuartii"*
    - *"Rettgeri"*
    - *"Other"*
- *"Pseudomonas"*
  - Subspecies options in the registry:
    - *"Aeruginosa"*
      INCLUDE: "Pseudomonas aeruginosa- organism failed to thrive for susceptibility testing"
    - *"Fluorescens"*
    - *"Putida Group"*

        - *"Other"*
          INCLUDE: Pseudomonas species, Pseudomonas flavescens
- *"Psychrobacter"*
- *"Raoultella"*
  - Subspecies options in the registry:
    - *"Ornithinolytica"*
    - *"Other"*
- *"Rhodococcus"*
- *"Roseomonas"*
- *"Rothia"*
  - Subspecies options in the registry:
    - *"Mucilaginosa"*
    - *"Other"*
- *"Saccharomyces"*
- *"Salmonella"*
- *"Serratia"*
  - Subspecies options in the registry:
    - *"Marcescens"*
    - *"Other"*
- *"Stapyhlococcus"*
  - Subspecies options in the registry:
    - *"Aureus"*
      INCLUDE: Notations of mecA/C and MREJ - Detected on Pneumonia Panel PCRs should be captured as Staphylococcus Aureus which is Resistant to Methicillin, MRSA should be captured as Staphylococcus Aureus which is Resistant to Methicillin
    - *"Capitis"*
    - *"Capitis ss. Capitis"*
    - *"Capitis ss. Urealyticus"*
    - *"Coagulase Negative"*
      INCLUDE: Staph species NOT aureus
    - *"Cohnii"*
    - *"Epidermidis"*
    - *"Gallinarum"*
    - *"Hemolyticus"*
    - *"Hominis"*
    - *"Lentus"*
    - *"Lugdunensis"*

        - *"Saccharolyticus"*
        - *"Saprophyticus"*
        - *"Schleiferi"*
        - *"Sciuri"*
        - *"Simulans"*
        - *"Warneri"*
        - *"Xylosus"*
        - *"Other"*
- *"Stenotrophomonas"*
    - Subspecies options in the registry:
        - *"Maltophilia"*
        - *"Other"*
- *"Streptococcus"*
    - Subspecies options in the registry:
        - *"Alpha hemolytic"*
        - *"Anginosus"*
          INCLUDE: Group F Streptococcus
        - *"Group A"*
          INCLUDE: Streptococcus pyogenes
        - *"Group B"*
          INCLUDE: Streptococcus agalactiae
        - *"Group C"*
          INCLUDE: Streptococcus equi, dysgalactiae, and zooepidemicus
        - *"Group D"*
          INCLUDE: Streptococcus galolyticus, bovis, equinus, and suis
        - *"Group G"*
          INCLUDE: Streptococcus dysgalactiae subsp. canis, Streptococcus phocae
        - *"Milleri"*
        - *"Mitis"*
        - *"Pneumoniae"*
        - *"Viridans"*
          INCLUDE: Streptococcus salivarius/vestibularis group, sanguinis/sanguis, and mutans
        - *"Other"*
          INCLUDE: Streptococcus spp., Group H Streptococcus
        - *"Unknown"*
- *"Veillonella"*

- *"Yeast"*
  INCLUDE: Rhodotorula species, Kodamaea ohmeri
- *"Yersinia"*
  - Subspecies options in the registry:
    - *"Pestis"*
    - *"Other"*
- *"Other"* ***Answer question 1.5.1.1***
  Note: Please contact the HMS Coordinating Center with the "Other" pathogen that is not listed in the selection above or inclusion criteria below prior to making this selection.
  INCLUDE: Ewingella americana, Abiotrophia defectiva, Eggerthia catenaformis, Globicatella sanguinis, Lactococcus lactis
  EXCLUDE: Mixed flora, Skin flora, ESBL, CTX-M
- *"Bacteria Not Specified"* select when culture is considered positive, but the specific bacteria is not identified in the results.
  INCLUDE: Gram negative bacilli (lactose fermenter or non-fermenter), Gram negative rods, Non fermenters oxidase negative, Gram-negative cocci
  EXCLUDE: Mixed flora, Skin flora, ESBL, CTX-M

1.4.1.1. FOR OTHER, PLEASE SPECIFY.

Instructions: Enter the "Other" pathogen into the free text box provided.

1.4.5. IS THE LOWER RESPIRATORY CULTURE GROWTH QUANTITY AVAILABLE FOR PATHOGEN #1?

Instructions: If endotracheal aspirate (ETA) or bronchoalveolar lavage (BAL) is selected as the type of the culture, review the medical record to determine if there is documentation of the culture growth quantity.
Select one of the following:

- *"Yes"* ***Answer question 1.4.5.1***
- *"No"*
- *"Unknown"*

1.4.5.1. INDICATE THE QUANTITY FOR PATHOGEN #1

Instructions: Review the medical record to determine the respiratory growth quantity.
Select one of the following:

- *">= 10^4 CFU/ml or Similar"*

INCLUDE: greater than or equal to 10,000 CFU/ml

- *"< 10^4 or Similar"*
  INCLUDE: less than 10,000 CFU/ml
- *"Unknown"*

1.4.6. WAS A CULTURE SENSITIVITY ANALYSIS PERFORMED FOR PATHOGEN #1?

Instructions: Review the medical record to determine if there was a culture sensitivity analysis performed for pathogen #1.
Select one of the following:

- *"Yes"* ***Answer questions 1.4.6.1 through 1.4.6.5***
  EXCLUDE: Sensitivity results for fungal cultures
- *"No"*
  INCLUDE: Select "No" for this question if a sensitivity analysis was not performed or when entering fungal cultures.
- *"Unknown"*

1.4.6.1. HOW MANY ANTIBIOTICS WERE TESTED?

Instructions: Review the medical record to determine the number of antibiotics that were tested.
Note 1: Include only those antibiotics for which a sensitivity interpretation is documented. If the antibiotic is listed but the result is blank, do not include this as an antibiotic tested.
EXCLUDE: Rifampin
Select the number from the drop down.

- *"1-40"*
- *"Susceptibility Results Same as Other Culture Entered"* ***Answer question 1.4.6.1.1 and 1.4.6.1.2***
  INCLUDE: When the same pathogen is identified with the same sensitivity results from another culture already entered in the database
  EXCLUDE: When different pathogens are identified with the same sensitivity results from another culture already entered in the database

1.4.6.1.1. DATE OF CULTURE

Instructions: Review the medical record to determine the date of the collection of the culture that contains the same susceptibility results as the culture that is indicated above in MM/DD/YYYY format.

1.4.6.1.1. TYPE OF CULTURE

Instructions: Review the medical record to determine the type of culture that contains the same susceptibility results as the culture that is indicated above.

Select one of the following:

- *"Blood"*
- *"Bronchoalveolar Lavage (BAL)"*
- *"Cerebral Spinal Fluid (CSF)"*
- *"Endotracheal Aspirate (ETA)"*
- *"Pleural Fluid"*
- *"Sputum"*
- *"Upper Respiratory"*
- *"Urine"*
- *"DO NOT USE"*

  This was previously a selection for Wound culture but was renamed because we do not capture wound cultures. Please do not utilize this selection.

1.4.6.2. FOR ANTIBIOTIC (#), INDICATE THE NAME OF THE ANTIBIOTIC TESTED:

Instructions: Review the medical record to determine the name of the antibiotic that was tested in the culture sensitivity analysis.

Note1: This field will populate based on the number of antibiotics that were tested for a total of forty (40).

Note2: If more than 40 antibiotics were tested, please contact the HMS Coordinating Center to determine which ones to enter into the fields provided.

EXCLUDE: Antibiotics reported as Synergy, Inducible, or Beta Lactamase.

Select one of the following:

- *"Amikacin (Amikin)"*
- *"Amoxicillin" (Novamox, Amoxil, Amoxicot, Dispermox, Moxatag, Moxilin, Trihydrate Trimox, Wymox)"*
- *"Amoxicillin-clavulanic acid" (Augmentin, Co-Amoxiclav)*
- *"Ampicillin (Omnipen, Principen, Totacillin)"*
- *"Ampicillin/sulbactam (Unasyn)"*
- *"Azithromycin (Zithromax, Sumamed, Zitrocin)"*
- *"Aztreonam (Azactam)"*

- *Bactrim (Co-Trimoxazole, Sulfamethoxazole, Sulfisoxazole, Trimethoprim, Trimethoprim-Sulfamethoxazole, TMP-SMX)"*
- *"Cefaclor (Ceclor, Ceclor CD)"*
- *"Cefadroxil (Cephadroxil, Duricef)"*
- *"Cefalotin (Cephalothin)"*
- *"Cefazolin (Ancef, Kefzol, Zolicef)"*
- *"Cefdinir (Omnicef, Cefdiel)"*
- *"Cefditoren (Spectracef)"*
- *"Cefepime (Maxipime)"*
- *"Cefiderocol"*
- *"Cefixime (Suprax)"*
- *"Cefoperazone (Cefobid, Sodium)"*
- *"Cefotaxime (Cephotaxime, Claforan)"*
- *"Cefotetan (Cefotan)"*
- *"Cefoxitin (Mefoxin)"*
  EXCLUDE: Cefoxitin Screen Well
- *"Cefpodoxime"*
- *"Cefprozil (Cefzil)"*
- *"Ceftaroline"*
- *"Ceftazidime (Ceptaz, Fortaz, Tazicef)"*
- *"Ceftazidime-avibactam (Avycaz)"*
- *"Ceftizoxime"*
- *"Ceftolozane/Tazobactam (Zerbaxa)"*
- *"Ceftibuten (Cedax)"*
- *"Ceftriaxone (Rocephin)"*
- *"Cefuroxime (Ceftin, Kefurox, Zinacef)"*
- *"Cephalexin (Cefalexin, Keflex, Keftal, Cefanox, Biocef, Panixine, Zartan)"*
- *"Cephalosporins"*
- *"Chloramphenicol"*
- *"Ciprofloxacin (Cipro, Ciproxin, Ciprobay)"*
- *"Clarithromycin (Biaxin)"*
- *"Clindamycin (Cleocin)"*
- *"Cloxacillin (Tegopen, Coxapen)"*
- *"Colistin (Xylistin, Polymyxin E, Colistimethate)"*
- *"Dalbavancin"*
- *"Daptomycin"*
- *"Delafloxacin (Baxdela)"*
- *"Dicloxacillin (Dycill, Dynapen)"*

- *"Doripenem (Doribax)"*
- *"Doxycycline (Doxycycline hyclate, Doxy, Vibra, Vibramycin)"*
- *"Eravacycline"*
- *"Ertapenem (Invanz)"*
- *"Erythromycin (E-mycin, Ery-tab, Benzamycin)"*
- *"Fidaxomicin"*
- *"Fosfomycin (Monurol)"*
- *"Gemifloxacin"*
- *"Gentamicin (Gentamycin, Garamycin, Cidomycin, Septopal)"*
- *"Imipenem (Primaxin)"*
  INCLUDE: Imipenem/Cilastatin
- *"Impienem-Relebactam"*
  INCLUDE: Imipenem-cilastatin-relebactam (Recarbrio)
- *"Lefamulin"*
- *"Levofloxacin (Levaquin, Quixin)"*
- *"Linezolid (Zyvox) "*
- *"Meropenem (Merrem)"*
- *"Meropenem Vaborbactam (Vabomere)"*
- *"Methicillin"*
- *"Metronidazole (Flagyl)"*
- *"Minocycline (Minocycline hydrochloride, Minocin, Dynacin, Myrac, Solodayn, Vectrin)"*
- *"Moxifloxacin (Avelox)"*
- *"Nafcillin (Unipen, Nafcil, Nallpen)"*
- *"Nitrofurntoin (Macrobid)"*
- *"Norfloxacin (Noroxin)"*
- *"Ofloxacin (Floxin)"*
- *"Omadycycline"*
- *"Oritavancin (LY333328)"*
- *"Oxacillin (Prostaphilin, Bactocil, Prostaphlin)"*
- *"Penicillin (Benzylpenicillin, Penicillin G, Bicillin C-R/L-A, Pfizerpen, Wycellin)"*
- *"Piperacillin"*
- *"Piperacillin-tazobactam (Zosyn)"*
- *"Polymixin B"*
- *"Streptomycin"*
- *"Sulfonamides"*
- *"Synercid (Quinupristin/Dalfopristin)"*

- *"Tedizolid"*
- *"Telavancin (TD-6424, Vibativ)"*
- *"Tetracycline (Ala-Tet, Panmycin, Sumycin)"*
- *"Tigecycline (Tigacyl)"*
- *"Tobramycin (Tobrex, Nebcin, Kitabis Pak, Tobi TOBI)"*
- *"Vancomycin (Vancocin, Lyphocin)"*
- *"Other (if "Other" please specify)"* Please contact the HMS Coordinating Center prior to making this selection.

1.4.6.3. FOR ANTIBIOTIC (#), INDICATE THE INTERPRETATION:

Instructions: Review the medical record to determine the interpretation of the antibiotic that was tested in the culture sensitivity analysis.

Note1: This field will populate based on the number of antibiotics that were tested.

Select one of the following:

- *"Susceptible"*
  EXCLUDE: "Deduced Susceptible"
- *"Intermediate"*
- *"Resistant"*
  INCLUDE: result of "Blac", result of "ESBL"
- *"Not Documented"* select when the susceptibility interpretation is not documented in the sensitivity analysis results.
  INCLUDE: result of "Deduced Susceptible"

1.4.6.4. ARE ANY OF THE FOLLOWING NOTED IN RELATION TO THE PATHOGEN IDENTIFIED ABOVE ON THE URINE CULTURE COLLECTED ON THIS DATE?

Instructions: Review the medical record to determine if any of the following are documented in relation to the positive urine culture collected on the date indicated above.

Note: This question will ONLY populate for Urine cultures.

Select all that apply:

- *"Extended Spectrum Beta Lactamase (ESBL)"*
  Note: If ESBL is tested and the result is negative, do not select ESBL.
- *"Carbapenem-Resistant Enterobacteriaceae"*
  INCLUDE: CRE
- *"Other"*
- *"Unknown/None of the Above"*

1.4.6.5. IS THE CULTURE GROWTH QUANTITY AVAILABLE FOR PATHOGEN #1?

Instructions: Review the medical record to determine the culture growth quantity for the pathogen indicated.
Note: This question will ONLY populate for Urine cultures.
Select one of the following:

- *"Yes"* ***Answer question 1.4.6.5.1***
- *"No"*
- *"Unknown"*

1.4.6.5.1. INDICATE THE QUANTITY FOR PATHOGEN #1

Instructions: Review the medical record to determine the culture growth quantity for the pathogen indicated.
Note: For quantities that are reported in ranges, use the highest value. For example, if the quantity is reported as 25-100,000, enter the selection of 100,000.
Select one of the following:

- *"100,000 CFU/mL or Greater (10^5)"*
  INCLUDE: Growth quantities of 100,000 CFU
- *"1,000 (10^3) CFU/mL to 99,999 CFU/mL"*
  INCLUDE: Growth quantities of any number between 1,000 and 99,999 CFU
- *"100 (10^2) CFU/mL to 999 CFU/mL"*
  INCLUDE: Growth quantities of any number between 100 and 999 CFU
- *"99 CFU/mL or less"*
  INCLUDE: Growth quantities of any number between 0 and 99 CFU
- *"Low Colony Count"*
- *"Other"*
  Note: Please contact the HMS Coordinating Center with the "Other" colony count that is not listed in the selection above prior to making this selection.
- *"Unknown"*

1.4.7. WAS THERE AN ADDITIONAL PATHOGEN IDENTIFIED?

Instructions: Review the medical record to determine if there was an additional pathogen identified within the same culture.

Note1: This section repeats so that up to four (4) pathogens within the same culture can be entered.
Note2: If the same pathogen is identified but with different morphologies in two separate cultures, enter as separate pathogens, and if they have identical sensitivity results, only enter the sensitivity information once.
Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

1.4.8. IS THERE A SECOND NEGATIVE CULTURE (OF THE SAME TYPE) DRAWN ON THE SAME DATE?

Instructions: Review the medical record to determine if there is a second negative culture (of the same type) drawn on the same date during the hospital encounter (ER, Obs, Inpatient). For example, the same type equals 2 negative blood cultures or 2 negative urine cultures.
Select one of the following:

- *"Yes"* ***Answer question 1.4.8.1***
- *"No"*
- *"Unknown"*

1.4.8.1. ARE THERE MULTIPLE NEGATIVE CULTURES (BEYOND THE INITIAL 2) OF THE SAME TYPE?

Instructions: Review the medical record to determine if there are multiple negative cultures of the same type beyond the initial 2 collected during the hospital encounter (ER, Obs, Inpatient).
Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

1.5. CRE CULTURE/SWAB COLLECTION DATE (DATE DRAWN)

Instructions: Review the medical record to determine the date the CRE swab was collected/drawn. Indicate the date in the MM/DD/YYYY

1.6. CRE CULTURE/SWAB FINAL RESULT DATE

Instructions: Review the medical record to determine the date the CRE swab result was final. Indicate the date in the MM/DD/YYYY format.

1.7. INDICATE THE FINAL RESULT OF THE CRE CULTURE/SWAB

Instructions: Review the medical record to determine the final result of the CRE culture/swab specimen.

Select one of the following:

- *"Positive (Detected)"*
- *"Negative (Not Detected)"*
- *"Unknown"*

1.8. MRSA SWAB COLLECTION DATE (DATE DRAWN)

Instructions: Review the medical record to determine the date the MRSA swab was collected/drawn. Indicate the date in the MM/DD/YYYY format.

1.9. MRSA SWAB FINAL RESULT DATE

Instructions: Review the medical record to determine the date the MRSA swab result was final. Indicate the date in the MM/DD/YYYY format.

1.10. INDICATE THE FINAL RESULT OF THE MRSA SWAB

Instructions: Review the medical record to determine the final result of the MRSA swab specimen.

Select one of the following:

- *"Positive (Detected)"*
- *"Negative (Not Detected)"*
- *"Unknown"*

1.11. STOOL-C. DIFF COLLECTION DATE (DATE DRAWN)

Instructions: Review the medical record to determine the date the clostridium difficile (C. Diff) specimen was collected/drawn. Indicate the date in the MM/DD/YYYY format.

1.12. STOOL- C.DIFF FINAL RESULT DATE

Instructions: Review the medical record to determine the date the clostridium difficile (C.Diff) specimen result was final. Indicate the date in the MM/DD/YYYY format.

1.13. INDICATE THE FINAL RESULT OF THE STOOL- C.DIFF SPECIMEN

Instructions: Review the medical record to determine the final result of the clostridium difficile (C.Diff) specimen.

Select one of the following:

- *"Positive (Detected)"*
- *"Negative (Not Detected)"*
  INCLUDE: C.Diff results that return as "Indeterminate"
- *"Unknown"*

1.14. VRE SWAB COLLECTION DATE (DATE DRAWN)

Instructions: Review the medical record to determine the date the VRE swab was collected/drawn. Indicate the date in the MM/DD/YYYY format.

1.15. VRE SWAB FINAL RESULT DATE

Instructions: Review the medical record to determine the date the VRE swab result was final. Indicate the date in the MM/DD/YYYY format.

1.16. INDICATE THE FINAL RESULT OF THE VRE SWAB

Instructions: Review the medical record to determine the final result of the VRE swab specimen.
Select one of the following:

- *"Positive (Detected)"*
- *"Negative (Not Detected)"*
- *"Unknown"*

Abstractor Notes

1. **DO YOU HAVE ANY NOTES OR DO YOU WANT TO EXCLUDE A FORM?**

Instructions: Indicate whether you have any notes that you would like to include regarding any of the entries in this form or if you would like to exclude this form.
Select one of the following:

- *"Yes"* if you have notes that you would like to include or you would like to exclude this form. ***Answer questions 1.1 and 1.2***
- *"No"* if you do not have notes that you would like to include and you do not want to exclude this form.

1.1. ABSTRACTOR NOTES

Instructions: Use free text to input your notes. IMPORTANT: Please do not enter any Protected Health Information (PHI) into this text box.

1.2. DO YOU WANT TO EXCLUDE THIS FORM?

Instructions: Indicate whether you would like to exclude this form from data analysis. This question will default to "No". If you would like to exclude this form, you must manually change the answer to "Yes".

Select one of the following:

- *"Yes"* if you would like to exclude this form from data analysis. ***Answer question 1.2.1***
- *"No"* if you would not like to exclude this form from data analysis.

1.2.1. ARE YOU SURE YOU WANT TO EXCLUDE THIS FORM?

Instructions: Indicate whether you would like to exclude this form from data analysis. This question will default to "No". If you would like to exclude this form, you must manually change the answer to "Yes".

Select one of the following:

- *"Yes"* if you would like to exclude this form from data analysis. Enter the reason for form removal in the abstractor notes section above.
- *"No"* if you would not like to exclude this form from data analysis.

Antimicrobial Allergies/Adverse Events

Instructions: For all questions in the database "No Answer" is the default selection. This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question.

Reminder: This is a repeating form. Enter all antimicrobial allergies/adverse events that occurred during the hospital encounter (ER, Obs, Inpatient (except ICU)) or those that occurred in the 30 days following the hospital encounter. Only enter those allergies/adverse events that were found via chart review and associated with an antibiotic prescribed and administered during the Hospital Encounter or an antibiotic prescribed at discharge from the Hospital Encounter. One antibiotic allergic reaction(s)/adverse event(s) per form.

EXCLUDE: Diagnosis of Clostridium Difficile (C-Diff), as it is captured elsewhere. Allergies from eye drop or other topical antibiotics. Allergies/adverse events related to medications that are not antibiotics for the infectious disease state being treated. Allergies/adverse events noted by the patient on the 30-day follow-up phone call.

1. **ANTIBIOTIC NAME**

Instructions: Review the medical record to determine the type of antibiotic that is indicated as causing the allergy or adverse event. In the drop-down box available, select the name of the antibiotic.
Select one of the following:

- *"Amikacin (Amikin)"*
- *"Aminoglycoside Antibiotic Allergy"*
- *"Amoxicillin (Novamox, Amoxil, Amoxicot, Dispermox, Moxatag, Moxilin, Trihydrate Trimox, Wymox)"*
- *"Amoxicillin-clavulanic acid (Augmentin, Co-Amoxiclav)"*
- *"Ampicillin (Omnipen, Principen, Totacillin)"*
- *"Ampicillin/sulbactam (Unasyn)"*
- *"Azithromycin (Zithromax, Sumamed, Zitrocin)"*

- *"Aztreonam (Azactam)"*
- *"Bactrim (Co-Trimoxazole, Sulfamethoxazole, Sulfisoxazole, Trimethoprim, Trimethoprim-Sulfamethoxazole, TMP-SMX)"*
- *"Carbapenem Antibiotic Allergy"*
- *"Cefaclor (Ceclor, Ceclor CD)"*
- *"Cefadroxil (Cephadroxil, Duricef)"*
- *"Cefalotin (Cephalothin)"*
- *"Cefazolin (Ancef, Kefzol, Zolicef)"*
- *"Cefdinir (Omnicef, Cefdiel)"*
- *"Cefditoren (Spectracef)"*
- *"Cefepime (Maxipime)"*
- *"Cefiderocol"*
- *"Cefixime (Suprax)"*
- *"Cefoperazone (Cefobid, Cefoperazone sodium)"*
- *"Cefotaxime (Cephotaxime, Claforan)"*
- *"Cefotetan (Cefotan)"*
- *"Cefoxitin (Mefoxin)"*
- *"Cefpodoxime"*
- *"Cefprozil (Cefzil)"*
- *"Ceftaroline"*
- *"Ceftazidime (Ceptaz, Fortaz, Tazicef)"*
- *"Ceftazidime-avibactam (Avycaz)"*
- *"Ceftizoxime"*
- *"Ceftolozane/Tazobactam (Zerbaxa)"*
- *"Ceftibuten (Cedax)"*
- *"Ceftriaxone (Rocephin)"*
- *"Cefuroxime (Ceftin, Kefurox, Zinacef)"*
- *"Cephalexin (Cefalexin, Keflex, Keftal, Cefanox, Biocef, Panixine, Zartan)"*
- *"Cephalosporin Antibiotic Allergy"*
- *"Ciprofloxacin (Cipro, Ciproxin, Ciprobay)"*
- *"Clarithromycin (Biaxin)"*
- *"Clindamycin (Cleocin)"*
- *"Cloxacillin (Tegopen, Coxapen)"*
- *"Colistin (Xylistin, Polymyxin E, Colistimethate)"*
- *"Dalbavancin"*
- *"Daptomycin"*
- *"Delafloxacin (Baxdela)"*
- *"Dicloxacillin (Dycill, Dynapen)"*

- *"Doripenem (Doribax)"*
- *"Doxycycline (Doxycycline hyclate, Doxy, Vibra, Vibramycin)"*
- *"Eravacycline"*
- *"Ertapenem (Invanz)"*
- *"Erythromycin (E-mycin, Ery-tab, Benzamycin)"*
- *"Fidaxomicin"*
- *"Fluoroquinolone Antibiotic Allergy"*
- *"Fosfomycin (Monurol)"*
- *"Gemifloxacin"*
- *"Gentamicin (Gentamycin, Garamycin, Cidomycin, Septopal)"*
- *"Imipenem (Primaxin)"*
  INCLUDE: *Imipenem/Cilastatin*
- *"Imipenem- Relebactam"*
  INCLUDE: *Imipenem-cilastatin-relebactam (Recarbrio)*
- *"Lefamulin"*
- *"Levofloxacin (Levaquin, Quixin)"*
- *"Linezolid (Zyvox)"*
- *"Macrolide Antibiotic Allergy"*
- *"Meropenem (Merrem)"*
- *"Meropenem Vaborbactam (Vabomere)"*
- *"Metronidazole (Flagyl)"*
- *"Minocycline (Minocycline hydrochloride, Minocin, Dynacin, Myrac, Solodayn, Vectrin)"*
- *"Moxifloxacin (Avelox)"*
- *"Nafcillin (Unipen, Nafcil, Nallpen)"*
- *"Nitrofurantoin (Macrobid)"*
- *"Norfloxacin (Noroxin)"*
- *"Ofloxacin (Floxin)"*
- *"Omadycycline"*
- *"Oritavancin (LY333328)"*
- *"Oxacillin (Prostaphilin, Bactocil, Prostaphlin)"*
- *"Penicillin (Benzylpenicillin, Penicillin G, Bicillin C-R/L-A, Pfizerpen, Wycellin, Penicillin V)"*
- *"Penicillin Antibiotic Allergy"*
- *"Piperacillin-tazobactam (Zosyn)"*
- *"Polymixin B"*
- *"Streptomycin"*
- *"Sulfonamide Antibiotic Allergy"*

- *"Tedizolid"*
- *"Telavancin (TD-6424, Vibativ)"*
- *"Tetracycline Antibiotic Allergy"*
- *"Tetracycline (Ala-Tet, Panmycin, Sumycin)"*
- *"Tigecycline (Tigacyl)"*
- *"Tobramycin (Tobrex, Nebcin, Kitabis Pak, Tobi TOBI)"*
- *"Vancomycin (Vancocin, Lyphocin)"*
- *"Other"*
  Please reach out to the HMS Coordinating Center prior to entering the Other antibiotic into this form.

2. **SELECT THE REACTION(S)**

Instructions: Review the medical record to determine the type of reaction that occurred as a result of the antibiotic selected.
Select all that apply:

- *"Abdominal/GI Discomfort"*
  INCLUDE: Abdominal pain, abdominal cramping, anorexia/appetite change, GI distress, bloating and gas, dry heaves, gastric upset, GI complaints, heartburn/GERD/increased reflux, severe upset stomach, stomach spasm/pain, epigastric pain, "feeling sick", dysgeusia, dry mouth
- *"Altered Mental Status"*
  INCLUDE: Agitation, delirium, encephalopathy/metabolic encephalopathy, change in mentation, confusion, hallucinations, lethargy
- "*Anaphylaxis*"
  INCLUDE: hypotension
- "*Anemia*"
  INCLUDE: low hemoglobin
- "*Angioedema/Facial Swelling*"
  INCLUDE: Quincke's edema
- "*Aortic Aneurysm*"
  INCLUDE: All forms of Aortic Aneurysms.
- *"Arrhythmia"*
  INCLUDE: Heart rhythm changes, bigeminy, Bradycardia
  EXCLUDE: Prolonged QT
- *"Blistering/Skin Peeling"*
  INCLUDE: Blistering on lips, blisters and bumps, skin peeled
- *"Chills"*
- *"Diaphoresis/Sweating"*

INCLUDE: Hot and cold sweats

- "*Diarrhea*"
  INCLUDE: Loose stools
  EXCLUDE: Diagnoses of C.Diff or diarrhea related to C.Diff
- *"Dizziness"*
  INCLUDE: Light-headedness, vertigo
- "*DRESS (Drug Reaction with Eosinophilia and Systemic Symptoms)*"
- *"Eosinophils in Blood or Urine"*
  INCLUDE: Eosinophilia
- "*Fever*"
- *"Headache"*
  INCLUDE: Migraine
- "*Hives*"
  INCLUDE: Urticaria
- "*Hyperkalemia*"
  INCLUDE: high potassium
- *"Hypertension"*
  INCLUDE: Elevated blood pressure
- "*Hypokalemia*"
  INCLUDE: low potassium
- *"Increased INR"*
- "*Itching*"
  INCLUDE: pruritus
- "*Leukopenia*"
  INCLUDE: Low white blood cell count
- "*Liver Abnormalities*"
  INCLUDE: Hepatitis, documentation that antibiotic may have been associated with elevated liver enzymes, or documentation of "transaminitis"
- "*Myalgias*"
  INCLUDE: Muscle pain, rhabdomyolysis
- *"Myoclonic Jerks"*
  INCLUDE: Tremors, hand cramping, dystonia of hands, muscle spasms/tightness
- "*Nausea*"
- *"Neuropathy/Paresthesia"*
  INCLUDE: Leg tingling, tingling in fingers, tingling, feeling of "body being on fire"
- "*Neutropenia*"
- "*Other Skin Rash*" ***Answer question 2.1***
  INCLUDE: Eruption

- *"Ototoxicity/Tinnitus*
  INCLUDE: Ear ringing, hearing loss
- "*Palpitations*"
- "*Prolonged QT*"
- *"Pancytopenia"*
- *"Phlebitis"*
  INCLUDE: Arm redness near IV site, burning and stinging in arm, burning at infusion site, warmth/swelling at IV site, local reaction, reaction at IV site, hand swelling with pain/erythema
- *"Redness/Flushing"*
  EXCLUDE: Redness/erythema at IV site (this should be entered under "Phlebitis"). Red Man Syndrome (this should be entered under "Vancomycin Flushing Syndrome").
- "*Renal Failure*"
  INCLUDE: Acute Kidney Injury (AKI), note of the antibiotic "affecting the patient's kidneys"
- "*Seizures*"
- "*Stevens-Johnson Syndrome or Toxic Epidermal Necrolysis (TENS)"*
- *"Swelling"* ***Answer question 2.2***
  EXCLUDE: Facial swelling (this should be noted under the selection of "Angioedema/Facial Swelling")
- *"Syncope"*
  INCLUDE: Near syncope, pre-syncope, passing out, almost passed out, fainting
- *"Tachycardia"*
  INCLUDE: Increased/elevated heart rate
- "*Tendonitis*"
  INCLUDE: Tendon rupture
- "*Throat Tightness*"
  INCLUDE: throat swelling
- "*Thrombocytopenia*"
  INCLUDE: low platelet count
- "*Trouble Breathing*"
  INCLUDE: Stridor, Respiratory Difficulty
- *"Vancomycin Flushing Syndrome"*
  INCLUDE: Red Man Syndrome
- "*Vomiting*"
  INCLUDE: Episodes of emesis
- "*Wheezing*"

- *"Yeast Infection"*
  INCLUDE: Candida Stomatitis, esophageal yeast infection, vaginal itching/burning/irritation, mycoses, vaginal yeast infection, oral candida/thrush, possible thrush, Candidiasis, yeast vaginitis, vaginal discharge, yeast rash in armpits
- "*Other*" if a reaction other than what is listed above is indicated as the reaction to the antibiotic indicated from the drop down above.
  Please contact the HMS Coordinating Center with the details of the allergy or adverse event prior to making this selection (if the reaction you see is not one listed in the inclusion and exclusion criteria below).
  INCLUDE: Intolerance, Anxiety, Crawling out of skin, Chest Tightness, Photosensitivity
  EXCLUDE: Forgetfulness
- "*Not Specified/Unknown*"

2.1. FOR OTHER SKIN RASH, SPECIFY THE TYPE

Instructions: Review the medical record to determine the type/severity of other skin rash that the patient experienced.
Select one of the following:

- "*Mild*"
- "*Moderate*"
- "*Severe*"
- "*Unknown/Not Documented*"

2.2. FOR SWELLING, PLEASE SELECT THE BODY SITE OF THE SWELLING.

Instructions: Review the medical record to determine the body site of the swelling that occurred. Note: We are aware that at the present time, this question is showing for all scenarios, even if Swelling is not selected. If the patient did not have a reaction of swelling, please leave this question as "No Answer".
Select all that apply:

- *"Upper Extremity"*
  INCLUDE: Swelling in right arm or swelling in left arm.
- *"Lower Extremity"*
  INCLUDE: Swelling in right leg or swelling in left leg.
- *"Other"*
  Please contact the HMS Coordinating Center before entering the "other" site of swelling in the free text box provided.

EXCLUDE: Facial swelling (this should be noted under the selection of "Angioedema/Facial Swelling")

3. **DOES THE MEDICAL RECORD INDICATE THE DATE OF THE ALLERGIC REACTION?**

Instructions: Review the medical record to determine the date of the reaction that occurred as a result of the antibiotic selected.
Reminder: If the actual date of the allergic reaction is unknown, enter the date the allergic reaction was documented in the medical record.
Select one of the following:

- "*Yes*" ***Answer question 3.1***
- "*No*"

3.1 DATE OF THE ALLERGIC REACTION OR ADVERSE EVENT

Instructions: Review the medical record to determine the date or the allergic reaction or adverse event.
Note: Enter the first that is noted in the medical record. Indicate the date in the MM/DD/YYYY format. If the date of the allergic reaction is unknown, enter the date the allergic reaction was documented in the medical record.

Abstractor Notes

1. **DO YOU HAVE ANY NOTES OR DO YOU WANT TO EXCLUDE A FORM?**

Instructions: Indicate whether you have any notes that you would like to include regarding any of the entries in this form or if you would like to exclude this form.
Select one of the following:

- *"Yes"* if you have notes that you would like to include or you would like to exclude this form. ***Answer questions 1.1 and 1.2***
- *"No"* if you do not have notes that you would like to include and you do not want to exclude this form.

1.1. ABSTRACTOR NOTES

Instructions: Use free text to input your notes. IMPORTANT: Please do not enter any Protected Health Information (PHI) into this text box.

1.2. DO YOU WANT TO EXCLUDE THIS FORM?

Instructions: Indicate whether you would like to exclude this form from data analysis. This question will default to “No”. If you would like to exclude this form, you must manually change the answer to “Yes”.
Select one of the following:

- *“Yes”* if you would like to exclude this form from data analysis. ***Answer question 1.2.1***
- *“No”* if you would not like to exclude this form from data analysis.

1.2.1. ARE YOU SURE YOU WANT TO EXCLUDE THIS FORM?

Instructions: Indicate whether you would like to exclude this form from data analysis. This question will default to “No”. If you would like to exclude this form, you must manually change the answer to “Yes”.
Select one of the following:

- *“Yes”* if you would like to exclude this form from data analysis. Enter the reason for form removal in the abstractor notes section above.
- *“No”* if you would not like to exclude this form from data analysis.

Discharge

Instructions: For all questions in the database, "No Answer" is the default selection. This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question.

Discharge

1. **DISCHARGE DATE**

Instructions: Review the medical record to determine the date the patient was discharged from the hospital encounter. If the patient is deceased (during the hospital encounter), this would be the date of death. If the patient was transferred to the intensive care unit (ICU), this would be the date the patient was eventually discharged from the hospital after their stay in the ICU. This is the date the patient was ultimately discharged from the hospital from which the cycle is determined. Indicate the date in the MM/DD/YYYY format.

2. **INDICATE THE STATUS OF THE PATIENT AT THE END OF ABSTRACTION (DISCHARGE, TRANSFER, DEATH) OF THE HOSPITAL ENCOUNTER:**

Instructions: Review the medical record to determine the status of the patient at the end of the abstraction of the hospital encounter.
Select one of the following:

- *"Transfer"* ***Answer questions 2.1 through 2.2***
  INCLUDE: Transfers to an ICU within your institution or to another inpatient hospital
  Note: Record all required cultures, labs, Chest CTs and Chest X-rays through the date of transfer; however, data abstraction ceases thereafter.
- *"Death"* ***Answer questions 2.3 through 2.5***
  EXCLUDE: Deaths that occur AFTER transfer to the ICU
- *"Discharged"* ***Answer questions 2.6 through 2.11***

2.1. DATE OF TRANSFER

Instructions: Review the medical record to determine the date the patient was transferred during the hospital encounter. Indicate the date in the MM/DD/YYYY format.

2.2. SELECT THE APPROPRIATE TRANSFER DISPOSITION:

Instructions: Review the medical record to determine the transfer disposition or where the patient was transferred to from the hospital encounter.
Select one of the following:

- "*Transfer to ICU*" ***Answer questions 2.2.1 through 2.2.3***
  Note 1: If the patient is transferred to the intensive care unit, all subsequent discharge forms are not required except Anticipated Total Duration of Antibiotic Therapy.
  Note 2: Abstraction stops on the day of transfer to the ICU. Do not include information that was documented post the day of transfer to the ICU.
  Reminder: This is a transfer to the ICU during the hospital encounter only, not in the 30 days following the hospital encounter.
- "*Transfer to another hospital*" ***Answer question 2.2.4***
  Note: If the patient is transferred to another hospital, enter required information through the date of transfer and then all subsequent discharge forms are not required except Anticipated Total Duration of Antibiotic Therapy.
  EXCLUDE: Transfers to inpatient hospice, inpatient psych, or inpatient rehab

2.2.1. WHAT WERE ALL OF THE ICD-10 CODES BILLED FOR THIS HOSPITAL ENCOUNTER UPON THE PATIENT'S EVENTUAL DISCHARGE FROM THE HOSPITAL ENCOUNTER?

Instruction: Review the medical record to determine ALL of the ICD-10 codes that are billed for this patient at the time of their eventual discharge from the hospital encounter, after their stay in the ICU. Please make sure all individual ICD-10 codes are separated by a comma, are capitalized, and the last ICD-10 code is followed by a semicolon (;).

2.2.2. WERE ANY OF THE FOLLOWING RELATED TO THE ICU TRANSFER?

Instructions: Review the medical record to determine if any of the following events were related to the ICU transfer by the primary medical team.
Reminder: Please review available medical documentation on Day #1 and Day #2 of the ICU stay for these events.

Select all that apply:

- "*Pneumonia*"
  INCLUDE: Hypoxic respiratory failure, hypercapneic/hypercarbic respiratory failure, suspected pneumonia
- "*C.Diff*"
- "*Bacteremia*"
  INCLUDE: Suspected bacteremia
  EXCLUDE: Sepsis
- "*Sepsis*"
  INCLUDE: Severe sepsis, septic shock, refractory hypotension, need for vasopressors, suspected sepsis
  EXCLUDE: Bacteremia
- "*Urinary Tract Infection*"
  INCLUDE: Suspected UTI, pyelonephritis, cystitis
- "*Skin/Soft Tissue Infection*"
  Note: Please review this case and ensure that it is eligible for abstraction.
- "*Adverse Drug (Antibiotic) Event*"
  INCLUDE: Suspected adverse drug event (related to antibiotic)
- "*Unknown*"
- "*None of the above*"

2.2.3. DID THE PATIENT DIE AFTER THE TRANSFER TO ICU?

Instructions: Review the medical record to determine if the patient died after the transfer to the intensive care unit (ICU), but during the hospital encounter.
Select one of the following:

- "*Yes*" ***Answer question 2.2.3.1***
- "*No*"

2.2.3.1. DATE OF DEATH (MM/DD/YYYY)

Instructions: Review the medical record to determine the date the patient died or expired after the transfer to the ICU. Indicate the date in the MM/DD/YYYY format. If date of death is unknown, please enter 01/01/1900.

2.2.4. WHAT WERE ALL OF THE ICD-10 CODES BILLED FOR THIS HOSPITAL ENCOUNTER UPON TRANSFER?

Instructions: Review the medical record to determine ALL of the ICD-10 codes that were billed for this patient at the time of their transfer to another hospital.

Please make sure all individual ICD-10 codes are separated by a comma, are capitalized, and last ICD-10 code is followed by a semicolon (;).

2.3. WHAT WERE ALL OF THE ICD-10 CODES BILLED FOR THIS HOSPITAL ENCOUNTER AT THE TIME OF THE PATIENT'S DEATH?

Instructions: Review the medical record to determine ALL of the ICD-10 codes that were billed for this patient at the time of their death. Please make sure all individual ICD-10 codes are separated by a comma, are capitalized, and last ICD-10 code is followed by a semicolon (;).

2.4. INDICATE THE DATE OF DEATH

Instructions: Review the medical record to determine the date the patient died or expired. Indicate the date in the MM/DD/YYYY format. If date of death is unknown, please enter 01/01/1900.

2.5. INDICATE THE CAUSE OF DEATH

Instructions: Review the medical record to determine if any of the following events were indicated as the cause of death.
Note: In order to be selected, the items listed below do not have to be indicated as the primary reason for death. If any of the items below are indicated as a diagnosis at the time of death, they should be selected.
Select all that apply:

- "*Pneumonia*" ***Answer question 2.5.1***
  INCLUDE: Hypoxic respiratory failure, hypercapneic/hypercarbic respiratory failure, suspected pneumonia
- "*C.Diff*" ***Answer question 2.5.1***
  INCLUDE: Suspected C.diff, CDI, Clostridium difficile infection
- *"Bacteremia"*
  INCLUDE: Suspected bacteremia
  EXCLUDE: Sepsis
- "*Sepsis*" ***Answer question 2.5.1***
  INCLUDE: Severe sepsis, septic shock, refractory hypotension, need for vasopressors, suspected sepsis
  EXCLUDE: Bacteremia
- "*Urinary Tract Infection*" ***Answer question 2.5.1***
  INCLUDE: Suspected UTI, pyelonephritis, cystitis
- "*Skin/Soft Tissue Infection*" ***Answer question 2.5.1***
  Note: Please review to ensure this case is eligible for abstraction.

- "*Adverse Drug (Antibiotic) Event*" ***Answer question 2.5.1***
  INCLUDE: Suspected adverse drug event (related to an antibiotic)
- *"Other Infection"*
  Note: Please review to ensure this case is eligible for abstraction.
- *"Non-Infectious Cause"*
- "*Unknown*"
- "*None of the above*"

2.5.1. FOR (THE SELECTED EVENT), INDICATE SUSPECTED OR CONFIRMED

Instructions: Review the medical record to determine if the event that was selected is indicated as being confirmed or suspected.
Select one of the following:

- "*Suspected*"
  INCLUDE: the event selected was not confirmed diagnostically; however the healthcare professional documented that the event contributed to the patient's death.
- "*Confirmed*"

2.6. SPECIFY THE APPROPRIATE DISCHARGE DISPOSITION

Instructions: Review the medical record to determine the patient's discharge disposition.
Select one of the following:

- "*Discharged home*"
  INCLUDE: Discharge to patient's own home, friend's home, or a family member's home with or without home care services. Patients that have left the hospital against medical advice (AMA). Patients that reside in an adult foster care center, which is the patient's usual state of residence.
- "*Discharged to a long-term acute care hospital (LTACH)"*
- "*Discharged to a skilled nursing facility*"
  INCLUDE: Skilled nursing home, nursing home, skilled nursing facility (SNF)
- *"Discharged to a temporary shelter (hotel, dorm, etc.)"*
  INCLUDE: Homeless shelter, hotel, dormitory, or a community living setting. Discharged to Detox Center/Sober Living. Patient is homeless and is not discharged to a shelter or other location.
- "*Discharged to an assisted living facility*"
  INCLUDE: Assisted living, assisted living facilities (ALF), assisted living residence, Memory Care Facility, custodial care.

- *"Discharged to correctional facility"*
  INCLUDE: Correctional facility, jail, prison, penitentiary
- *"Discharged to home hospice"*
  INCLUDE: Discharged home for palliative care, hospice care, comfort measures only, or comfort care.
- *"Discharged to inpatient hospice"*
  INCLUDE: Inpatient hospice care, hospice inpatient facility, discharge to a SNF or assisted living facility and receiving hospice care.
- *"Discharged to inpatient psychiatric facility"*
  INCLUDE: Inpatient psychiatric, inpatient psychiatry, inpatient mental health care.
  Note: An example discharge to inpatient psychiatric unit within the same institution might look like this: "A patient is admitted for medical care to XYZ hospital. After two weeks of acute care, the hospitalist recommends, and the insurance company approves, care in an inpatient psychiatric facility. XYZ hospital has an inpatient psychiatric unit that is just down the hall. The patient is medically cleared and discharged from XYZ hospital and admitted to XYZ psychiatric unit."
- *"Discharged to inpatient rehab"*
  INCLUDE: Acute rehabilitation center, acute rehabilitation services, acute rehab, inpatient rehabilitation facility (IRF), inpatient rehab
  Note: An example discharge to inpatient rehab within the same institution might look like this: "A patient is admitted for medical care to XYZ hospital. After two weeks of acute care, the hospitalist recommends, and the insurance company approves, care in an acute rehabilitation facility. XYZ hospital has an acute rehabilitation unit that is just down the hall. The patient is discharged from XYZ hospital and admitted to XYZ rehabilitation."
- "*Discharged to a sub-acute rehab facility*"
  INCLUDE: Sub-acute rehabilitation (rehab), sub-acute rehabilitation care, post-acute rehabilitation center, psychiatric center that is not considered to be an inpatient setting
- *"Other"* ***Answer question 2.6.1***
  Note: Please contact the HMS Coordinating Center with details on the other discharge location prior to making this selection.

2.6.1. FOR OTHER, PLEASE SPECIFY
Instructions: Type in the "other" discharge disposition using the free text box provided.

2.7. WHAT WERE ALL OF THE ICD-10 CODES BILLED FOR THIS HOSPITAL ENCOUNTER ON DISCHARGE?

Instructions: Review the medical record to determine ALL of the ICD-10 codes that were billed for this patient at the time of their death. Please make sure all individual ICD-10 codes are separated by a comma, are capitalized, and last ICD-10 code is followed by a semicolon (;).
EXCLUDE: Codes that are marked as "Exempt from POA coding"

Discharge Labs

Reminder: If the patient is transferred to the ICU during the hospital encounter, please use labs from the entire date of transfer to the ICU when answering the questions in this section.

1. **IS THERE A CREATININE AVAILABLE FROM THE DAY OF DISCHARGE OR TRANSFER TO ICU?**

Instructions: Review the medical record to determine if a creatinine was drawn on the day of discharge during the encounter or the day of the transfer to the ICU.
Select one of the following:

- "*Yes*" ***Answer question 1.1***
  INCLUDE: Cr
- "*No*"
- "*Unknown*"

1.1. HIGHEST CREATININE

Instructions: Review the patient's laboratory data and record the highest creatinine on the day of discharge or transfer to the ICU. Indicate the creatinine value as a numeric only in mg/dL.

2. **IS THERE A WBC AVAILABLE FROM THE DAY OF DISCHARGE OR TRANSFER TO ICU?**

Instructions: Review the medical record to determine if a white blood cell (WBC) count was drawn on the day of discharge during the encounter or the day of the

transfer to the ICU.
Select one of the following:

- "*Yes*" ***Answer question 2.1***
- "*No*"
- "*Unknown*"

2.1. LOWEST WBC COUNT

Instructions: Review the patient's laboratory data and record the lowest white blood cell (WBC) count on day of discharge or transfer to the ICU. Indicate the white blood cell (WBC) count value as a numeric only in K/uL on the day of discharge.

3. **IS THERE A PLATELET AVAILABLE FROM THE DAY OF DISCHARGE OR TRANSFER TO ICU?**

Instructions: Review the medical record to determine if a platelet was drawn on the day of discharge during the encounter or the day of the transfer to the ICU.
Select one of the following:

- "*Yes*" ***Answer question 3.1***
  INCLUDE: Plt
- "*No*"
- "*Unknown*"

3.1. LOWEST PLATELET COUNT

Instructions: Review the patient's laboratory data and record the lowest platelet on the day of discharge or transfer to the ICU. Indicate the platelet value as a numeric only in ,000 mcL. Example, platelets of 500,000 should be inputted as 500.

4. **IS THERE AN ABSOLUTE NEUTROPHIL COUNT (ANC) AVAILABLE FROM THE DAY OF DISCHARGE OR TRANSFER TO ICU?**

Instructions: Review the medical record to determine if an absolute neutrophil count (ANC) was drawn on the day of discharge during the encounter or the day of the transfer to the ICU.

- "*Yes*" ***Answer question 4.1***
- "*No*"
- "*Unknown*"

4.1. LOWEST ABSOLUTE NEUTROPHIL COUNT (ANC)

Instructions: Review the patient's laboratory data and record the lowest absolute neutrophil count (ANC). Indicate the absolute neutrophil count (ANC) value as a numeric only in K/uL or bil/L on the day of discharge or transfer to the ICU.

Anticipated Duration of Total Antibiotic Therapy

1. **IS THE ANTICIPATED DURATION OF TOTAL ANTIBIOTIC THERAPY INDICATED BY THE PRIMARY MEDICAL PROVIDER? NOTE: THIS IS THE OVERALL DURATION OF THERAPY STATED BY THE PRIMARY PROVIDER FOR THE INFECTIOUS DISEASE STATE WHICH INCLUDES BOTH THE IN-HOSPITAL AND OUTPATIENT DISCHARGE THERAPY. THIS SHOULD BE TAKEN FROM THE DISCHARGE SUMMARY.**

Instructions: Review the medical record to determine whether the total antibiotic therapy is indicated by the primary medical provider. This is the total overall duration of antibiotic therapy including inpatient and discharge antibiotics. The source of total antibiotic duration must be found in the discharge summary.
Select one of the following:

- *"Yes"* ***Answer question 1.1***
- *"No"*
- *"Unknown"*

1.1. NUMBER OF DAYS OF THERAPY

Instructions: Review the medical record to determine the number of days of total antibiotic therapy. Select the correct number of days from the dropdown.
Examples:

- If the documentation states "patient will be discharged on 2 days of azithromycin to complete a total of 5 days of treatment", this would equal 5 days of total duration, if the only antibiotic that the patient received as an inpatient was azithromycin. If azithromycin was not the only antibiotic administered to the patient as an inpatient or was not the only antibiotic prescribed on discharge, this documentation would not count.

- Patient's discharge summary on XX/17 states, "CAP: Started on rocephin and azithromycin XX/14. Will complete course with PO antibiotics." The discharge medication order states, "Azithromycin (azithromycin 250 mg oral tablet); 1 Tab = 250 mg by mouth once a day ending XX/19." The total anticipated duration of (antibiotic) therapy is 6 days (XX/14-XX/19).

Antibiotics on Discharge

1. **WAS AN ANTIBIOTIC PRESCRIBED ON DISCHARGE?**

Instructions: Review the medical record to determine if an antibiotic was prescribed on discharge (i.e., prescribed to be administered to the patient for additional days after hospital discharge) from the hospital encounter.
INCLUDE: For all cases, enter antibiotics ordered for the infectious disease state being abstracted by the team caring for the patient during the hospital encounter on discharge and in the 2 calendar days following the date of discharge. The day of discharge equals day zero. For example, for a patient discharged on 11/23/16 antibiotics ordered on 11/24/16 and 11/25/16 should also be entered.
EXCLUDE: Ear drop and other topical antibiotics. Antibiotics prescribed for prophylaxis of non-concomitant infections such as Common Variable Immune Deficiency (CVID) and rosacea. Antibiotics that are prescribed by a patient's Primary Care Physician within the 2 calendar days following the date of discharge. Antibiotics prescribed at an inpatient rehab within the 2 calendar days following the date of discharge. Antibiotics prescribed by another institution within the 2 calendar days following the date of discharge.
Note: If a patient is unable to fill a prescription (due to unable to afford co-pay, etc.), never took the prescription, and an alternative antibiotic is prescribed, enter the alternative prescribed antibiotic as the discharge antibiotic.
Note 2: If a patient returns to the ER or urgent care in the 2 calendar days following discharge and is prescribed new antibiotics or their course is altered, please exclude antibiotic changes made as part of a new encounter.
Select one of the following:

- *"Yes"* ***Answer questions 1.1 through 1.4***
- *"No"*

- *"Unknown"*

1.1. NAME OF ANTIBIOTIC

Instructions: Review the medical record to determine the name of the antibiotic the patient was prescribed on discharge from the hospital encounter.
Select one of the following:

- *"Amikacin (Amikin)"*
- *"Amoxicillin (Novamox, Amoxil, Amoxicot, Dispermox, Moxatag, Moxilin, Trihydrate Trimox, Wymox)"*
- *"Amoxicillin-clavulanic acid (Augmentin, Co-Amoxiclav)"*
- *"Ampicillin (Omnipen, Principen, Totacillin)"*
- *"Ampicillin/Sulbactam (Unasyn)"* ***Answer 1.1.1***
- *"Azithromycin (Zithromax, Sumamed, Zitrocin)"*
- *"Aztreonam (Azactam)"*
- *"Bactrim (Co-Trimoxazole, Sulfamethoxazole, Sulfisoxazole, Trimethoprim, Trimethoprim-Sulfamethoxazole, TMP-SMX)"*
- *"Cefaclor (Ceclor, Ceclor CD)"*
- *"Cefadroxil (Cephadroxil, Duricef)"*
- *"Cefalotin (Cephalothin)"*
- *"Cefazolin (Ancef, Kefzol, Zolicef)"*
- *"Cefdinir (Omnicef, Cefdiel)"*
- *"Cefditoren (Spectracef)"*
- *"Cefepime (Maxipime)"*
- *"Cefiderocol"*
- *"Cefixime (Suprax)"*
- *"Cefoperazone (Cefobid, Cefoperazone Sodium)"*
- *"Cefotaxime (Cephotaxime, Claforan)"* ***Answer 1.1.1***
- *"Cefotetan (Cefotan)"*
- *"Cefoxitin (Mefoxin)"*
- *"Cefpodoxime"*
- *"Cefprozil (Cefzil)"*
- *"Ceftaroline"*
- *"Ceftazidime (Ceptaz, Fortaz, Tazicef)"*
- *"Ceftazidime-avibactam (Avycaz)"*
- *"Ceftizoxime"*
- *"Ceftolozane/Tazobactam (Zerbaxa)"*
- *"Ceftibuten (Cedax)"*
- *"Ceftriaxone (Rocephin)"* ***Answer 1.1.1***

- *"Cefuroxime (Ceftin, Kefurox, Zinacef)"*
- *"Cephalexin (Cefalexin, Keflex, Keftal, Cefanox, Biocef, Panixine, Zartan)"*
- *"Ciprofloxacin (Cipro, Ciproxin, Ciprobay)"*
- *"Clarithromycin (Biaxin)"*
- *"Clindamycin (Cleocin)"*
- *"Cloxacillin (Tegopen, Coxapen)"*
- *"Colistin (Xylistin, Polymyxin E, Colistimethate)"*
- *"Dalbavancin"*
- *"Daptomycin"*
- *"Delafloxacin (Baxdela)"*
- *"Dicloxacillin (Dycill, Dynapen)"*
- *"Doripenem (Doribax)"*
- *"Doxycycline (Doxycycline hyclate, Doxy, Vibra, Vibramycin)"*
- *"Eravacycline"*
- *"Ertapenem (Invanz)"*
- *"Erythromycin (E-mycin, Ery-tab, Benzamycin)"*
- *"Fidaxomicin"*
- *"Fosfomycin (Monurol)"*
- *"Gemifloxacin"*
- *"Gentamicin (Gentamycin, Garamycin, Cidomycin, Septopal)"*
- *"Imipenem (Primaxin)"*
  INCLUDE: Impienem/Cilastatin
- *"Imipenem-Relebactam"*
  INCLUDE: Imipenem-cilastatin-relebactam (Recarbrio)
- *"Lefamulin"*
- *"Levofloxacin (Levaquin, Quixin)"* ***Answer 1.1.1***
- *"Linezolid (Zyvox)"*
- *"Meropenem (Merrem)"*
- *"Meropenem Vaborbactam (Vabomere)"*
- *"Metronidazole (Flagyl)"*
- *"Minocycline (Minocycline hydrochloride, Minocin, Dynacin, Myrac, Solodayn, Vectrin)"*
- *"Moxifloxacin (Avelox)"* ***Answer 1.1.1***
- *"Nafcillin (Unipen, Nafcil, Nallpen)"*
- *"Nitrofurantoin (Macrobid)"*
- *"Norfloxacin (Noroxin)"*
- *"Ofloxacin (Floxin)"*
- *"Omadycycline"*

- *"Oritavancin (LY333328)"*
- *"Oxacillin (Prostaphilin, Bactocil, Prostaphlin)"*
- *"Penicillin (Benzylpenicillin, Penicillin G, Bicillin C-R/L-A, Pfizerpen, Wycellin, Penicillin V)"*
- *"Piperacillin-tazobactam (Zosyn)"*
- *"Polymixin B"*
- *"Streptomycin"*
- *"Tedizolid"*
- *"Telavancin (TD-6424, Vibativ)"*
- *"Tetracycline (Ala-Tet, Panmycin, Sumycin)"*
- *"Tigecycline (Tigacyl)"*
- *"Tobramycin (Tobrex, Nebcin, Kitabis Pak, Tobi TOBI)"*
- *"Vancomycin (Vancocin, Lyphocin)"*
- *"Other (If other, please specify)"* Please reach out to the Coordinating Center prior to making this selection.

1.1.1. DOSE

Instructions: Review the medical record to determine the dose given of the antibiotic that was selected in question 1.1.

Note: For patients that received a loading dose prior to starting the regular scheduled doses, please capture the higher dose. For example, patient was prescribed one dose of 500mg of Levaquin and then 250mg of Levaquin for 4 more days. Please capture the dose as 500mg and only enter as one antibiotic on discharge.

1.2. ROUTE

Instructions: Review the medical record to determine the route given of the antibiotic selected.

Select one of the following:

- "*Intravenous (IV)*" ***Answer question 1.2.1***
- "*By mouth (PO)*"
  INCLUDE: Liquid/solution administered via tube feed.
- "*Intramuscular (IM)*"
- "*Inhaled*"
- "*Unknown*"

1.2.1. WAS THE PATIENT DISCHARGED WITH A CENTRAL LINE OR MIDLINE FOR THE INFUSION OF ANTIBIOTICS?

Instructions: Review the medical record to determine if the patient was discharged from the hospital encounter with a central line (ex: PICC, CVC, etc) or Midline for the infusion of antibiotics.
Select one of the following:

- *"Yes"* ***Answer question 1.2.1.1***
- *"No"*
- *"Unknown"*

1.2.1.1. INDICATE THE TYPE INTRAVENOUS LINE THE PATIENT WAS DISCHARGED WITH

Instructions: Review the medical record and determine the type of line the patient was discharged with for the infusion of antibiotics.
Select one of the following:

- *"Peripherally Inserted Central Catheter (PICC)"*
- *"Central Venous Catheter (Non Dialysis)"*
- *"Central Venous Catheter for Dialysis"*
- *"Midline Catheter"*

1.3. DOES THE MEDICAL RECORD INDICATE AN ANTICIPATED DURATION OF THERAPY FOR ANTIBIOTIC #1?

Instructions: Review the medical record to determine if an anticipated duration of the antibiotic selected is documented.
Select one of the following:

- *"Yes"* ***Answer questions 1.3.1 through 1.3.2***
- *"No"*
- *"Unknown"*

1.3.1. DOES THE MEDICAL RECORD INDICATE THE NUMBER OF DAYS OF THERAPY?

Instructions: Review the medical record to determine if the number of days of therapy of the antibiotic selected is provided.
Select one of the following:

- *"Yes"* ***Answer question 1.3.1.1***
- *"No"*
- *"Unknown"*

1.3.1.1. NUMBER OF DAYS

Instructions: Review the medical record to determine the number of days the antibiotic is ordered. There are eighty (80) options for this question. Select the correct number of days from the dropdown.
Note1: If Z-Pak was ordered at discharge and no days are indicated, enter 5 for the 'Number of Days'.
Note2: When the number of days of therapy is not specified in the outpatient script, however, it can be determined from the dose, frequency and number of pills, enter the calculated number of days of therapy.
Example: For an outpatient order script reading "Keflex 500 mg TID 21 tabs", enter '7' for the number of days of therapy.
Note3: If the number of days is greater than 100 please "Other" and enter the number of days. Include numbers only in this field.
Note4: If the patient is to finish their antibiotic dosing on the day of discharge (when they get home) and no additional days of the antibiotic are prescribed, please select "0". Example: The patient is discharged to finish their inpatient antibiotic treatment, which has only one dose remaining (the evening dose). As this is the only dose remaining, and they received antibiotic treatment as an inpatient on the date of discharge, please select "0" as the response to this question.

1.3.2. DOES THE MEDICAL RECORD INDICATE THE NUMBER OF DOSES THE PRESCRIPTION IS WRITTEN FOR?

Instructions: Review the medical record to determine the number of doses antibiotic prescription is written for.
Select one of the following:

- *"Yes"* ***Answer question 1.3.2.1***
- *"No"*
- *"Unknown"*

1.3.2.1. NUMBER OF DOSES

Instructions: Review the medical record to determine the doses the antibiotic prescription is written for. Select the correct number of pills from the dropdown.
Note1: If Z-Pak was ordered at discharge and the number of doses is not indicated, enter 5 for the 'Number of Doses'.
Note2: The selection of "Other" has been added for doses exceeding 100. If you have a dosage that exceed 100 doses, select "Other" and enter the free

text response. Be sure that no other symbols but numbers are input into the free text. Example: enter the value of 1000 without a comma.
Note3: When the number of doses is not specified in the outpatient script, however, it can be determined from the days and frequency enter the calculated number of doses of therapy. Example: For an outpatient order script reading "Keflex 500 mg TID, for 7 days", enter '21' for the number of doses.

1.4. DOES THE MEDICAL RECORD INDICATE THE FREQUENCY OF THE ANTIBIOTIC INDICATED ABOVE?

Instructions: Review the medical record to determine the frequency of the antibiotic ordered on discharge.
Select one of the following:

- *"Yes"* ***Answer question 1.4.1***
- *"No"*
- *"Unknown"*

1.4.1. LIST THE FREQUENCY

Instructions: Review the medical record to determine the frequency of the antibiotic ordered on discharge.
Note: If the patient is receiving antibiotics on the day of discharge inpatient and as an outpatient, "Other" should be selected and you should enter "Patient to receive antibiotics on day of DC and daily (or other specified frequency)".
Select one of the following:

- *"Daily (QD)"*
  INCLUDE: Every 24 hours
- *"BID (Q12H)"*
  INCLUDE: Every 12 hours, Twice per day
- *"TID (Q8H)"*
  INCLUDE: Every 8 hours, Three times per day
- *"QID (Q6H)"*
  INCLUDE: Every 6 hours, Four times per day
- *"QOD (Every Other Day)"*
- *"TW (Twice a week)"*
- *"Q2H"*
  INCLUDE: Every 2 hours, Twelve times per day
- *"Q4H"*

INCLUDE: Every 4 hours, Six times per day

- *"Q18H"*
  INCLUDE: Every 18 hours
- *"Q36H"*
  INCLUDE: Every 36 hours
- *"Post-Hemodialysis"*
- *"Other"* Enter the other frequency in the text field provided.
  INCLUDE: If the patient is receiving antibiotics on the day of discharge as an inpatient and is noted to also take antibiotics on the day of discharge as an outpatient, select "Other" and specify "Patient to receive antibiotics on day of DC and daily (or other specified frequency)".

1.5. IS THERE DOCUMENTATION THAT STATES THIS ANTIBIOTIC IS ORDERED FOR 'PROPHYLAXIS', 'SUPPRESSION' AND/OR 'CHRONIC THERAPY'?

Instructions: Review the medical record to determine if the antibiotic selected was ordered for 'prophylaxis', 'suppression' and/or 'chronic therapy'.
Select one of the following:

- *"Yes"*
- *"No"*
  INCLUDE: Antibiotics ordered for C. Diff prophylaxis (C. Diff is the only indication that should not be captured as prophylaxis even if ordered as such)
- *"Unknown"*

1.6. WAS A SECOND ANTIBIOTIC PRESCRIBED ON DISCHARGE?

Instructions: Review the medical record to determine if a second antibiotic was prescribed on discharge (i.e. prescribed to be administered to the patient for additional days after hospital discharge) from the hospitalization of interest.
Select one of the following:

- *"Yes"*
  Note: This section repeats so that up to five (5) antibiotics on discharge can be entered.
- *"No"*
- *"Unknown"*

30-Day Follow Up

1. **IS ANOTHER ABSTRACTOR (OTHER THAN THE ONE WHO INITIATED THE RECORD) ENTERING THIS INFORMATION?**

Instructions: Indicate whether another abstractor (other than the individual who created/initiated the record) is completing the 30-day follow-up chart review form.
Select one of the following:

- *"Yes"* if another abstractor (other than the individual who created/initiated the record) is completing the 30-day follow-up chart review form. ***Answer question 1.1***
- *"No"* if the same abstractor who initiated the record is completing the 30-day follow-up chart review form.

1.1. ABSTRACTOR NAME

Instructions: Enter the first and last name of the person who is completing the 30-day follow-up chart review.

2. **CAN YOU SEE ANY MEDICAL DOCUMENTATION IN THE 30 DAYS FOLLOWING THE HOSPITAL ENCOUNTER?**

Instructions: Review the medical record to determine if any medical documentation (i.e., outpatient notes, inpatient admission, emergency room visits, laboratory testing, etc.) is available from the 30 days following the hospital encounter.
Select one of the following:

- *"Yes"* ***Answer question 2.1.***
  INCLUDE: ANY medical documentation seen for the patient in the 30 days post-discharge from the index hospitalization
- *"No"*

2.1. DURING THE 30 DAYS FOLLOWING THE HOSPITAL ENCOUNTER DID THE PATIENT HAVE ANY OF THE FOLLOWING?

Instructions: Review the medical record to see if the patient has had any inpatient hospitalizations, emergency room/observation/urgent care visits, or outpatient physician visits in the 30 days following discharge from the index hospital encounter. Please enter these visits chronologically after the patient is discharged from the hospital encounter. For example, if the patient has an ER visit and then another ER visit that turns into an observation stay, you should only record information for the first two ER visits in this section.

Note: If the patient has an inpatient hospitalization in the 30 days following the index hospital encounter and is admitted to that inpatient stay through the ER, please capture both an ER visit and an inpatient hospitalization in this section.
Select all that apply:

- *"An inpatient hospitalization"* ***Answer questions 2.1.1 through 2.1.4***
  Note: The intent of this selection is to capture unplanned admissions at acute care hospitals.
  INCLUDE: Inpatient hospice stays, inpatient rehab stays, or inpatient psychiatric stays that occur after the patient is discharged home (or another location) and within the 30 days following discharge.
  EXCLUDE: If patient discharged from the hospitalization of interest to an inpatient rehab unit, an inpatient hospice, or an inpatient psychiatric unit, it should NOT be recorded as a subsequent inpatient hospitalization in the 30-day review period (because we are already capturing this as their "discharge disposition"). If patient had ambulatory surgery, they are not considered inpatient. Observation admissions. Planned inpatient hospitalizations associated with a scheduled procedure or surgery.
- *"An emergency department visit/observation visit/urgent care"* ***Answer questions 2.1.5 through 2.1.8***
  Note: If the patient presents to an outside hospital (OSH) emergency department and then transfers directly to another emergency department, this may be recorded as one (1) emergency/observation visit.
  Note 2: If the patient presents to the ED and then is admitted for an observation visit, enter these as two subsequent stays utilizing this selection.
  Note 3: If the patient presents to an ED and then is admitted for an inpatient visit, enter this using this selection AND "Inpatient Hospitalization"
  EXCLUDE: Planned outpatient surgery.
- *"An outpatient physician visit"* ***Answer questions 2.1.9 through 2.1.11***
  INCLUDE: Physician or advanced practice professional visits that take place in the patient's home. Outpatient telemedicine visits with a physician.
  EXCLUDE: Do not include outpatient labs only, diagnostic tests only, medical procedure unit visit for blood transfusion, etc.
- *"None of the above"*
  INCLUDE: Documentation of labs only, diagnostic tests only, medical procedure units only, infusion visits only, etc.

2.1.1. IS THE ADMISSION DATE AVAILABLE FOR INPATIENT HOSPITALIZATION #1?

Instructions: Review the medical record to determine if the admission date is available for the first inpatient hospitalization.
Note: If the patient is admitted to the ED and then admitted as an inpatient, use the date of the INPATIENT admission for this; not the date of the ED visit (unless they are the same day).
Select one of the following:

- *"Yes"* ***Answer question 2.1.1.1***
- *"No"*

2.1.1.1. DATE OF ADMISSION

Instructions: Review the medical record to determine the admission date of the first inpatient hospitalization. Indicate the date in the MM/DD/YYYY format. If the actual date is unknown but you are able to estimate based upon a known subsequent encounter date in the 30-day review period, enter the date that is halfway between the discharge date and the date of subsequent encounter.

2.1.2. IS THE DISCHARGE DATE AVAILABLE FOR INPATIENT HOSPITALIZATION #1?

Instructions: Review the medical record to determine if the discharge date is available for the first inpatient hospitalization.
Note: If the discharge date of the inpatient hospitalization is after the period of review ends, please select "No" as the response for this question.
Select one of the following:

- *"Yes"* ***Answer question 2.1.2.1***
  INCLUDE: Discharge dates from hospitalizations that fall within the 30 days post-discharge
- *"No"*
  INCLUDE: Discharge dates from hospitalizations that fall AFTER the 30-days post-discharge

2.1.2.1. DATE OF DISCHARGE

Instructions: Review the medical record to determine the discharge date of the first inpatient hospitalization. Indicate the date in the MM/DD/YYYY format.

2.1.3. WERE ANY OF THE FOLLOWING INDICATED AS THE REASON FOR THE INPATIENT HOSPITALIZATION OR DOCUMENTED DURING THE

HOSPITALIZATION?

Instructions: Review the medical record to determine if any of the following events were documented as the reason for the first inpatient hospitalization in the 30 days following the admission of interest.

Select all that apply:

- "*Adverse Drug (Antibiotic) Event*" ***Answer question 2.1.3.2***
  Reminder: Complete the Antimicrobial Allergies or Adverse Events Form
  INCLUDE: suspected adverse drug event related to an antibiotic
- *"Bacteremia"* ***Answer question 2.1.3.2***
  INCLUDE: blood stream infection, suspected bacteremia
  EXCLUDE: Sepsis
- "*C. Diff*" ***Answer questions 2.1.3.1 through 2.1.3.2***
  INCLUDE: Suspected C. Diff, CDI, Clostridium difficile infection
- *"COPD exacerbation"* ***Answer questions 2.1.3.1 and 2.1.3.2***
- "*Pneumonia*" ***Answer questions 2.1.3.1 through 2.1.3.3***
  INCLUDE: Hypoxic respiratory failure, hypercapneic/hypercarbic respiratory failure, suspected pneumonia
- *"Respiratory Infection"* ***Answer questions 2.1.3.1 and 2.1.3.2***
  INCLUDE: Bacterial bronchitis
- "*Sepsis*" ***Answer question 2.1.3.2***
  INCLUDE: Severe sepsis, septic shock, refractory hypotension, need for vasopressors, suspected sepsis
  EXCLUDE: Bacteremia
- "*Skin/Soft Tissue Infection*" ***Answer questions 2.1.3.1 and 2.1.3.2***
  INCLUDE: Cellulitis, infection of ulcers, subcutaneous abscess, infection of diabetic foot ulcer and purulent discharge from a wound infection, suspected skin/soft tissue infection, SSTI
- "*Urinary Tract Infection*" ***Answer questions 2.1.3.1 and 2.1.3.2***
  INCLUDE: Pyelonephritis, cystitis, suspected UTI
- "*Unknown*"
- "*None of the above*"

2.1.3.1. WAS (THE SELECTED EVENT) DOCUMENTED IN THE DISCHARGE SUMMARY AS A REMAINING ACTIVE PROBLEM OR DIAGNOSIS?

Instructions: Review the medical record to determine if the reason for the inpatient hospitalization was documented in the discharge summary as a remaining active problem or diagnosis at the time of discharge.

Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

2.1.3.2. FOR (THE SELECTED EVENT), SPECIFY DATE OF DIAGNOSIS

Instructions: Review the medical record to determine the date of the diagnosis/event. Indicate the date in the MM/DD/YYYY format.
Note: This should be the first documentation that the above diagnosis was indicated in the chart (not the first day of symptoms).

2.1.3.3. DID THE PATIENT REQUIRE ANY OF THE FOLLOWING?

Instructions: Review the medical record to determine if the patient required any of the following while hospitalized with pneumonia.
Select all that apply:

- *"Mechanical Ventilation"*
  EXCLUDE: Mechanical ventilation associated only with a surgical procedure.
- *"Non-Invasive Ventilation (e.g., C-Pap, BiPap)"*
- *"None of the above"*
- *"Unknown"*

2.1.4. DID THE PATIENT HAVE A SECOND INPATIENT HOSPITALIZATION IN THE 30 DAYS FOLLOWING THE HOSPITAL ENCOUNTER?

Instructions: Review the medical record to determine if the patient had a second inpatient hospitalization in the 30 days following the hospital encounter.
EXCLUDE: Observation only hospitalizations
Note: This section repeats so that up to three (3) inpatient hospitalizations can be entered.
Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

2.1.5. IS THE ADMISSION DATE AVAILABLE FOR EMERGENCY DEPARTMENT VISIT/OBSERVATION VISIT/URGENT CARE VISIT #1?

Instructions: Review the medical record to determine if the admission date is available for the first emergency department visit/observation visit/urgent care visit.
Note: If the patient presents to the ED and then is admitted for an observation visit, enter these as two subsequent stays utilizing this selection. The first date of that type of visit should be the date of the ED visit.
Select one of the following:

- *"Yes"* ***Answer question 2.1.5.1***
- *"No"*

2.1.5.1. DATE OF ADMISSION

Instructions: Review the medical record to determine the admission date of the first emergency department visit/observation visit/urgent care visit. Indicate the date in the MM/DD/YYYY format. If the actual date is unknown, but you are able to estimate based upon a known subsequent encounter date in the 30-day review period, enter the date that is halfway between the discharge date and the date of subsequent encounter.

2.1.6. IS THE DISCHARGE DATE AVAILABLE FOR EMERGENCY DEPARTMENT VISIT/OBSERVATION VISIT/URGENT CARE VISIT #1?

Instructions: Review the medical record to determine if the discharge date is available for the first emergency department visit/observation visit/urgent care visit .
Note 1: If the discharge date of the ER/Observation visit/urgent care visit is after the period of review ends, please select "No" as the response for this question.
Note 2: If the patient is admitted to an inpatient or observation unit after the ED visit, please list the admission date for the inpatient or observation stay as the ED Date of Discharge.
Select one of the following:

- *"Yes"* ***Answer question 2.1.6.1***
  INCLUDE: Discharge dates from hospitalizations that fall within the 30 days post-discharge
- *"No"*
  INCLUDE: Discharge dates from hospitalizations that fall AFTER the 30-days post-discharge

2.1.6.1. DATE OF DISCHARGE

Instructions: Review the medical record to determine the discharge date of the first emergency department visit/observation visit/urgent care visit. Indicate the date in the MM/DD/YYYY format.
Note: If the patient is admitted to an inpatient or observation unit after the ED visit, please list the admission date for the inpatient or observation stay as the ED Date of Discharge.

2.1.7. WERE ANY OF THE FOLLOWING INDICATED AS THE REASON FOR THE EMERGENCY DEPARTMENT VISIT/OBSERVATION VISIT/URGENT CARE VISIT
OR DOCUMENTED DURING THE VISIT?

Instructions: Review the medical record to determine if any of the following events were documented as the reason for the first emergency department visit/observation visit/urgent care visit in the 30 days following the admission of interest.
Select all that apply:

- "*Adverse Drug (Antibiotic) Event*" ***Answer question 2.1.7.1***
  Reminder: Complete the Antimicrobial Allergies or Adverse Events Form
  INCLUDE: suspected adverse drug event related to an antibiotic
- *"Bacteremia"* ***Answer question 2.1.7.1***
  INCLUDE: blood stream infection, suspected bacteremia
  EXCLUDE: Sepsis
- "*C. Diff*" ***Answer question 2.1.7.1***
  INCLUDE: Suspected C. Diff, CDI, Clostridium difficile infection
- *"COPD exacerbation"* ***Answer question 2.1.7.1***
- "*Pneumonia*" ***Answer questions 2.1.7.1 and 2.1.7.2***
  INCLUDE: Hypoxic respiratory failure, hypercapneic/hypercarbic respiratory failure, suspected pneumonia
- *"Respiratory Infection"* ***Answer question 2.1.7.1***
  INCLUDE: Bacterial bronchitis
- "*Sepsis*" ***Answer question 2.1.7.1***
  INCLUDE: Severe sepsis, septic shock, refractory hypotension, need for vasopressors, suspected sepsis
  EXCLUDE: Bacteremia
- "*Skin/Soft Tissue Infection*" ***Answer question 2.1.7.1***
  INCLUDE: Cellulitis, infection of ulcers, subcutaneous abscess, infection of diabetic foot ulcer and purulent discharge from a wound infection, suspected skin/soft tissue infection, SSTI

- "*Urinary Tract Infection*" ***Answer question 2.1.7.1***
  INCLUDE: Pyelonephritis, cystitis, suspected UTI
- "*Unknown*"
- "*None of the above*"

2.1.7.1. FOR (THE SELECTED EVENT), SPECIFY DATE OF DIAGNOSIS

Instructions: Review the medical record to determine the date of the diagnosis/event. Indicate the date in the MM/DD/YYYY format.
Note: This should be the first documentation that the selected diagnosis was indicated in the chart (not the first day of symptoms).

2.1.7.2. DID THE PATIENT REQUIRE ANY OF THE FOLLOWING?

Instructions: Review the medical record to determine if the patient required any of the following while hospitalized with pneumonia.
Select all that apply:

- *"Mechanical Ventilation"*
  EXCLUDE: Mechanical ventilation associated only with a surgical procedure.
- *"Non-Invasive Ventilation (e.g., C-Pap, BiPap)"*
- *"None of the above"*
- *"Unknown"*

2.1.8. DID THE PATIENT HAVE A SECOND EMERGENCY ROOM VISIT/OBSERVATION VISIT/URGENT CARE VISIT IN THE 30 DAYS FOLLOWING THE HOSPITAL ENCOUNTER?

Instructions: Review the medical record to determine if the patient had a second emergency department visit/observation visit/urgent care visit in the 30 days following the hospital encounter.
Note: If the patient presents to the ED and then is admitted for an observation visit, enter these as two subsequent stays utilizing this selection (if there are no other visits of this type earlier in the 30 days post-discharge that have already been entered).
Note: This section repeats so that up to two (2) emergency department visits/observation visits/urgent care visits can be entered.
Select all that apply:

- *"Yes"*
- *"No"*
- *"Unknown"*

2.1.9. IS THE DATE OF THE VISIT AVAILABLE FOR OUTPATIENT VISIT #1?

Instructions: Review the medical record to determine if the date of the outpatient physician visit is available.
Select one of the following:

- *"Yes"* ***Answer question 2.1.9.1***
- *"No"*

2.1.9.1. DATE OF THE VISIT

Instructions: Review the medical record to determine the date of the outpatient physician visit. Indicate the date in the MM/DD/YYYY format.

2.1.10. WERE ANY OF THE FOLLOWING INDICATED AS THE REASON FOR THE OUTPATIENT PHYSICIAN VISIT OR DOCUMENTED DURING THE VISIT?

Instructions: Review the medical record to determine if any of the following events were documented as the reason for or during the first outpatient physician visit in the 30 days following the admission of interest.
Select all that apply:

- "*Adverse Drug (Antibiotic) Event*" ***Answer question 2.1.10.1***
  Reminder: Complete the Antimicrobial Allergies or Adverse Events Form
  INCLUDE: Suspected adverse drug event related to an antibiotic
- *"Bacteremia"* ***Answer question 2.1.10.1***
  INCLUDE: blood stream infection, suspected bacteremia
  EXCLUDE: Sepsis
- "*C. Diff*" ***Answer question 2.1.10.1***
  INCLUDE: Suspected C. Diff, CDI, Clostridium difficile infection
- *COPD exacerbation"* ***Answer question 2.1.10.1***
- *"Follow up From Hospitalization"*
- "*Pneumonia*" ***Answer questions 2.1.10.1 and 2.1.10.2***
  INCLUDE: Hypoxic respiratory failure, hypercapneic/hypercarbic respiratory failure, suspected pneumonia
- *"Respiratory Infection"* ***Answer question 2.1.10.1***
  INCLUDE: Bacterial bronchitis
  EXCLUDE: Pneumonia
- "*Sepsis*" ***Answer question 2.1.10.1***
  INCLUDE: Severe sepsis, septic shock, refractory hypotension, need for vasopressors, suspected sepsis

EXCLUDE: Bacteremia

- "*Skin/Soft Tissue Infection*" ***Answer question 2.1.10.1***
  INCLUDE: Cellulitis, infection of ulcers, subcutaneous abscess, infection of diabetic foot ulcer and purulent discharge from a wound infection, suspected skin/soft tissue infection, SSTI
- "*Urinary Tract Infection*" ***Answer question 2.1.10.1***
  INCLUDE: Suspected UTI, pyelonephritis, cystitis
- "*Unknown*"
- "*None of the above*"

2.1.10.1. FOR (THE SELECTED EVENT), SPECIFY THE DATE OF DIAGNOSIS

Instructions: Review the medical record to determine the date of the diagnosis.

Note: This should be the first documentation within the follow up period (such as specified in the outpatient visit note). If the outpatient visit is for an indication diagnosed during the encounter and this is not a new diagnosis, utilize the first date of diagnosis during the encounter. If no day of documentation is available, utilize the date of the outpatient visit.

2.1.10.2. DID THE PATIENT REQUIRE ANY OF THE FOLLOWING?

Instructions: Review the medical record to determine if the patient required any of the following while visiting the outpatient physician with pneumonia.

Select all that apply:

- *"Mechanical Ventilation"*
  EXCLUDE: Mechanical ventilation associated only with a surgical procedure.
- *"Non-Invasive Ventilation (e.g., C-Pap, BiPap)"*
- *"None of the above"*
- *"Unknown"*

2.1.11. DID THE PATIENT HAVE A SECOND OUTPATIENT PHYSICIAN VISIT IN THE 30 DAYS FOLLOWING THE HOSPITAL ENCOUNTER?

Instructions: Review the medical record to determine if the patient had an outpatient physician visit in the 30 days following the hospital encounter.

Note: This section repeats so that up to two (2) outpatient physician visits can be entered.

Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

2.2. DID THE PATIENT HAVE A DIAGNOSIS OF CLOSTRIDIUM DIFFICILE (C. DIFF) INFECTION IN THE 30 DAYS FOLLOWING THE HOSPITAL ENCOUNTER?

Instructions: Review the medical record to determine if the patient had a diagnosis of clostridium difficile (C.Diff) in the 30 days following the hospital encounter.

Note: If documentation of C-Diff in the 30 days following the hospital encounter was previously recorded as the reason for a subsequent inpatient hospitalization, emergency department admission/visit and/or outpatient physician visit, please select 'No' to this question.

Select all that apply:

- *"Yes"* ***Answer questions 2.2.1 and 2.2.2***
- *"No"*
- *"Unknown"*

2.2.1. INDICATE THE DATE

Instructions: Review the medical record to determine the date that the C. Diff was diagnosed. Indicate the date in the MM/DD/YYYY format.

Note: This should be the first documentation that the C. Diff was indicated in the chart (not the first day of symptoms).

2.2.2. DID AN OFFICIAL LABORATORY TEST CONDUCTED TO CONFIRM THE CLOSTRIDIUM DIFFICILE (C. DIFF) RESULT AS POSITIVE?

Instructions: Review the medical record to determine if the patient had a positive laboratory test that confirmed the C. Diff infection in the 30 days following the hospital encounter.

Note: Include laboratory testing that was collected during the 30 days following the admission of interest, even if the final result was not available until after the 30 days following the admission of interest.

Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

2.3. DID THE PATIENT HAVE AN ALLERGIC REACTION OR ADVERSE EVENT RELATED TO AN ANTIBIOTIC IN THE 30 DAYS FOLLOWING THE HOSPITAL ENCOUNTER?

Instructions: Review the medical record to determine if the patient had a diagnosis of an allergic reaction or adverse event in the 30 days following the hospital encounter.

Note 1: Only enter those allergies/adverse events that were found via chart review and associated with an antibiotic prescribed and administered during the Hospital Encounter or an antibiotic prescribed at discharge from the Hospital Encounter.

Note 2: If documentation of an adverse drug event in the 30 days following the hospital encounter was previously recorded as the reason for a subsequent inpatient hospitalization, emergency department admission/visit and/or outpatient physician visit, please select 'No' to this question.

EXCLUDE: Diagnosis of Clostridium Difficile (C-Diff), as it is captured elsewhere. Allergies from eye drop or other topical antibiotics. Allergies/adverse events related to medications that are not antibiotics for the infectious disease state being treated. Allergies/adverse events noted by the patient on the 30-day follow-up phone call.

Select one of the following:

- *"Yes"* ***Reminder: Complete the Antimicrobial Allergies or Adverse Events Form***
- *"No"*
- *"Unknown"*

3. **DURING THE HOSPITAL ENCOUNTER OR IN THE 30 DAYS FOLLOWING DISCHARGE, IS THERE DOCUMENTATION THAT THE PATIENT EXPERIENCED ANY OF THE FOLLOWING SYMPTOMS?**

Instructions: Review the medical record to determine if the patient experienced any of the symptoms listed below either during the hospital encounter (ER, Obs, Inpatient) or in the 30 days following their discharge from the hospital encounter. This should be information found on chart review and can be gathered from the primary medical team's notes or from nursing documentation.

Note: These should not be symptoms that were related to the patient's chief complaint or reason for hospitalization. For example, if the patient's index hospitalization was due to nausea/vomiting or abdominal pain, those symptoms should not be included here. We are interested in new, distinct symptoms that

occurred during the encounter or in the 30 days post-discharge that were not present upon arrival to the hospital encounter.
Select all that apply:

- *"Thrush (yeast infection of the mouth)"*
  INCLUDE: Candida Stomatitis, esophageal yeast infection, oral candida, possible thrush, Candidiasis of the mouth
- *"Vaginal yeast infection"*
  INCLUDE: Vaginal itching/burning/irritation, yeast vaginitis, vaginal discharge
- *"Abdominal pain"*
  INCLUDE: Abdominal discomfort, abdominal cramping, stomach spasm/pain, epigastric pain
- *"GI distress/upset stomach/nausea"*
  INCLUDE: Bloating and gas, gastric upset, GI complaints, heartburn/GERD/increased reflux, severe upset stomach
- *"Vomiting"*
  INCLUDE: Episodes of emesis
- *"Diarrhea"*
  EXCLUDE: Diarrhea related to a diagnosis of C. Diff
- *"Skin rash or hives"*
  INCLUDE: Urticaria
- *"None of the above"*
- *"Unknown"*

4. **IS THERE INFORMATION IN THE MEDICAL CHART OR OTHER RESOURCES THAT SHOWS THE PATIENT AT THE 30-DAY FOLLOW-UP IS IN THE:**

Instructions: Review the medical record to determine if the patient is in the hospital, inpatient hospice, at an extended care facility, in prison, or deceased on the 30th day post-discharge.
Note: This question will help you to determine whether a follow-up phone call should be made. If there is information that the patient is in the hospital, inpatient hospice, ECF, prison, or deceased on the 30th day post discharge, the follow up phone call is not applicable.
Select one of the following:

- *"Hospital"*
  INCLUDE: Inpatient rehabilitation
- *"Home Hospice"*
- *"Inpatient Hospice"*

INCLUDE: Inpatient hospice care, hospice inpatient facility, discharge to a SNF or assisted living facility and receiving hospice care.

- *"Extended Care Facility"*
  Note: There must be documentation in the medical record that the patient is in an Extended Care Facility on the 30th day post-discharge to make this selection. Discharge to an Extended Care Facility without confirmation that the patient is still in this facility on the 30th day post-discharge will not count as documentation for this selection.
  INCLUDE: Skilled nursing home, nursing home, skilled nursing facility (SNF), Sub-acute rehabilitation (rehab), sub-acute rehabilitation care, post-acute rehabilitation center.
- *"Prison"* This information may be found at https://mdocweb.state.mi.us/otis2/otis2.aspx
  INCLUDE: Correctional facility, jail, prison, penitentiary
- *"Deceased"* ***Answer questions 4.1 and 4.2***
  INCLUDE: Patient expired, patient deceased, termination of life, death on or before the 30th day post-discharge
  EXCLUDE: Patient death AFTER the 30th day post-discharge
- "*Unknown*"
- *"None of the above"*

4.1. DATE OF DEATH

Instructions: Review the medical record to determine the date the patient died or expired. Indicate the date in the MM/DD/YYYY format.

4.2. INDICATE THE CAUSE OF DEATH

Instructions: Review the medical record to determine if any of the following events were indicated as the cause of death.
Note: In order to be selected the items listed below do not have to be indicated as the primary reason for death. If any of the items below are indicated as a diagnosis at the time of death, they should be selected.
Select all that apply:

- "*Pneumonia*" ***Answer question 4.2.1***
  INCLUDE: Hypoxic respiratory failure, hypercapneic/hypercarbic respiratory failure, suspected pneumonia
- "*C. Diff*" ***Answer question 4.2.1***
  INCLUDE: Suspected C. Diff, CDI, Clostridium difficile infection
- *"Bacteremia"*

INCLUDE: Suspected bacteremia
EXCLUDE: Sepsis

- "*Sepsis*" ***Answer question 4.2.1***
  INCLUDE: Severe sepsis, septic shock, refractory hypotension, need for vasopressors, suspected sepsis
  EXCLUDE: Bacteremia
- "*Urinary Tract Infection*" ***Answer question 4.2.1***
  INCLUDE: Suspected UTI, pyelonephritis, cystitis
- "*Skin/Soft Tissue Infection*" ***Answer question 4.2.1***
  INCLUDE: Cellulitis, infection of ulcers, subcutaneous abscess, infection of diabetic foot ulcer and purulent discharge from a wound infection, suspected SSTI
- "*Adverse Drug (Antibiotic) Event*"
  Reminder: Complete the Antimicrobial Allergies or Adverse Events Form
- "*Other Infection*"
- "*Non-Infectious Cause*"
- "*Unknown*"
- "*None of the above*"

4.2.1. FOR (THE SELECTED EVENT), PLEASE SPECIFY
Instructions: Review the medical record to determine if the event that was selected is indicated as being confirmed or suspected.
Select one of the following:

- "*Suspected*"
  INCLUDE: the event selected was not confirmed diagnostically; however the healthcare professional documented that the event contributed to the patient's death.
- "*Confirmed*"

30-Day Follow Up Phone Call

1. **IS ANOTHER ABSTRACTOR (OTHER THAN THE ONE WHO INITIATED THE RECORD) ENTERING THIS INFORMATION?**

Instructions: Indicate whether another abstractor (other than the individual who created/initiated the record) is completing the 30-day follow-up phone call.
Select one of the following:

- "*Yes"* if another abstractor (other than the individual who created/initiated the record) is completing the 30-day follow-up phone call form. ***Answer question 1.1***
- *"No"* if the same abstractor who initiated the record is completing the 30-day follow-up phone call form.

1.1. **ABSTRACTOR NAME**
Instructions: Enter the first and last name of the person who is completing the 30-day follow up phone call.

2. **WHICH OF THE FOLLOWING METHODS OF CONTACTING THE PATIENT OR THEIR CAREGIVER ARE AVAILABLE?**

Instructions: Review the medical record to determine which methods of contact are available for the patient or their caregiver.
Note: The answers to this question will branch through to indicate if collection of patient-reported outcomes is required and, if so, which methods of collecting patient-reported outcomes are required (phone, email, and/or text.
Select all that apply:

- "*Home or cell phone"* ***Answer questions 2.1 and 2.2***
- *"Email address"*
  Note: If this is the ONLY selection made, please complete the electronic PROs process via the PROs tab using the patient or caregiver's email address.
- *"No contact information available in the medical record"*
  Note: Use this option only if a phone number AND email address are not listed in the medical record for the patient or their caregiver.
  Note: Use this option only if you know the phone number belongs to a court-appointed guardian. Please refrain from contacting court-appointed guardians.
- *"An Institution-Based PROs process (This would be utilized in lieu of the HMS Electronic PROs process)"* ***Answer questions in section noted below***
- *"N/A - Medical record indicates a change in patient status since 30th day post-discharge which prohibits contacting the patient (e.g., in hospital, deceased, in hospice, etc. at the time follow up is to be made)"*
  Note: This selection should be made if you can determine via the medical record that there has been a status change for this patient AFTER the 30th day post-discharge that prohibits you from contacting the patient. These situations include the patient being admitted to the hospital, in hospice, deceased, at an

extended care facility, or in a correctional facility AFTER the 30th day on the day that you are attempting to contact the patient. Example: At the 30th day post-discharge, there is no documentation of the patient's status in the medical record. You are attempting to call the patient on the 32nd day post-discharge and you can see that the patient is admitted to the hospital on this day. Please utilize this selection option in this scenario.

2.1. NUMBER OF PHONE CALLS

Instructions: Indicate the number of phone calls made to the patient in the follow up period.

Note 1: Please attempt to call the patient or caregiver up to 3 times, unless you are notified otherwise (i.e., the patient or caregiver declines to provide information, the phone number is disconnected or is a wrong number, etc.). If the patient or caregiver does not respond to a phone call on the 3rd attempt, you do not need to keep contacting them via phone. Please DO NOT attempt all phone calls on the same day. You may attempt the first two calls on the same day, if they are completed at different times (i.e., morning and afternoon).

Note 2: If the first number you contact for the patient or caregiver is incorrect and you try another number that is found to be correct, please only count the attempts made to the CORRECT phone number.

Select one of the following:

- *"1"* select if you called the patient once. Enter the date of the phone call in MM/DD/YYYY format.
- *"2"* select if you called the patient twice. Enter the date of the phone call in MM/DD/YYYY format.
- *"3"* select if you called the patient thrice. Enter the date of the phone call in MM/DD/YYYY format.

2.2. WERE YOU ABLE TO OBTAIN INFORMATION ABOUT THE PATIENT (SELECT "YES" IF DECEASED)?

Instructions: Indicate whether or not you were able to obtain information from the patient or their caregiver. Some individuals may not be able to communicate with you directly due to language barriers, cognitive status, lack of education, etc. It is only acceptable to speak to someone other than the patient if you can confirm the identity of the patient and you know the person has the appropriate authority to speak on behalf of the patient per your hospital policies.

Select one of the following:

- "*Yes*" if you were able to obtain information from the patient. ***Answer questions 2.2.1***
  INCLUDE: you are voluntarily notified by a caregiver via the phone that the patient is deceased within the 30 days post-discharge
- "*No*" if you were unable to obtain information from the patient. ***Answer question 2.2.2***
  INCLUDE: If you are notified by a caregiver via the phone that the patient is deceased AFTER the 30-day period of review.

2.2.1. IS THE PATIENT DECEASED (WITHIN THE 30 DAYS POST DISCHARGE)?

Instructions: Indicate whether the patient has expired/deceased within the 30 days following the hospital encounter.
Select one of the following:

- *"Yes"* ***Answer questions 2.2.1.1 and 2.2.1.2***
- *"No"* ***Answer questions 2.2.1.3 through 2.2.1.12***

2.2.1.1. DATE OF DEATH

Instructions: Indicate the date the patient died or expired. Indicate the date in the MM/DD/YYYY format.

2.2.1.2. INDICATE THE CAUSE OF DEATH, IF INDICATED

Instructions: Indicate the cause of death.
Select all that apply:

- "*Pneumonia*" ***Answer question 2.2.1.2.1***
  INCLUDE: Hypoxic respiratory failure, hypercapneic/hypercarbic respiratory failure, suspected pneumonia
- "*C. Diff*" ***Answer question 2.2.1.2.1***
  INCLUDE: Suspected C. Diff, CDI, Clostridium difficile infection
- *"Bacteremia"*
  INCLUDE: blood stream infection, suspected bacteremia
  EXCLUDE: Sepsis
- "*Sepsis*" ***Answer question 2.2.1.2.1***
  INCLUDE: Severe sepsis, septic shock, refractory hypotension, need for vasopressors, suspected sepsis
  EXCLUDE: Bacteremia
- "*Urinary Tract Infection*" ***Answer question 2.2.1.2.1***
  INCLUDE: Suspected UTI, pyelonephritis, cystitis

- "*Skin/Soft Tissue Infection*" ***Answer question 2.2.1.2.1***
  INCLUDE: Cellulitis, infection of ulcers, subcutaneous abscess, infection of diabetic foot ulcer and purulent discharge from a wound infection, suspected SSTI
- "*Other Infection*"
- "*Non-Infectious Cause*"
- "*Unknown*"
- "*None of the above*"

2.2.1.2.1. FOR THE EVENT, INDICATE SUSPECTED OR CONFIRMED
Instructions: Review the information to determine if the event that was selected is indicated as being confirmed or suspected.
Select one of the following:

- "*Suspected*"
  INCLUDE: the event selected was not confirmed diagnostically, however the healthcare professional documented that the event contributed to the patient's death.
- "*Confirmed*"

2.2.1.3. QUESTION DIRECTED TO PATIENT OR CAREGIVER: HAVE YOU HAD A DIAGNOSIS OF ANY OF THE FOLLOWING DURING THE 30 DAYS FOLLOWING DISCHARGE FROM THE HOSPITAL ENCOUNTER?
Instructions: Indicate whether the patient has had a diagnosis of any of the following conditions in the 30 days following discharge from the hospital encounter.
Note: If a diagnosis stated by the patient on the phone has already been captured in the 30-Day Chart Review section, please exclude that diagnosis from this question.
Select all that apply:

- *"Clostridium difficile (C.diff)"*
- *"Pneumonia"*
- *"Sepsis"*
- *"Urinary Tract Infection (UTI)"*
- *"Skin/Soft Tissue Infection (SSTI)"*
  INCLUDE: Cellulitis, infection of ulcers, abscess, infection of diabetic foot ulcer and purulent discharge from a wound infection, suspected SSTI
- *"None of the above"*

- *"Unknown/Patient declined to respond"*

2.2.1.4. QUESTION DIRECTED TO PATIENT OR CAREGIVER: HAVE YOU HAD ANY SIDE EFFECTS FROM YOUR PRESCRIBED ANTIBIOTIC?

Instructions: Indicate whether the patient had any side effects from their prescribed antibiotic for the infectious disease state. Question pertains to antibiotics that were prescribed either while the patient was in the hospital or antibiotics that were prescribed at discharge. These should be side effects/reactions that were not previously recorded in the 30-Day Chart Review section.

Select one of the following:

- *"Yes"* ***Answer questions 2.2.1.4.1 and 2.2.1.4.2***
- *"No"*
- *"Unknown"*
- *"N/A- No Antibiotic Prescribed during the hospital encounter or at Discharge"*

2.2.1.4.1. SELECT THE SIDE EFFECT(S)

Instructions: Review the medical record to determine the type of reaction that occurred as a result of an antibiotic prescribed for the patient's infectious disease state.

Select all that apply:

- *"Abdominal/GI Discomfort"*
  INCLUDE: Abdominal pain, abdominal cramping, anorexia/appetite change, GI distress, bloating and gas, dry heaves, gastric upset, GI complaints, heartburn/GERD/increased reflux, severe upset stomach, stomach spasm/pain, epigastric pain, "feeling sick", dysgeusia, dry mouth
- *"Altered Mental Status"*
  INCLUDE: Agitation, delirium, encephalopathy/metabolic encephalopathy, change in mentation, confusion, hallucinations, lethargy
- "*Anaphylaxis*"
  INCLUDE: Hypotension
- "*Anemia*"
  INCLUDE: low hemoglobin
- "*Angioedema/Facial Swelling*"
  INCLUDE: Quincke's edema

- *"Arrhythmia"*
  INCLUDE: Heart rhythm changes, bigeminy
  EXCLUDE: Prolonged QT
- *"Blistering/Skin Peeling"*
  INCLUDE: Blistering on lips, blisters and bumps, skin peeled
- *"Chills"*
- *"Diaphoresis"*
  INCLUDE: Hot and cold sweats, sweating
- "*Diarrhea*"
  INCLUDE: Loose stools
- "*Dizziness*"
- "*DRESS (Drug Reaction with Eosinophilia and Systemic Symptoms)*"
- *"Eosinophils in Blood or Urine"*
  INCLUDE: Eosinophilia
- "*Fever*"
- *"Headache"*
  INCLUDE: Migraine
- "*Hives*"
  INCLUDE: Urticaria
- "*Hyperkalemia*"
  INCLUDE: high potassium
- *"Hypertension"*
  INCLUDE: Elevated blood pressure
- "*Hypokalemia*"
  INCLUDE: low potassium
- *"Increased INR"*
- "*Itching*"
  INCLUDE: Pruritis
- "*Leukopenia*"
  INCLUDE: Low white blood cell count
- "*Liver Abnormalities*"
  INCLUDE: Hepatitis
- "*Myalgias*"
  INCLUDE: Muscle pain, rhabdomyolosis
- *"Myoclonic Jerks"*
  INCLUDE: Tremors, hand cramping, dystonia of hands, muscle spasms/tightness
- "*Nausea*"

- *"Neuropathy/Paresthesia"*
  INCLUDE: Leg tingling, tingling in fingers, tingling, feeling of "body being on fire"
- "*Neutropenia*"
- "*Other Skin Rash*"
  INCLUDE: Eruption
- *"Ototoxicity/Tinnitus"*
  INCLUDE: Ear ringing, hearing loss
- "*Palpitations*"
- *"Pancytopenia"*
- *"Phlebitis"*
  INCLUDE: Arm redness near IV site, burning and stinging in arm, burning at infusion site, warmth/swelling at IV site, local reaction, reaction at IV site, hand swelling with pain/erythema
- *"Redness/Flushing"*
  EXCLUDE: Redness/erythema at IV site (this should be entered under "Phlebitis"). Red Man Syndrome (this should be entered under "Vancomycin Flushing Syndrome").
- "*Renal Failure*"
  INCLUDE: Acute Kidney Injury (AKI), note of the antibiotic "affecting the patient's kidneys"
- "*Seizures*"
- "*Stevens-Johnson Syndrome or Toxic Epidermal Necrolysis (TENS)"*
- *"Swelling"* ***Answer question 2.2.1.4.1.1***
  EXCLUDE: Facial swelling (this should be noted under the selection of "Angioedema/Facial Swelling)
- *"Syncope"*
  INCLUDE: Near syncope, pre-syncope, passing out, almost passed out, fainting
- *"Tachycardia"*
  INCLUDE: Increased/elevated heart rate
- "*Tendonitis*"
- "*Throat Tightness*"
- "*Thrombocytopenia*"
  INCLUDE: Low platelet count
- "*Trouble Breathing*"
  INCLUDE: Stridor, Respiratory Difficulty
- *"Vancomycin Flushing Syndrome"*

INCLUDE: Red Man Syndrome

- "*Vomiting*"
  INCLUDE: Episodes of emesis
- "*Wheezing*"
- *"Yeast Infection"*
  INCLUDE: Candida Stomatitis, esophageal yeast infection, vaginal itching/burning/irritation, mycoses, vaginal yeast infection, oral candida/thrush, possible thrush, Candidiasis, yeast vaginitis, vaginal discharge, yeast rash in armpits
- "*Other*" Please reach out to the HMS Coordinating Center prior to making this selection.
  INCLUDE: Intolerance, Anxiety, Crawling out of skin
  EXCLUDE: Forgetfulness
- "*Not Specified/Unknown*"

2.2.1.4.1.1. QUESTION DIRECTED TO PATIENT OR CAREGIVER: FOR SWELLING, PLEASE SELECT THE BODY SITE OF THE SWELLING.

Instructions: Review the medical record to determine the body site of the swelling noted as a side effect to an antibiotic prescribed during the hospital encounter or at discharge.

Select all that apply:

- *"Upper Extremity"*
  INCLUDE: Swelling in right arm or swelling in left arm.
- *"Lower Extremity"*
  INCLUDE: Swelling in right leg or swelling in left leg.
- *"Other"* Please contact the HMS Coordinating Center prior to making this selection.
  EXCLUDE: Facial swelling (this should be noted under the selection of "Angioedema/Facial Swelling)

2.2.1.4.2. QUESTION DIRECTED TO PATIENT OR CAREGIVER: DID YOU GO TO THE DOCTOR FOR THE SIDE EFFECT?

Instructions: Indicate whether the patient indicated that they went to the doctor (or other advanced practice healthcare professional) for the side effect related to an antibiotic prescribed for the patient's infectious disease state.

Select one of the following:

- *"Yes"* ***Answer question 2.2.1.4.2.1***
- *"No"*
- *"Unknown"*

2.2.1.4.2.1. QUESTION DIRECTED TO PATIENT OR CAREGIVER: DID THE DOCTOR CHANGE OR STOP YOUR ANTIBIOTICS BECAUSE OF THIS SIDE EFFECT?

Instructions: Indicate whether the patient's antibiotic was changed or stopped due to the side effects related to the antibiotic.
Select one of the following:

- *"Yes"* ***Answer question 2.2.1.4.2.1.1***
- *"No"*
- *"Unknown"*

2.2.1.4.2.1.1. QUESTION DIRECTED TO PATIENT OR CAREGIVER: DID THE SYMPTOMS GO AWAY WHEN YOU CHANGED/STOPPED ANTIBIOTICS?

Instructions: Indicate whether the patient's symptoms went away when the antibiotics were changed or stopped.
Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

2.2.1.5. QUESTION DIRECTED TO PATIENT OR CAREGIVER: DURING THE HOSPITALIZATION OR IN THE 30 DAYS FOLLOWING YOUR DISCHARGE, DID YOU HAVE ANY OF THE FOLLOWING SYMPTOMS?

Instructions: Indicate whether the patient had any of these symptoms during their index hospitalization or in the 30 days following discharge. This should be asked of all patients, regardless of whether they received antibiotics as an inpatient or on discharge.
Note: These should not be symptoms that were related to the patient's chief complaint or reason for hospitalization. For example, if the patient's index hospitalization was due to nausea/vomiting or abdominal pain, those symptoms should not be included here. We are interested in new, distinct symptoms that occurred during the encounter or in the 30 days post-discharge that were not present upon arrival to the hospital encounter.
Select all that apply:

- *"Thrush (yeast infection of the mouth)"*
  INCLUDE: Candida Stomatitis, esophageal yeast infection, oral candida, possible thrush, Candidiasis of the mouth
- *"Vaginal yeast infection"*
  INCLUDE: Vaginal itching/burning/irritation, yeast vaginitis, vaginal discharge
- *"Abdominal pain"*
  INCLUDE: Abdominal discomfort, abdominal cramping, stomach spasm/pain, epigastric pain
- *"GI distress/upset stomach/nausea"*
  INCLUDE: Bloating and gas, gastric upset, GI complaints, heartburn/GERD/increased reflux, severe upset stomach
- *"Vomiting"*
  INCLUDE: Episodes of emesis
- *"Diarrhea"*
  EXCLUDE: Diarrhea related to a diagnosis of C. Diff
- *"Skin rash or hives"*
  INCLUDE: Urticaria
- *"None of the above"*
- *"Unknown"*

2.2.1.6. QUESTION DIRECTED TO PATIENT OR CAREGIVER: DID YOU TAKE YOUR ENTIRE ANTIBIOTIC COURSE AS DIRECTED?

Instructions: Indicate whether the patient took their entire antibiotic course as directed by a doctor/advanced practice healthcare professional. Select one of the following:

- *"Yes"*
- *"No"* ***Answer question 2.2.1.6.1***
- *"Unknown"*
- *"N/A- No Antibiotic Prescribed on Discharge"*

2.2.1.6.1. QUESTION DIRECTED TO PATIENT OR CAREGIVER: DID YOU GET THE PRESCRIPTION FILLED?

Instructions: Indicate whether the patient filled their prescription for the antibiotic prescribed for the infectious disease state being abstracted. Select one of the following:

- *"Yes"* ***Answer question 2.2.1.6.1.1***
- *"No"* ***Answer question 2.2.1.6.1.2***

- *"Unknown"*

2.2.1.6.1.1. QUESTION DIRECTED TO PATIENT OR CAREGIVER: WHY DID YOU STOP?

Instructions: Indicate the reason(s) for why the patient stopped taking their antibiotic prescription.
Select all that apply:

- "*Access/Insurance Issues*"
  INCLUDE: Unable to get medication, Insurance would only cover X number of pills/doses
- "*Administration Difficulties (i.e., pill too large to swallow, IV line not functioning)*"
  INCLUDE: Trouble swallowing medication, Midline catheter would not flush, dementia with difficulty swallowing, Couldn't tolerate medication (without additional details), Pills got stuck in throat so stopped taking them
- "*Allergic/Adverse Reaction*"
- *"Concerned about the risks"*
- *"Didn't like the way they made me feel"*
- "*Didn't take course as directed*"
  INCLUDE: "Just kept missing doses", took more antibiotics than instructed per day, missed a day
- *"Didn't think they were needed"*
- *"Didn't think they were working"*
- *"Felt Better"*
- *"Forgot"*
- "*Hospitalized before completing course*"
- "*Lost medication*"
  INCLUDE: Lost prescription bottle, prescription stolen
- "*Provider changed antibiotic*"
- "*Still taking antibiotic course*"
- "*Provider stopped antibiotic*"
- "'*None of the above*"
- *"Other"* select if the patient indicated they stopped taking their antibiotic for a reason other than is listed above and type the "other" reason in the free text box provided.

2.2.1.6.1.2. QUESTION DIRECTED TO PATIENT OR CAREGIVER: WHY NOT?

Instructions: Indicate the reason(s) for why the patient did not get their prescription filled.

Select all that apply:

- "*Allergic/Adverse reaction*"
- *"Concerned about the risks"*
- *"Didn't have enough time to fill prescription"*
- *"Didn't like the way they made me feel"*
- "*Didn't receive prescription(s) post-discharge*"
- *"Didn't think they were needed"*
- *"Didn't think they were working"*
- "*Didn't want to*"
- *"Felt better already"*
- *"Forgot"*
- "*Insurance issues*"
  INCLUDE: No insurance coverage, pharmacy would not fill prescription because of insurance issues
- "*Lost prescription*"
- *"Pharmacy didn't have the medication"*
- *"Pharmacy didn't have the prescription"*
- "*Provider changed antibiotics*"
- "*Rehospitalization/Readmission to another facility*"
- *"Too expensive"*
- "*Too sick to fill prescription*"
- "*Transportation issues*"
  INCLUDE: Not able to pick up prescription from pharmacy due to lack of transportation
- "*Unaware of prescription(s)*"
- "*None of the above*"
- *"Other"* select if the patient indicated they stopped taking their antibiotic for a reason other than is listed above, and type the "other" reason in the free text box provided.

2.2.1.7. QUESTION DIRECTED TO PATIENT OR CAREGIVER: HAVE YOU HAD TO BE HOSPITALIZED DURING THE 30 DAYS FOLLOWING THE HOSPITAL ENCOUNTER?

Instructions: Indicate whether the patient had to be hospitalized during the 30 days following the hospital encounter.
Note: Do not include hospitalizations that have already been abstracted in the 30-day chart review section.
Select one of the following:

- *"Yes"* ***Answer questions 2.2.1.7.1 through 2.2.1.7.3***
- *"No"*
- *"Unknown"*

2.2.1.7.1. QUESTION DIRECTED TO PATIENT OR CAREGIVER: WAS THE HOSPITALIZATION RELATED TO ANY OF THE FOLLOWING?

Instructions: Indicate whether the hospitalization was related to any of the following conditions.
Select all that apply:

- *"Pneumonia (i.e., lung infection)"*
- *"Clostridium Difficile (i.e. C-diff)"*
- *"Sepsis (i.e. infection of the blood)*
- *"Urinary Tract Infection (i.e. UTI)*
- *"Skin/soft tissue infection (i.e. cellulitis)*
  INCLUDE: Cellulitis, infection of ulcers, subcutaneous abscess, infection of diabetic foot ulcer and purulent discharge from a wound infection.
- *"Allergy/adverse event related to an antibiotic"*
- *"Unknown Reason"*
- *"None of the above reasons"*

2.2.1.7.2. QUESTION DIRECTED TO PATIENT OR CAREGIVER: DO YOU KNOW THE ADMISSION DATE OF THE HOSPITALIZATION?

Instructions: Indicate whether the patient or caregiver knows the date of admission to the inpatient hospitalization in the 30 days post-discharge from the index hospitalization.
Select one of the following:

- *"Yes"* ***Answer question 2.2.1.7.2.1***
- *"No"*
- *"Unknown"*

2.2.1.7.2.1. QUESTION DIRECTED TO PATIENT OR CAREGIVER: ADMISSION DATE

Instructions: Indicate the date of admission of the hospitalization in the 30 days post-discharge from the index hospitalization. Indicate the date in the MM/DD/YYYY format.

2.2.1.7.3. QUESTION DIRECTED TO PATIENT OR CAREGIVER: DO YOU KNOW THE DISCHARGE DATE OF THE HOSPITALIZATION?

Instructions: Indicate whether the patient or caregiver knows the date of discharge to the inpatient hospitalization in the 30 days post-discharge from the index hospitalization.
Select one of the following:

- *"Yes"* ***Answer question 2.2.1.7.3.1***
- *"No"*
- *"Unknown"*

2.2.2.12.3.1. QUESTION DIRECTED TO PATIENT OR CAREGIVER: DISCHARGE DATE

Instructions: Indicate the date of discharge of the hospitalization in the 30-days post-discharge from the index hospitalization. Indicate the date in the MM/DD/YYYY format.

2.2.2. INDICATE THE FINAL REASON AS TO WHY YOU WERE UNABLE TO SUCCESSFULLY COMPLETE THE 30-DAY FOLLOW-UP PHONE CALL. THIS IS THE REASON THAT YOU WERE UNABLE TO COMPLETE THE FOLLOW-UP CALL ON THE LAST ATTEMPT TO REACH THE PATIENT BY PHONE.

Instructions: Indicate the final reason as to why you were unable to successfully complete the 30-day follow up phone call on your LAST attempt to contact the patient.
Select one of the following:

- *"Wrong number"*
  Note: In this scenario, please be sure to check back in the medical record to see if there are alternate phone numbers listed for the patient that you could contact. If that second phone number that you contact IS the correct phone number, your first phone call attempt would be considered to be the first phone call attempt to the CORRECT phone number.
- *"Disconnected number"*
  Note 1: If you have an email address for the patient or caregiver, you will be required to complete the electronic PROs process via email. If you do not

have an email address for the patient or caregiver, this will be the end of your attempts to contact the patient.
Note 2: If your site utilizes an Institution-Based PROs process, you will be required to complete the questions in the next section for this process and fill out the patient's responses to that PROs process in the next section of this survey.

- *"Patient or caregiver did not answer the phone"*
  INCLUDE: Another family member answers the phone and indicates that the patient is not home/unable to talk at this time (not because of a status change).
- *"Patient or caregiver refused to answer questions"*
  Note: If a patient or caregiver states that they do not want to answer questions over the phone, please offer to send the electronic PROs process (or Institution-Based PROs process) to them to be able to elicit their feedback. If they take that option, please select "Patient requested electronic (or Institution-Based) PROs process" below.
- *"Patient unable to respond due to cognitive impairments and no caregiver available to respond"*
  Note: In this situation, you will still be required to complete the electronic PROs process via email or text (or Institution-Based PROs process) in the event that there is a caregiver that is available to answer questions and is monitoring those contact methods for the patient.
- *"Language barrier"*
  Note 1: If there is a noted language barrier in the medical record that would exist between you and the patient, please attempt to utilize your hospital's translation services on the phone call before making this selection.
  Note 2: In this situation, you will still be required to complete the electronic PROs process via email or text (or Institution-Based PROs process) as our electronic PROs process is available in other languages and patients/caregivers may have accessibility equipment on their devices to overcome language barriers.
- *"Patient requested electronic PROs process"*
  Note: This should only be selected if the patient asks if there is a way to answers these questions electronically or if you would not have the chance to obtain the PROs information otherwise.
- *"Patient requested Institution-Based PROs process"* ***Answer questions in the Institution-Based PROs Process section below***

Note: This should only be selected if the patient asks if there is a way to answers these questions via their patient portal/Institution-Based process or if you would not have the chance to obtain the PROs information otherwise.

- *"Patient had a status change on or since the 30th day post-discharge (in hospital, ECF, correctional facility, etc.)"*
  Note: Utilize this selection if you are notified by the patient's caregiver that there was a status change for the patient (in hospital, correctional facility, ECF, or hospice) **on or since the 30th day post discharge.** If you are informed that the patient is deceased, this selection should only be made if the patient's date of death is AFTER the 30th day post-discharge.

Institution-Based PROs Process Questions:

1. **WERE YOU SUCCESSFUL IN GATHERING FOLLOW-UP INFORMATION FOR THE PATIENT UTILIZING YOUR INSTITUTION-BASED PROS PROCESS? (SELECT "YES" IF YOU FIND OUT VIA THIS METHOD THAT THE PATIENT WAS DECEASED)**

Instructions: Indicate if the patient or caregiver responded to the PROs questions via your Institution-Based PROs process or you were notified via this method that the patient was deceased in the 30 days post-discharge.
Select one of the following:

- *"Yes"* ***You will then be provided the PROs questions in the survey to answer based on the responses provided to you by the patient or their caregiver in the Institution-Based PROs survey.***
- *"No"*

PROs How-To

Begin the electronic PROs process by sending an email and/or text message **after** three unsuccessful phone call attempts, or if the **final phone call attempt** resulted in:

- Patient or caregiver did not answer the phone
  - You will determine this after the 3rd attempt.

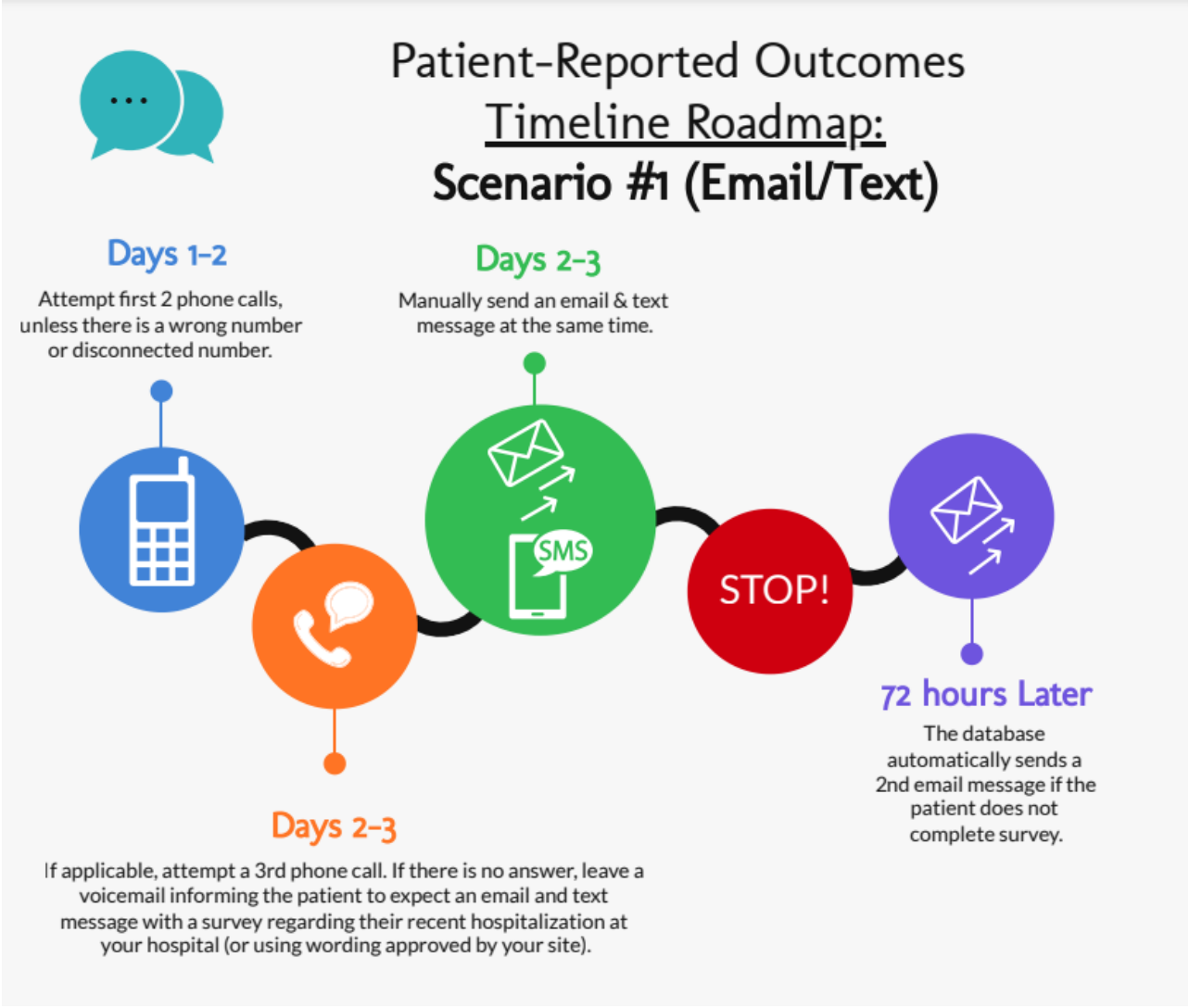
    - Select this option if the patient did not answer the phone after three attempts.
    - Select this option if someone else answers the phone and they are not the patients DPOA.
- A disconnected number
    - You will determine this on 1st, 2nd, or 3rd attempt.
- A wrong number
    - You will determine this on 1st, 2nd, or 3rd attempt.
- A language barrier
    - If you determine a language barrier during the phone call, you should begin the PROs process if you were not able to obtain information from the patient.
    - If the EMR states that English is not the patients primary or preferred language, do not automatically skip to the PROs process without attempting to call the patient.
    - The survey sent to the patient is available in four languages: Arabic, Chinese Traditional, Chinese Simplified, and Spanish.
- The patient requested electronic PROs
    - You will determine this on 1st, 2nd, or 3rd attempt.
- Patient unable to respond due to cognitive impairments and no caregiver available to respond
    - You will determine this on 1st, 2nd, or 3rd attempt.

The following pages include the steps to complete the electronic PROs process for each scenario below.

- Scenario #1 – Both email address and phone number available
- Scenario #2 – ONLY email address available
- Scenario #3 – ONLY phone number available

***DO NOT begin the electronic PROs process if you were successful in completing a follow up phone call with the patient, if the patient refused, or if you know the phone number/email address do not belong to the patient or their caregiver.

Scenario #1 – Both Email Address and Phone Number Available



On the third/final phone call attempt, if there is no answer, please leave a detailed voice message (if able). In the voicemail, state the purpose of the phone call and that the person you are calling will be receiving an email and text message shortly from the HMS Coordinating Center, your quality improvement partner, with a survey link to obtain information about their recent hospital stay.

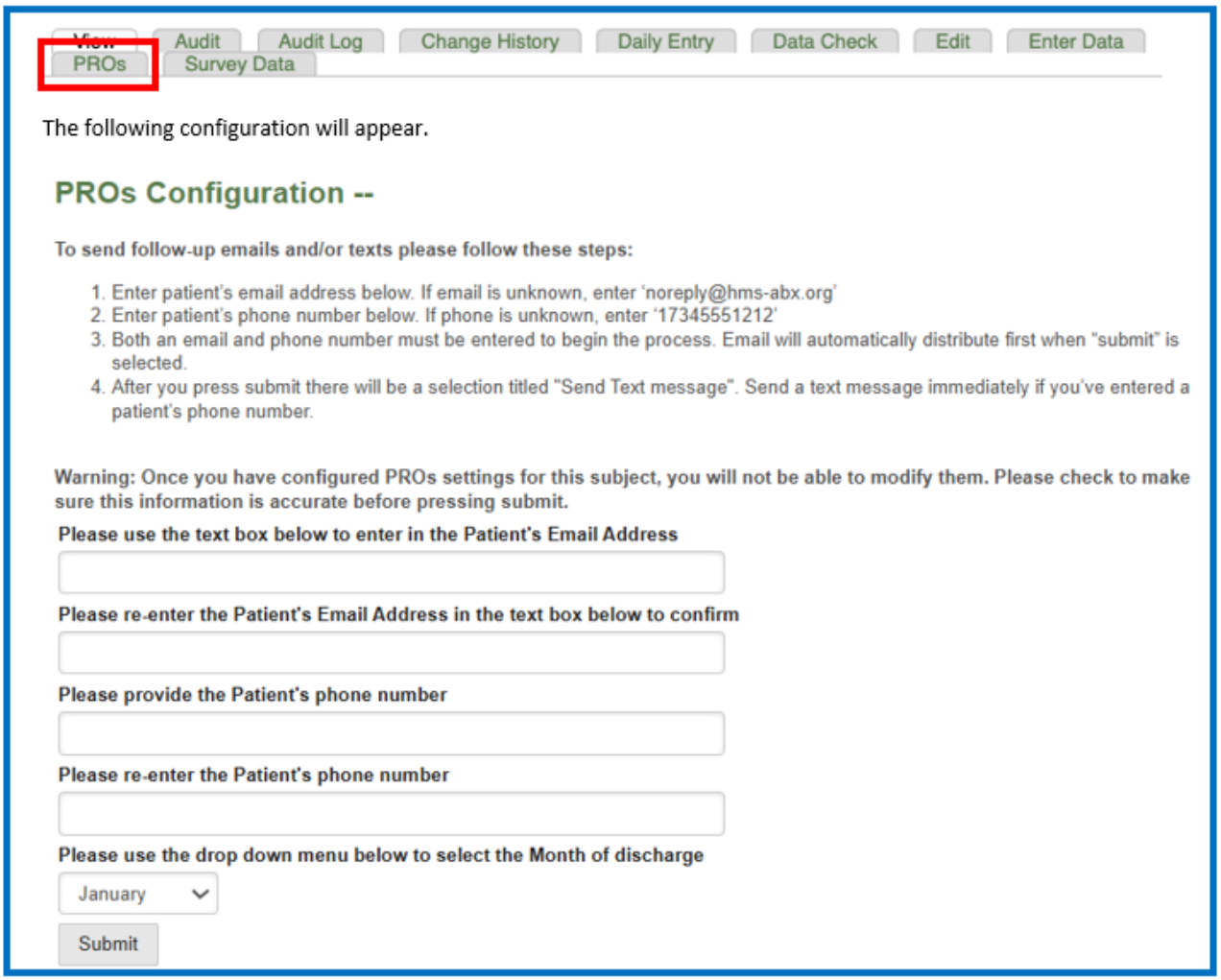
PROs Tab:

After three unsuccessful attempts to reach the patient using a phone call, click on the PROs tab and then proceed with the following steps:

(Both an email address and mobile phone number must be entered to begin the process)

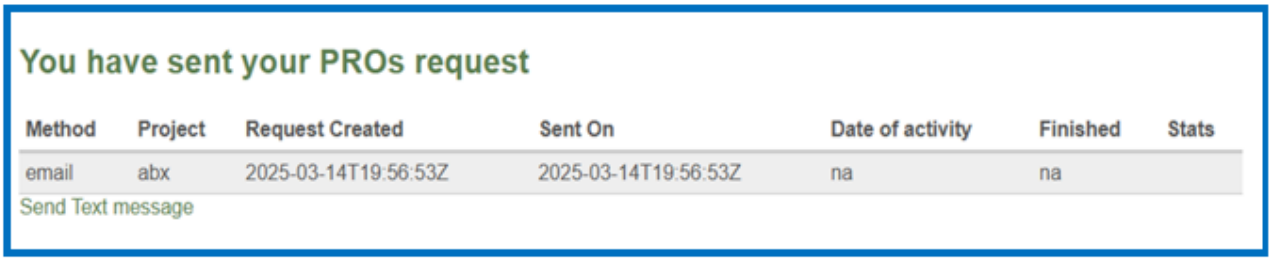
1. Enter the patient's **email address** found in the medical record in the first text box.
2. Re-enter the patient's **email address** in the second text box.

3. Enter patient's **phone number (1xxxxxxxxxx**, no spaces) found in the medical record in the third text box.
4. Re-enter the patient's **phone number** in the fourth text box.
5. Use the drop-down menu to select the **month of discharge** based on the medical chart.
6. Once all information is confirmed correct, click the "**Submit**" button.



<u>PROs via Email and Text (sending simultaneously):</u>

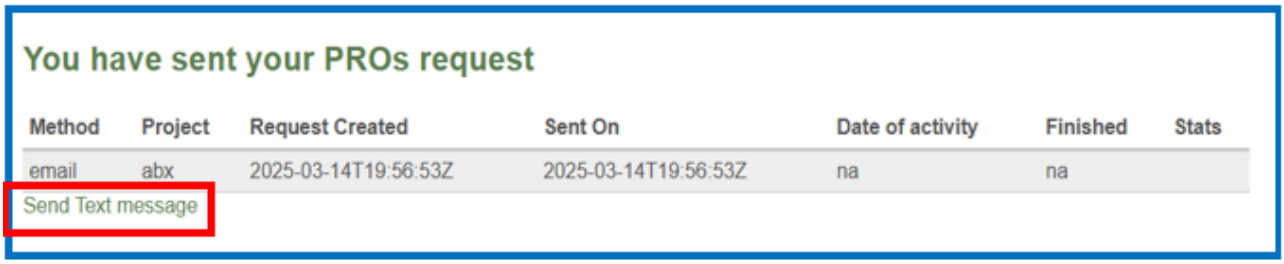
7. Click the "**Submit**" button on the PROs tab after you complete the steps above. This sends an email message with the survey link to the patient.
8. You will be returned to the "**View**" tab.
9. Click on the "**PROs**" tab. The image below will appear if your email was sent to the patient.



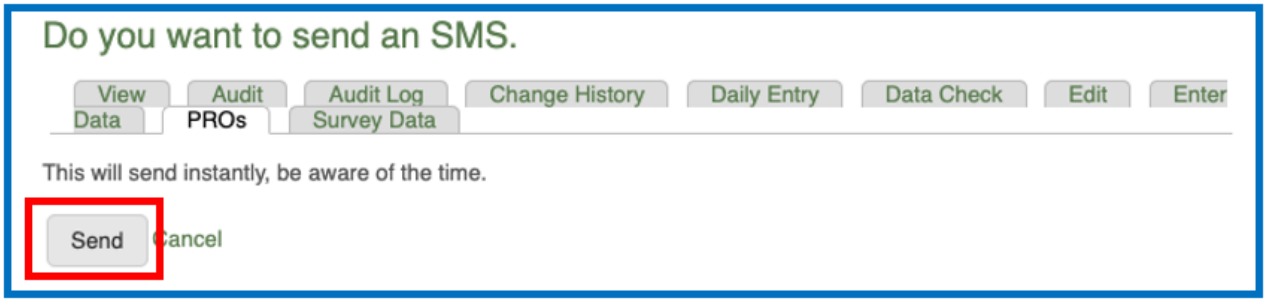
Note: *You can view the date and time the email was sent. Subtract 4 hours from the time sent for Eastern Standard Time, e.g., 19:05:33 is equal to 15:05:33 or 3:05 pm. Email will automatically distribute first when "submit" is clicked. Omit the letters T and Z on the date/time stamp, those are internal indicators.*

Immediately send a text message after you send the email message.

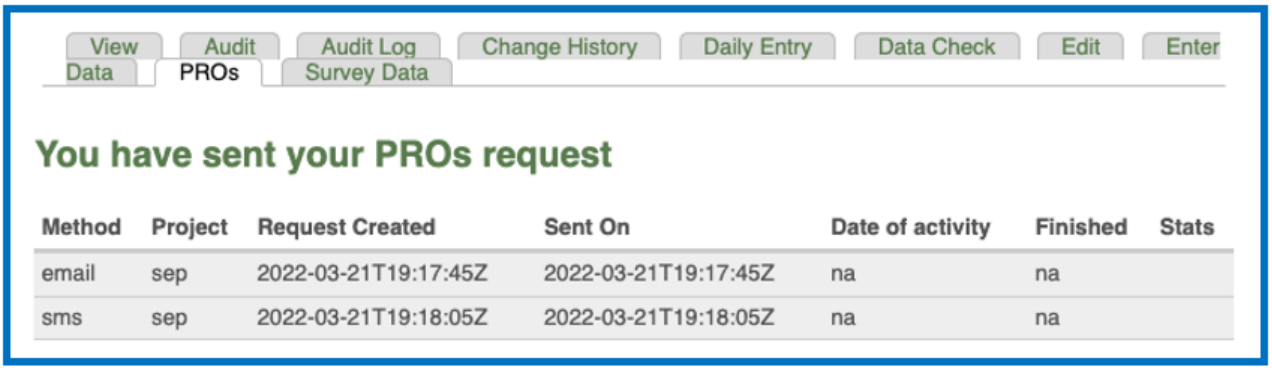
10. Click the "**Send Text message**" link on the PROs tab as shown in the image below.



11. Click the "**Send**" button to send a text message to the patient. You will see the image below appear to confirm that you want to send a text message to the patient.

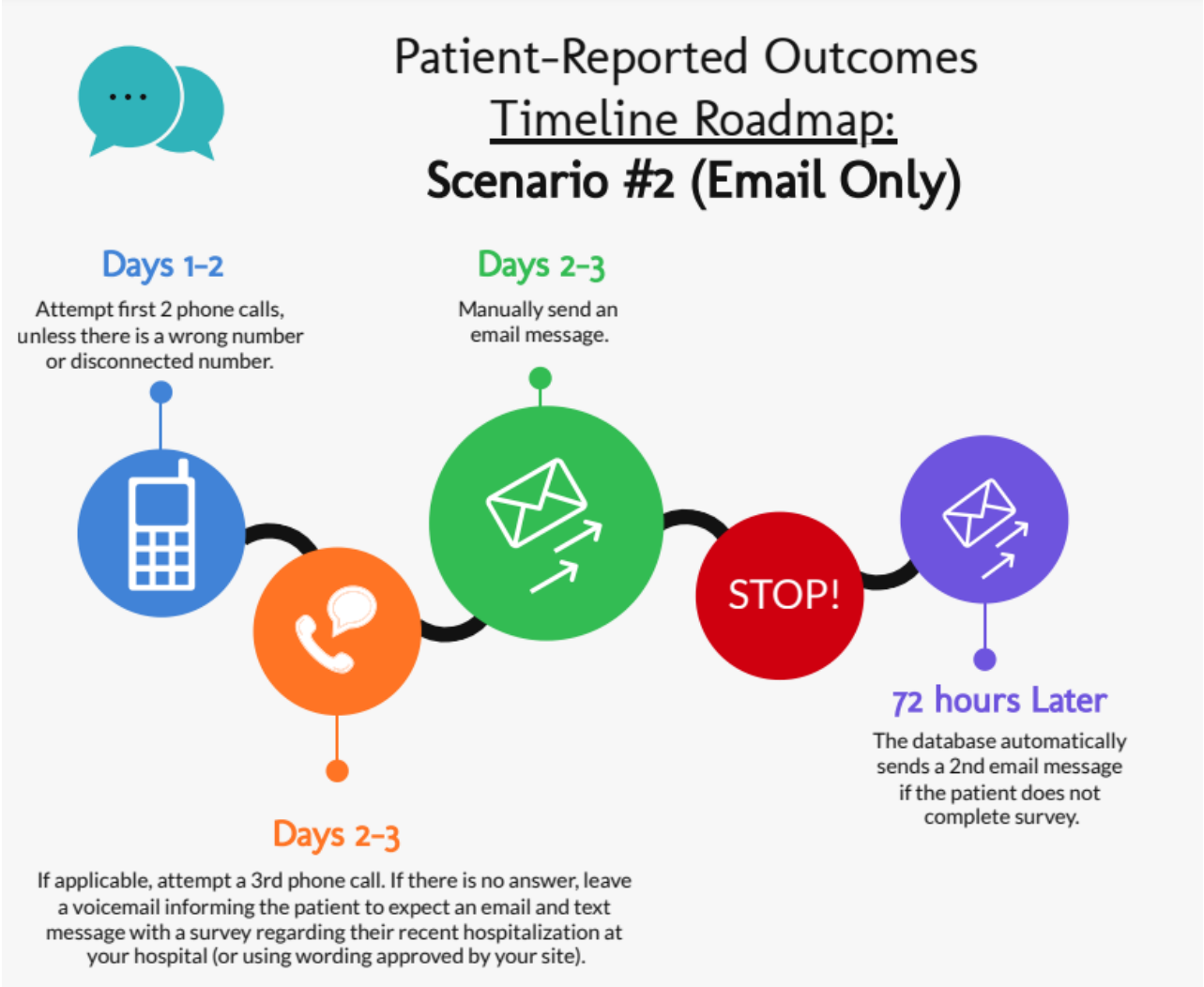


12. After you click "**Send**", you will be returned to the "**View**" tab.
13. Click the "**PROs**" tab to confirm your text message was sent to the patient. The following screen will appear. You can view the date and time the text message was sent.



There is NO further action you need to take after you send this text message.

Scenario #2 – Only Email Address Available



How to use the PROs tab

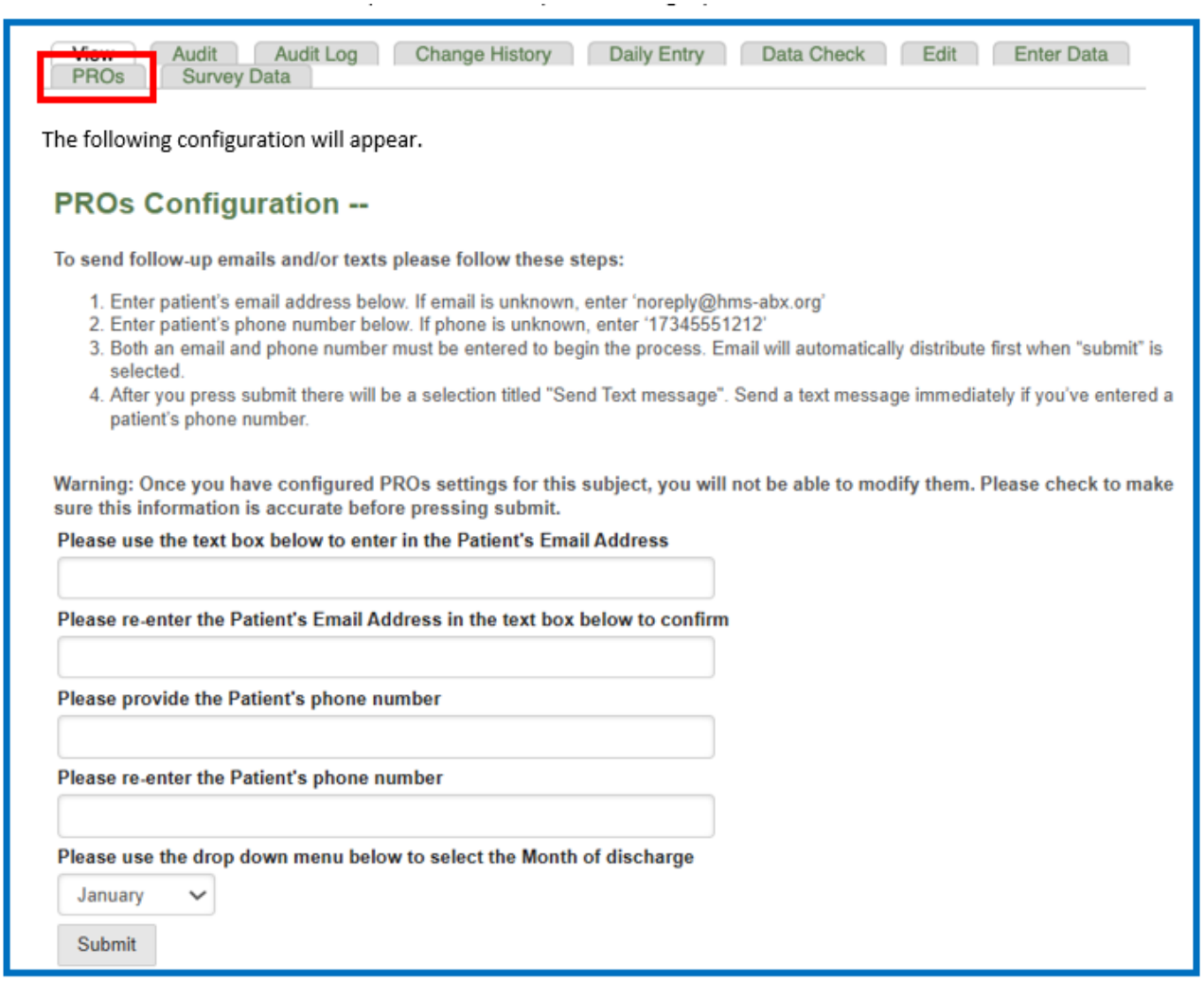
On the third phone call attempt, if there is no answer, please leave a detailed voice message (if able). In the voicemail, state the purpose of the phone call and that the person you are calling will be receiving an email shortly from the HMS Coordinating Center, your quality improvement partner, with a survey link to obtain information about their recent hospital stay.

After three unsuccessful attempts to reach the patient using a phone call, click on the PROs tab and complete the following steps:

(Both an email and pseudo-phone number must be entered to begin the process)

1. Enter the patient's **email address** found in the medical record in the first text box.
2. Re-enter the patient's **email address** in the second text box.

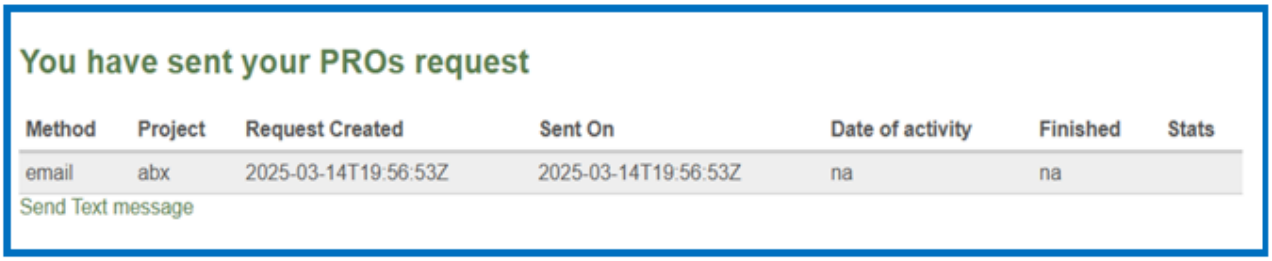
3. Since the patient's mobile phone number is not available in the medical record, enter **'17345551212'** in the third text box.
4. Re-enter the If mobile phone is unknown, enter **'17345551212'** in the fourth text box.
5. **Use the drop-down menu to select the month of discharge based on the medical chart.**
6. **Once all information is confirmed correct, click the "Submit" button.**



<u>PROs via Email:</u>

7. Click the "**Submit**" button on the PROs tab after you complete the steps above. This sends an email message with the survey link to the patient.
8. You will be returned to the "**View**" tab.

9. Click on the "**PROs**" tab. The image below will appear if your email was sent to the patient.



You have sent your PROs request

Method	Project	Request Created	Sent On	Date of activity	Finished	Stats
email	abx	2025-03-14T19:56:53Z	2025-03-14T19:56:53Z	na	na	

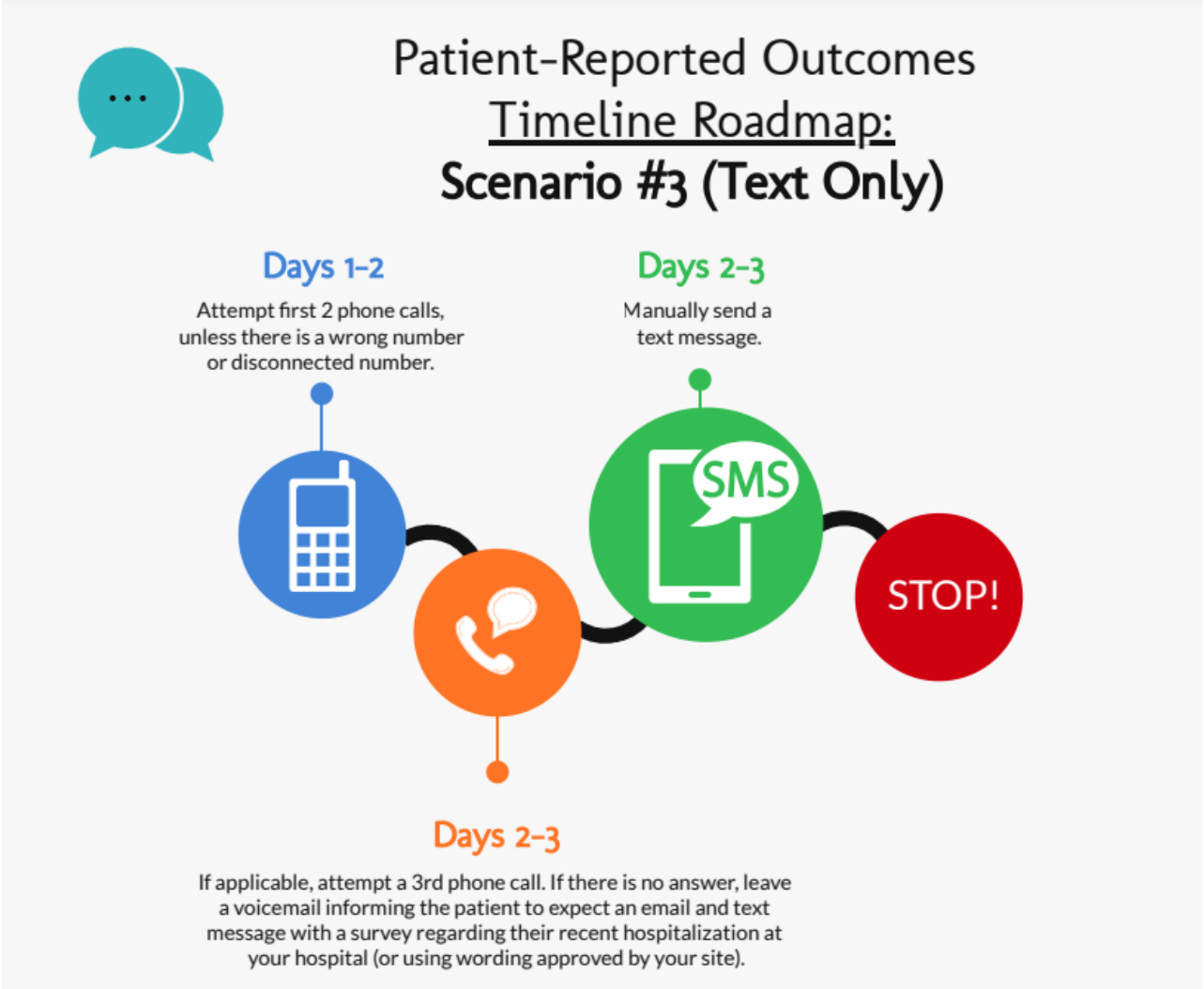
Send Text message

Note: *You can view the date and time the email was sent. Subtract 4 hours from the time sent for Eastern Standard Time, e.g., 19:05:33 is equal to 15:05:33 or 3:05 pm. Email will automatically distribute first when "submit" is clicked. Omit the letters T and Z on the date/time stamp, those are internal indicators.*

Items to note: If the patient does not complete the survey after 72 hours, they will automatically receive another email with a new link to complete the survey. There is no action you need to take to facilitate the sending of this second email – it will happen automatically.

There is NO further action you need to take after you send the first email.

Scenario #3 – Only Phone Number Available



On the third phone call attempt, if there is no answer, please leave a detailed voice message (if able). In the voicemail, state the purpose of the phone call and that the person you are calling will be receiving a text message shortly with a survey link to obtain information about their recent hospital stay.

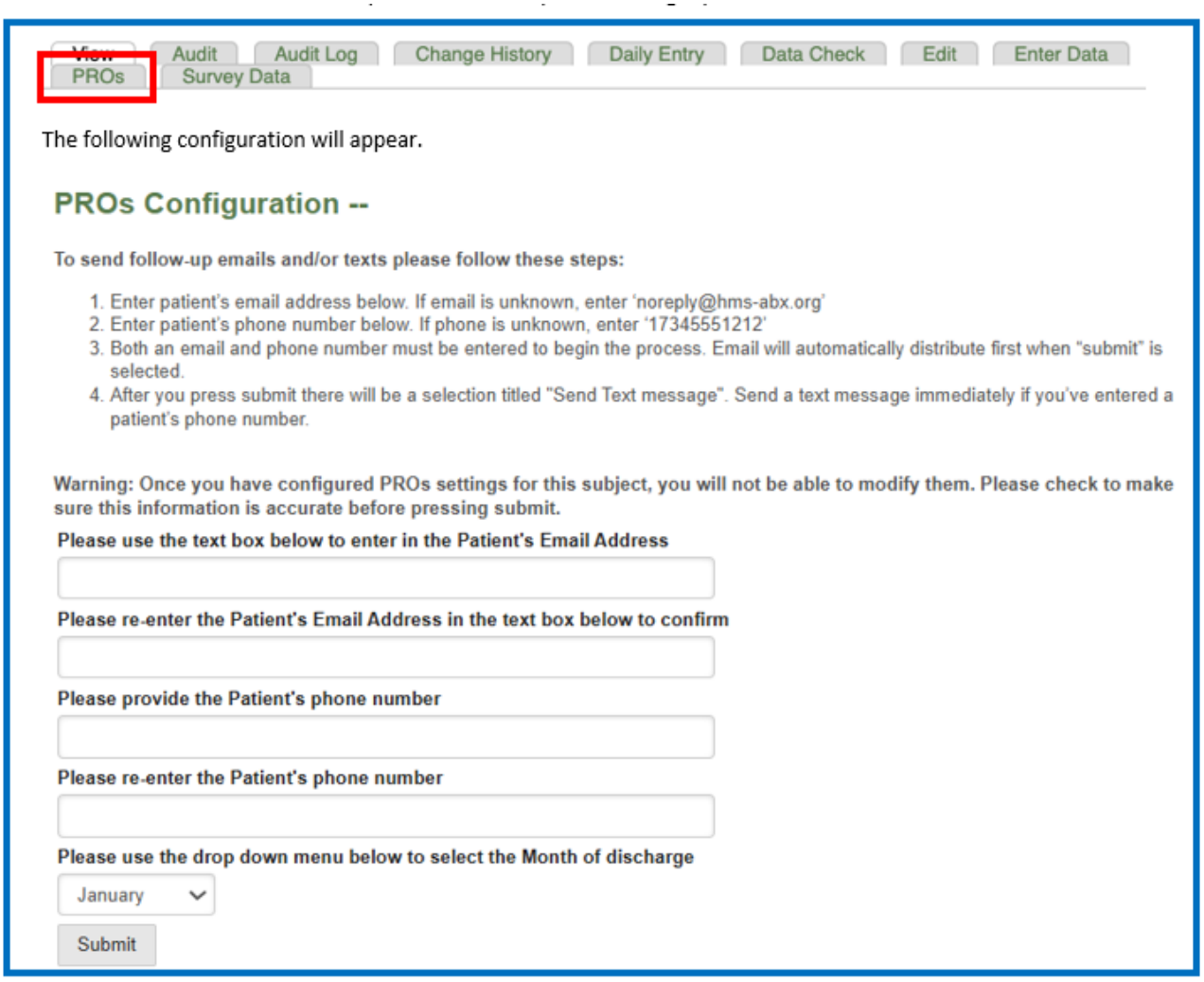
PROs Tab

After three unsuccessful attempts to reach the patient using a phone call, click on the PROs tab and follow the steps below:

(Both a pseudo-email address and real phone number must be entered to begin the process)

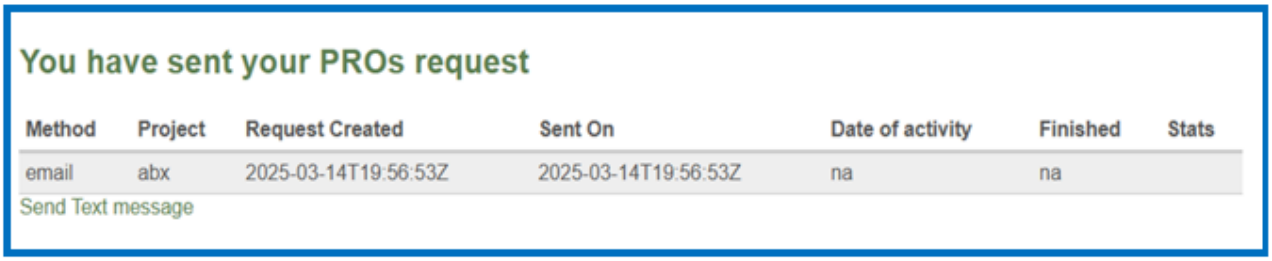
1. Since the patient's email address is not available in the medical record, enter '**noreply@hms-sepsis.org**' in the first text box.

2. Re-enter '**noreply@hms-sepsis.org**' in the second text box.
3. Enter patient's **phone number** (**1xxxxxxxxxx**, no spaces) found in the medical record in the third text box.
4. Re-enter the patient's **phone number** in the fourth text box.
5. Use the drop-down menu to select the **month of discharge** based on the medical chart.
6. Once all information is confirmed correct, click the "**Submit**" button.



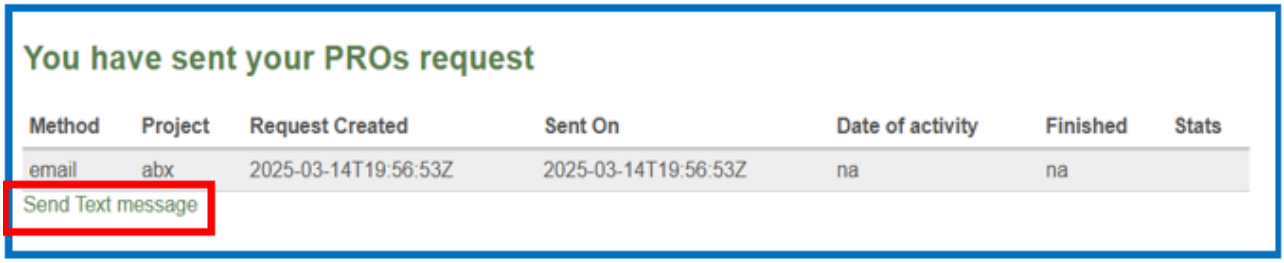
<u>PROs via Text ONLY</u>

7. Click the "**Submit**" button on the PROs tab after you complete the steps above.
8. You will be returned to the "**View**" tab.
9. Click on the "**PROs**" tab. The image below will appear if your form was submitted.

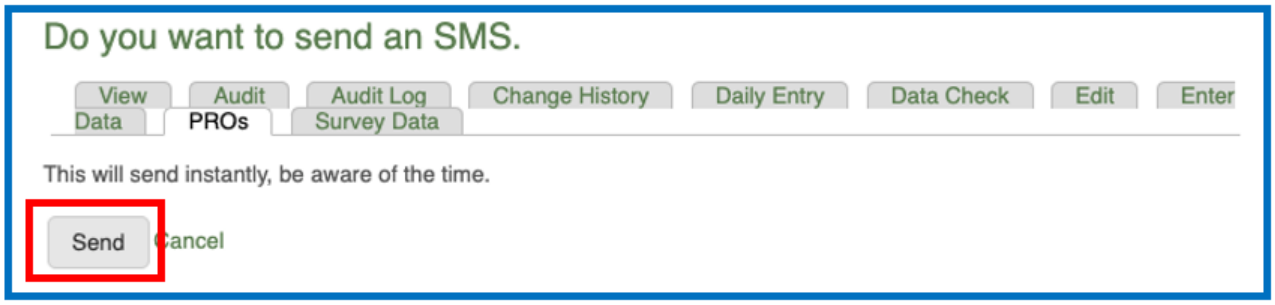


Note: *You can view the date and time the email was sent. Subtract 4 hours from the time sent for Eastern Standard Time, e.g., 19:05:33 is equal to 15:05:33 or 3:05 pm. Email will automatically distribute first when "submit" is clicked. Omit the letters T and Z on the date/time stamp, those are internal indicators.*

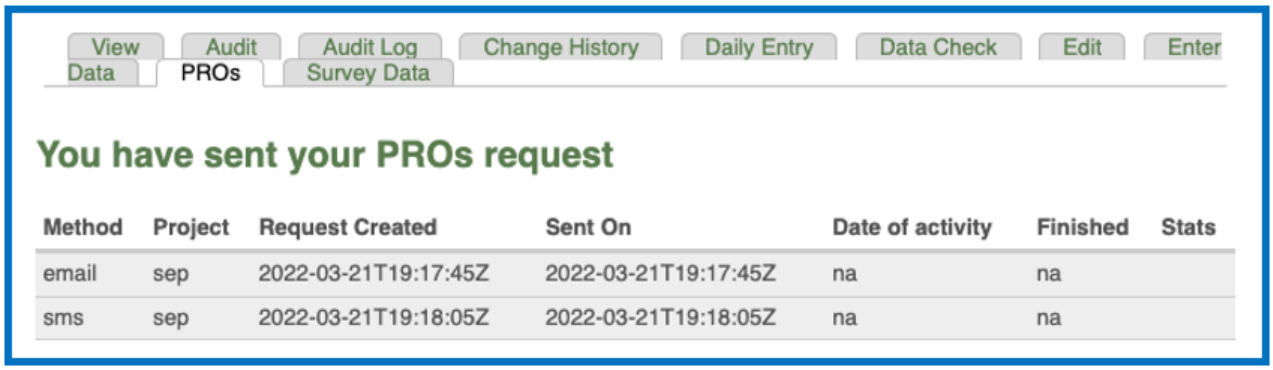
10. **Immediately send a text message** after you submit the PROs form.
11. Click the "**Send Text message**" link on the PROs tab as shown in the image below.



12. Click the "**Send**" button to send a text message to the patient. You will see the image below appear to confirm that you want to send a text message to the patient.



13. After you click "**Send**", you will be returned to the "**View**" tab.
14. Click the "**PROs**" tab to confirm your text message was sent to the patient. The following screen will appear. You can view the date and time the text message was sent.



There is NO further action you need to take after you send this text message.

Abstractor Notes

1. **DO YOU HAVE ANY NOTES?**

Instructions: Indicate whether you have any notes that you would like to include regarding any of the entries in this form or if you would like to exclude this form. Select one of the following:

- *"Yes"* if you have notes that you would like to include or you would like to exclude this form. ***Answer questions 1.1 and 1.2***
- *"No"* if you do not have notes that you would like to include and you do not want to exclude this form.

1.1. ABSTRACTOR NOTES

Instructions: Use free text to input your notes. IMPORTANT: Please do not enter any Protected Health Information (PHI) into this text box.

Pneumonia

Instructions: For all questions in the database, "No Answer" is the default selection. This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question.

History of Present Illness/Physical Exam

1. **IS THERE DOCUMENTATION OF ANY OF THE FOLLOWING DURING THE TIMEFRAMES BELOW?**
- **ON DAY #1 OR DAY#2 OF HOSPITAL ENCOUNTER (ER, OBS, INPT)**
- **WITHIN 2 CALENDAR DAYS PRIOR TO THE HOSPITAL ENCOUNTER (ER, OBS, INPT)**

Instructions: Review the medical record to determine if any of the following symptoms or elements of the physician/advanced practice professional's exam are present either on day #1 or day #2 of the hospital encounter or in the 2 days prior to the hospital encounter.
INCLUDE: Vital signs and symptoms documented at outside institutions during this timeframe if these records are visible in your site's EMR (i.e., outside and affiliated emergency departments, urgent care facilities, and outpatient physician visits).

Example:

Day -1	Date of Hospital Encounter Presentation	Hospital Encounter Day 2	Hospital Encounter Day 3
Patient seen in urgent care clinic	Patient in ED until 12:00pm then transfers to inpatient	Patient admitted inpatient	Patient admitted inpatient
Capture symptoms if visible in EMR	Capture symptoms	Capture symptoms	Do not capture

			symptoms

EXCLUDE: Symptoms that the patient experiences at baseline and are not new or worsening (i.e., a chronic cough that is the same as their baseline). Nursing documentation of symptoms.
Select all that apply:

- "*Apnea*"
- "*Bronchial Breath Sounds*"
- "*Chest Pain*"
  INCLUDE: "Chest tightness" is equivalent to chest pain. Pleuritic pain. Chest Heaviness
- "*Chest Wall Retractions*"
- "*Chills*"
  EXCLUDE: Rigors, Shaking Chills
- "*Cough*"
  EXCLUDE: Documentation of chronic cough that is unchanged from baseline.
- "*Crackles*"
- "*Dullness on Percussion*"
- "*Dyspnea/Shortness of breath*"
  INCLUDE: Difficulty breathing, labored breathing, shortness of breath and documentation of "respiratory distress".
- "*Egophony*"
- "*Fatigue*"
- "*Fever (subjective, no documented temperature)*"
  INCLUDE: Fever is noted, but there is no specific documentation of the actual temperature
- *"Fever (37.9 to 38 C or 100.2 to 100.4 F)"*
  INCLUDE: Fever is noted, and a temperature of 37.9 C to 38.0 C or 100.2 to 100.4 F is specifically stated
- *"Fever (>38 C or >100.4 F)"*
  INCLUDE: Fever is noted, and a temperature of >38.0 C or >100.4 F is specifically stated
- "*Hemoptysis*"
  INCLUDE: Bloody sputum, coughing up blood, blood stained mucus, pink tinged sputum
- "*Hypotension (systolic blood pressure of less than 90 mmHg)*"

INCLUDE: If no specific documentation of blood pressure measure, but hypotension is stated by the provider, this selection can be included

- "*Hypoxemia/Hypoxia*"
- "*Increased Secretions/Sputum Production*"
- "*Mental Status Change or Functional Decline*"
  INCLUDE: New onset confusion, altered mental status, unable to get out of bed (that is not the patient's baseline), decreased activity.
- "*Muscle Aches*"
  INCLUDE: Muscle pain, myalgia
- "*Rales*"
- "*Rhinorrhea/Runny Nose*"
- "*Rhonchi*"
- "*Rigors*"
  INCLUDE: Shaking chills (must have both of those words together)
  EXCLUDE: Chills
- "*Sore Throat*"
  INCLUDE: Scratchy throat
- "*Use of Accessory Muscles*"
- "*Wheezing*"
- "*None of the above*"

2. **DURING THE COURSE OF THE HOSPITAL ENCOUNTER (ER, OBS, INPT), DID THE PATIENT HAVE AN INFECTIOUS DISEASE CONSULT?**

Instructions: Review the medical record to determine if the patient had an infectious disease consult during the hospital encounter.
Select one of the following:

- "*Yes*" ***Answer question 2.1***
  INCLUDE: If the attending/admitting provider is an ID physician and there is not an ID consult ordered, documentation of telephone consult with ID recommendations documented.
- "*No*"
- "*Unknown*"

2.1. DATE OF INFECTIOUS DISEASES CONSULT ORDER

Instructions: Review the medical record and input the date of the order for the infectious disease consult. Enter the date in MM/DD/YYYY format.

3. **DURING THE COURSE OF THE HOSPITAL ENCOUNTER (ER, OBS, INPT), DID THE PATIENT HAVE A PULMONARY CONSULT?**
   Instructions: Review the medical record to determine if the patient had a pulmonary consult during the course of the hospital encounter.
   Select one of the following:

- "*Yes*" ***Answer question 3.1***
  INCLUDE: If the attending/admitting provider is a pulmonologist and there is not a pulmonary consult ordered, documentation of telephone consult with pulmonary recommendations documented.
- "*No*"
- "*Unknown*"

3.1. DATE OF PULMONARY CONSULT ORDER
Instructions: Review the medical record and input the date of the order for the Pulmonary consult. Enter the date in MM/DD/YYYY format.

Labs

Reminder: If the value resulted lists "<" or ">" before a value, please enter the numeric value that is listed. Example: If the result is < 0.30, enter 0.30.
INCLUDE: Labs documented at outside institutions on first calendar day of hospital encounter if these records are visible in your site's EMR (i.e., outside and affiliated emergency departments, urgent care facilities, and outpatient physician visits)

1. **IS AN ARTERIAL PH AVAILABLE FROM DAY #1 OR DAY #2 OF THE HOSPITAL ENCOUNTER (ER, OBS, INPT)?**

Instructions: Review the medical record to determine if the patient had an arterial pH drawn/collected during the hospital encounter (ER, Obs, Inpatient). Arterial pH is reported as a part of arterial blood gases.
Select one of the following:

- "*Yes*" ***Answer question 1.1***
- "*No*"
- "*Unknown*"

1.1. LOWEST ARTERIAL PH

Instructions: Review the patient's laboratory data and record the lowest arterial pH on day #1 or day #2 of the hospital encounter (ER, Obs, Inpatient).

2. **IS A WHITE BLOOD CELL (WBC) COUNT AVAILABLE FROM DAY #1 AND/OR DAY #2 OF THE HOSPITAL ENCOUNTER (ER, OBS, INPATIENT)?**

Instructions: Review the patient's laboratory data to determine if a white blood cell (WBC) count is available from day #1 and/or day #2 of the hospital encounter (ER, Obs, Inpatient). White blood cell (WBC) counts are usually reported as part of a complete blood count (CBC).

Select one of the following:

- *"Yes"* ***Answer question 2.1***
- *"No"*
- *"Unknown"*

2.1. IS THERE MORE THAN ONE WHITE BLOOD CELL (WBC) VALUE ON DAY #1 AND/OR DAY #2 OF THE HOSPITAL ENCOUNTER (ER, OBS, INPATIENT)?

Instructions: Review the patient's laboratory data to determine if there are multiple white blood cell (WBC) counts available from day #1 and/or day #2 of the hospital encounter (ER, Obs, Inpatient).

Select one of the following:

- *"Yes"* ***Answer questions 2.1.1 and 2.1.2***
  Example: If one (1) WBC value is drawn on xx/1 and one (1) WBC value on xx/2, you would record this as 'Yes' that there were multiple values for day #1 and/or #2.
- *"No"* ***Answer question 2.1.3***

2.1.1. HIGHEST WBC ON DAY #1 AND/OR DAY #2

Indicate the highest white blood cell (WBC) count from day #1 and day #2 as a numeric only in (K/uL).

2.1.2. LOWEST WBC ON DAY #1 AND/OR DAY #2

Indicate the lowest white blood cell (WBC) count from day #1 and day #2 as a numeric only in (K/uL).

2.1.3. WBC

Indicate the white blood cell (WBC) count from day #1 or day #2 as a numeric only in (K/uL).

3. **IS A HEMATOCRIT AVAILABLE FROM DAY #1 OR DAY #2 OF THE HOSPITAL ENCOUNTER (ER, OBS, INPT)?**

Instructions: Review the medical record to determine if the patient had a hematocrit drawn/collected during the hospital encounter (ER, Obs, Inpatient). The hematocrit is usually reported as part of a complete blood count (CBC).
Select one of the following:

- "*Yes*" ***Answer question 3.1***
  INCLUDE: Hct
- "*No*"
- "*Unknown*"

3.1. LOWEST HEMATOCRIT

Instructions: Review the patient's laboratory data and record the lowest hematocrit from day #1 or day #2 of the hospital encounter. Indicate the hematocrit value as a numeric only in %.

4. **IS THERE A PLATELET COUNT AVAILABLE FROM DAY #1 OR DAY #2 OF THE HOSPITAL ENCOUNTER (ER, OBS, INPATIENT)?**

Instructions: Review the patient's laboratory data to determine if a platelet count is available from day #1 or day #2 of the hospital encounter (ER, Obs, Inpatient). Platelet (Plt) counts are usually reported as part of a complete blood count (CBC).
Select one of the following:

- *"Yes"* ***Answer question 4.1***
  INCLUDE: Plt
- *"No"*
- *"Unknown"*

4.1. LOWEST PLATELETS

Instructions: Indicate the lowest platelet count as a numeric only in thousands per microliter (,000/mcL) on day #1 or day #2 of the hospital encounter (ER, Obs, Inpatient). For example, a platelet count of 150,000 would be entered as 150.

5. **IS A SODIUM (NA) LEVEL AVAILABLE FROM DAY #1 OR DAY #2 OF THE HOSPITAL ENCOUNTER (ER, OBS, INPT)?**

Instructions: Review the medical record to determine if the patient had a sodium level drawn/collected on day #1 or day #2 of the hospital encounter (ER, Obs,

Inpatient). Sodium (Na) is usually reported as part of a basic metabolic panel, comprehensive metabolic panel, nutrition panel, etc.
Select one of the following:

- "*Yes*" ***Answer question 5.1***
  INCLUDE: Serum/plasma sodium values only
- "*No*"
- "*Unknown*"

5.1. LOWEST SODIUM (NA)
Instructions: Review the patient's laboratory data and record the lowest sodium from day #1 or day #2 of the hospital encounter. Indicate the sodium value as a numeric only in mmol/L.

6. **IS A BLOOD UREA NITROGEN (BUN) AVAILABLE FROM DAY #1 OR DAY #2 OF THE HOSPITAL ENCOUNTER (ER, OBS, INPATIENT)?**

Instructions: Review the patient's laboratory data to determine if a blood urea nitrogen (BUN) is available from day #1 or day #2 of the hospital encounter (ER, Obs, Inpatient). Blood urea nitrogen (BUN) is usually reported as part of a basic metabolic panel, comprehensive metabolic panel, nutrition panel, etc.
INCLUDE: Urea Nitrogen
Select one of the following:

- *"Yes"* ***Answer question 6.1***
- *"No"*
- *"Unknown"*

6.1. HIGHEST BUN
Instructions: Indicate the highest blood urea nitrogen (BUN) value from day #1 or day #2 of the hospital encounter (ER, Obs, Inpatient) as a numeric only in milligrams per deciliter (mg/dL).

7. **IS A CREATININE AVAILABLE FROM DAY #1 OR DAY #2 OF THE HOSPITAL ENCOUNTER (ER, OBS, INPATIENT)?**

Instructions: Review the patient's laboratory data to determine if a creatinine is available from day #1 or day #2 of the hospital encounter (ER, Obs, Inpatient). Creatinine or Serum Creatinine is usually reported as part of a basic metabolic panel, comprehensive metabolic panel, nutrition panel, etc.
Select one of the following:

- *"Yes"* ***Answer question 7.1***

INCLUDE: Cr

- *"No"*
- *"Unknown"*

7.1. HIGHEST CREATININE

Instructions: Indicate the highest creatinine value from day #1 or day #2 of the hospital encounter (ER, Obs, Inpatient) as a numeric only in milligrams per deciliter (mg/dL).

8. **IS A GLUCOSE LEVEL AVAILABLE FROM DAY #1 OR DAY #2 OF THE HOSPITAL ENCOUNTER (ER, OBS, INPT)?**

Instructions: Review the medical record to determine if the patient had a glucose level drawn/collected during the hospital encounter (ER, Obs, Inpatient). Glucose is usually reported as part of a basic metabolic panel, comprehensive metabolic panel, nutrition panel, etc.
INCLUDE: Serum/plasma glucose values only
EXLUDE: Subcutaneous glucose values (blood sugar, accu checks)
Select one of the following:

- "*Yes*" ***Answer question 8.1***
- "*No*"
- "*Unknown*"

8.1. HIGHEST GLUCOSE

Instructions: Review the patient's laboratory data and record the highest glucose from day #1 or day #2 of the hospital encounter. Indicate the glucose value as a numeric only in mg/dL.

9. **IS A TOTAL BILIRUBIN AVAILABLE FROM DAY #1 OR DAY#2 OF THE HOSPITAL ENCOUNTER (ER, OBS, INPATIENT)?**

Instructions: Review the patient's laboratory data to determine if a total bilirubin is available from day #1 or day #2 of the hospital encounter (ER, Obs, Inpatient).
INCLUDE: Total Bilirubin
EXCLUDE: Direct Bilirubin
Select one of the following:

- *"Yes"* ***Answer question 9.1***
- *"No"*
- *"Unknown"*

9.1. HIGHEST BILIRUBIN

Instructions: Indicate the total bilirubin from day #1 or day #2 of the hospital encounter (ER, Obs, Inpatient) as a numeric only in mg/dL.

10. **IS A LACTIC ACID LEVEL AVAILABLE FROM DAY #1 OR DAY #2 OF THE HOSPITAL ENCOUNTER (ER, OBS, INPATIENT)?**

Instructions: Review the patient's laboratory data to determine if a lactic acid is available from day #1 or day #2 of the hospital encounter (ER, Obs, Inpatient).
INCLUDE: Lactic Acid/Lactate from serum/plasma or arterial/venous blood gas; i-STAT System test for lactate
EXCLUDE: Lactic Acid Dyhydrogenase Isoenzymes
Select one of the following:

- *"Yes"* ***Answer question 10.1***
- *"No"*
- *"Unknown"*

10.1. HIGHEST LACTIC ACID

Instructions: Indicate the highest lactic acid from day #1 or day #2 of the hospital encounter as a numeric only in mmol/L.

11. **IS AN INR AVAILABLE FROM DAY #1 OR DAY #2 OF THE HOSPITAL ENCOUNTER (ER, OBS, INPATIENT)?**

Instructions: Review the patient's laboratory data to determine if an International Normalized Ratio (INR) is available from day #1 or day #2 of the hospital encounter (ER, Obs, Inpatient).
Select one of the following:

- *"Yes"* ***Answer question 11.1***
- *"No"*
- *"Unknown"*

11.1. HIGHEST INR

Instructions: Indicate the International Normalized Ratio (INR) from day #1 or day #2 of the hospital encounter (ER, Obs, Inpatient).

12. **WAS A RESPIRATORY CULTURE ORDERED DURING THE ENCOUNTER?**

Instructions: Review the medical record to determine if there was an order placed for a respiratory culture to be collected.

INCLUDE: Sputum culture, bronchoalveolar lavage (BAL) culture, Endotracheal Aspirate culture.
Select one of the following:

- *"Yes"* ***Answer question 12.1***
- *"No"*
- *"Unknown"*

12.1. WAS A RESPIRATORY CULTURE COLLECTED DURING THE ENCOUNTER?

Instructions: Review the medical record to determine if a respiratory culture sample was collected during the hospital encounter (ER, Obs, Inpatient).
INCLUDE: Sputum culture, bronchoalveolar lavage (BAL) culture Endotracheal Aspirate culture.
Select one of the following:

- *"Yes"*
  INCLUDE: respiratory specimens collected and rejected for testing after Gram stain
- *"No"* ***Answer question 12.1.1***
- *"Unknown"* ***Answer question 12.1.1***

12.1.1. WHY WAS THE RESPIRATORY CULTURE NOT COLLECTED DURING THE ENCOUNTER?

Instructions: Review the medical record for documentation that states why the sputum culture was unable to be collected for sampling during the hospital encounter (ER, Obs, Inpatient).
Select one of the following:

- *"Patient refused to provide sample"*
- *"Unable to produce sample (patient could not produce, too little sputum produced)"*
- *"Patient transferred or discharged"*
- *"Unknown"*

13. **IS THERE DOCUMENTATION OF A SYSTOLIC BLOOD PRESSURE OF LESS THAN 100 MM/HG ON DAY #1 OR DAY #2 OF THE HOSPITAL ENCOUNTER (INCLUDE ER, OBS, INPT)?**

Instructions: Review the medical record to determine if there is a systolic blood pressure of less than 100 mmHg on day #1 or day #2 of the hospital encounter (ER, Obs, Inpt).

Select one of the following:

- *"Yes"* ***Answer questions 13.1 and 13.2***
- *"No"*
- *"Unknown"*

13.1. DID THE PATIENT RECEIVE INTRAVENOUS FLUIDS FOLLOWING THE SYSTOLIC BLOOD PRESSURE OF LESS THAN 100 MM/HG ON HOSPITAL DAY #1 OR DAY #2?

Instructions: Review the medical record to determine if the patient received intravenous fluids following the systolic blood pressure of less than 100 mmHg.
INCLUDE: Fluid administration/boluses that are directly correlated with the hypotension/systolic blood pressure of less than 100, including those administered at an outside care location (i.e., urgent care, outside ED, EMS transport) on calendar day 1 of the hospital encounter but were documented *prior* to the patient's presentation to the hospital encounter. Documentation that a fluid bolus was given for hypotension regardless of whether or not there is an order or documentation in the medication administration record (MAR).
EXCLUDE: Intravenous fluids at a keep open rate/TKO, continuous fluids for general hydration
Select one of the following:

- *"Yes"* ***Answer question 13.1.1***
- *"No"*
- *"Unknown"*

13.1.1. INDICATE THE NUMBER OF LITERS

Instructions: Select the total number of liters of intravenous fluid that the patient received for their systolic blood pressure of less than 100mmHg on day #1 or day #2 of the hospital encounter.
Note: Please round to the nearest liter.
Select one of the following:

- *"Less than 1"*
- *"1-7"*
- *"8+"*

13.2. DID THE PATIENT RECEIVE A VASOPRESSOR FOLLOWING THE SYSTOLIC BLOOD PRESSURE OF LESS THAN 100 MM/HG ON HOSPITAL DAY #1 OR DAY #2?

Instructions: Review the medical record to determine if the patient received a vasopressor following the systolic blood pressure of less than 100 mmHg on day #1 or day #2 of the hospital encounter.
INCLUDE: Dopamine, norepinephrine (levophed), phenylephrine, epinephrine, ephedrine, dobutamine, isoproterenol; include vasopressors administered at an outside care location (i.e., urgent care, outside ED, EMS transport) on calendar day 1 of the hospital encounter but were documented *prior* to the patient's presentation to the hospital encounter.
Select one of the following:

- *"Yes"*
  EXCLUDE: Midodrine
- *"No"*
- *"Unknown"*

14. **DID THE PATIENT HAVE A FEVER DURING THE HOSPITAL ENCOUNTER?**

Instructions: Review the medical record to determine if the patient had a fever (> 37.8 C) during hospital encounter.
Note: There are two definitions for fever based upon a patient's age. Please answer this question based on the criteria below:

- Age 65 and older: A fever is defined as > 37.8 C
- Age 18-64: A fever is defined as > 38.0 C

Select one of the following:

- *"Yes"* if the medical record indicates the patient had a fever (based upon age criteria) during the hospital encounter. ***Answer questions 14.1 and 14.2***
- *"No"* if the medical record indicates the patient did not have a fever (based upon age criteria) during the hospital encounter.
- *"Unknown"* if the medical record is silent as to whether the patient had a fever (based on age criteria) during the hospital encounter.

14.1. ENTER THE DATE/TIME OF THE LAST/FINAL FEVER DOCUMENTED DURING THE HOSPITAL ENCOUNTER

Instructions: Review the medical record to determine the date/time of the last/final fever (based on age criteria) documented during the hospital encounter. Enter the Month, Day, Year, Hour and Minute.
Note: If the patient is transferred to the ICU, please utilize the last fever prior to or on the day of transfer to the ICU.

14.2. ENTER THE DATE/TIME OF THE LAST VITAL SIGN ENTRY ON THE DAY OF DISCHARGE OR ON DAY #7 OF THE HOSPITAL ENCOUNTER

Instructions: Review the medical record to determine the date/time of the last vital sign entry on the day of discharge or on Day #7 of the hospital encounter. Enter the Month, Day, Year, Hour and Minute. Note: This does not have to be a complete set of vital signs.

Note: If the patient is transferred to the ICU before Day #7 of the hospital encounter, please utilize the last set of vitals prior to or on the day of transfer to the ICU.

Pneumonia Diagnosis During the Hospital Encounter

1. **ON ADMISSION (DAY #1 OR DAY #2 OF THE INPATIENT ADMISSION) INDICATE THE TYPE OF PNEUMONIA THAT IS DETAILED BY THE INPATIENT ADMITTING PHYSICIAN.**

Instructions: Review the medical record to determine the type of pneumonia that was documented by the inpatient admitting physician/professional on day #1 or day #2 of the inpatient admission. If the hospital encounter is observation only, please captured pneumonia type documented by the admitting clinician on day #1 or day #2 of the observation admission for this question.

EXCLUDE: Documentation of pneumonia type in antibiotic orders.

Note: If more than one of the selections were documented, please capture the most descriptive/specific form of pneumonia.

Example 1: If the inpatient admitting provider documented both “pneumonia” and “CAP” in their progress notes, please select “CAP” for this question.

Example 2: If the inpatient admitting provider documents two descriptive types of pneumonia in their progress notes, for example, “aspiration pneumonia” and “HCAP”, please select “HCAP” for this question.

Select one of the following:

- “*HCAP*”
  INCLUDE: Healthcare associated pneumonia
- “*CAP*”

INCLUDE: Community-Acquired Pneumonia

- "*CAP with Risk Factors for Multi-Drug Resistant Organisms (MDRO)*"
  INCLUDE: Community-Acquired Pneumonia with risk factors for multi-drug resistant organisms (MDRO) including MRSA or Pseudomonas
- "*Pneumonia (PNA)*"
  INCLUDE: pneumonia documentation without clarification of the type of pneumonia documented by the inpatient admitting provider, atypical pneumonia, multifocal pneumonia, obstructive pneumonia.
  EXCLUDE: Healthcare associated pneumonia (HCAP), community acquired pneumonia (CAP)
- "*Pneumonia with Risk Factors for Multi-Drug Resistant Organisms (MDRO)*"
  INCLUDE: Pneumonia (unspecified type) with risk factors for multi-drug resistant organisms (MDRO) including MRSA or Pseudomonas
- "*Aspiration Pneumonia*"
  EXCLUDE: Only documentation of aspiration without note of aspiration pneumonia, aspiration pneumonitis
- "*Nosocomial Pneumonia*"
  EXCLUDE: Hospital-acquired pneumonia (HAP)
- "*Hospital Acquired Pneumonia (HAP)*"
  EXCLUDE: Nosocomial pneumonia
- "*Questionable Pneumonia*"
  INCLUDE: Possible pneumonia
- "*Not Pneumonia*"
- "*None of the above*"
- "*Unknown*"
- "*Other*" select if the medical record indicates the patient had a diagnosis of pneumonia documented by the admitting provider that does not fit the other selections above. Please contact the HMS Coordinating Center with the details of the "other" type of pneumonia documented by the admitting provider. ***Answer question 1.1***

  1.1. FOR OTHER, PLEASE SPECIFY
  Instructions: Enter the "other" pneumonia diagnosis in the free text box provided.

2. **DURING THE HOSPITAL ENCOUNTER, INDICATE THE TYPE OF PNEUMONIA THAT IS DETAILED BY THE EMERGENCY ROOM PROVIDER.**

Instructions: Review the medical record to determine the type of pneumonia that was documented by the Emergency Room provider during the hospital encounter.

Note1: If more than one of the selections were documented, please capture the most descriptive/specific form of pneumonia. For example, if the ER provider documented both "pneumonia" and "CAP" in their progress note, please select "CAP" for this question.
Note2: If the patient did not have an Emergency Room Visit as part of the encounter, select "Not Applicable" from the options below.
INCLUDE: Type of pneumonia that is detailed by the emergency department clinician in the emergency narrative notes.
EXCLUDE: Documentation of pneumonia type in antibiotic orders.
Select one of the following:

- "*HCAP*"
  INCLUDE: Healthcare associated pneumonia
- "*CAP*"
  INCLUDE: Community-Acquired Pneumonia
- "*CAP with Risk Factors for Multi-Drug Resistant Organisms (MDRO)"*
  INCLUDE: Community-Acquired Pneumonia with risk factors for multi-drug resistant organisms (MDRO) including MRSA or Pseudomonas
- "*Pneumonia (PNA)"*
  INCLUDE: pneumonia documentation without clarification of the type of pneumonia documented by the inpatient admitting provider, atypical pneumonia, multifocal pneumonia, obstructive pneumonia.
  EXCLUDE: Healthcare associated pneumonia (HCAP), community acquired pneumonia (CAP)
- "*Pneumonia with Risk Factors for Multi-Drug Resistant Organisms (MDRO)"*
  INCLUDE: Pneumonia (unspecified type) with risk factors for multi-drug resistant organisms (MDRO) including MRSA or Pseudomonas
- "*Aspiration Pneumonia*"
  EXCLUDE: Only documentation of aspiration without note of aspiration pneumonia, aspiration pneumonitis
- "*Nosocomial Pneumonia"*
  EXCLUDE: Hospital-acquired pneumonia (HAP)
- "*Hospital Acquired Pneumonia (HAP)"*
  EXCLUDE: Nosocomial pneumonia
- "*Questionable Pneumonia*"
  INCLUDE: Possible pneumonia
- "*Not Pneumonia"*
- "*None of the above*"
- "*Unknown*"

- "*Other*" select if the medical record indicates the patient had a diagnosis of pneumonia documented by the admitting provider that does not fit the other selections above. Please contact the HMS Coordinating Center with the details of the "other" type of pneumonia documented by the admitting provider. ***Answer question 2.1***

  2.1. FOR OTHER, PLEASE SPECIFY
  Instructions: Enter the "other" pneumonia diagnosis in the free text box provided.

3. **AT THE START OF THE ENCOUNTER (PATIENT FIRST ARRIVED IN ER, OBS, INPATIENT) WAS THE PATIENT ALREADY TAKING AN ANTIBIOTIC?**

Instructions: Review the medical record to determine if there is documentation of the patient already taking an antibiotic at the start of the encounter (ER, Obs, Inpatient).
Note: This would be an antibiotic prescribed prior to the encounter that the patient is taking, which was potentially failed outpatient treatment for their pneumonia; not an antibiotic that is prescribed in the ER, Obs, or Inpatient stay for the index hospital encounter. This antibiotic should not be any antibiotic prescribed for a concomitant infection. Ensure this antibiotic is also not for a concomitant infection continued throughout the index hospital encounter that would make the patient ineligible.
EXCLUDE*:* Oral antibiotics for C. Difficile. Antibiotics given specifically for the treatment of a COPD Exacerbation
Select one of the following:

- "*Yes*" ***Answer questions 3.1 and 3.2***
  INCLUDE: Antibiotic courses completed within 1-2 calendar days prior to the encounter.
- "*No*"
  INCLUDE: Select "no" if the patient only received the antibiotic x1 dose at any outside ED or urgent care within 1 calendar day prior to presentation for index encounter, and then presented to your hospital to begin the index encounter.
- *"Unknown"*

  3.1. WHAT IS THE NAME(S) OF THE ANTIBIOTIC(S) THAT THE PATIENT WAS TAKING AT THE START OF THE ENCOUNTER?
  Instructions: Instructions Review the medical record to determine the name(s) of the antibiotic(s) that the patient was taking at the start of the encounter.

EXCLUDE*:* Oral antibiotics for C. Difficile. Antibiotics given specifically for the treatment of a COPD Exacerbation

Select all that apply:

- *"Amikacin (Amikin)"*
- *"Amoxicillin (Novamox, Amoxil, Amoxicot, Dispermox, Moxatag, Moxilin, Trihydrate Trimox, Wymox)"*
- *"Amoxicillin-clavulanic acid (Augmentin, Co-Amoxiclav)"*
- *"Ampicillin (Omnipen, Principen, Totacillin)"*
- *"Ampicillin/Sulbactam (Unasyn)"*
- *"Azithromycin (Zithromax, Sumamed, Zitrocin)"*
- *"Aztreonam (Azactam)"*
- *"Bactrim (Co-Trimoxazole, Sulfamethoxazole, Sulfisoxazole, Trimethoprim, Trimethoprim-Sulfamethoxazole, TMP-SMX)"*
- *"Cefaclor (Ceclor, Ceclor CD)"*
- *"Cefadroxil (Cephadroxil, Duricef)"*
- *"Cefalotin (Cephalothin)"*
- *"Cefazolin (Ancef, Kefzol, Zolicef)"*
- *"Cefdinir (Omnicef, Cefdiel)"*
- *"Cefditoren (Spectracef)"*
- *"Cefepime (Maxipime)"*
- *"Cefiderocol"*
- *"Cefixime (Suprax)"*
- *"Cefoperazone (Cefobid, Cefoperazone Sodium)"*
- *"Cefotaxime (Cephotaxime, Claforan)"*
- *"Cefotetan (Cefotan)"*
- *"Cefoxitin"*
- *"Cefpodoxime"*
- *"Cefprozil (Cefzil)"*
- *"Ceftaroline"*
- *"Ceftazidime (Ceptaz, Fortaz, Tazicef)"*
- *"Ceftazidime-avibactam (Avycaz)"*
- *"Ceftizoxime"*
- *"Ceftolozane/Tazobactam (Zerbaxa)"*
- *"Ceftibuten (Cedax)"*
- *"Ceftriaxone (Rocephin)"*
- *"Cefuroxime (Ceftin, Kefurox, Zinacef)"*
- *"Cephalexin (Cefalexin, Keflex, Keftal, Cefanox, Biocef, Panixine, Zartan)"*
- *"Ciprofloxacin (Cipro, Ciproxin, Ciprobay)"*

- *"Clarithromycin (Biaxin)"*
- *"Clindamycin (Cleocin)"*
- *"Cloxacillin (Tegopen, Coxapen)"*
- *"Colistin (Xylistin, Polymyxin E, Colistimethate)"*
- *"Dalbavancin"*
- *"Daptomycin"*
- *"Delafloxacin (Baxdela)"*
- *"Dicloxacillin (Dycill, Dynapen)"*
- *"Doripenem (Doribax)"*
- *"Doxycycline (Doxycycline hyclate, Doxy, Vibra, Vibramycin)"*
- *"Eravacycline"*
- *"Ertapenem (Invanz)"*
- *"Erythromycin (E-mycin, Ery-tab, Benzamycin)"*
- *"Fidaxomicin"*
- *"Fosfomycin (Monurol)"*
- *"Gemifloxacin"*
- *"Gentamicin (Gentamycin, Garamycin, Cidomycin, Septopal)"*
- *"Imipenem (Primaxin)"*
  INCLUDE: Imipenem/Cilastatin
- *"Imipenem-Relebactam"*
  INCLUDE: Imipenem-cilastatin-relebactam (Recarbrio)
- *"Lefamulin"*
- *"Levofloxacin (Levaquin, Quixin)"*
- *"Linezolid (Zyvox)"*
- *"Meropenem (Merrem)"*
- *"Meropenem Vaborbactam (Vabomere)"*
- *"Metronidazole (Flagyl)"*
- *"Minocycline (Minocycline hydrochloride, Minocin, Dynacin, Myrac, Solodayn, Vectrin)"*
- *"Moxifloxacin (Avelox)"*
- *"Nafcillin (Unipen, Nafcil, Nallpen)"*
- *"Nitrofurantoin (Macrobid)"*
- *"Norfloxacin (Noroxin)"*
- *"Ofloxacin (Floxin)"*
- *"Omadycycline"*
- *"Oritavancin (LY333328)"*
- *"Oxacillin (Prostaphilin, Bactocil, Prostaphlin)"*
- *"Penicillin (Benzylpenicillin, Penicillin G, Bicillin C-R/L-A, Pfizerpen, Wycellin)"*

- *"Piperacillin-tazobactam (Zosyn)"*
- *"Polymixin B"*
- *"Streptomycin"*
- *"Tedizolid"*
- *"Telavancin (TD-6424, Vibativ)"*
- *"Tetracycline (Ala-Tet, Panmycin, Sumycin)"*
- *"Tigecycline (Tigacyl)"*
- *"Tobramycin (Tobrex, Nebcin, Kitabis Pak, Tobi TOBI)"*
- *"Vancomycin (Vancocin, Lyphocin)"*
- *"Other"* if the antibiotic the patient received at the beginning of the encounter is an antibiotic other than one listed above. Please contact the HMS Coordinating Center with the details of the antibiotic prior to making this selection. Please enter the Other antibiotic in the free text box provided.

3.2. FOR [ANTIBIOTIC], HOW MANY DAYS WAS THE PATIENT TAKING THIS MEDICATION PRIOR TO THE START OF THEIR ENCOUNTER? ENTER 9999 IF THE NUMBER OF DAYS IS UNKNOWN/NOT STATED IN MEDICAL RECORD.
Instructions: Instructions Review the medical record to determine the number of days the patient was taking this medication prior to the start of the encounter. If the patient took the antibiotic listed on the day of the start of the encounter, please include this as one day toward this question.

4. **IS THERE DOCUMENTATION OF AN EMPYEMA DURING THE HOSPITAL ENCOUNTER (ER, OBS, INPT)?**

Instructions: Review the medical record to determine if there is documentation of an empyema during the hospital encounter (ER, Obs, Inpatient).
Select one of the following:

- "*Yes*" ***Answer questions 4.1 and 4.2***
- "*No*"
- "*Unknown*"

4.1. DATE OF FIRST DOCUMENTATION
Instructions: Review the medical record to determine the date the empyema was first documented during the hospital encounter (ER, Obs, Inpatient). Indicate the date in the MM/DD/YYYY format.

4.2. DID THE PATIENT HAVE ANY OF THE FOLLOWING TO MANAGE/TREAT THE EMPYEMA?

Instructions: Review the medical record to determine if the patient had any of the following procedures to manage and/or treat the empyema during the hospital encounter.
Select all that apply:

- "*Tube Thoracostomy (Chest Tube)*"
  INCLUDE: chest tube, tube thoracostomy, pleural drain
- "*Open Thoracostomy*"
- "*Video-Assisted Thorascopic Surgery (VATS)/Thorascopic Debridement*"
- "*Unknown*"
- "*None of the above*"

5. **DID THE PATIENT HAVE A DIAGNOSIS OF A 'PARAPNEUMONIC EFFUSION' DURING THE HOSPITAL ENCOUNTER (ER, OBS, INPT)?**

Instructions: Review the medical record to determine if there is documentation of a parapneumonic effusion during the hospital encounter (ER, Obs, Inpatient).
Select one of the following:

- "*Yes*" ***Answer question 5.1***
- "*No*"
- "*Unknown*"

5.1. DATE OF FIRST DOCUMENTATION

Instructions: Review the medical record to determine the date the parapneumonic effusion was first documented during the hospital encounter (ER, Obs, Inpatient). Indicate the date in the MM/DD/YYYY format.

5.2. DID THE PATIENT HAVE ANY OF THE FOLLOWING TO MANAGE/TREAT THE PARAPNEUMONIC EFFUSION?

Instructions: Review the medical record to determine if the patient had any of the following procedures to manage and/or treat the parapneumonic effusion during the hospital encounter.
Select all that apply:

- "*Tube Thoracostomy (Chest Tube)*"
  INCLUDE: chest tube, tube thoracostomy, pleural drain
- "*Open Thoracostomy*"
- "*Video-Assisted Thorascopic Surgery (VATS)/Thorascopic Debridement*"
- "*Unknown*"
- "*None of the above*"

6. **DOES THE MEDICAL RECORD INDICATE 'NECROTIZING PNEUMONIA' DURING THE HOSPITAL ENCOUNTER (ER, OBS, INPT)?**

Instructions: Review the medical record to determine if there is documentation of necrotizing pneumonia during the hospital encounter (ER, Obs, Inpatient).
Select one of the following:

- "*Yes*" ***Answer question 6.1***
- "*No*"
- "*Unknown*"

6.1. DATE OF FIRST DOCUMENTATION

Instructions: Review the medical record to determine the date the necrotizing pneumonia was first documented during the hospital encounter (ER, Obs, Inpatient). Indicate the date in the MM/DD/YYYY format.

7. **DOES THE MEDICAL RECORD INDICATE 'CAVITARY PNEUMONIA' DURING THE HOSPITAL ENCOUNTER (ER, OBS, INPT)?**

Instructions: Review the medical record to determine if there is documentation of cavitary pneumonia during the hospital encounter (ER, Obs, Inpatient).
EXCLUDE: Cavitary lesions
Select one of the following:

- "*Yes*" ***Answer question 7.1***
  INCLUDE: Documentation of Cavitary Consolidation
- "*No*"
- "*Unknown*"

7.1. DATE OF FIRST DOCUMENTATION

Instructions: Review the medical record to determine the date the cavitary pneumonia was first documented during the hospital encounter (ER, Obs, Inpatient). Indicate the date in the MM/DD/YYYY format.

8. **DOES THE MEDICAL RECORD INDICATE ASPIRATION PNEUMONIA DURING THE HOSPITAL ENCOUNTER (ER, OBS, INPT)?**

Instructions: Review the medical record to determine if there is documentation of aspiration pneumonia during the hospital encounter (ER, Obs, Inpatient).
Select one of the following:

- "*Yes*" ***Answer questions 8.1 through 8.3***
  INCLUDE: Documentation of possible aspiration in provider narrative
  EXCLUDE: Documentation of aspiration in imaging findings only

- *"No"*
- *"Unknown"*

8.1. DATE OF FIRST DOCUMENTATION

Instructions: Review the medical record to determine the date the aspiration pneumonia was first documented during the hospital encounter (ER, Obs, Inpatient). Indicate the date in the MM/DD/YYYY format.

8.2. DID THE PATIENT HAVE AN ESOPHAGRAM BARIUM SWALLOW STUDY DURING THE HOSPITAL ENCOUNTER OR WITHIN THE 90 DAYS PRIOR TO THE HOSPITAL ENCOUNTER?

Instructions: Review the medical record to determine if there is documentation that the patient had an esophagram barium swallow study either during the hospital encounter or in the 90 days prior to the hospital encounter.
INCLUDE: Videofluroscopy swallow study with barium, Flexible Endoscopic Evaluation of Swallowing (FEES)
Select one of the following:

- *"Yes"* ***Answer questions 8.2.1 and 8.2.2***
- *"No"*
- *"Unknown"*

8.2.1. DATE OF ESOPHAGRAM BARIUM SWALLOW STUDY

Instructions: Review the medical record to determine the date of the esophagram barium swallow study. Indicate the date in the MM/DD/YYYY format.

8.2.2. DID THE ESOPHAGRAM BARIUM SWALLOW STUDY INDICATE ASPIRATION?

Instructions: Review the medical record to determine if there is documentation that the esophagram barium swallow study indicated aspiration.
Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

8.3. DID THE PATIENT HAVE A SPEECH PATHOLOGY EVALUATION DURING THE HOSPITAL ENCOUNTER OR WITHIN THE 90 DAYS PRIOR TO THE

HOSPITAL ENCOUNTER?

Instructions: Review the medical record to determine if there is documentation that the patient had a speech pathology evaluation either during the hospital encounter or in the 90 days prior to the hospital encounter.

Select one of the following:

- "*Yes*" ***Answer questions 8.3.1 and 8.3.2***
- "*No*"
- "*Unknown*"

8.3.1. DATE OF SPEECH PATHOLOGY EVALUATION

Instructions: Review the medical record to determine the date of the speech pathology evaluation. Indicate the date in the MM/DD/YYYY format.

8.3.2. DID THE SPEECH PATHOLOGY EVALUATION INDICATE ASPIRATION?

Instructions: Review the medical record to determine if there is documentation that the speech pathology evaluation indicated aspiration.

Select one of the following:

- "*Yes*"
  INCLUDE: Documentation of aspiration or cannot rule out aspiration by Speech Language Pathology
- "*No*"
- "*Unknown*"

9. **DOES THE MEDICAL RECORD INDICATE THAT THE PATIENT HAD A TRACHEOSTOMY (TRACH) DURING THE HOSPITAL ENCOUNTER (ER, OBS, INPT)?**

Instructions: Review the medical record to determine if there is documentation that the patient had a tracheostomy or trach during the hospital encounter (ER, Obs, Inpatient).

Note: This is the presence of a trach, not just a procedure to insert a trach.

Select one of the following:

- "*Yes*"
- "*No*"
- "*Unknown*"

10. **IS THERE DOCUMENTATION OF POST OBSTRUCTIVE PNEUMONIA DURING THE HOSPITAL ENCOUNTER (ER, OBS, INPATIENT)?**

Instructions: Review the medical record to determine if there is documentation that the patient had post obstructive pneumonia during the hospital encounter (ER, Obs, Inpatient).
Select one of the following:

- "*Yes*"
- "*No*"
- "*Unknown*"

11. **DID THE DISCHARGE SUMMARY (OR IF TRANSFERRED TO THE ICU IN THE PROGRESS NOTES ON THE DAY OF TRANSFER) STATE "COPD EXACERBATION"?**

Instructions: Review the medical record to determine if 'COPD exacerbation' is noted in the discharge summary.
INCLUDE: Acute on chronic COPD
EXCLUDE: Documentation of "bronchiectasis with acute exacerbation" and "acute bronchitis"
Select one of the following:

- "*Yes*"
- "*No*"
- "*Unknown*"

12. **DID THE DISCHARGE SUMMARY (OR IF TRANSFERRED TO THE ICU IN THE PROGRESS NOTES ON THE DAY OF TRANSFER) STATE "CHF EXACERBATION"?**

Instructions: Review the medical record to determine if 'CHF exacerbation' is noted in the discharge summary.
INCLUDE: Documentation stating "Acute-on-Chronic", "Exacerbation", "Acute", "Acute on Chronic Diastolic Heart Failure"
Select one of the following:

- "*Yes*"
- "*No*"
- "*Unknown*"

Pneumonia Medical History

1. **DOES THE PATIENT HAVE A HISTORY OF PNEUMONIA?**

Instructions: Review the medical record to determine if the patient has a past or present history of pneumonia.
INCLUDE: Lobar pneumonia, bronchopneumonia, aspiration pneumonia, atypical pneumonia, post-obstructive pneumonia, community acquired pneumonia (CAP), fungal pneumonia, acute interstitial pneumonia, bronchial pneumonia, nosocomial pneumonia, healthcare associated pneumonia (HCAP), hospital-acquired pneumonia (HAP), ventilator associated pneumonia (VAP).
EXCLUDE: Allergic pneumonia, Eosinophilic pneumonia, pneumonitis caused by the inflammation of vapors and fumes, radiation pneumonitis, aspiration pneumonitis
Select one of the following:

- *"≤ 30 days"* ***Answer question 1.1***
  EXCLUDE: Diagnosis of pneumonia in the emergency room/observation room that led to the inpatient hospitalization of interest
- *"Positive History"*
  INCLUDE: Documentation of a history of pneumonia more than 30 days prior to the hospital encounter, documentation of a history of pneumonia without a date associated to the diagnosis
- *"No"*
- *"Unknown"*

1.1. WAS THIS PATIENT HOSPITALIZED FOR THEIR DIAGNOSIS OF PNEUMONIA IN THE PREVIOUS 30 DAYS?

Instructions: Review the medical record to determine if the patient was hospitalized for a diagnosis of pneumonia in the 30 days prior to the hospital encounter.
INCLUDE: Observation hospitalizations
Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

2. **DOES THE PATIENT HAVE A HISTORY OF A KIDNEY TRANSPLANT <u>MORE</u> THAN 1 YEAR PRIOR TO THE HOSPITAL ENCOUNTER (ER, OBS, INPT) (REMINDER: PATIENTS WHO HAD A KIDNEY TRANSPLANT WITHIN THE YEAR PRIOR TO THE HOSPITAL ENCOUNTER (ER, OBS, INPT) ARE EXCLUDED)?**

Instructions: Review the medical record to determine if the patient has a history of a kidney transplant more than 1 year prior to the hospital encounter.
Note: If the patient had a kidney transplant within the last year prior to the hospital encounter, that patient is ineligible for abstraction. Also, if the patient was receiving treatment for the rejection of a kidney transplant within the last 6 months, that patient is ineligible for abstraction.
Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

3. **DOES THE PATIENT HAVE A HISTORY OF ASTHMA?**

Instructions: Review the medical record to determine if the patient has a history of asthma.
INCLUDE: Reversible severe obstructive airway disease
Select one of the following:

- "*Yes*"
- "*No*"
- "*Unknown*"

4. **DOES THE PATIENT HAVE A HISTORY OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)/EMPHYSEMA/CHRONIC BRONCHITIS?**

Instructions: Review the medical record to determine if the patient has a past or present history of chronic obstructive pulmonary disease (COPD), emphysema or chronic bronchitis.
INCLUDE: Examples include (but not limited to): Chronic obstructive pulmonary disease (COPD), Chronic obstructive airway disease (COAD), Chronic obstructive lung disease (COLD), chronic bronchitis, Chronic obstructive bronchitis, Chronic tracheobronchitis, Chronic airflow limitation (CAL), Chronic obstructive respiratory disease (CORD), or emphysema
EXCLUDE: Chronic pulmonary disorders such as cystic fibrosis (Reminder: these patients are ineligible), bronchiectasis, reversible severe obstructive airway disease
Select one of the following:

- "*Yes*" ***Answer questions 4.1 through 4.3***
- "*No*"
- "*Unknown*"

4.1. IS THE FORCED EXPIRATORY VOLUME (FEV1) VALUE AVAILABLE? (NOTE: THIS CAN BE FOUND IN THE HISTORY OR PULMONARY FUNCTION TESTS)

Instructions: Review the medical record to determine if the forced expiratory volume (FEV1) is available.

Note: This can be found anytime during the hospital encounter or in past notes (i.e. H&P, pulmonary function tests).

Select one of the following:

- "*Yes*" ***Answer question 4.1.1***
- "*No*"
- "*Unknown*"

4.1.1. FEV1 VALUE

Instructions: Review the patient's medical record for the forced expiratory volume (FEV1). Indicate the forced expiratory volume (FEV1) value as a percent (%). The FEV1 is often documented in the Pulmonary Function test results under the column "% Pred" (% Predicted) for the pre-bronchoscopy testing. Record the most recent FEV1 value found in the documentation. There is no set time frame from which the value may be noted in the documentation. For example, if the most recent FEV1 value is from 2009, then this value should be recorded in the FEV1 Value field. Please see the following example of an FEV1 result (selection in green is what should be entered in this field):

		Pre Meas	Ref	Pre %Ref
FVC	Liters	(2.13)	2.94	(73)
FEV1	Liters	(1.20)	2.34	(51)
FEV1/FVC	%	(56.0)	80.8	(69)

4.2. IS THERE MEDICAL DOCUMENTATION STATING 'SEVERE COPD'?

Instructions: Review the patient's medical record for documentation of "severe COPD".

INCLUDE: Stage 3 and Stage 4 COPD, severe emphysema, extensive COPD, advanced COPD, GOLD Stage C COPD, GOLD Stage D COPD, GOLD Stage E COPD, Oxygen dependent COPD, steroid dependent COPD

Select one of the following:

- "*Yes*"

- *"No"*
- *"Unknown"*

4.3. IS THERE MEDICAL DOCUMENTATION STATING 'MODERATE COPD'?

Instructions: Review the patient's medical record for documentation of "moderate COPD".
INCLUDE: Stage 2 COPD.
EXCLUDE: Only documentation is COPD with Obstructive Sleep Apnea
Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

5. **DOES THE PATIENT HAVE A HISTORY OF A STRUCTURAL LUNG DISEASE (BRONCHIECTASIS, PULMONARY FIBROSIS, INTERSTITIAL LUNG DISEASE)?**

Instructions: Review the medical record to determine if the patient has a history of a structural lung disease, bronchiectasis, or interstitial lung disease or any of these are present on admission.
INCLUDE: Diffuse parenchymal or infiltrative lung disease, pulmonary fibrosis, interstitial lung disease, bronchiectasis, restrictive lung disease, asbestosis, cryptogenic organizing pneumonitis, cryptogenic organizing pneumonia, bronchopulmonary dysplasia, Nonspecific Interstitial Pneumonia (NSIP), Usual Interstitial Pneumonia (UIP), sarcoidosis of the lung, Zephyr valve, lung resection or lobectomy, paralyzed hemidiaphragm, Pneumoconiosis
EXCLUDE: Pneumonia, asthma, acute bronchitis, chronic obstructive pulmonary disease (COPD), histoplasmosis, emphysema, tracheobronchomalacia, pulmonary vascular congestion, obesity hypoventilation syndrome (OHS), Obstructive Sleep Apnea (OSA), Pneumomediastinum, Chronic bronchitis, Tracheobronchitis, Valley Fever/coccidioidomycosis, Chronic hypoxemic respiratory failure, CorPulmonale (pulmonary heart disease), chronic graft vs. host disease with sclerodermatous, lupus pneumonitis if there is documentation that it is active, Lady Windermere Syndrome (Mycobacterium avium complex); *only* documentation of interstitial lung disease on chest x-ray/CT that is not supported by additional physician documentation of interstitial lung disease in a progress note or other documentation
Select one of the following:

- *"Yes"*
- *"No"*

- *"Unknown"*

6. **DOES THE PATIENT HAVE A HISTORY OF NEPHROTIC SYNDROME?**

Instructions: Review the medical record to determine if the patient has a history of nephrotic syndrome or nephrotic syndrome is present on admission.
Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

7. **HAS THE PATIENT RECEIVED WOUND CARE IN THE 30 DAYS PRIOR TO THE HOSPITAL ENCOUNTER?**

Instructions: Review the medical record to determine if the patient received wound care in the 30 days prior to the hospital encounter.
INCLUDE: Treatment or care of a wound provided in the setting outside of a health care facility.
EXCLUDE: Wound care NOT provided by a healthcare professional
Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

8. **HAS THE PATIENT RECEIVED INTRAVENOUS THERAPY (EX: IV ANTIBIOTICS, CHEMOTHERAPY, TPN) IN THE 30 DAYS PRIOR TO THE HOSPITAL ENCOUNTER?**

Instructions: Review the medical record to determine if the patient received intravenous therapy (IV) in the 30 days prior to the hospital encounter.
INCLUDE: Intravenous antibiotic infusion, TPN, intravenous chemotherapy, intralipid infusion therapy (IVF), intravenous immunoglobulin (IVIG), blood transfusions, and albumin
Note: Include both inpatient and outpatient intravenous medications

Examples of <u>appropriate</u> documentation for home intravenous therapy:

- Documentation in an outpatient note from a healthcare professional that the patient received the medication (example: "Patient has taken their IV Vancomycin for the last two days")
- Documentation in the medical record from an infusion clinic regarding the receipt of an IV medication

Examples of inappropriate documentation for home intravenous therapy:

- Documentation of a medication as being ordered on discharge
- Documentation of a medication as being listed as a patient's current medication

Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

9. **HAS THE PATIENT RECEIVED TUBE FEEDING OR ADMINISTRATION OF MEDICATIONS THROUGH A GASTRIC TUBE IN THE 7 DAYS PRIOR TO THE HOSPITAL ENCOUNTER OR ON DAY #1 OR DAY #2 OF THE HOSPITAL ENCOUNTER (ER, OBS, INPT)?**

Instructions: Review the medical record to determine if the patient received tube feeding or administration of medications in the 7 days prior to the hospital encounter (ER, Obs, Inpt) or had tube feeding or administration of medications via a gastric tube on day #1 or day #2 of the hospital encounter (ER, Obs, and Inpatient).
INCLUDE: Tube feeding or administration of medications through a Nasogastric tube (NG- tube), nasojejunal tube (NJ- tube), gastrostomy or gastric tube (G-tube), percutaneous endoscopic gastrostomy (PEG) tube, gastrojejunal tube (GJ-tube), jejunal tube, jejunostomy tube (J-tube)
Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

Abstractor Notes

1. **DO YOU HAVE ANY NOTES?**

Instructions: Indicate whether you have any notes that you would like to include regarding any of the entries in this form or if you would like to exclude this form.
Select one of the following:

- *"Yes"* if you have notes that you would like to include or you would like to exclude this form. ***Answer questions 1.1 and 1.2***
- *"No"* if you do not have notes that you would like to include and you do not want to exclude this form.

1.1. ABSTRACTOR NOTES

Instructions: Use free text to input your notes. IMPORTANT: Please do not enter any Protected Health Information (PHI) into this text box.

Pneumonia Labs (Non Culture)

Instructions: For all questions in the database, "No Answer" is the default selection. This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question.

This is a repeating form. Please enter one lab value per form.

Reminder: This form is for entering of labs in the 30 days prior to the hospital encounter and during the hospital encounter (ER, Obs, and Inpatient).

1. **SELECT THE TYPE OF LAB COLLECTED (ER, OBS, INPATIENT):**

Instructions: Review the medical record to determine if any of the following lab(s) were collected either in the 30 days prior to the hospital encounter or during the hospital encounter (ER, Obs, Inpatient).
INCLUDE: Labs collected on the day of transfer (e.g., ICU).
Select one of the following:

- *"B-Type Natriuretic Peptide (BNP)"* ***Answer questions 1.1 and 1.2***
  INCLUDE: B-type natriuretic peptide, BNP, Brain natriuretic peptide
- *"NT- Pro BNP"* ***Answer questions 1.3 through 1.5***
  EXCLUDE: NT-Pro BNP from pleural fluid
- "*Mycoplasma Pneumoniae Antibody-IgM*" ***Answer questions 1.6 and 1.7***
  Note: The Mycoplasma Pneumoniae Antibody-IgM is a serum test and used to help determine if there is an acute infection from the M. pneumoniae.
  INCLUDE: Lab tests labeled "Mycoplasma Antibody-IgM"
- *"Procalcitonin"* ***Answer questions 1.8 through 1.10***
  INCLUDE: ProCT
- "*Respiratory Legionella PCR"* ***Answer questions 1.11 and 1.12***
  INCLUDE: Respiratory samples that are collected and run for to test for Legionella by PCR
  EXCLUDE: Sputum culture; Legionella Cultures as this should be entered in the Culture form
- *"Respiratory Virus/Pathogen Panel; PCR"* ***Answer questions 1.13 and 1.14***

INCLUDE: Influenza Viruses by PCR, Human Metapneumovirus by PCR, RSV by PCR or Nucleic Acid Amplification (NAA), Respiratory Syncytial Virus by PCR or Nucleic Acid Amplification (NAA), Viral Respiratory Screen, Comprehensive, hMPV by PCR, Mycoplasma pneumoniae (culture by PCR), Chlamydophila pneumoniae by PCR, Influenza A subtypes H1, H3, 2009 H1, Respiratory Viruses Panel, Influenza A by PCR or Nucleic Acid Amplification (NAA), Parainfluenza Viruses by PCR, Influenza B by PCR or Nucleic Acid Amplification (NAA), Parainfluenza 1, 2, 3, 4 Viruses by PCR, Coronavirus by PCR, Human Rhinovirus / Enterovirus by PCR, Adenovirus by PCR, Bordetella pertussis, Respiratory viruses Screen, Influenza rapid or quick test, Influenza Enzyme Immunoassay (EIA), nasopharyngeal direct fluorescent antibody stain and those approved by the HMS Coordinating Center for abstraction.
EXCLUDE: Herpes Simplex 1 & 2, Negative Mycobacterium Tuberculosis (TB) PCR

- *"Urine Legionella (Antigen)"* ***Answer questions 1.15 through 1.17***
  INCLUDE: Legionaries/Legionella, Legionella Urinary Antigen, legionella pneumophilia urine antigen
  Note: Please review this case for eligibility if this result is positive.
- *"Urine Pneumococcal (Antigen)"* ***Answer questions 1.15 through 1.17***
  "Urine Streptococcus pneumonia (Antigen)" ***Answer questions 1.15 through 1.17***
  INCLUDE: Pneumococcal Antigen, Streptococcus pneumoniae Urinary Antigen, Streptococcus pneumoniae Antigen, Urine
- "*Other*" review the available list of pneumonia non-culture lab options and if non-culture lab is not already included, contact the HMS Coordinating Center for instruction. Select only after receiving approval for entry from the HMS Coordinating Center. ***Answer questions 1.18 through 1.20***
  EXCLUDE: Quantiferon- TB Gold Test; Quantiferon – TB Gold Plus, Negative Mycobacterium Tuberculosis (TB) testing; Cardiolipin Antibody Screen; Rheumatoid Factor test; Immunoglobin E test; Immunoglobin A test; Legionella pneumophia Ab IgM blood test; HIV-1 Quantitative PCR; Epstein BARR Virus PCR; Epstein Barr Virus (EBV) IgG or Epstein Barr Virus (EBV) IgM test; MiraVista Histoplasma Antigen (Urine); Blood culture evaluated using Biofire® FilmArray® system; Cytomegalovirus DNA, Quantitation PCR test; Aspergillus, coccidiodes antibodies, blastomyces, histoplasma antibodies; Streptococcus pneumoniae Body Fluid/Blood Antigen; Respiratory syncytial virus (RSV) antibody titers, Pneumocystis jirovecii (DNA) by PCR, Plasma Parvovirus B19 by PCR.

B-Type Natriuretic Peptide (BNP)

1.1. DATE OF COLLECTION

Instructions: Review the medical record to determine the date the B-Type Natriuretic Peptide (BNP) was collected (not the date the result was finalized). Indicate the date in the MM/DD/YYYY format.

1.2. BNP

Instructions: Review the patient's laboratory data and record the B-Type Natriuretic Peptide (BNP). Indicate the B-Type Natriuretic Peptide (BNP) value as a numeric only in pg/mL.

NT- Pro BNP

1.3. DATE OF COLLECTION

Instructions: Review the medical record to determine the date the B-Type Natriuretic Peptide (BNP) was collected (not the date the result was finalized). Indicate the date in the MM/DD/YYYY format.

1.4. DATE OF FINAL RESULT

Instructions: Review the medical record to determine the date the NT- Pro BNP was finalized (not the date the result was collected). Indicate the date in the MM/DD/YYYY format.

1.5. SELECT THE NT- PRO BNP VALUE FROM THE DROP-DOWN LIST

Instructions: Review the patient's laboratory data and determine the NT-Pro BNP value.

Select one of the following:

- *"0-299"*
- *"300-450"*
- *"451-900"*
- *"901 or Greater"*

Mycoplasma Pneumoniae Antibody- IgM

1.6. DATE OF COLLECTION

Instructions: Review the medical record to determine the date the Mycoplasma Pneumoniae Antibody- IgM was collected (not the date the result was finalized).

Indicate the date in the MM/DD/YYYY format.

1.7. INDICATE THE FINAL RESULT:

Instructions: Review the patient's laboratory data and record the final result of the Mycoplasma Pneumoniae Antibody- IgM final result.
Select one of the following:

- "*Positive*"
- "*Negative*"
  INCLUDE: result "Equivocal"

Procalcitonin

1.8. DATE OF COLLECTION

Instructions: Review the medical record to determine the date the Procalcitonin was collected (not the date the result was finalized). Indicate the date in the MM/DD/YYYY format.

1.9. TIME OF COLLECTION (MILITARY TIME)

Instructions: Review the medical record to determine the time the Procalcitonin was collected (not the time the result was finalized). If a Time of Collection is unavailable, please enter the Time of Result for the Procalcitonin lab.
Note: The time must be entered in military time. The format is as follows: Hour : Minutes
Example: 09:58, 12:58, 18:58.

1.10. PROCALCITONIN

Instructions: Review the patient's laboratory data and record the Procalcitonin. Indicate the Procalcitonin value as a numeric only in ng/mL. If value is reported with a symbol, only enter the numeric value. (Example: "< 0.05" is recorded as "0.05")

Respiratory Legionella PCR

1.11. DATE OF COLLECTION

Instructions: Review the medical record to determine the date the Respiratory Legionella PCR was collected (not the date the result was finalized). Indicate the date in the MM/DD/YYYY format.

1.12. FOR LEGIONELLA, PLEASE INDICATE THE RESULT:

Instructions: Review the patient's laboratory data and record the final result of the Respiratory Legionella PCR final result.
Select one of the following:

- "*Detected*"
  INCLUDE: Positive
- "*Not Detected*"
  INCLUDE: Negative

Respiratory Virus/Pathogen Panel (PCR)

1.13. DATE OF COLLECTION

Instructions: Review the medical record to determine the date the Respiratory Virus/Pathogen Panel (PCR) was collected (not the date the result was final). Indicate the date in the MM/DD/YYYY format.

1.14. SELECT THE ORGANISMS THAT WERE TESTED. CHECK ALL THAT APPLY.
Review the medical record to determine the organisms were tested in the Respiratory Virus/Pathogen Panel/Influenza Virus by (PCR).
Note: For all organisms selected, please answer question 1.14.2.
Select all that apply:

- *"Adenovirus"*
- *"Bordetella Parapertussis"*
- *"Bordetella Pertussis"*
- *"Chlamydophila Pneumoniae"*
- *"Coronavirus 229E"*
- *"Coronavirus HKU1"*
- *"Coronavirus NL63"*
- *"Coronavirus OC43"*
- *"Human Metapneumovirus"*
- *"Human Rhinovirus - Enterovirus"*
- *"Influenza A"*
  INCLUDE: Influenza A H3, H1, Influenza A Antigen
- *"Influenza B"*
  INCLUDE: Influenza B Antigen
- *"Mycoplasma Pneumoniae"*
- *"Parainfluenza 1"*

- *"Parainfluenza 2"*
- *"Parainfluenza 3"*
- *"Parainfluenza 4"*
- *"Respiratory Syncytial Virus"*
- *"None of the above"*
- *"Other"* ***Answer question 1.14.1***
  Select only after receiving approval from the HMS Coordinating Center.
  INCLUDE: TB Complex, mycoplasma tuberculosis (refer to exclusion criteria if result is positive), Pneumocystis jirovecii (DNA) by PCR (refer to exclusion criteria if result is positive), and those approved by the HMS Coordinating Center.
  EXCLUDE: Those not approved by the HMS Coordinating Center.
- *"Unknown"*

1.14.1. FOR OTHER, PLEASE SPECIFY
Instructions: Enter the description of the organism(s) as specifically as possible and whether they were 'detected' or 'not detected'.

1.14.2. FOR (SELECTED ORGANISM), PLEASE INDICATE
Instructions: For the selected organism, indicate whether that organism was 'detected' or 'not detected'.
Select one of the following:
- "*Detected*"
- "*Not Detected*"
  INCLUDE: result "Equivocal"

<u>Urine Legionella (Antigen), Urine Pneumococcal (Antigen), or Urine Streptococcus Pneumonia (Antigen)</u>

1.15. DATE OF COLLECTION
Instructions: Review the medical record to determine the date the Urine Legionella (Antigen), Urine Pneumococcal (Antigen) or Urine Streptococcus Pneumonia (Antigen) was <u>collected</u> (not the date the result was finalized).
Indicate the date in the MM/DD/YYYY format.

1.16. DATE OF FINAL RESULT
Instructions: Review the medical record to determine the date the Urine Legionella (Antigen), Urine Pneumococcal (Antigen) or Urine Streptococcus

Pneumonia (Antigen) was finalized (not the date the result was finalized). Indicate the date in the MM/DD/YYYY format.

1.17. INDICATE THE FINAL RESULT:

Instructions: Review the patient's laboratory data and record the final result of the Urine Legionella (Antigen), Urine Pneumococcal (Antigen) or Urine Streptococcus Pneumonia (Antigen).

Select one of the following:

- "*Positive*"
- "*Negative*"

Other

1.18. FOR OTHER, PLEASE SPECIFY

Instructions: Review the medical record to determine the name/type of the other lab. Enter this name/type of lab in the text box provided.

1.19. DATE OF COLLECTION

Instructions: Review the medical record to determine the date the other lab was finalized (not the date the result was finalized). Indicate the date in the MM/DD/YYYY format.

1.20. INDICATE THE FINAL RESULT:

Instructions: Review the patient's laboratory data and record the final result of the Other lab.

Select one of the following:

- "*Positive*"
- "*Negative*"

Abstractor Notes

1. **DO YOU HAVE ANY NOTES OR DO YOU WANT TO EXCLUDE A FORM?**

Instructions: Indicate whether you have any notes that you would like to include regarding any of the entries in this form or if you would like to exclude this form.
Select one of the following:

- *"Yes"* if you have notes that you would like to include or you would like to exclude this form. ***Answer questions 1.1 and 1.2***
- *"No"* if you do not have notes that you would like to include and you do not want to exclude this form.

1.1. ABSTRACTOR NOTES

Instructions: Use free text to input your notes. IMPORTANT: Please do not enter any Protected Health Information (PHI) into this text box.

1.2. DO YOU WANT TO EXCLUDE THIS FORM?

Instructions: Indicate whether you would like to exclude this form from data analysis. This question will default to "No". If you would like to exclude this form, you must manually change the answer to "Yes".
Select one of the following:

- *"Yes"* if you would like to exclude this form from data analysis. ***Answer question 1.2.1***
- *"No"* if you would not like to exclude this form from data analysis.

1.2.1. ARE YOU SURE YOU WANT TO EXCLUDE THIS FORM?

Instructions: Indicate whether you would like to exclude this form from data analysis. This question will default to "No". If you would like to exclude this form, you must manually change the answer to "Yes".
Select one of the following:

- *"Yes"* if you would like to exclude this form from data analysis. Enter the reason for form removal in the abstractor notes section above.
- *"No"* if you would not like to exclude this form from data analysis.

Chest/Abdominal CT

Instructions: For all questions in the database, "No Answer" is the default selection. This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question.

This is a repeating form. Please enter one Chest/Abdominal CT per form.

Reminder: Enter the following Chest CTs (computed tomography or Chest CT Angiography/Angiograms)/Abdominal CTs with lung findings:

- All Chest CTs/Abdominal CTs with lung findings performed in the 7 days prior to the hospital encounter
- All Chest CTs/Abdominal CTs with lung findings performed during the hospital encounter (ER, Observation, Inpatient (except ICU)).
- All Chest CTs/Abdominal CTs with lung findings performed on the day of transfer (e.g. ICU).
- Any comparison Chest CTs/Abdominal CTs with lung findings performed within the one year prior to the hospital encounter ONLY IF the note on the Chest/Abdominal CT performed in the 7 days prior to or during the hospital encounter states “No Change from Previous/No Interval Change” (with no other clinical findings) AND that Chest/Abdominal CT was referenced in the Chest/Abdominal CT during the hospital encounter

1. **DATE OF EXAM**

Instructions: Indicate the date of the Chest/Abdominal CT (computed tomography) in the MM/DD/YYYY format.

2. **WAS THIS A CHEST CT OR ABDOMINAL CT?**

Instructions: Review the medical record to determine was the CT a Chest CT or Abdominal CT.
Select one of the following:

- *“Chest CT”*
  INCLUDE: Chest/Abdominal/Pelvis CTs, PET CTs, CT Thorax

- *"Abdominal CT"*
  EXCLUDE: Abdominal CTs WITHOUT findings pertaining to the lungs
- *"Unknown"*

3. **WHO ORDERED THE CT?**

Instructions: Review the medical record to determine who ordered the Chest/Abdominal CT being abstracted.
Note1: If an advanced practice professional (APP) ordered the Chest/Abdominal CT, please select the type of provider that the APP is working under. For instance, if an attending ER provider is signing off on the APP order for a Chest/Abdominal CT, please select Emergency Room Provider.
Note2: If you are entering a Chest/Abdominal CT prior to the hospital encounter and you cannot tell who the ordering provider is, you may select "Unknown" for the ordering provider.
Select one of the following:

- *"Emergency Room Provider"* ***Answer question 3.1***
- *"Observation/Short Stay Provider"* ***Answer question 3.1***
- *"Hospitalist"* ***Answer question 3.1***
- *"Medicine Sub Specialist"* ***Answer question 3.1***
  INCLUDE: Physicians that specialize in General Medicine and have sub-specialized in another area such as Endocrinology, Cardiology, Gastroenterology, Pulmonologist or Radiologist
- *"General Internist"* ***Answer question 3.1***
- *"Infectious Disease"* ***Answer question 3.1***
- *"Hematologist/Oncologist"* ***Answer question 3.1***
- *"Family Medicine"* ***Answer question 3.1***
- *"Other"* ***Answer question 3.1***
  INCLUDE: Urgent Care providers
- *"Unknown"*

3.1. WAS THE ORDERING PROVIDER FOR THE CT AN ADVANCED PRACTICE PROVIDER (I.E., PHYSICIAN ASSISTANT, NURSE PRACTITIONER, ETC.)?

Instructions: Review the medical record to determine if the provider who ordered the CT is an Advanced Practice Provider, such as a Physician Assistant or Nurse Practitioner. This should be the ordering provider of the CT, not the authorizing provider of the order.
Select one of the following:

- *"Yes"*

INCLUDE: Physician Assistant, Nurse Practitioner
EXCLUDE: Registered nurses, Attending Physicians, Resident Physicians
- *"No"*
- *"Unknown"*

4. **WERE ANY OF THE FOLLOWING DOCUMENTED IN THE CT FINDINGS?**

Instructions: Review the medical record to determine the Chest/Abdominal CT (computed tomography) findings.
INCLUDE: All differentials recorded in the Chest/Abdominal CT report; Provider documentation of CT Findings in Progress Notes
EXCLUDE: Any findings NOT related to the lungs
Example: If CT report reads "opacity in the right middle lobe, could be secondary to an asymmetric pulmonary edema versus pneumonia", select "Air Space Density/Opacity/Disease", "Pulmonary Edema" and "Pneumonia".
Select all that apply:

- "*Abscess*"
- "*Air Bronchograms"*
- "*Air Space Density/Opacity/Disease*"
  INCLUDE: ground glass opacities, radiopacities
- "*Atelectasis*"
- "*Aspiration*"
- "*Aspiration Pneumonia*"
- "*Bronchial wall thickening/pleural thickening*"
  INCLUDE: interstitial thickening, septal thickening
- "*Bronchiectasis*"
  INCLUDE: Bronchiectactic changes
- "*Bronchopneumonia*"
- "*Cannot Rule Out Pneumonia*"
  INCLUDE: rule out (r/o) pneumonia, bilateral pneumonia is not excluded
- "*Cavitation*"
  INCLUDE: cavitary and noncavitary lung nodules
- "*Consolidation*"
  INCLUDE: Notes of "consolidated" if it pertains to the lungs
- "*Emphysema/Emphysematous changes*"
- "*Granuloma"*
- "*Ground Glass*"
  INCLUDE: Documentation of ground glass as an individual finding, ground glass opacities

- "*Hyperinflation*"
- "*Infection (cannot rule out infection, likely infection)*"
  INCLUDE: Abscess
- "*Infiltrate (not specified)"*
  INCLUDE: Infiltrate with no lobe specified
  EXCLUDE: Multifocal infiltrates
- "*Infiltrate (Single Lobe)*"
  INCLUDE: Infiltrate noted to only be in one lobe of the lung
- "*Infiltrate (Multiple Lobes)*"
  INCLUDE: Multifocal infiltrates, infiltrates noted to be in multiple lobes of the lung, multifocal pneumonia
- "*Interstitial lung disease/interstitial disease*"
  INCLUDE: Documentation of prominent interstitial lung markings, interstitial prominence, interstitial thickening.
- "*Interval improvement or resolution*"
- "*Loculations*"
  INCLUDE: Notations of "loculated" if pertaining to the lungs
- "*Mass*"
  EXCLUDE: Masses not within or pertaining to the lungs
- *"Mucus Plugging/Plugging"*
  NOTE: This is specific to Mucus Plugging/Plugging and not the term Mucus alone.
- "*Necrotizing Pneumonia*"
- "*Neoplasm/Metastatic Disease/Malignancy*"
  EXCLUDE: neoplasms, metastatic diseases, or malignancy not within or pertaining to the lungs
- "*New or Worsening Infiltrates*"
- "*Nodular Airspace Disease*"
  INCLUDE: Nodular opacity
- "*Nodules"*
  INCLUDE: reticulonodular pattern
  EXCLUDE: prominent mediastinal nodes
- "*Pleural Effusion*" ***Answer question 4.1***
- "*Pneumonia*"
  INCLUDE: Documentation in the Chest/Abdominal CT report indicating concern for pneumonia, suggestive of pneumonia, pneumonia vs. post-obstructive process, nonspecific findings favoring focal pneumonia, suspicious for pneumonia

- "*Pneumonitis*"
- *"Post Obstructive Pneumonia"*
- "*Pulmonary Edema*"
  EXCLUDE: Edema not located within or pertaining to the lungs
- "*Pulmonary Vascular Congestion*"
  INCLUDE: pulmonary vascular markings, pulmonary vascular prominence, pulmonary vessels distended
  EXCLUDE: Vascular congestion not located within or pertaining to the lungs
- "*No Evidence of Pneumonia*"
- "*No Change from Previous/No Interval Change*"
  Note: Please input the Chest/Abdominal CT that is used for comparison as a separate form (up to one year prior to the hospital encounter) if this is the ONLY finding in the CT you are entering.
- "*Normal/No Abnormalities*"
- "*Tree in Bud*"
- "*None of the above statements*"

4.1. FOR PLEURAL EFFUSION, PLEASE SPECIFY

Instructions: Review the medical record to specify the size of the pleural effusion.
Note: If provided a range select the most acute/severe option. Example: "Moderate to Large" select "Large"
Select one of the following:

- "*Small*"
  INCLUDE: trace
- "*Medium*"
  INCLUDE: Moderate
- "*Large*"
  INCLUDE: "... moderate to large pleural effusion."
- "*Unknown/Not documented*"

5. **WERE OTHER ABNORMAL FINDINGS (NOT INDICATED ABOVE) NOTED IN THE CT?**

Instructions: Review the medical record to determine if there were other abnormal findings, other than is listed above, on the Chest/Abdominal CT (computed tomography).
EXCLUDE: Any findings not related to the lungs
Select one of the following:

- "*Yes*" ***Answer question 5.1***

- *"No"*
- *"Unknown"*

5.1. INDICATE THE ABNORMAL FINDING

Instructions: Review the medical record and indicate the abnormal finding in the text box provided.
Example: If the Chest/Abdominal CT interpretation includes a statement that "... there is an air-fluid level that may represent loculated diffusion abscess, etc.", enter the information about 'air-fluid' level as an abnormal finding.

6. WAS CONTRAST USED FOR THE CT?

Instructions: Review the medical record to determine if a contrast agent was utilized during this Chest/Abdominal CT (computed tomography).
Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

Abstractor Notes

1. DO YOU HAVE ANY NOTES OR DO YOU WANT TO EXCLUDE A FORM?

Instructions: Indicate whether you have any notes that you would like to include regarding any of the entries in this form or if you would like to exclude this form.
Select one of the following:

- *"Yes"* if you have notes that you would like to include or you would like to exclude this form. ***Answer questions 1.1 and 1.2***
- *"No"* if you do not have notes that you would like to include and you do not want to exclude this form.

1.1. ABSTRACTOR NOTES

Instructions: Use free text to input your notes. IMPORTANT: Please do not enter any Protected Health Information (PHI) into this text box.

1.2. DO YOU WANT TO EXCLUDE THIS FORM?

Instructions: Indicate whether you would like to exclude this form from data analysis. This question will default to "No". If you would like to exclude this form, you must manually change the answer to "Yes".

Select one of the following:

- *"Yes"* if you would like to exclude this form from data analysis. ***Answer question 1.2.1***
- *"No"* if you would not like to exclude this form from data analysis.

1.2.1. ARE YOU SURE YOU WANT TO EXCLUDE THIS FORM?

Instructions: Indicate whether you would like to exclude this form from data analysis. This question will default to "No". If you would like to exclude this form, you must manually change the answer to "Yes".

Select one of the following:

- *"Yes"* if you would like to exclude this form from data analysis. Enter the reason for form removal in the abstractor notes section above.
- *"No"* if you would not like to exclude this form from data analysis.

Chest X-Ray

Instructions: For all questions in the database "No Answer", is the default selection. This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question.

This is a repeating form. Please enter one chest X-ray per form.

Reminder: Enter the following Chest X-rays:

- All Chest X-rays performed in the 7 days prior to the hospital encounter
- All Chest X-rays performed up to (and including) hospital Day #7, excluding any days in the ICU. All other Chest X-rays hospital Day #8 and beyond/after should not be entered.
- Any comparison Chest X-ray performed within one year if the ONLY note on the chest X-ray performed 7 days prior to or during the hospital encounter states "*No Change from Previous/No Interval Change"* AND it was referenced in the Chest X-ray.
- Chest X-rays performed on the day of transfer (e.g ICU) that fall within this timeframe.

Note: If a Chest X-ray AND Chest/Abdominal CT with lung findings are NOT completed in their specified timeframes for inclusion and a pneumonia diagnosis was made via Abdominal X-Ray, the other diagnostic method should be entered in this form. For this situation, enter the date of the exam and any findings pertaining to the lungs, making note of the type of diagnostic study in the Abstractor Notes section. If the pneumonia diagnosis was made via a method OTHER than Abdominal X-Ray, please reach out to the HMS Coordinating Center to determine inclusion.

1. **DATE OF EXAM**

Instructions: Indicate the date of the chest X-ray in the MM/DD/YYYY format.

2. **WHO ORDERED THE CHEST X-RAY?**

Instructions: Review the medical record to determine who ordered the Chest X-ray being abstracted.
Note1: If an advanced practice professional (APP) ordered the Chest X-Ray, please select the type of provider that the APP is working under. For instance, if an attending ER provider is signing off on the APP order for a Chest X-Ray, please select Emergency Room Provider.
Note2: If you are entering a chest X-ray prior to the hospital encounter, you may select "Unknown" for the ordering provider.
Choose one of the following answers:

- *"Emergency Room Provider"* ***Answer question 2.1***
- *"Observation/Short Stay Provider"*. ***Answer question 2.1***
- *"Hospitalist"* ***Answer question 2.1***
- *"Medicine Sub Specialist"* ***Answer question 2.1***
  INCLUDE: Physicians that specialize in General Medicine and have sub-specialized in another area such as Endocrinology, Cardiology, or Gastroenterology, Radiology, Pulmonology.
- *"General Internist"* ***Answer question 2.1***
- *"Infectious Disease"* ***Answer question 2.1***
- *"Hematologist/Oncologist"* ***Answer question 2.1***
- *"Family Medicine"* ***Answer question 2.1***
- *"Other"* ***Answer question 2.1***
  INCLUDE: Urgent Care Providers
- *"Unknown"*

2.1. WAS THE ORDERING PROVIDER FOR THE CHEST X-RAY AN ADVANCED PRACTICE PROVIDER (I.E., PHYSICIAN ASSISTANT, NURSE PRACTITIONER, ETC.)?

Instructions: Review the medical record to determine if the provider who ordered the chest x-ray is an Advanced Practice Provider, such as a Physician Assistant or Nurse Practitioner. This should be the ordering provider of the chest x-ray, not the authorizing provider of the order.
Select one of the following:

- *"Yes"*
  INCLUDE: Physician Assistants, Nurse Practitioners
  EXCLUDE: Registered nurses, Attending Physicians, Resident Physicians
- *"No"*
- *"Unknown"*

3. **WERE ANY OF THE FOLLOWING DOCUMENTED IN THE CHEST X-RAY FINDINGS?**

Instructions: Review the medical record to determine the chest x-ray findings.
INCLUDE: All differentials recorded in the Chest X-Ray report; Provider documentation of Chest X-Ray Findings in Progress Notes
Example: If X-Ray report reads "opacity in the right middle lobe, could be secondary to an asymmetric pulmonary edema versus pneumonia", select "Air Spaced Density/Opacity/Disease", "Pulmonary Edema" and "Pneumonia".
Select all that apply:

- "*Abscess*"
- "*Air Bronchograms"*
- "*Air Space Density/Opacity/Disease*"
  INCLUDE: Opacities, radiopacities
- "*Aspiration*"
- "*Aspiration Pneumonia*"
- "*Atelectasis*"
- "*Bronchial wall thickening/pleural thickening*"
  INCLUDE: Interstitial thickening, septal thickening
- "*Bronchiectasis*"
  INCLUDE: Bronchiectactic changes
- "*Bronchopneumonia*"
- "*Cannot Rule Out Pneumonia*"
  INCLUDE: rule out (r/o) pneumonia, bilateral pneumonia is not excluded
- "*Cavitation*"
  Example: Select if X-Ray interpretation states "Bilateral tiny ill-defined cavitary and noncavitary lung nodules."
- "*Consolidation*"
  INCLUDE: Notes of "consolidated" if it pertains to the lungs
- "*Emphysema/Emphysematous changes*"
- "*Granuloma"*
- *"Ground Glass*"
  INCLUDE: Documentation of ground glass as an individual finding.
- "*Hyperinflation*"
- "*Infection (cannot rule out infection, likely infection)*"
  INCLUDE: Abscess
- "*Infiltrate (not specified)*"
  INCLUDE: Infiltrate with no lobe specified
  EXCLUDE: Multifocal infiltrates

- "*Infiltrate (Single Lobe)*"
  INCLUDE: Infiltrate noted to only be in one lobe of the lung
- "*Infiltrate (Multiple Lobes)*"
  INCLUDE: Multifocal infiltrates, infiltrates noted to be in multiple lobes of the lung, multifocal pneumonia
- "*Interstitial lung disease/interstitial disease*"
  INCLUDE: Documentation of prominent interstitial lung markings, interstitial prominence, interstitial thickening.
- "*Interval improvement or resolution*"
- "*Loculations*"
  INCLUDE: Notations of "loculated" if pertaining to the lungs
- "*Mass*"
  EXCLUDE: Masses not within or pertaining to the lungs
- "*Mucus plugging/plugging*"
  Note: This is specific to Mucus Plugging/Plugging and not the term Mucus alone.
- "*Necrotizing Pneumonia*"
- "*Neoplasm/metastatic disease/malignancy*"
  EXCLUDE: neoplasms, metastatic diseases, or malignancy not within or pertaining to the lungs
- "*New or Worsening Infiltrates*"
- "*Nodular Airspace Disease*"
  INCLUDE: Bilateral nodular opacities.
- *"Nodules"*
  INCLUDE: reticulonodular pattern
  EXCLUDE: nodes, prominent mediastinal nodes
- "*Pleural Effusion*" ***Answer question 3.1***
- "*Pneumonia*"
  INCLUDE: Documentation in the Chest X-Ray report indicating concern for pneumonia, suggestive of pneumonia, pneumonia vs. post-obstructive process, nonspecific findings favoring focal pneumonia, suspicious for pneumonia
- "*Pneumonitis*"
- *"Post Obstructive Pneumonia"*
- "*Pulmonary Edema*"
  EXCLUDE: Edema not located within or pertaining to the lungs
- "*Pulmonary Vascular Congestion*"
  INCLUDE: pulmonary vascular markings, pulmonary vascular prominence, pulmonary vessels distended, congestive changes.
  EXCLUDE: Vascular congestion not located within or pertaining to the lungs

- "*No Evidence of Pneumonia*"
- "*No Change from Previous/No Interval Change*"
  Note: Please input the Chest X-ray that is used for comparison as a separate form (up to one year prior to the hospital encounter) if this is the ONLY finding in the CXR you are entering.
- "*Normal/No Abnormalities*"
- "*Tree in Bud*"
- "*None of the above statements*"

3.1. FOR PLEURAL EFFUSION, PLEASE SPECIFY

Instructions: Review the medical record to specify the type of pleural effusion.
Note: If provided a range select the most acute/severe option. Example: "Moderate to Large" select "Large"
Select one of the following:

- "*Small*"
  INCLUDE: trace
- "*Medium*"
  INCLUDE: Moderate
- "*Large*"
  INCLUDE: "... moderate to large pleural effusion."
- "*Unknown/Not documented*"

4. **WERE OTHER ABNORMAL FINDINGS (NOT INDICATED ABOVE) NOTED IN THE CHEST X-RAY?**

Instructions: Review the medical record to determine if there were other abnormal findings, other than is listed above, on the Chest X-ray.
EXCLUDE: Any findings not related to the lungs
Select one of the following:

- "*Yes*" ***Answer question 4.1***
- "*No*"
- "*Unknown*"

4.1. INDICATE THE ABNORMAL FINDING

Instructions: Review the medical record and indicate in the text box provided the abnormal finding.

5. **WAS THE X-RAY IMAGE 1 VIEW OR 2 VIEW?**

Instructions: Review the medical record and indicate if the Chest X-Ray image was 1 view or 2 view.
Select one of the following:

- *"1 View"*
  INCLUDE: View that states inspiration and expiration.
- *"2 view"*
  INCLUDE: images that are 2 views or greater
- *"Unknown"*

Abstractor Notes

1. **DO YOU HAVE ANY NOTES OR DO YOU WANT TO EXCLUDE A FORM?**

Instructions: Indicate whether you have any notes that you would like to include regarding any of the entries in this form or if you would like to exclude this form.
Select one of the following:

- *"Yes"* if you have notes that you would like to include or you would like to exclude this form. ***Answer questions 1.1 and 1.2***
- *"No"* if you do not have notes that you would like to include and you do not want to exclude this form.

1.1. ABSTRACTOR NOTES

Instructions: Use free text to input your notes. IMPORTANT: Please do not enter any Protected Health Information (PHI) into this text box.

1.2. DO YOU WANT TO EXCLUDE THIS FORM?

Instructions: Indicate whether you would like to exclude this form from data analysis. This question will default to "No". If you would like to exclude this form, you must manually change the answer to "Yes".
Select one of the following:

- *"Yes"* if you would like to exclude this form from data analysis. ***Answer question 1.2.1***
- *"No"* if you would not like to exclude this form from data analysis.

1.2.1. ARE YOU SURE YOU WANT TO EXCLUDE THIS FORM?

Instructions: Indicate whether you would like to exclude this form from data analysis. This question will default to “No”. If you would like to exclude this form, you must manually change the answer to “Yes”.
Select one of the following:

- *“Yes”* if you would like to exclude this form from data analysis. Enter the reason for form removal in the abstractor notes section above.
- *“No”* if you would not like to exclude this form from data analysis.

UTI Window (Based on NHSN Definition)

Instructions: For all questions in the database, "No Answer" is the default selection. This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question.

The UTI Window is based upon the date entered for the first positive urine culture collected during the hospital encounter. The window ranges from 3 calendar days prior, to 3 calendar days after the first positive urine culture is collected. Information on 7 days after collection of the first positive urine culture will be captured as well.

Note1: Please enter information you see in the medical chart prior to collection of the first positive urine culture (Day -3, Day -2, or Day -1) even if it is from an institution/care location *outside* of your hospital institution.

Example:

Day -3	**Day -2**	**Day -1**	**Date of Collection of First Positive Urine Culture**	**Day +1**
Patient at home	Patient at home	Patient seen in urgent care clinic	Patient begins hospital encounter	Patient admitted inpatient
		Capture VS, labs, symptoms noted in medical record	Capture VS, labs, symptoms noted in medical record	Capture VS, labs, symptoms noted in medical record

Note2: If the patient is discharged and readmitted in the UTI Window period, exclude vital signs, symptoms and labs collected **after** the patient is discharged from the index encounter.

Day -3	Day -2	Day -1	Date of Collection of First Positive Urine Culture	Day + 1	Day + 2	Day + 3
Patient at home	Patient at home	Patient seen in urgent care clinic	Patient begins hospital encounter	Patient admitted inpatient	Patient discharged	Patient readmitted to ED
		Capture VS, labs, symptoms noted in medical record	Capture VS, labs, symptoms noted in medical record	Capture VS, labs, symptoms noted in medical record	Capture VS, labs, symptoms noted in medical record	DO NOT capture VS, labs, symptoms

Date of Collection of First Positive Urine Culture

1. **DATE OF COLLECTION OF THE FIRST POSITIVE URINE CULTURE DURING THE HOSPITAL ENCOUNTER**

Instructions: Review the medical record to determine the date that the first positive urine culture was collected during the hospital encounter. Enter the date in MM/DD/YYYY format.

REMINDER: The specific date for each of the 7 days during the UTI Window will populate according to the date entered in question 1.

Days -3 through +3 and Day 7 Post-Urine Culture Collection

1. **WERE ANY OF THE FOLLOWING DOCUMENTED ON THIS DAY?**

Instructions: Review the medical record to determine whether any of the following (i.e., symptoms, laboratory or vital signs) were documented on the specified date. Only enter what is documented in the medical record on that day.

NOTE: For Day 7 Post-Urine Culture collection - if the patient transfers to the ICU *after* day 3 post-urine culture collection and is still in your hospital on day 7 post-urine culture, do not capture any information for this day as abstraction ends at the time of ICU transfer.

Select all that apply:

- "*Symptoms*" ***Answer question 1.1***
- "*Laboratory*" ***Answer question 1.2 through 1.7***
- "*Vital Signs*" ***Answer question 1.8 through 1.13***
  Note: If only one vital sign is recorded in the specified timeframe, please enter it as both the highest and lowest (i.e. if one temperature is recorded, please enter as both the highest and lowest temperature)
- "*None of the Above*"

1.1. WERE ANY OF THE FOLLOWING SYMPTOMS NOTED IN THE MEDICAL DOCUMENTATION (I.E., PROGRESS NOTES, OUTPATIENT NOTES, H&P, NURSING DOCUMENTATION, ETC.) ON THE DATE INDICATED ABOVE? NOTE: THESE SYMPTOMS SHOULD BE NEW OR WORSENING FROM THE PATIENT'S BASELINE STATE.

Instructions: Review the medical record to determine whether any of the following symptoms were documented on the specified date. Only enter what is documented in the medical record on that day.

Note1: If the admission H&P/Emergency Room note indicates the patient had symptom(s) prior to the hospital encounter, the symptom(s) should only be entered on the day it is documented. For example, "the H&P states the patient had urinary frequency for the past 3 days". The symptom urinary frequency only needs to be entered on the day of admission.

INCLUDE: Applicable urinary symptoms from nursing documentation/flowsheets, symptoms documented in the medical record at outside institutions on that calendar day if visible in your EMR, new or worsening symptoms ONLY,

EXCLUDE: Chronic symptoms that are not new or worsening from the patient's baseline, symptoms ONLY noted in a urinalysis or in an order for a urinalysis or urine culture

Select all that apply:

- "*Abdominal pain*" ***Answer question 1.1.1.***
- "*Altered mental status*"
  INCLUDE: Hallucinations
- *"Autonomic dysreflexia/reflexia (spinal cord injury patients only)"*
  INCLUDE: Autonomic dysreflexia in patients who have any spinal trauma or auto-inflammatory spinal condition (such as cerebral palsy, Spina bifida, multiple sclerosis, and transverse myelitis)
- *"Back pain"*
- *"Change in urine color"*
- "*Chills*"
  EXCLUDE: Rigors, Shaking Chills (if both are noted together)
- *"Cloudy/dirty urine"*
- *"Confusion"*
- *"Costovertebral (CVA) angle pain or tenderness"*
  INCLUDE: Documentation of "kidney area is tender"
- *"Delirium"*
- *"Dysuria (pain or burning with urination)"*
  EXCLUDE: "difficulty urinating"
- *"Falls"*
  INCLUDE: Documentation by the medical provider that the patient fell on the specified day.
  EXLUDE: If the ONLY documentation is that the patient had a score for the Morse Falls Scale indicative of a fall risk.
- *"Fatigue"*
- "*Fever (subjective, no documented temperature)*"
  INCLUDE: Documentation of fever/febrile without documentation of specific temperature. This should be from documentation by a provider/nurse ONLY.
  EXCLUDE: Temperatures only documented in vital signs flow sheets. We capture this in the Vital Signs section on this day.
- "*Fever (37.9 to 38 C or 100.2 to 100.4 F)*"
  INCLUDE: Documentation of fever/febrile with a temperature documented of 37.9 to 38.0 C or 100.2 to 100.4 F. This should be from documentation by a provider/nurse ONLY.
  EXCLUDE: Temperatures only documented in vital signs flow sheets. We capture this in the Vital Signs section on this day.
- "*Fever (> 38 C or >100.4 F)*"
  INCLUDE: Documentation of fever/febrile with a temperature documented of greater than 38.0 C or greater than 100.4 F. This should be from

documentation by a provider/nurse ONLY.
EXCLUDE: Temperatures only documented in vital signs flow sheets. We capture this in the Vital Signs section on this day.

- *"Flank pain"*
- "*Frequency of urination"*
  INCLUDE: Increased frequency of incontinence.
  EXCLUDE: Frequency of urination when documented that it is specifically related to the administration of a diuretic.
- *"Functional decline"*
  INCLUDE: decreased physical activity
- *"Hematuria (visible blood in the urine with no alternate explanation)"*
  INCLUDE: Documentation of "gross" or "visible" blood in the urine.
  EXCLUDE: Documentation of "red-tinged urine" only. Documentation of RBCs or blood in a urinalysis ONLY.
- *"Increase in sediment in urine"*
- "*Increased seizure activity"*
- *"Increased spasticity (spinal cord injury patients only)"*
  INCLUDE: Increased spasticity in patients who have any spinal trauma or auto-inflammatory spinal condition (such as cerebral palsy, Spina bifida, multiple sclerosis, and transverse myelitis)
- *"Lethargy"*
- *"Malaise"*
- *"Malodorous urine"*
- *"Mental status change"*
- *"Nausea"*
- *"New sediment in urine"*
- *"Obtunded"*
  INCLUDE: Documentation that the patient had a reduced level of consciousness, reduced awareness, comatose, etc.
- *"Post void residual of 200 cc or greater"*
  Note: This will most likely be found via a bladder scan
- *"Pyuria"*
- *"Rigors"*
  INCLUDE: Shaking chills (if documented together)
  EXCLUDE: Chills
- *"Suprapubic pain or tenderness"*
  INCLUDE: Hypogastric pain.
- *"Urinary hesitancy"*

- *"Urinary incontinence"*
  INCLUDE*:* documentation of "urine dribbling"
  EXCLUDE: Only documentation is use of a condom catheter or briefs
- *"Urinary retention"*
  INCLUDE: incomplete bladder emptying
- *"Urgency of urination"*
  EXCLUDE: Urgency of urination when documented that it is specifically related to the administration of a diuretic.
- *"Vomiting"*
- *"Other"* ***Answer question 1.1.2***
  Please contact the HMS Coordinating Center before making this selection.
- "*None of the above*"
- "*No documentation available (patient not in the hospital)*"

1.1.1. FOR ABDOMINAL PAIN, PLEASE INDICATE THE LOCATION.

Instructions: Review the medical record to determine where the location of the abdominal pain is.
Check all that apply.

- *"Epigastric"*
- *"Right Upper Quadrant"*
- *"Right Lower Quadrant"*
- *"Left Upper Quadrant"*
- *"Left Lower Quadrant"*
- *"Other"* ***Answer question 1.1.1.1***
  Please contact the HMS Coordinating Center before making this selection.
  INCLUDE: Generalized abdominal pain
- *"Unknown"*

1.1.1.1. FOR OTHER ABDOMINAL PAIN LOCATION, PLEASE SPECIFY.

Instructions: Enter in the "other" abdominal pain location using free text in the box provided.

1.1.2. FOR OTHER, PLEASE SPECIFY

Instructions: Enter in the "other" symptom using free text in the box provided.

1.2. IS A CREATININE AVAILABLE ON THE DATE INDICATED ABOVE?

Instructions: Review the medical record to determine if a creatinine level is available on the specified date.

INCLUDE: Lab results documented at outside institutions on this calendar day if these records are visible in your site's EMR (i.e., outside and affiliated emergency departments, urgent care facilities, and outpatient physician visits), and this is prior to the collection of the first positive urine culture at your institution.

- *"Yes"* ***Answer question 1.2.1***
- *"No"*
- *"Unknown"*

1.2.1. HIGHEST CREATININE

Instructions: Indicate the highest creatinine value reported on the specified date as a numeric value in mg/dL.

1.3. IS A TOTAL BILIRUBIN AVAILABLE ON THE DATE INDICATED ABOVE?

Instructions: Review the medical record to determine if a total bilirubin is available on the specified date.
INCLUDE: Lab results documented at outside institutions on this calendar day if these records are visible in your site's EMR (i.e., outside and affiliated emergency departments, urgent care facilities, and outpatient physician visits), and this is prior to the collection of the first positive urine culture at your institution.

- *"Yes"* ***Answer question 1.3.1***
- *"No"*
- *"Unknown"*

1.3.1. HIGHEST BILIRUBIN

Instructions: Indicate the highest total bilirubin value reported on the specified date as a numeric value in mg/dL.

1.4. IS A LACTIC ACID AVAILABLE ON THE DATE INDICATED ABOVE?

Instructions: Review the medical record to determine if a lactic acid is available on the specified date.
INCLUDE: Lactic Acid/Lactate from serum/plasma or arterial/venous blood gas; i-STAT System test for lactate. Lab results documented at outside institutions on this calendar day if these records are visible in your site's EMR (i.e., outside and affiliated emergency departments, urgent care facilities, and outpatient physician visits), and this is prior to the collection of the first positive urine culture at your institution.
Choose one of the following:

- *"Yes"* ***Answer question 1.4.1***

- *"No"*
- *"Unknown"*

1.4.1. HIGHEST LACTIC ACID

Instructions: Indicate the highest lactic acid value reported on the specified date as a numeric value in mmol/L.

1.5. IS A WHITE BLOOD CELL (WBC) COUNT AVAILABLE ON THE DATE INDICATED ABOVE?

Instructions: Review the medical record to determine if a WBC count is available on the specified date.
INCLUDE: Lab results documented at outside institutions on this calendar day if these records are visible in your site's EMR (i.e., outside and affiliated emergency departments, urgent care facilities, and outpatient physician visits), and this is prior to the collection of the first positive urine culture at your institution.
Choose one of the following:

- *"Yes"* ***Answer question 1.5.1***
- *"No"*
- *"Unknown"*

1.5.1. IS THERE MORE THAN ONE WHITE BLOOD CELL (WBC) VALUE ON THE DATE INDICATED ABOVE?

Instructions: Review the medical record to determine if there is more than one WBC value reported on the specified date.
Choose one of the following:

- *"Yes"* ***Answer questions 1.5.1.1 and 1.5.1.2***
- *"No"* ***Answer question 1.5.1.3***

1.5.1.1. HIGHEST WHITE BLOOD CELL (WBC)

Instructions: Indicate the highest WBC reported on the specified date as a numeric value in K/uL.

1.5.1.2. LOWEST WHITE BLOOD CELL (WBC)

Instructions: Indicate the lowest WBC reported on the specified date as a numeric value in K/uL.

1.5.1.3. WHITE BLOOD CELL (WBC)

Instructions: Indicate the WBC reported on the specified date as a numeric value in K/uL.

1.6. IS A PLATELET COUNT AVAILABLE ON THE DATE INDICATED ABOVE?

Instructions: Review the medical record to determine if platelet count is available on the specified date.
INCLUDE: Lab results documented at outside institutions on this calendar day if these records are visible in your site's EMR (i.e., outside and affiliated emergency departments, urgent care facilities, and outpatient physician visits), and this is prior to the collection of the first positive urine culture at your institution.
Choose one of the following:

- *"Yes"* ***Answer question 1.6.1***
- *"No"*
- *"Unknown"*

1.6.1. LOWEST PLATELETS

Instructions: Indicate the lowest platelet count reported on the specified date as a numeric value in thousand mcL.

1.7. IS AN INR AVAILABLE ON THE DATE INDICATED ABOVE?

Instructions: Review the medical record to determine if an INR is available on the specified date.
INCLUDE: Lab results documented at outside institutions on this calendar day if these records are visible in your site's EMR (i.e., outside and affiliated emergency departments, urgent care facilities, and outpatient physician visits), and this is prior to the collection of the first positive urine culture at your institution.
Choose one of the following:

- *"Yes"* ***Answer question 1.7.1***
- *"No"*
- *"Unknown"*

1.7.1. HIGHEST INR

Instructions: Indicate the highest INR reported on the specified date as a numeric value.

1.8. TEMPERATURE HIGHEST

Instructions: Review the medical record to determine the highest temperature in degrees Celsius (C) on the specified date. Indicate the range that appropriately

includes the highest temperature.
INCLUDE: Vital sign results documented at outside institutions on this calendar day if these records are visible in your site's EMR (i.e., outside and affiliated emergency departments, urgent care facilities, and outpatient physician visits), and this is prior to the collection of the first positive urine culture at your institution.
Note 1: if only one temperature is recorded in the specified timeframe, please enter it as both the highest and the lowest temperature
Note 2: The default value for this field is 'Normal (36.1 C to 37.8 C)'. The selection in the drop-down menu should be changed if the default value is incorrect.
Select one of the following:

- *"Abnormal (35.9 C or less)"*
- *"Abnormal (36 C)"*
- *"Normal (36.1 C to 37.8 C)"*
- *"Normal (37.9 C)*
- *"Normal (38.0 C)"*
- *"Abnormal (38.1 C to 38.2 C)"*
- *"Abnormal (38.3 C)*
- *"Abnormal (38.4 C or greater)"*
- *"Not Available"*
- *"Not Available - Patient not in the hospital"*
- *"DO NOT USE" – Please do not use this selection in the database.*

1.9. TEMPERATURE LOWEST

Instructions: Review the medical record to determine the lowest temperature in degrees Celsius (C) on the specified date. Indicate the range that appropriately includes the lowest temperature.
INCLUDE: Vital sign results documented at outside institutions on this calendar day if these records are visible in your site's EMR (i.e., outside and affiliated emergency departments, urgent care facilities, and outpatient physician visits), and this is prior to the collection of the first positive urine culture at your institution.
Note 1: if only one temperature is recorded in the specified timeframe, please enter it as both the highest and the lowest temperature
Note 2: The default value for this field is 'Normal (36.1 C to 37.8 C)'. The selection in the drop-down menu should be changed if the default value is incorrect.
Select one of the following:

- *"Abnormal (35.9 C or less)"*

- *"Abnormal (36 C)"*
- *"Normal (36.1 C to 37.8 C)"*
- *"Normal (37.9 C)*
- *"Normal (38.0 C)"*
- *"Abnormal (38.1 C to 38.2 C)"*
- *"Abnormal (38.3 C)*
- *"Abnormal (38.4 C or greater)"*
- *"Not Available"*
- *"Not Available - Patient not in the hospital"*
- *"DO NOT USE" – Please do not use this selection in the database.*

1.10. HEART RATE (BPM) HIGHEST

Instructions: Review the medical record to determine the highest heart rate (BPM) on the specified date. Indicate the range that appropriately includes the highest heart rate.

INCLUDE: Vital sign results documented at outside institutions on this calendar day if these records are visible in your site's EMR (i.e., outside and affiliated emergency departments, urgent care facilities, and outpatient physician visits), and this is prior to the collection of the first positive urine culture at your institution.

Note: The default value for this field is 'Normal (Less than 90 BPM)'. The selection in the drop-down menu should be changed if the default value is incorrect.

Select one of the following:

- *"Normal (less than 90 BPM)"*
- *"Abnormal (90 BPM)"*
- *"Abnormal (91 BPM or greater)"*
- *"Not Available"*
- *"Not Available - Patient not in the hospital"*

1.11. RESPIRATORY RATE HIGHEST

Instructions: Review the medical record to determine the highest respiratory rate on the specified date. Indicate the range that appropriately includes the highest respiratory rate.

INCLUDE: Vital sign results documented at outside institutions on this calendar day if these records are visible in your site's EMR (i.e., outside and affiliated emergency departments, urgent care facilities, and outpatient physician visits), and this is prior to the collection of the first positive urine culture at your institution.

Note: The default value for this field is 'Normal (Less than 20)'. The selection in the drop-down menu should be changed if the default value is incorrect.
Select one of the following:

- *"Normal (less than 20)"*
- *"Abnormal (20)"*
- *"Abnormal (21)"*
- *"Abnormal (22 or Greater)*
- *"Not Available"*
- *"Not Available - Patient not in the hospital"*

1.12. BLOOD PRESSURE (SYSTOLIC LOWEST) - MMHG

Instructions: Review the medical record to determine the lowest systolic blood pressure on the specified date. Indicate the range that appropriately includes the lowest systolic blood pressure in mmHg.
INCLUDE: Vital sign results documented at outside institutions on this calendar day if these records are visible in your site's EMR (i.e., outside and affiliated emergency departments, urgent care facilities, and outpatient physician visits), and this is prior to the collection of the first positive urine culture at your institution.
Note: The default value for this field is 'Normal (101 mmHg or Greater)'. The selection in the drop-down menu should be changed if the default value is incorrect.
Select one of the following:

- *"Normal (101 mmHg or greater)"*
- *"Abnormal (90 mmHg to 100 mmHg)"* ***Answer questions 1.12.1 and 1.12.2***
- *"Abnormal (Less than 90 mmHg)"* ***Answer questions 1.12.1 and 1.12.2***
- *"Not Available"*
- *"Not Available - Patient not in the hospital"*

1.12.1. DID THE PATIENT RECEIVE INTRAVENOUS FLUIDS FOLLOWING THE SYSTOLIC BLOOD PRESSURE OF LESS THAN 100 MMHG ON THE DATE INDICATED ABOVE?

Instructions: Review the medical record to determine if the patient received intravenous (IV) fluids following the blood pressure of less than 100 mmHg on the specified date.
Select one of the following:

- "*Yes*" ***Answer question 1.12.1.1***

INCLUDE*:* Fluid administration/boluses that are directly correlated with the hypotension/systolic blood pressure of less than 100; Documentation that a fluid bolus was given for hypotension regardless of whether there is an order or documentation in the medication administration record (MAR). If prior to collection of the first positive urine culture, **include** IV fluids administered at outside institutions on this calendar day for systolic blood pressure less than 100 mmHg, if available in your site's EMR (i.e., outside and affiliated emergency departments, urgent care facilities, outpatient physician visits, and EMS).

- *"No"*
- *"Unknown"*

1.12.1.1. INDICATE THE NUMBER OF LITERS

Instructions: Review the medical record to determine the number of liters of intravenous (IV) fluids the patient received following the blood pressure of less than 100 mmHg on the specified date.
Select one of the following:

- *"Less than 1"*
- *"1"*
- *"2"*
- *"3"*
- *"4"*
- *"5"*
- *"6"*
- *"7"*
- *"8+"*

1.12.2. DID THE PATIENT RECEIVE A VASOPRESSOR (EX: DOPAMINE, NOREPINIPHRINE OR LEVOPHED) FOLLOWING THE SYSTOLIC BLOOD PRESSURE OF LESS THAN 100 MMHG ON THE DATE INDICATED ABOVE?

Instructions: Review the medical record to determine if the patient received a vasopressor (such as dopamine, norepinephrine, or levophed) following the systolic blood pressure of less than 100 mmHg on the specified date.
Select one of the following:

- *"Yes"*
  EXCLUDE: Midodrine

INCLUDE: If prior to collection of the first positive urine culture, **include** vasopressors administered at outside institutions on this calendar day for systolic blood pressure
less than 100 mmHg, if available in your site's EMR (i.e., outside and affiliated emergency departments, urgent care facilities, outpatient physician visits, and EMS).

- *"No"*
- *"Unknown"*

1.13. BLOOD PRESSURE (DIASTOLIC LOWEST) - MMHG

Instructions: Review the medical record to determine the lowest diastolic blood pressure on the specified date. Indicate the range that appropriately includes the lowest diastolic blood pressure in mmHg.
Note: The default value for this field is 'Normal (60 mmHg or Greater)'. The selection in the drop-down menu should be changed if the default value is incorrect.

- *"Normal (60 mmHg or greater)"*
- *"Abnormal (Less than 60 mmHg)"*
- *"Not Available"*
- *"Not Available - Patient not in the hospital"*

Abstractor Notes

1. DO YOU HAVE ANY NOTES?

Instructions: Indicate whether you have any notes that you would like to include regarding any of the entries in this form or if you would like to exclude this form.
Select one of the following:

- *"Yes"* if you have notes that you would like to include or you would like to exclude this form. ***Answer questions 1.1 and 1.2***
- *"No"* if you do not have notes that you would like to include and you do not want to exclude this form.

1.1. ABSTRACTOR NOTES

Instructions: Use free text to input your notes. IMPORTANT: Please do not enter any Protected Health Information (PHI) into this text box.

UTI

Instructions: For all questions in the database, "No Answer" is the default selection.
This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question.

For all questions, the hospital encounter is defined as the point of admission (ER, Obs, Inpatient) to the point of discharge/transfer.

UTI Medical History

1. **DOES THE PATIENT HAVE A HISTORY OF URINARY TRACT INFECTIONS(S) (UTI)?**

Instructions: Review the medical record to determine if the patient has a history of a urinary tract infection(s)/UTIs. The information is most often noted in the History and Physical (H&P) documentation on admission to the hospital.
INCLUDE: History of cystitis, bladder infection, kidney infection, and pyelonephritis prior to the hospital encounter.
Select one of the following:

- *"< 30 Days"*
- *"Positive History"*
- *"No"*
- *"Unknown"*

2. **DOES THE PATIENT HAVE A HISTORY OF NEPHROLITHIASIS (KIDNEY STONES) DURING THE HOSPITAL ENCOUNTER OR IN THE 30 DAYS PRIOR TO THE HOSPITAL ENCOUNTER?**

Instructions: Review the medical record to determine if there is documentation of nephrolithiasis/kidney stones in the 30 days prior to the hospital encounter or during the hospital encounter (ER, Obs, Inpatient).
Select one of the following:

- *"During the hospital encounter"*
- *"< 30 Days prior to the hospital encounter"*

- *"No"*
  INCLUDE: If the medical record indicates the patient had a history of nephrolithiasis (kidney stones) but the date of occurrence is unknown or the date of occurrence was more than 30 days prior to the hospital encounter (ER, Obs, Inpatient)
- *"Unknown"*

3. **DOES THE PATIENT HAVE A HISTORY OF URINARY RETENTION DURING THE HOSPITAL ENCOUNTER OR IN THE 30 DAYS PRIOR TO THE HOSPITAL ENCOUNTER?**

Instructions: Review the medical record to determine if there is documentation of urinary retention prior to the hospital encounter (ER, Obs, Inpatient) or during the hospital encounter.
INCLUDE: incomplete bladder emptying
Select one of the following:
- *"During the hospital encounter"*
- *"< 30 Days prior to the hospital encounter"*
- *"No"*
- *"Unknown"*

4. **DOES THE PATIENT HAVE A HISTORY OF NEUROGENIC BLADDER DURING THE HOSPITAL ENCOUNTER OR IN THE 30 DAYS PRIOR TO THE HOSPITAL ENCOUNTER?**

Instructions: Review the medical record to determine if there is documentation of neurogenic bladder prior to the hospital encounter (ER, Obs, Inpatient) or during the hospital encounter.
INCLUDE: neuro-muscular bladder dysfunction
Select one of the following:
- *"During the hospital encounter"*
- *"< 30 Days prior to the hospital encounter"*
- *"No"*
- *"Unknown"*

5. **DOES THE PATIENT HAVE A HISTORY OF URINARY INCONTINENCE DURING THE HOSPITAL ENCOUNTER OR IN THE 30 DAYS PRIOR TO THE HOSPITAL ENCOUNTER?**

Instructions: Review the medical record to determine if there is documentation of urinary incontinence in the 30 days prior to the hospital encounter or during the

hospital encounter (ER, Obs, Inpatient).
Select one of the following:

- *"During the hospital encounter"*
- *"< 30 Days prior to the hospital encounter"*
- *"No"*
- *"Unknown"*

6. **DOES THE PATIENT HAVE ANY HISTORY OF A SPINAL CORD INJURY?**

Instructions: Review the medical record to determine if there is documentation of a spinal cord injury prior to the hospital encounter (ER, Obs, Inpatient).
INCLUDE: Patients with traumatic spinal cord injury, spinal lesions (e.g. transverse myelitis), and/or spinal tumors, epidural abscess, neuromyelitis, Spina Bifida, Cerebral Palsy, Multiple Sclerosis.
EXCLUDE: Paralysis due to spinal stenosis.
Select one of the following:

- *"Yes"*
- *"No"*
  Example: Select if patient has a history of neurogenic bladder secondary to an old back surgery without documentation of a spinal cord injury.
- *"Unknown"*

7. **DURING THE HOSPITAL ENCOUNTER, IS THERE DOCUMENTATION OF PYELONEPHRITIS, PYELITIS, OR URETERITIS?**

Instructions: Review the medical record to determine if there is documentation of pyelonephritis, pyelitis, or ureteritis during the hospital encounter (ER, Obs, Inpatient).
INCLUDE: tubule-interstitial nephritis
EXCLUDE: Acute interstitial nephritis
Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

8. **DURING THE HOSPITAL ENCOUNTER, IS THERE PHYSICIAN DOCUMENTATION OF ASYMPTOMATIC BACTERIURIA OR COLONIZATION?**

Instructions: Review the medical record to determine if there is physician documentation of asymptomatic bacteriuria (ASB) or colonization during the hospital encounter (ER, Obs, Inpatient).

INCLUDE: Documentation by provider that states “no symptoms, asymptomatic, asymptomatic pyuria, lacking symptoms (only for symptoms associated with a UTI)” when referring to the UTI or positive urine culture/urinalysis.
Select one of the following:

- “*Yes*”
- “*No*”
- “*Unknown*”

9. **DURING THE COURSE OF THE HOSPITAL ENCOUNTER (ER, OBS, INPT), DID THE PATIENT HAVE AN INFECTIOUS DISEASE CONSULT?**

Instructions: Review the medical record to determine if the patient had an infectious disease consult during the hospital encounter.
Select one of the following:

- “*Yes*” ***Answer question 10.1***
  INCLUDE: If the attending/admitting provider is an ID physician and there is not an ID consult ordered, documentation of telephone consult with ID recommendations documented.
- “*No*”
- “*Unknown*”

9**.1. DATE OF ORDER**
Instructions: Review the medical record and input the date of the order for the infectious disease consult.

UTI Medication History

1. **PRIOR TO THE HOSPITAL ENCOUNTER (TAKING AT HOME) DID THE PATIENT RECEIVE CRANBERRY TABLETS?**

Instructions: Review the medical record to determine if the patient received/was taking cranberry tablets prior to the hospital encounter. This information is most often noted in the Health and Physical (H&P) documentation on admission to the hospital.
Select one of the following:

- “*Yes*”
- “*No*”

INCLUDE: cranberry juice given for UTI
- "*Unknown*"

2. **PRIOR TO THE HOSPITAL ENCOUNTER (TAKING AT HOME) DID THE PATIENT RECEIVE HIPREX (METHENAMINE HIPPURATE)?**

Instructions: Review the medical record to determine if the patient received/was taking Hiprex (methenamine hippurate) prior to the hospital encounter. This information is most often noted in the Health and Physical (H&P) documentation on admission to the hospital.
Select one of the following:
- "*Yes*"
- "*No*"
- "*Unknown*"

3. **PRIOR TO THE HOSPITAL ENCOUNTER (TAKING AT HOME) DID THE PATIENT RECEIVE AN ANTIBIOTIC BLADDER WASH (GENTAMICIN, AMPHOTERICIN)?**

Instructions: Review the medical record to determine if the patient received an antibiotic bladder wash (Gentamicin, Amphotericin) prior to the hospital encounter. The information is most often noted in the Health and Physical (H&P) documentation on admission to the hospital.
Select one of the following:
- "*Yes*"
- "*No*"
- "*Unknown*"

4. **PRIOR TO THE HOSPITAL ENCOUNTER (TAKING AT HOME) DID THE PATIENT RECEIVE PYRIDIUM (PHENAZOPYRIDINE)?**

Instructions: Review the medical record to determine if the patient received Pyridium (phenazopyridine) prior to the hospital encounter. This information is most often noted in the Health and Physical (H&P) documentation on admission to the hospital.
Select one of the following:
- "*Yes*"
- "*No*"
- "*Unknown*"

Documented Indication for Urine Culture

1. **IS THERE DOCUMENTATION OF THE INDICATION FOR THE COLLECTION OF THE FIRST POSITIVE URINE CULTURE (NOTE: THIS IS THE FIRST POSITIVE URINE CULTURE THAT FLAGGED THIS PATIENT AS AN ELIGIBLE CASE)?**

Instructions: Review the medical record to determine if there is a documented indication for the collection of the first initiating positive urine culture. Documentation may be found in the order, history & physical, consult note and/or progress note, or other source.
Note: If the urine culture was sent as a result of the ordering of a Urinalysis with Reflex to Culture (without a separate order for a Urine Culture), you may utilize indications from the Urinalysis with Reflex to Culture (if applicable) to answer this question.
Select one of the following:

- *"Yes"* ***Answer question 1.1***
- "*No*"
- "Unknown"

1.1. SELECT THE SOURCE OF DOCUMENTATION (CHECK ALL THAT APPLY)

Instructions: Review the medical record to determine the source that included the indication for collection of the first positive urine culture.
Select all that apply:

- "*Order*" ***Answer question 1.1.1***
- "*H&P, Consult Note and/or Progress Note (day prior to, day of, or day after positive urine culture)*" ***Answer question 1.1.1***
- "*Other*" ***Answer question 1.1.1***
  Please contact the HMS Coordinating Center before making this selection.

1.1.1. SELECT THE INDICATION DOCUMENTED IN THE ORDER, H&P, CONSULT NOTE AND/OR PROGRESS NOTE (DAY PRIOR TO, DAY OF, OR DAY AFTER) POSITIVE URINE CULTURE/OTHER

Instructions: Review the medical record, and for each source selected in 1.1, select the applicable indication(s).
Select all that apply:

- *"Abdominal pain (new or worsening)"*
- *"Abnormal U/A"*

EXCLUDE: Orders for a Urinalysis with Reflex to Culture WITHOUT documentation from the physician that the culture was specifically ordered for an abnormal urinalysis.

- *"Altered Mental Status"*
- "*Autonomic dysreflexia/reflexia (spinal cord injury patients only)*"
- "*Back pain*"
- "*Change in urine color*"
- "*Cloudy/Dirty (new or worsening) urine*"
- "*Confusion (new or worsening)*"
- "*Costovertebral (CVA) angle pain or tenderness*"
- "*Delirium (new or worsening)*"
- "*Dysuria (pain or burning with urination)*"
- *"Falls"*
- "*Fatigue (new or worsening)*"
- "*Fever*"
- "*Flank pain*"
- "*Frequency of urination*"
- "*Functional decline (new or worsening)*"
  INCLUDE: decreased physical activity
- "*Hematuria (visible blood in the urine with no alternate explanation)*"
- "*Increase in sediment in urine*"
- "*Increased spasticity (spinal cord injury patients only)*"
- "*Laboratory abnormalities*"
- "*Lethargy (new or worsening)*"
- "*Leukocytosis*"
  INCLUDE: Increased WBC in the blood
- "*Malaise (new or worsening)*"
- "*Malodorous (new or worsening) urine*"
- "*Mental status change (new or worsening)*"
- "*Nausea*"
- "*New sediment in urine*"
- "*Obtunded (new or worsening)*"
- "*Pneumaturia*"
  INCLUDE: Air in urine
- "*Post void residual of 200cc or greater*"
- "*Pyuria*"
  INCLUDE: Urine containing white blood cells
- "*Rigors*"

EXCLUDE: Chills

- "*Suprapubic pain, swelling or tenderness*"
- "*Urinary hesitancy*"
- "*Urinary incontinence*"
- "*Urinary retention*"
- "*Urgency of urination*"
- "*Vomiting*"
- "*Other*" ***Answer question 1.1.1.1***
  Please contact the HMS Coordinating Center before making this selection.
  INCLUDE: Sepsis
- "*None of the above*"

1.1.1.1. FOR OTHER, PLEASE SPECIFY

Instructions: Enter in the "other" indication for the collection of the first positive urine culture in the free text box provided.

Urinary Catheter

1. **DID THE PATIENT HAVE A URINARY CATHETER ON THE DAY BEFORE OR DAY OF ADMISSION TO THE HOSPITAL ENCOUNTER (I.E. WALK IN THE DOOR WITH A URINARY CATHETER IN PLACE OR HAVE A CATHETER REMOVED WITHIN 1 DAY PRIOR TO THE ENCOUNTER)?**

Instructions: Review the medical record to determine if the patient had a urinary catheter in place upon admission to the hospital encounter (ER, Obs, Inpatient) or if the patient had a urinary catheter removed one day prior to arrival to the hospital encounter.
INCLUDE: Foley catheter, suprapubic catheter, intermittent straight catheter, condom catheter, etc.
EXCLUDE: External female catheters
Select one of the following:

- *"Yes"* ***Answer question 1.1***
- "*No*"
- "*Unknown*"

1.1. TYPE OF CATHETER

Instructions: Review the medical record to determine the type of catheter that was in place upon admission to the hospital encounter (ER, Obs, Inpatient) or removed one day prior to arrival to the hospital encounter.

Select one of the following:

- "*Indwelling urinary catheter (i.e., foley)*"
- "*Intermittent Straight Catheter"*
- "*Condom Catheter*"
- "*Suprapubic Catheter*"
- "*Unknown*"

2. **DURING THE HOSPITAL ENCOUNTER, DID THE PATIENT HAVE A URINARY CATHETER IN PLACE OR WAS AN INTERMITTENT STRAIGHT CATHETER UTILIZED PRIOR TO THE FIRST POSITIVE URINE CULTURE COLLECTION?**

Instructions: Review the medical record to determine if there is documentation that the patient had a urinary catheter in place or the patient utilized an intermittent straight catheter (ISC) prior to the collection of the first positive urine culture.

EXCLUDE: All urinary catheters inserted or utilized after the collection of the first positive urine culture. Intermittent straight catheters that are *only* utilized for the collection of the first positive urine culture sample and not performed at any other time prior to the collection of the first positive urine culture. External female catheters. Indwelling catheters that are placed at the same time of the collection of the first positive urine culture and there was no note that the patient had an indwelling catheter prior to that time.

Select one of the following:

- *"Yes"* ***Answer questions 2.1 and 2.2***
- "*No"*

  Note: If you are able to confirm that the urinary catheter was placed AFTER the positive urine culture was collected and the patient did not have/utilize a catheter previously, select 'No'.
- "*Unknown*"

2.1. TYPE OF CATHETER

Instructions: Review the medical record to determine if there is documentation that the patient had a urinary catheter in place or the patient utilized an intermittent straight catheter (ISC) prior to the collection of the first positive urine culture.

Select one of the following:

- "*Indwelling urinary catheter (i.e., foley)*" ***Answer questions 2.1.1 and 2.1.2***
- "*Intermittent Straight Catheter*" ***Answer questions 2.1.1 and 2.1.3***
- "*Condom Catheter*" ***Answer questions 2.1.1 and 2.1.2***
- "*Suprapubic Catheter*" ***Answer questions 2.1.1 and 2.1.2***
- "*Unknown*" ***Answer questions 2.1.1 and 2.1.2***

2.1.1. WAS THE CATHETER INSERTED PRIOR TO ADMISSION TO THE HOSPITAL ENCOUNTER?

Instructions: Review the medical record to determine if the catheter that is present during the hospital encounter (but prior to the first positive urine culture collection) was inserted or utilized prior to admission to the hospital encounter.

Select one of the following:

- *"Yes"*
- *"No"* ***Answer question 2.1.1.1 or 2.1.1.2 (if ISC)***
- *"Unknown"* ***Answer question 2.1.1.1 or 2.1.1.2 (if ISC)***

2.1.1.1. INDICATE THE DATE THE URINARY CATHETER WAS INSERTED DURING THE HOSPITAL ENCOUNTER.

Instructions: Review the medical record and enter the date that the catheter was inserted during the hospital encounter in MM/DD/YYYY format.

2.1.1.2. INDICATE THE DATE THE INTERMITTENT STRAIGHT CATHETER (ISC) WAS FIRST UTILIZED DURING THE HOSPITAL ENCOUNTER.

Instructions: Review the medical record and enter the date that the intermittent straight catheter was first utilized during the hospital encounter in MM/DD/YYYY format.

2.1.2. WAS THE URINARY CATHETER REMOVED OR CHANGED AT ANY POINT DURING THE HOSPITAL ENCOUNTER?

Instructions: Review the medical record to determine if the urinary catheter was removed or changed during the hospital encounter.

Select one of the following:

- "*Yes*" ***Answer question 2.1.2.1 and 2.1.2.2***
- "*No (Continued after Discharge or Transfer*)"

2.1.2.1. INDICATE THE DATE THE URINARY CATHETER WAS REMOVED OR CHANGED DURING THE HOSPITAL ENCOUNTER

Instructions: Review the medical record to determine the date the urinary catheter was removed or changed during the hospital encounter in MM/DD/YYYY format.

2.1.2.2. REMOVED OR CHANGED?

Instructions: Review the medical record to determine the if the urinary catheter was removed or changed on the date indicated in the previous question.

Select one of the following:

- "*Removed*"
- "*Changed*" ***Answer question 2.1.2.2.1***

2.1.2.2.1. WAS THE URINARY CATHETER ULTIMATELY REMOVED DURING THE HOSPITAL ENCOUNTER?

Instructions: Review the medical records to determine if the urinary catheter was ultimately removed during the encounter.

Select one of the following:

- "*Yes*" ***Answer question 2.1.2.2.1.1***
- *"No"*
- "*Unknown*"

2.1.2.2.1.1. DATE OF REMOVAL

Instructions: Review the medical record and enter the date that the catheter was ultimately removed during the hospital encounter in MM/DD/YYYY format.

2.1.3. WAS THE INTERMITTENT STRAIGHT CATHETERIZATION (ISC) DISCONTINUED DURING THE HOSPITAL ENCOUNTER?

Instructions: Review the medical record to determine if the intermittent straight catheter (ISC) was discontinued during the hospital encounter.

- "*Yes*" ***Answer question 2.1.3.1***
- "*No (Continued after Discharge or Transfer*)"

2.1.3.1. INDICATE THE DATE THE INTERMITTENT STRAIGHT CATHETER (ISC) WAS DISCONTINUED.

Instructions: Review the medical record to determine the date the intermittent straight catheter (ISC) was discontinued during the hospital encounter in MM/DD/YYYY format.
NOTE: If the ISC was ordered multiple times during the encounter or is utilized multiple times under a standing-order, please use the date of the last ISC insertion during the encounter as the day of discontinuation.

2.2. DURING THE HOSPITAL ENCOUNTER, DID THE PATIENT HAVE A SECOND URINARY CATHETER IN PLACE OR WAS AN INTERMITTENT STRAIGHT CATHETER UTILIZED PRIOR TO THE FIRST POSITIVE URINE CULTURE COLLECTION?

Instructions: Review the medical record to determine if there is documentation that the patient had a second urinary catheter in place or the patient utilized a second intermittent straight catheter (ISC) during the hospital encounter.
EXCLUDE: All catheters inserted or utilized after the collection of the first positive urine culture; external female catheters
Note: This section repeats so that up to three (3) urinary catheters or intermittent straight catheters during the hospital encounter can be entered.
Select one of the following:

- *"Yes"*
- *"No"*
- *"Unknown"*

Abstractor Notes

1. **DO YOU HAVE ANY NOTES?**

Instructions: Indicate whether you have any notes that you would like to include regarding any of the entries in this form or if you would like to exclude this form.
Select one of the following:

- *"Yes"* if you have notes that you would like to include or you would like to exclude this form.

- *"No"* if you do not have notes that you would like to include and you do not want to exclude this form.

1.1. ABSTRACTOR NOTES

Instructions: Use free text to input your notes. IMPORTANT: Please do not enter any Protected Health Information (PHI) into this text box.

UTI Labs Non Culture

Instructions: For all questions in the database, "No Answer" is the default selection. This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question.

This is a repeating form. Please enter one laboratory (lab) study per form.

Reminder: This form is for entering of UTI specific labs during the 7-day UTI window surrounding the first positive urine culture collected during the hospital encounter. The 7 Day UTI Window is:

- Day of first positive urine culture (-) 3 days, (-) 2 days, (-) 1 day
- Day of first positive urine culture collection
- Day of first positive urine culture collection (+) 3 days, (+) 2 days, (+) 1 day

Example: If the first positive urine culture was collected on 1/7 (January 7), then the *UTI Window* includes the following days: *1/4, 1/5, 1/6, 1/7, 1/8, 1/9 and 1/10*

1. **SELECT THE TYPE OF LAB COLLECTED DURING THE HOSPITAL ENCOUNTER (ER, OBS, INPATIENT):**

Instructions: Review the medical record to determine if any of the following lab(s) were collected during the 3 days prior to, on the day of, or in the 3 days after the first positive urine culture collected during the hospital encounter (the 7-day UTI Window).
INCLUDE: Labs drawn/collected on the day of transfer (e.g., ICU).

- *"Urinalysis (UA)/Microscopic Urinalysis"* ***Answer questions 1.1 through 1.13***
  INCLUDE: urinalysis, microscopic dip stick test
  EXCLUDE: UA with reflex to culture
- *"Urinalysis with reflex culture"* ***Answer questions 1.1 through 1.13***
  INCLUDE: UA with Reflex Culture, UA with Culture and Sensitivity if indicated
  EXCLUDE: UA without reflex to culture
- *"Gonorrhea PCR"* ***Answer questions 1.1 and 1.15***

INCLUDE: Gonorrhea DNA Urine, Gonorrhea RNA Urine

- *"Chlamydia PCR"* ***Answer questions 1.1 and 1.15***
  INCLUDE: Chlamydia DNA Urine, Chlamydia RNA Urine
- *"Other"* ***Answer questions 1.1, 1.14, and 1.15***
  Please reach out to the HMS Coordinating Center prior to making this selection if the Other UTI lab is not listed in the exclusion criteria below.
  EXCLUDE: Urine Creatinine Random, Urine Protein Random, UR Total Protein/Creatinine Ratio, Urine Sodium Random.

1.1. DATE OF COLLECTION

Instructions: Review the medical record to determine the date the lab was collected (not the date the result was finalized). Indicate the date in the MM/DD/YYYY format.

1.2. WHO ORDERED THE URINALYSIS?

Instructions: Review the medical record to determine who ordered the Urinalysis being abstracted.
Note: If an Advanced Practice Professional orders the UA, select the service of the attending provider that is signing off on the orders.
Select one of the following:

- *"Emergency Room Provider"* ***Answer question 1.2.1***
- *"Observation/Short Stay Provider"* ***Answer question 1.2.1***
- *"Hospitalist"* ***Answer question 1.2.1***
- *"Medicine Sub Specialist"* ***Answer question 1.2.1***
  INCLUDE: Physicians that specialize in General Medicine and have sub-specialized in another area such as Endocrinology, Cardiology, or Gastroenterology.
- *"General Internist"* ***Answer question 1.2.1***
  INCLUDE: Internal medicine providers
- *"Infectious Disease"* ***Answer question 1.2.1***
- *"Hematologist/Oncologist"* ***Answer question 1.2.1***
- *"Family Medicine"* ***Answer question 1.2.1***
- *"Other"* ***Answer question 1.2.1***
  INCLUDE: Urgent care provider
- *"Unknown"*

1.2.1. PLEASE SELECT THE CLASSIFICATION OF THE ORDERING PROVIDER FOR THE URINALYSIS.

Instructions: Review the medical record to determine the classification of the ordering provider for the urinalysis. This should be the ordering provider/user of the urinalysis, not the authorizing provider of the order.
Select one of the following:

- *"Physician"*
  INCLUDE: Attending Physician, Resident Physician
- *"Advanced Practice Provider (i.e., Physician Assistant, Nurse Practitioner)"*
- *"Registered Nurse"*
- *"Other"*
  NOTE: Please contact the HMS Coordinating Center with the details of the ordering provider of the urinalysis prior to making this selection.
- *"Unknown"*

1.3. URINE COLOR

URINE COLOR
Instructions: Indicate the urine color as documented in the results of the Urinalysis/Microscopic Urinalysis.
Select one of the following:

- *"Normal"*
- *"Yellow"*
- *"Light Yellow"*
- *"Dark Yellow"*
- *"Straw"*
- *"Amber"*
- *"Red"*
- *"Orange"*
- *"Brown"*
- *"Pink"*
- *"Green"*
- *"Abnormal"*
- *"Colorless"*
- *"Other"* ***Answer question 1.3.1***
- *"Not Tested"*

1.3.1. FOR OTHER, PLEASE SPECIFY THE URINE COLOR.

Instructions: Use the free text box provided to document the "other" urine color from the urinalysis results.

1.4. URINE APPEARANCE

Instructions: Indicate the urine appearance as documented in the results of the Urinalysis/Microscopic Urinalysis.

Select one of the following:

- *"Normal"*
- *"Clear"*
- *"Slightly Cloudy"*
- *"Cloudy"*
- *"Hazy"*
- *"Turbid"*
- *"Bloody"*
- *"Other"* ***Answer question 1.4.1***
- "*Not tested"*

1.4.1. FOR OTHER, PLEASE SPECIFY THE URINE APPEARANCE

Instructions: Use the free text box provided to document the "other" urine color from the urinalysis results.

1.5. LEUKOCYTE ESTERASE, URINE

Instructions: Record the result of the Leukocyte Esterase test as documented in the results of the Urinalysis/Microscopic Urinalysis.

Note: The urine Leukocyte Esterase (LE) tests for the presence of WBCs and other elements that may be indicators of infection.

Select one of the following:

- *"Negative (0)"*
- *"Positive"*
- *"1+"*
- *"2+"*
- *"3+"*
- *"25 uL"*
- *"75 uL"*
- *"100 uL"*
- *"250 uL"*
- *"500 uL"*
- *"Trace"*
- *"Small"*
- *"Medium"*
- "*Moderate*"

- *"Large"*
- *"Other"* ***Answer question 1.5.1***
  Please reach out to the HMS Coordinating Center prior to making this selection.
- *"Not Tested"*

1.5.1. FOR OTHER, PLEASE SPECIFY.

Instructions: Use the free text box provided to document the "other" leukocyte esterase value from the urinalysis results.

1.6. NITRITE, URINE

Instructions: Record the result of the Urine Nitrite test as documented in the results of the Urinalysis/Microscopic Urinalysis.
Note: The Urine Nitrite tests for the presence of nitrites in the urine.
Select one of the following:

- *"Negative (0)"*
- *"Positive (>=1)"*
- *"Other"* ***Answer question 1.6.1***
  Please reach out to the HMS Coordinating Center prior to making this selection.
- *"Not Tested"*

1.6.1. FOR OTHER, PLEASE SPECIFY

Instructions: Use the free text box provided to document the "other" nitrite value from the urinalysis results.

1.7. BLOOD, URINE

Instructions: Record the result of the Urine Blood test as documented in the results of the Urinalysis/Microscopic Urinalysis.
Note: The Urine Blood is used to detect hemoglobin in the urine (hemoglobinuria).
INCLUDE: Urine Occult Blood test results
Select one of the following:

- "*Negative (0)"*
- *"Positive (>=1)"*
  INCLUDE: Any value greater than or equal to 1
- *"Trace"*
- *"Small"*
- *"Moderate"*

- *"Large"*
- *"Other"* ***Answer question 1.7.1***
  Please reach out to the HMS Coordinating Center prior to making this selection.
- *"Not Tested"*

1.7.1. FOR OTHER, PLEASE SPECIFY

Instructions: Use the free text box provided to document the "other" urine blood value from the urinalysis results.

1.8. SQUAMOUS EPITHELIAL CELLS

Instructions: Review the medical record to determine the quantity/description of the squamous epithelial cells resulted in the Urinalysis/Microscopic Urinalysis.
INCLUDE: Epithelial cells
EXCLUDE: Transitional epithelial cells
Select one of the following:

- *"0 (Negative/None)"*
- *"Trace"*
- *"Rare"*
- *"Few"*
- *"Occasional"*
- *"Moderate"*
- *"Many"*
- *"Numerous"*
- *"Large"*
- *"<1"*
- *"1-100+"* select the numeric value specified in the results.
  Note: If there is a less than or greater than sign reported before the numeric values given, please use only the numeric values. Example: <5 should be captured as 5.
- *"Other"* ***Answer question 1.8.1***
  Please reach out to the HMS Coordinating Center prior to making this selection.
- "*Not Tested"*

1.8.1. FOR OTHER, PLEASE SPECIFY

Instructions: Use the free text box provided to document the "other" squamous epithelial value from the urinalysis results.

1.9. RBC/HPF

Instructions: Review the medical record to determine the quantity/description of the red blood cells (RBC) per high powered field (HPF) resulted in the Urinalysis/Microscopic Urinalysis.

Example: If the RBC is entered as ">20" in the medical record, please select "11-25"

Select one of the following:

- *"None seen"*
- *"Rare"*
- *"<1"*
- *"0-2"*
- *"3-5"*
- *"6-10"*
- *"11-25"*
- *"26-50"*
- *"Greater than 50"* select if individual value is greater than 50 (e.g. 51) or if stated that result is 'greater (>) than 50'.
- *"Other"* ***Answer question 1.9.1***
  Please reach out to the HMS Coordinating Center prior to making this selection.
- *"Not tested"*

1.9.1. FOR OTHER, PLEASE SPECIFY

Instructions: Use the free text box provided to document the "other" RBC value from the urinalysis results.

1.10. WBC/HPF

Instructions: Review the medical record to determine the quantity/description of the white blood cells (WBC) per high powered field (HPF) resulted in the Urinalysis/Microscopic Urinalysis.

Note1: Granular casts should not be captured as WBC unless specifically stated by site's lab.

Example: If the WBC is entered as ">20" in the medical record, please select "11-25"

Select one of the following:

- *"None seen"*
- *"<1"*

- *"0-2"*
- *"3-5"*
- *"6-10"*
- *"11-25"*
- *"26-50"*
- *"Greater than 50"* select if individual value is greater than 50 (e.g. 51) or if stated that result is 'greater (>) than 50'.
- *"Other"* ***Answer question 1.10.1***
  Please reach out to the HMS Coordinating Center prior to making this selection.
- "*Not Tested'"*

1.10.1. FOR OTHER, PLEASE SPECIFY

Instructions: Use the free text box provided to document the "other" WBC value from the urinalysis results.

1.11. WBC CASTS

Instructions: Review the medical record to determine the quantity/description of the white blood cell (WBC) casts resulted in the Urinalysis/Microscopic Urinalysis.
EXCLUDE: Hyaline casts, urine casts
Example: If the WBC Casts is entered as ">20" in the medical record, please select "11-25"
Select one of the following:

- *"None seen"*
- *"0-2"*
- *"3-5"*
- *"6-10"*
- *"11-25"*
- *"26-50"*
- *"Greater than 50"* select if individual value is greater than 50 (e.g. 51) or if stated that result is 'greater (>) than 50'.
- *"Many"*
- *"Other"* ***Answer question 1.11.1***
  Please reach out to the HMS Coordinating Center prior to making this selection.
- *"Not Tested"*

1.11.1. FOR OTHER, PLEASE SPECIFY

Instructions: Use the free text box provided to document the “other” WBC casts value from the urinalysis results.

1.12. BACTERIA PRESENT?

Instructions: Review the medical record to determine if bacteria was reported in the results of the Urinalysis/Microscopic Urinalysis.
Note: Any reporting of bacteria should be inputted as "Yes." For example, the following examples (including but not limited to) should be entered as "Yes": 1+, 2+, etc., Few, Rare, Trace, Moderate, and Many.
Select one of the following:

- *“Yes”*
- *“No”*
- *“Other”* ***Answer question 1.12.1***
  Please reach out to the HMS Coordinating Center prior to making this selection.
- *“Not Tested”*
  INCLUDE: Select ‘Not Tested’ if nothing is indicated for bacteria or bacteria is not reported.

1.12.1. FOR OTHER, PLEASE SPECIFY

Instructions: Use the free text box provided to document the “other” bacteria result from the urinalysis results.

1.13. YEAST PRESENT?

Instructions: Review the medical record to determine if yeast was reported in the results of the Urinalysis/Microscopic Urinalysis.
Note: Any reporting of yeast should be entered as "Yes." For example, the following examples (including but not limited to) should be entered as "Yes": 1+, 2+, etc., Few, Rare, Trace, Moderate, and Many.
Select one of the following:

- *“Yes”*
- *“No”*
- *“Other”* ***Answer 1.13.1***
  Please reach out to the HMS Coordinating Center prior to making this selection.
- *“Not Tested”*

INCLUDE: Select 'Not Tested' if nothing is indicated for yeast or yeast is not reported.

1.13.1. FOR OTHER, PLEASE SPECIFY

Instructions: Use the free text box provided to document the "other" yeast result from the urinalysis results.

1.14. FOR OTHER, PLEASE SPECIFY

Instructions: Use the free text box provided to document the "other" type of lab collected.

1.15. FINAL RESULT

Instructions: Review the medical record to determine the final result of the Gonorrhea, Chlamydia, or "other" lab.
Select one of the following:

- *"Positive"* select if the final result is positive.
- "*Negative*" select if the final result of the final result is negative.

Abstractor Notes

1. DO YOU HAVE ANY NOTES OR DO YOU WANT TO EXCLUDE A FORM?

Instructions: Indicate whether you have any notes that you would like to include regarding any of the entries in this form or if you would like to exclude this form.
Select one of the following:

- *"Yes"* if you have notes that you would like to include or you would like to exclude this form. ***Answer questions 1.1 and 1.2***
- *"No"* if you do not have notes that you would like to include and you do not want to exclude this form.

1.1. ABSTRACTOR NOTES

Instructions: Use free text to input your notes. IMPORTANT: Please do not enter any Protected Health Information (PHI) into this text box.

1.2. DO YOU WANT TO EXCLUDE THIS FORM?

Instructions: Indicate whether you would like to exclude this form from data analysis. This question will default to "No". If you would like to exclude this form, you must manually change the answer to "Yes".

Select one of the following:

- *"Yes"* if you would like to exclude this form from data analysis. ***Answer question 1.2.1***
- *"No"* if you would not like to exclude this form from data analysis.

1.2.1. ARE YOU SURE YOU WANT TO EXCLUDE THIS FORM?

Instructions: Indicate whether you would like to exclude this form from data analysis. This question will default to "No". If you would like to exclude this form, you must manually change the answer to "Yes".

Select one of the following:

- *"Yes"* if you would like to exclude this form from data analysis. Enter the reason for form removal in the abstractor notes section above.
- *"No"* if you would not like to exclude this form from data analysis.

POSITIVE URINE CULTURE DAILY ENTRY

Instructions: For all questions in the database, "No Answer" is the default selection. This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question.

This tab is generated by the following elements.

1) The number of days that generate will be determined by specific dates entered into the demographics/enrollment page. **Positive Urine Culture** cases are determined by the dates entered into the *"Date of Collection of the First Positive Urine Culture"* and *"Discharge Date (or date of transfer to ICU)"* fields.
2) The antibiotic entry fields are generated from each antibiotic entered into the Antibiotics form and will appear for each day populating the Daily Entry tab. For example, if 5 antibiotics are ordered, 5 antibiotics will populate on each day.
3) UTI ONLY: If the patient did not receive an antibiotic during the encounter, you do not need to enter the Daily Entry tab and complete any days. If the patient did receive an antibiotic, complete daily entry for the days the patient received an antibiotic only. Example: Patient received an antibiotic on Day 1, Day 2 and Day 3, but was in the hospital for Day 1 through Day 8. You only need to complete daily entry days for Day 1, Day 2 and Day 3.

ANTIBIOTICS

This section will appear based on the antibiotic(s) entered in the Antibiotic form.

1. (ANTIBIOTIC NAME) ADMINISTERED ON THIS DAY?

Instructions: Review the medical record to determine whether the stated antibiotic is administered on the date indicated.

Note1: This field will default to *"Yes"* and must be manually changed from the drop-down list if the antibiotic was not administered on this day.

Note2: If an antibiotic was scheduled for Day 3 of the hospital encounter but was given early (i.e., on Day 2 of the hospital encounter). Please capture this antibiotic as given on Day 3 as it was scheduled.

Select one of the following:

- "*Yes*" ***Answer question 1.1***
- "*No*"
- "*Unknown*"

1.1. (ANTIBIOTIC NAME) – PRIMARY ROUTE

Instructions: Review the medical record to determine the route(s) that were associated with the antibiotic administered on the date indicated. Select from the drop down the type of route(s).

Note: If the patient was prescribed Vancomycin twice during the hospital encounter with different routes/indications (i.e. one IV for UTI and another order PO for C.Diff), the one for C.Diff will be noted next to the name of the antibiotic.
REMINDER: Patients who refuse any dose of antibiotic intended for the treatment of their infectious disease state are excluded from abstraction.
Select one of the following:

- "*Intravenous"*
- *"By mouth (PO)"*
  INCLUDE: Medications administered via a gastric tube.
- *"Intramuscular (IM)"*
- *"Inhalation"*
- *"PR (Per Rectum)"*
- *"IV/PO"*
  INCLUDE: Administration of an intravenous (IV) and by mouth (PO) form of the antibiotic noted on that day.
  Example: A morning dose was administered intravenously, and the afternoon dose was by mouth.
- *"IV/IM"*
  INCLUDE: Administration of an intravenous (IV) and intramuscular (IM) form of the antibiotic noted on that day.
  Example: A morning dose was administered intravenously, and the afternoon dose was by intramuscular.
- *"IM/PO"*
  INCLUDE: Administration of intramuscular (IM) and by mouth (PO) form of the antibiotic noted on that day.
  Example: A morning dose was administered intramuscular, and the afternoon dose was by mouth.
- *"IV/Inhalation"*
  INCLUDE: Administration of intravenous (IV) and inhalation form of the antibiotic noted on that day.
  Example: A morning dose was administered intravenously, and the afternoon dose was by inhalation.
- *"PO/Inhalation"*
  INCLUDE: Administration of by mouth (PO) and inhalation form of the antibiotic noted on that day.
  Example: A morning dose was administered by mouth and the afternoon dose was by inhalation.
- *"IM/Inhalation"*
  INCLUDE: Administration of intramuscular (IM) and inhalation form of the antibiotic noted on that day.

Example: A morning dose was administered intramuscular, and the afternoon dose was by inhalation.

- *"IV/PR"*
  INCLUDE: Administration of intravenous (IV) and per rectum (PR) form of the antibiotic noted on that day.
  Example, A morning dose was administered intravenously, and the afternoon dose was per rectum (PR).
- *"PO/PR"*
  INCLUDE: Administration of by mouth (PO) and per rectum (PR) form of the antibiotic noted on that day.
  Example: A morning dose was administered by mouth and the afternoon dose was per rectum.
- *"IM/PR"*
  INCLUDE: Administration of by intramuscular (IM) and per rectum (PR) form of the antibiotic noted on that day.
  Example: A morning dose was administered intramuscular, and the afternoon dose was per rectum.
- *"Inhalation/PR"*
  INCLUDE: Administration of inhalation and per rectum (PR) form of the antibiotic noted on that day.
  Example: A morning dose was administered by inhalation and the afternoon dose was per rectum.
- *"N/A"* select if the route of administration of the antibiotic is not applicable.

2. ATTESTATION STATEMENT (Check Box)

Instructions: After the medical record has been reviewed and all questions in the Daily Entry form have been completed, the attestation statement/check box must be checked in order to save the data entered. Please ensure that the data elements on the day indicated are accurate to the best of your knowledge. This is a required field and must be selected each time a change is made to the Daily Entry options for information to be saved.

PNEUMONIA DAILY ENTRY

Instructions: For all questions in the database, "No Answer" is the default selection. This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question.

This tab is generated by the following elements.

1) The number of days that generate will be determined by specific dates entered into the demographics/enrollment page. **Pneumonia** cases are determined by the dates entered into the "*Hospital Encounter Admission Date (ER, Obs, Inpatient)"* and *"Discharge Date (or date of transfer to ICU)"* fields.
2) The antibiotic entry fields are generated from each antibiotic entered into the Antibiotics form, and will appear for each day populating the Daily Entry tab. For example, if 5 antibiotics are ordered, 5 antibiotics will populate on each day.
3) PNA ONLY: Complete all daily entry vital signs days, which populate for 7 days after first antibiotic administration along with the last vital signs on the day of discharge. Complete any days the patient received an antibiotic as well. Days where no vital sign information is required, and the patient did not receive an antibiotic do not need to be completed.
   Note: If only one vital sign is recorded in the specified timeframe, please enter it as both the highest and lowest (i.e. if one temperature is recorded, please enter as both the highest and lowest temperature)
   INCLUDE: Vital signs documented at outside institutions on this calendar day if these records are visible in your site's EMR (i.e., outside and affiliated emergency departments, urgent care facilities, and outpatient physician visits)

The following questions regarding vital signs will appear on each day ranging from the "Hospital Encounter Admission Date (ER, Obs, Inpatient)" through the 7th day after the "Date of First Antibiotic Administration" along with the last vital signs on the day of discharge for **Pneumonia cases only.** Record the appropriate response for each field for each day it appears on the Daily Entry tab.

1. TEMPERATURE HIGHEST

Instructions: Review the medical record to determine the highest temperature on the date indicated.

Note: This value will default *to "Normal (36.1 C to 37.8 C)"* and must be manually changed from the drop down list if the correct value for that date is outside the normal range.

- *"Normal (36.1 C to 37.8 C)"*
- *"Abnormal (Less than 35 C)"*
- *"Abnormal (35 C to 36 C)"*
- *"Abnormal (37.9 C)"*
- *"Abnormal (38.0 C)"*

- *"Abnormal (38.1 C to 38.3 C)"*
- *"Abnormal (38.4 C to 39.9 C)"*
- *"Abnormal (40 C or greater)"*
- *"Not Available"*

2. TEMPERATURE LOWEST

Instructions: Review the medical record to determine the lowest temperature on the date indicated.

Note: This value will default *to "Normal (36.1 C to 37.8 C)"* and must be manually changed from the drop down list if the correct value for that date is outside the normal range.

- *"Normal (36.1 C to 37.8 C)"*
- *"Abnormal (Less than 35 C)"*
- *"Abnormal (35 C to 36 C)"*
- *"Abnormal (37.9 C)"*
- *"Abnormal (38.0 C)"*
- *"Abnormal (38.1 C to 38.3 C)"*
- *"Abnormal (38.4 C to 39.9 C)"*
- *"Abnormal (40 C or greater)"*
- *"Not Available"*

3. HEART RATE (BPM) HIGHEST

Instructions: Review the medical record to determine the highest heart rate on the date indicated.

Note: This value will default to *"Normal - less than 90 BPM"* and must be manually changed from the drop down list if the correct value on that date is outside the normal range.

- *"Normal - less than 90 BPM"*
- *"Abnormal - 90 BPM"*
- *"Abnormal - 91-100 BPM"*
- *"Abnormal - 101-124 BPM"*
- *"Abnormal - greater than 124 BPM"*
- *"Not Available"*

4. HEART RATE (BPM) LOWEST

Instructions: Review the medical record to determine the lowest heart rate on the date indicated.

Note: This value will default to *"Normal – less than 90 BPM"* and must be manually changed from the drop down list if the correct value for that date is outside the normal range.

- *"Normal - less than 90 BPM"*
- *"Abnormal - 90 BPM"*
- *"Abnormal - 91-100 BPM"*
- *"Abnormal - 101-124 BPM"*

- *"Abnormal - greater than 124 BPM"*
- *"Not Available"*

5. RESPIRATORY RATE HIGHEST

Instructions: Review the medical record to determine the highest respiratory rate on the date indicated.

Note: This value will default to *"Normal (less than 20)"* and must be manually changed from the drop-down list if the correct value for that date is outside the normal range.

- *"Normal (less than 20)"*
- *"Abnormal (20)"*
- *"Abnormal (21)"*
- *"Abnormal (22 to 24)"*
- *"Abnormal (25 to 30)"*
- *"Abnormal (greater than 30)"*
- *"Not Available"*

6. RESPIRATORY RATE LOWEST

Instructions: Review the medical record to determine the lowest respiratory rate on the date indicated.

Note: This value will default to *"Normal (less than 20)"* and must be manually changed from the drop-down list if the correct value for that date is outside the normal range.

- *"Normal (less than 20)"*
- *"Abnormal (20)"*
- *"Abnormal (21)"*
- *"Abnormal (22 to 24)"*
- *"Abnormal (25 to 30)"*
- *"Abnormal (greater than 30)"*
- *"Not Available"*

7. BLOOD PRESSURE (SYSTOLIC LOWEST)– MMHG

Instructions: Review the medical record to determine the lowest systolic blood pressure on the date indicated.

Note: The value will default *to "Normal (101 mmHg or greater)"* and must be manually changed from the drop-down list if the correct value for that date is outside the normal range.

- *"Normal (101 mmHg or greater)"*
- *"Abnormal (90 mmHg to 100 mmHg)"*
- *"Abnormal (Less than 90 mmHg)"*
- *"Not Available"*

8. BLOOD PRESSURE (DIASTOLIC LOWEST)-MMHG

Instructions: Review the medical record to determine the lowest diastolic blood pressure on the date indicated.

Note: The value will default to *"Normal (60 mmHg or greater)"* and must be manually changed from the drop-down list if the correct value on that date is outside the normal range.

- *"Normal (60 mmHg or greater)"*
- *"Abnormal (Less than 60 mmHg)"*
- *"Not Available"*

9. LOWEST OXYGEN SATURATION

Instructions: Review the medical record to determine the lowest oxygen saturation on the date indicated.

Note: The value will default to *"Normal (90% or greater)"* and must be manually changed from the drop-down list if the correct value on that date is outside the normal range.

- *"Normal (90% or greater)"*
- *"Abnormal (Less than 90%)"*
- *"Not Available"*

10. LOWEST PARTIAL PRESSURE OF ATERIAL OXYGEN (PAO2)

Instructions: Review the medical record to determine the lowest partial pressure of arterial oxygen (PaO2) on the date indicated. If the patient is on oxygen (1 L, 2 L, etc.), please select "Not Available".

Note: The value will default to *"Not Available"* and must be manually changed from the drop-down list if a value is available.

Select one of the following:

- *"Not Available"*
- *"Normal (60 or greater)"*
- *"Abnormal (59 or less)"*

11. HIGHEST FIO2

Instructions: Review the medical record to determine the highest FiO2 (fraction of inspired oxygen) on the date indicated.

EXCLUDE: Oxygen use with CPAP or BiPAP if the CPAP or BiPAP is used at night for sleep apnea.

Note1: This field will default to *"Room Air"* and must be manually changed from the drop-down list if the correct value for that date is not room air.

Note2: If the Fi02 is listed in .5 liters, for example 2.5 or 3.5, please round up to the nearest whole number. Example: 2.5= 3, 3.5= 4.

Select one of the following:

- *"Room Air"*
  INCLUDE: documentation of 21% FiO2

- *"1L (22-26% FM)"*
- *"2L (27-30% FM)"*
- *"3L (31-34% FM)"*
- *"4L (35-38% FM)"*
- *"5L (39-42% FM)"*
- *"6L (43-49% FM)"*
- *"7-10 L or 50-90% Face Mask"*
- *"11L or more or 91-100% Face Mask"*
- *"Not Available*

12. LOWEST FIO2

Instructions: Review the medical record to determine the lowest FiO2 (fraction of inspired oxygen) on the date indicated.

EXCLUDE: Oxygen use with CPAP or BiPAP if the CPAP or BiPAP is used at night for sleep apnea.

Note1: This field will default to *"Room Air"* and must be manually changed from the drop down list if the correct value for that date is not room air.

Note2: If the FiO2 is listed in .5 liters, for example 2.5 or 3.5, please round up to the nearest whole number. Example: 2.5= 3, 3.5= 4.

Select one of the following:

- *"Room Air"*
  INCLUDE: documentation of 21% FiO2
- *"1L (22-26% FM)"*
- *"2L (27-30% FM)"*
- *"3L (31-34% FM)"*
- *"4L (35-38% FM)"*
- *"5L (39-42% FM)"*
- *"6L (43-49% FM)"*
- *"7-10 L or 50-90% Face Mask"*
- *"11L or more or 91-100% Face Mask"*
- *"Not Available*

13. DECREASED URINE OUTPUT

Instructions: Review the medical record to determine if the patient had decreased urine output on the date indicated.

Note: This field will default to *"No"* and must be manually changed from the drop-down list if the correct response for the date is not no.

Select one of the following:

- *"No"*
- *"Yes"*
- *"Not Available"*

14. MENTAL STATUS CHANGE

Instructions: Review the medical record to determine the patient's mental status on the date indicated.

Note1: This field will default to *"Normal (No change from Baseline)"* and must be manually changed from the drop-down list if the correct response for that date is not normal.

Note2: Please select either *"Altered Mental Status"* or *"Confusion"* if there is documentation that the patient is disoriented and that is not the patient's baseline.

Select one of the following:

- *"Normal (No change from Baseline)"*
  INCLUDE: If the patient is confused at baseline and the confusion has not worsened.
- *"Altered Mental Status"*
- *"New onset confusion"*
- *"Confusion*
- *"Not Available"*

15. ABILITY TO TAKE ORAL MEDICATIONS

Instructions: Review the medical record to determine whether there is documentation regarding the patient's ability to take oral medications on the date indicated.

Note: This field will default to *"Yes"* and must be manually changed from the drop-down list if the correct response is not *"Yes"*.

Select one of the following:

- *"Yes"*
  INCLUDE: Documentation that the patient can take oral medications, documentation that the patient is able to eat, or if the patient is receiving food/medications via a gastric tube
- *"No"*
  INCLUDE: NPO status, nothing by mouth, total parenteral nutrition (TPN)
- *"Not Available"*

<u>LAST VITAL SIGNS ON DATE OF DISCHARGE</u>

Instructions: The following questions will appear on the last day of the hospital encounter for Pneumonia cases only. Review the medical record to determine the last vital signs documented prior to discharge.

16. LAST TEMPERATURE PRIOR TO DISCHARGE

Instructions: Review the medical record to determine the last temperature recorded prior to discharge.

Note: This value will default *to "Normal (36.1 C to 37.8 C)"* and must be manually changed from the drop-down list if the correct value for that date is outside the normal range.

Select one of the following:

- *"Normal (36.1 C to 37.8 C)"*
- *"Abnormal (Less than 35 C)"*

- *"Abnormal (35 C to 36 C)"*
- *"Abnormal (37.9 C)"*
- *"Abnormal (38.0 C)"*
- *"Abnormal (38.1 C to 38.3 C)"*
- *"Abnormal (38.4 C to 39.9 C)"*
- *"Abnormal (40 C or greater)"*
- *"Not Available"*

17. LAST HEART RATE (BPM) PRIOR TO DISCHARGE

Instructions: Review the medical record to determine the last heart rate prior to discharge.
Note: This value will default to *"Normal - less than 90 BPM"* and must be manually changed from the drop-down list if the correct value on that date is outside the normal range.
Select one of the following:

- *"Normal - less than 90 BPM"*
- *"Abnormal - 90 BPM"*
- *"Abnormal - 91-100 BPM"*
- *"Abnormal - 101-124 BPM"*
- *"Abnormal - greater than 124 BPM"*
- *"Not Available"*

18. LAST RESPIRATORY RATE PRIOR TO DISCHARGE

Instructions: Review the medical record to determine the last respiratory rate prior to discharge.
Note: This value will default to *"Normal (less than 20)"* and must be manually changed from the drop-down list if the correct value for that date is outside the normal range.
Select one of the following:

- *"Normal (less than 20)"*
- *"Abnormal (20)"*
- *"Abnormal (21)"*
- *"Abnormal (22 to 24)"*
- *"Abnormal (25 to 30)"*
- *"Abnormal (greater than 30)"*
- *"Not Available*

19. LAST SYSTOLIC BLOOD PRESSURE PRIOR TO DISCHARGE

Instructions: Review the medical record to determine the last systolic blood pressure prior to discharge.
Note: The value will default *to "Normal (101 mmHg or greater)"* and must be manually changed from the drop-down list if the correct value for that date is outside the normal range.
Select one of the following:

- *"Normal (101 mmHg or greater)"*

- *"Abnormal (90 mmHg to 100 mmHg)"*
- *"Abnormal (Less than 90 mmHg)"*
- *"Not Available"*

20. LAST DIASTOLIC BLOOD PRESSURE PRIOR TO DISCHARGE

Instructions: Review the medical record to determine the last diastolic blood pressure prior to discharge.

Note: The value will default to *"Normal (60 mmHg or greater)"* and must be manually changed from the drop-down list if the correct value on that date is outside the normal range.

Select one of the following:

- *"Normal (60 mmHg or greater)"*
- *"Abnormal (Less than 60 mmHg)"*
- *"Not Available"*

21. LAST OXYGEN SATURATION PRIOR TO DISCHARGE

Instructions: Review the medical record to determine the last oxygen saturation prior to discharge.

Note: The value will default to *"Normal (90% or greater)"* and must be manually changed from the drop-down list if the correct value on that date is outside the normal range.

Select one of the following:

- *"Normal (90% or greater)"*
- *"Abnormal (Less than 90%)"*
- *"Not Available"*

22. LAST PARTIAL PRESSURE OF ATERIAL OXYGEN (PAO2) PRIOR TO DISCHARGE

Instructions: Review the medical record to determine the last partial pressure of arterial oxygen (Pa02) prior to discharge. If the patient is on oxygen (1 L, 2 L, etc), please select "Not Available".

Note: The value will default to *"Not Available"* and must be manually changed from the drop-down list if a value is available.

Select one of the following:

- *"Not Available"*
- *"Normal (60 or greater)"*
- *"Abnormal (59 or less)"*

23. LAST FIO2 PRIOR TO DISCHARGE

Instructions: Review the medical record to determine the last FiO2 (fraction of inspired oxygen) prior to discharge.

EXCLUDE: Oxygen use with CPAP or BiPAP if the CPAP or BiPAP is used at night for sleep apnea.

Note1: This field will default to *"Room Air"* and must be manually changed from the drop down list if the correct value for that date is not room air.

Note2: If the FiO2 is listed in .5 liters, for example 2.5 or 3.5, please round up to the nearest whole number. Example: 2.5= 3, 3.5= 4.
Select one of the following:

- *"Room Air"*
  INCLUDE: documentation of 21% FiO2
- *"1L (22-26% FM)"*
- *"2L (27-30% FM)"*
- *"3L (31-34% FM)"*
- *"4L (35-38% FM)"*
- *"5L (39-42% FM)"*
- *"6L (43-49% FM)"*
- *"7-10 L or 50-90% Face Mask"*
- *"11L or more or 91-100% Face Mask"*
- *"Not Available*

ANTIBIOTICS

This section will appear based on the antibiotic(s) entered in the antibiotic form.

24. (ANTIBIOTIC NAME) ADMINISTERED ON THIS DAY?

Instructions: Review the medical record to determine whether the stated antibiotic is administered on the date indicated.
Note1: This field will default to *"Yes"* and must be manually changed from the drop-down list if the antibiotic was not administered on this day. For Pneumonia cases, do not include antibiotic administration prior to the hospital encounter, such as in an outpatient setting or en route to the hospital. Administration documentation begins at the start of the index Hospital Encounter.
Note2: If an antibiotic was scheduled for Day 3 of the hospital encounter but was given early (i.e. on Day 2 of the hospital encounter). Please capture this antibiotic as given on Day 3 as it was scheduled.
Select one of the following:

- "*Yes*" ***Answer question 24.1***
- "*No*"
- "*Unknown*"

24.1. (ANTIBIOTIC NAME) – PRIMARY ROUTE

Instructions: Review the medical record to determine the route(s) that were associated with the antibiotic administered on the date indicated. Select from the drop down the type of route(s).
Note: If the patient was prescribed Vancomycin twice during the hospital encounter with different routes/indications (i.e. one IV for Pneumonia and another order PO for C.Diff), the one for C.Diff will be noted next to the name of the antibiotic.

REMINDER: Patients who refuse any dose of antibiotic intended for the treatment of their infectious disease state are excluded from abstraction.
Select one of the following:

- "*Intravenous"*
- *"By mouth (PO)"*
  INCLUDE: Medications administered via a gastric tube.
- *"Intramuscular (IM)"*
- *"Inhalation"*
- *"PR (Per Rectum)"*
- *"IV/PO"*
  INCLUDE: Administration of an intravenous (IV) and by mouth (PO) form of the antibiotic noted on that day.
  Example: A morning dose was administered intravenously, and the afternoon dose was by mouth.
- *"IV/IM"*
  INCLUDE: Administration of an intravenous (IV) and intramuscular (IM) form of the antibiotic noted on that day.
  Example: A morning dose was administered intravenously, and the afternoon dose was by intramuscular.
- *"IM/PO"*
  INCLUDE: Administration of intramuscular (IM) and by mouth (PO) form of the antibiotic noted on that day.
  Example: A morning dose was administered intramuscular, and the afternoon dose was by mouth.
- *"IV/Inhalation"*
  INCLUDE: Administration of intravenous (IV) and inhalation form of the antibiotic noted on that day.
  Example: A morning dose was administered intravenously, and the afternoon dose was by inhalation.
- *"PO/Inhalation"*
  INCLUDE: Administration of by mouth (PO) and inhalation form of the antibiotic noted on that day.
  Example: A morning dose was administered by mouth and the afternoon dose was by inhalation.
- *"IM/Inhalation"*
  INCLUDE: Administration of intramuscular (IM) and inhalation form of the antibiotic noted on that day.
  Example: A morning dose was administered intramuscular, and the afternoon dose was by inhalation.
- *"IV/PR"*

INCLUDE: Administration of intravenous (IV) and per rectum (PR) form of the antibiotic noted on that day.
Example, A morning dose was administered intravenously, and the afternoon dose was per rectum (PR).

- *"PO/PR"*
  INCLUDE: Administration of by mouth (PO) and per rectum (PR) form of the antibiotic noted on that day.
  Example: A morning dose was administered by mouth and the afternoon dose was per rectum.
- *"IM/PR"*
  INCLUDE: Administration of by intramuscular (IM) and per rectum (PR) form of the antibiotic noted on that day.
  Example: A morning dose was administered intramuscular and the afternoon dose was per rectum.
- *"Inhalation/PR"*
  INCLUDE: Administration of inhalation and per rectum (PR) form of the antibiotic noted on that day.
  Example: A morning dose was administered by inhalation and the afternoon dose was per rectum.
- *"N/A"*

25. ATTESTATION STATEMENT (Check Box)

Instructions: After the medical record has been reviewed and all questions in the Daily Entry form have been completed, the attestation statement/check box must be checked in order to save the data entered. Please ensure that the data elements on the day indicated are accurate to the best of your knowledge. This is a required field and must be selected each time a change is made to the Daily Entry options for information to be saved.