**Community Acquired Pneumonia: Pseudomonas risk factors**
- Bronchiectasis Structural lung disease (chronic bronchitis, COPD, emphysema, interstitial lung disease, pulmonary fibrosis) AND taking chronic steroids/ history of repeated antimicrobial use
- Chronic systemic steroids
- Repeated antimicrobial use

**HAP/VAP: MDRO risk factors**
- Late onset—occurs after ≥5 days of hospitalization
- Antimicrobial therapy within the last 90 days (consider broad spectrum, multiple courses, etc.)
- Immunosuppressive disease and/or therapy
- History of infection or colonization with a multidrug resistant organism
- Chronic dialysis within 30 days

**VAP: MDRO risk factors**
- Antimicrobial therapy within the last 90 days (consider broad spectrum, multiple courses, etc.)
- Septic shock at the time of VAP
- ARDS preceding VAP
- 5 or more days prior to the occurrence of hospitalization
- Acute renal replacement therapy before VAP

**Catheter related bloodstream infection: Pseudomonas Risk factors:**
- Neutropenic
- Septic patients
- Previously colonized with Pseudomonas Aeroguinosa

**Febrile Neutropenia: Antipseudomonal beta-lactam monotherapy (including carbapenem)**
- MASCC score (<21) High risk patients

| Characteristics                                      | Score |
|------------------------------------------------------|-------|
| Burden of febrile neutropenia with no or mild symptomsa | 5     |
| No hypotension (systolic blood pressure >90 mmHg)     | 5     |
| No chronic obstructive pulmonary diseaseb             | 4     |
| Solid tumor or hematologic malignancy with no previous fungal infectionc | 4     |
| No dehydration requiring parenteral fluids            | 3     |
| Burden of febrile neutropenia with moderate symptoms  | 3     |
| Outpatient status                                    | 3     |
| Age <60 years                                        | 2     |

**Diabetic foot infection: Pseudomonas risk factors:**
- Residence in a warm climate
- High local prevalence
- History of pseudomonal infection
- Use of carbapenem is indicated Meropenem 1 g Q8h or imipenem/cilastatin 500 mg Q6h (use only when required; extended-spectrum β lactamase [ESBL]– producing pathogens expected)

**UTI: Risk factors for MDRO**
- Residence long-term care facility and presence of invasive devices
- Long term catheterization
- Broad spectrum antibiotics exposure within the past 90 days
- History of MDRO
- Recurrent UTI
- Nosocomial UTI
- History of ESBL producing agents within the past 60 days

**Colorectal surgery**
- Infected with MDR/ESBL
- Colonized with MDR/ESBL
- Hospitalized for more than 7 days
- Multiple hospital admission within the past 3 months
- Antibiotic treatment of a systemic infection within the last month
References:
- IDSA guidelines (For each indication mentioned above)
- ASHP/ASP Pharmacist guide on the use of antimicrobial
- John Hopkins medicine on the empirical use of antibiotics
- IHS guidelines on the empiric use of antibiotics
- Antimicrobial prophylaxis on HIS