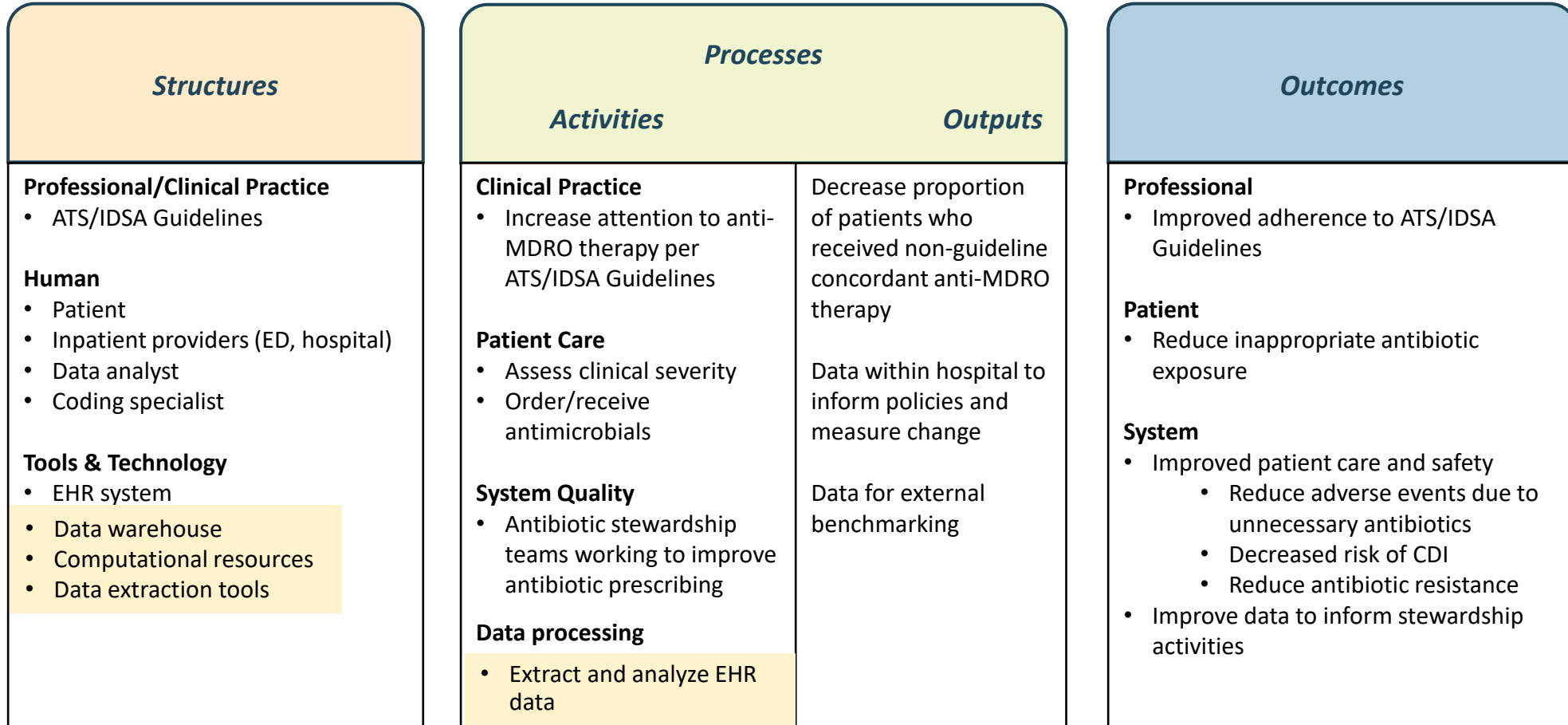**Logic Model – Empiric Measure**

The logic model for improving empiric antibiotic selection in adult patients with community-acquired pneumonia (CAP) is shown below. Existing resources and activities that occur through normal healthcare processes are without highlighting; additional resources and activities required for measure implementation and use are highlighted in yellow.

Structures

Professional/Clinical Practice
- ATS/IDSA Guidelines

Human
- Patient
- Inpatient providers (ED, hospital)
- Data analyst
- Coding specialist

Tools & Technology
- EHR system
- Data warehouse
- Computational resources
- Data extraction tools

Processes

Activities

Clinical Practice
- Increase attention to anti-MDRO therapy per ATS/IDSA Guidelines

Patient Care
- Assess clinical severity
- Order/receive antimicrobials

System Quality
- Antibiotic stewardship teams working to improve antibiotic prescribing

Data processing
- Extract and analyze EHR data

Outputs

Decrease proportion of patients who received non-guideline concordant anti-MDRO therapy

Data within hospital to inform policies and measure change

Data for external benchmarking

Outcomes

Professional
- Improved adherence to ATS/IDSA Guidelines

Patient
- Reduce inappropriate antibiotic exposure

System
- Improved patient care and safety
  - Reduce adverse events due to unnecessary antibiotics
  - Decreased risk of CDI
  - Reduce antibiotic resistance
- Improve data to inform stewardship activities

Abbreviations: ATS, American Thoracic Society; IDSA, Infectious Diseases Society of America; ED, emergency department; EHR, electronic health record; MDRO, multi-drug-resistant organisms; CDI, *Clostridioides Difficile* infection