The logic model for improving pneumonia diagnosis through the proposed eCQM is shown below (assumptions on page 2). Existing resources and activities that occur through normal healthcare processes are indicated in gray; additional resources and activities required for measure implementation and use are indicated in bold.

Hospitals currently receive no feedback on diagnostic quality in pneumonia. Poor diagnostic quality also impacts the ability to track and improve all other quality measures. The proposed eCQM leverages existing data generated from routine clinical activities but must be processed and submitted for hospital quality reporting. By generating a usable, scientifically acceptable, and accessible measure of correct diagnoses (*Outputs* Box), clinical data can be leveraged to increase attention to diagnostic quality and improve appropriate antibiotic use. The proposed eCQM also provides a foundational and accurate denominator that can be used for other eCQMs focused on community-acquired (CAP), leading to higher quality and better outcomes for patients with CAP.

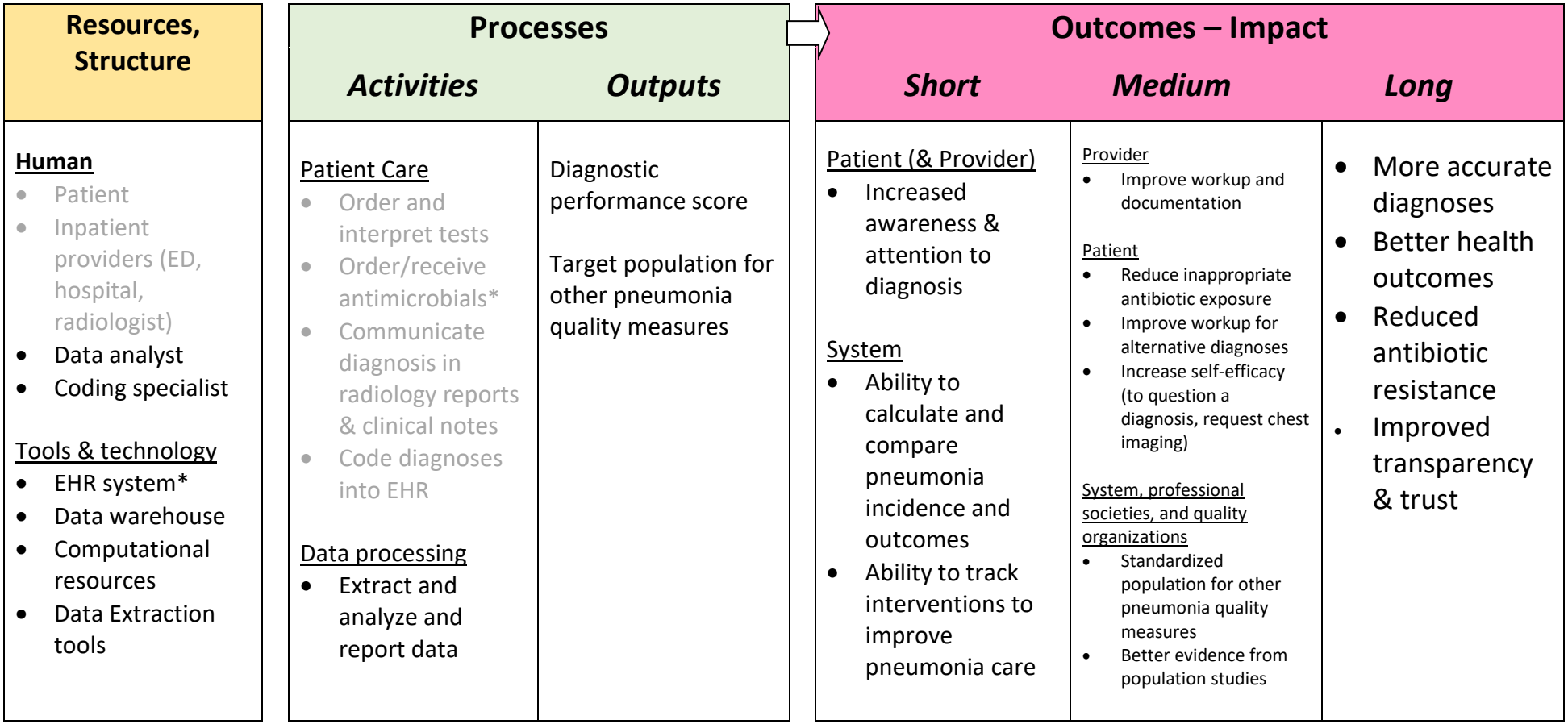

Figure 3. Logic Model of the Chest Imaging-Confirmed Diagnosis of Pneumonia Concordance Measure.

Abbreviations include: eCQM (electronic clinical quality measure); ED (emergency department); EHR (electronic health record); dx (diagnosis)

Assumptions:

- Systems have access to high-quality electronic health record data and computational resources to support the capture and analysis of evidence of pneumonia on chest imaging.
- Clinicians accept chest imaging as a standard confirmatory test for pneumonia.
- Feedback to accountable entities will reduce misdiagnosis of pneumonia and inappropriate antibiotic use.

External Factors:

- Changing technologies and standards for chest imaging and documentation (ie, emergence of lung ultrasound) may make measurement more technically challenging but also more important
- Policies and provider attitudes regarding measures will affect the short, medium and long-term outcomes.