Antibiotic Stewardship Measurement Framework

This document describes selected measures that could be used to measure the change concepts summarized in the Antibiotic Stewardship Drivers and Change Package. These measures are recommended, based on initial pilot testing across 8 pilot testing hospitals (9/11- 7/12) and are not meant to reflect a complete set of measures. Because each concept can be measured in a variety of ways, those listed below are provided as a starting point to stimulate investigation. Each organization using these measures needs to provide further detail on specific operational definitions (numerator/denominator) and data collection strategy. The availability of an EHR and supporting software may be required for routine use of the process measures, although incorporating assessment into the process of care (rounding) has been demonstrated to be an effective approach. The utility of each measure for an organization will need to be assessed against the availability of data and the ease and frequency with which it can be collected.

Outcomes	Measure
Healthcare-associated C. difficile infections	• Rate of healthcare-associated *C. difficile* per 10,000 pt. days • When *C. diff* is a "rare event": days (or admissions) between *C. diff* associated disease
Pharmacy cost for antibiotics	• Total Pharmacy cost for antibiotics per month • When census is variable: Pharmacy cost for antibiotics per discharge per month
Antibiotic-related adverse drug events (ADEs)	Currently not feasible method
Antibiotic resistant healthcare associated pathogens	Percent of antibiotic resistant healthcare-associated pathogens (prevalence) (note: targeting pathogens based on local circumstances, i.e., MRSA, VRE, etc.)

Primary Driver	Measure
Timely antibiotic management	***Recommended measures, based on pilot testing:*** • Percent of patients where cultures were obtained prior to first dose of antibiotics • Percent of patients sampled where antibiotic start date was documented/visible at the point of care • Percent of patients sampled where antibiotic stop date/duration was documented/visible at the point of care • Percent of patients sampled where antibiotic indication was documented/visible at the point of care • **COMPOSITE MEASURE:** Percent of patients sampled where antibiotic start date, stop date/duration and indication were documented/visible at the point of care
Appropriate administration and de-escalation	
Data Monitoring, Transparency and Stewardship Infrastructure	***Suggested measure for consideration:*** Percent of clinicians responding positively to a survey on their receipt or knowledge of selected antibiotic information (e.g. antibiotic utilization, antibiotic resistance, *C. difficile* rate, cost associated with antibiotics, adherence to organization prescribing practices).
Availability of Expertise at the point of care	***Suggested measures for consideration:*** • Percent of providers who can state how to secure expertise pharmacology and antimicrobial spectrum • Percent of cases sampled where expertise was available at the point of care