**PATIENT SAFETY INDICATOR:**

**[[insert Indicator Title]]**

**Background -**

[[insert background/reason for metric]]

**Indicator Description & Team – [[insert specific area or department if appropriate]]**

[[insert description of metric and metric team members]]

**Data Collection, Analysis, and Reporting:**

**Numerator -**

[[insert definition of numerator]]

**Denominator –**

[[insert definition of denominator]]

**Data Collection Time Frame –**

[[insert all specifics and instructions required for data collection]]

**Occurrence Rate Calculation –**

[[insert calculation formula]]

**Outcome: Data Analysis, Result Reporting, Interpretation & References**

[[insert data analysis specifics, target, action threshold, data forms, required action documentation, action follow-up timeframe, and references associated with metric]]

**Example**

**Delayed Test Results Due to Specimen Rejection in Critical Care Settings**

**Background**

Delays in laboratory test results can have significant and costly impacts on patient diagnosis and outcomes, putting patient’s safety at risk. Specifically, delays in laboratory test results in critical care settings, such as an emergency department, intensive care area or urgent care setting can contribute to a longer length of stay (LOS) and extended time for patient diagnosis. Longer LOS are associated with higher rates of preventable medical errors and poor patient outcomes (1). Delays in testing can occur at any step of the total testing process (TTP). Specimen rejection is one facet of the pre-analytical phase in the TTP that can impact a patient’s diagnosis.

**Measure Description – Critical Care Area**

Reducing the number of rejected specimens can shorten LOS and associated costs as well as improve outcomes for patients in critical care areas. The percentage of critical care patient specimens are rejected for multiple reasons, including but not limited to: incorrect sample type (wrong matrix, wrong container), incorrect volume, specimen integrity (hemolyzed, clotted, leaking, wrong temperature, contaminated), and incorrect identification (unlabeled, improperly labeled).

**Data Collection, Analysis, and Reporting:**

**Numerator:** Number of specimens that are of the wrong or inappropriate type (2,3).

Example rejected specimen numerator categories would include:

* Unacceptable order (no order, unintelligible order)
* Patient or specimen identification (wrong patient, specimen labeling error)
* Unacceptable specimen type (wrong matrix, incorrect container/tube, no specimen, quantity not sufficient, inadequate specimen-anticoagulant ratio)
* Specimen integrity (hemolyzed, lipemic, clotted, incorrect temperature or storage, incorrect preparation, contaminated, too old, specimen leaking or damaged in transport)

**Denominator:** Total number of specimens received.

**Data Collection Time Frame:** 1 calendar month (e.g. January 1-31: June 1-30)

Instructions:

* Suggested Baseline Assessment: collect and report three (3) individual consecutive calendar months
* Data collection may be collected more frequently in a way that is manageable for the laboratory (e.g. daily, weekly, monthly)
* Final data collected must include all days in the calendar month

**Occurrence Rate Calculation:**

Total # of specimens of incorrect type  X 100 = Rejection Rate (%)/received specimen

Total # of received specimens

**References**

1. Li L, Georgiou A, Vecellio E, Eigenstetter A, Toouli G, Wilson R, Westbrook JI. The effect of laboratory testing on emergency department length of stay: a multihospital longitudinal study applying a cross-classified random-effect modeling approach. Acad Emerg Med. 2015 Jan;22(1):38-46.
2. Plebani M et al. Quality indicators in laboratory medicine: A fundamental tool for quality and patient safety. Clin Biochem. 2013;46:1170-1174.
3. Plebani M et al. Quality indicators to detect pre-analytical errors in laboratory testing. Clin Chim Acta. 2014;432:44-8.