ASCP NPQR

NATIONAL PATHOLOGY QUALITY REGISTRY

NPQR Performance Measures

– APPROPRIATE USE OF LABORATORY TESTING

– IMPROVING PRE-ANALYTICAL PROCESSES

– OPTIMIZING TURNAROUND TIME AND CRITICAL VALUE REPORTING

– ASSESSING DIAGNOSTIC ACCURACY

21_200216_JP

MEASURE TITLE: Notification to the Ordering Provider Requesting 25-OH-Vitamin D Testing

MEASURE DESCRIPTION: Percentage of ordering providers who ordered a 25-OH-Vitamin D, who were informed by the laboratory this test is not beneficial for patients who do not have suspected osteoporosis, chronic kidney disease, malabsorption or obesity

INSTRUCTIONS: This measure is to be reported each time a patient has a 25-OH-Vitamin D test performed

DENOMINATOR: All providers who have ordered a 25-OH-Vitamin D deficiency laboratory test for any adult patients (18 years and older)

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Non-chemistry pathology blood tests, non-blood tests, point of care testing. The following: osteoporosis, chronic kidney disease, malabsorption, obese individuals

NUMERATOR: The number of providers who have ordered a 25-OH-Vitamin D deficiency laboratory test that were notified by the laboratory these tests are not beneficial for patients without osteoporosis, chronic kidney disease, malabsorption or obesity

OR FOLLOW PRACTICE PATTERNS WITHOUT THE NEED FOR CLINICIAN NOTIFICATION WITH:

MEASURE TITLE: Don't Order Population Based Screening For 25-OH-Vitamin Deficiency

MEASURE DESCRIPTION: Percentage of patients who have a 25-OH-Vitamin D performed

INSTRUCTIONS: This measure is to be reported each time a patient has a 25-OH-Vitamin D test performed.

DENOMINATOR: All adult patients who have had a laboratory test performed

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Non-chemistry pathology blood tests, non-blood tests, Point of care testing

NUMERATOR: All patients who have had a 25-OH-Vitamin D deficiency laboratory test (CPT – 82306, 82307) performed

RATIONALE: Vitamin D deficiency is common in many populations, particularly in patients at higher latitudes, during winter months and in those with limited sun exposure. Over the counter Vitamin D supplements and increased summer sun exposure are sufficient for most otherwise healthy patients. Laboratory testing is appropriate in higher risk patients when results will be used to institute more aggressive therapy (e.g., osteoporosis, chronic kidney disease, malabsorption, some infections, obese individuals).

MEASURE TYPE: Process

NQS DOMAIN: Effective Clinical Care

MEASURE TITLE: Test for Troponin I or T in the Diagnosis of Acute Myocardial Infarction (AMI). Don't Use Myoglobin or CK-MB

MEASURE DESCRIPTION: Percentage of patients who have a diagnosis of AMI, that have a troponin I or T test performed

INSTRUCTIONS: This measure is to be reported each time a patient who is suspected to have an AMI requires a lab test performed for cardiac markers.

DENOMINATOR: All adult patients (18 years and older) who have a diagnosis of acute myocardial infarction and have a CK-MB or myoglobin or troponin I or T laboratory test performed

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Trauma, myositis, myopathy

NUMERATOR: All adult (18 years and older) patients who have a diagnosis of acute myocardial infarction and have a troponin I or T laboratory test performed

RATIONALE: The American College of Cardiology/American Heart Association (ACC/AHA) and the European Society of Cardiology (ESC) guidelines recommend that cardiac biomarkers should be measured at presentation in patients with suspected AMI. Unlike CK-MB and myoglobin, the release of troponins I and T are specific to cardiac injury. Troponin is released before CK-MB and appears in the blood as early as, if not earlier than, myoglobin after AMI. Single-point troponin measurements equate to infarct size for the determination of the AMI severity. Accordingly, there is much support for relying solely on troponin and discontinuing the use of CK-MB and other markers. Troponins are components of cardiac muscle that are released into the blood when myocardial cells are injured. They are very specific for myocardial muscle – even more specific than CK-MB. Troponins rise within 3-12 hours after the onset of MI (though the rise is more gradual than the steep bump you see with CK-MB). They remain elevated for a long time (5-9 days for troponin I and up to a couple weeks for troponin T)

MEASURE TYPE: Process

NQS DOMAIN: Effective Clinical Care

MEASURE TITLE: In the Initial Screening of a Patient with a Suspected Thyroid Disorder Perform only a Thyroid Stimulating Hormone (TSH) Test, and if Abnormal, Follow up with Additional Evaluation Depending on Findings

MEASURE DESCRIPTION: Percentage of patients who have only a Thyroid Stimulating Hormone (TSH) performed in the evaluation of non-neoplastic thyroid disease

INSTRUCTIONS: This measure is to be reported each time a patient has a thyroid laboratory test performed.

DENOMINATOR: All adult patients (18 years and older) with a thyroid laboratory test performed

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Any patient with a diagnosis of head and/or neck trauma, or neoplastic thyroid disease. Any patient who had a previous TSH that was abnormal

NUMERATOR: All adult patients (18 years and older) who have a TSH performed

RATIONALE: The analysis of thyroid hormones and antibodies together may improve the accuracy of diagnosis of thyroid disorders and treatment success. The analysis of thyroid stimulating hormone (TSH), free thyroid hormones and thyroid antibodies may best distinguish thyrotoxicosis from hypothyroidism and the euthyroid state. Measurement of serum TSH is the primary screening test for thyroid dysfunction, for evaluation of thyroid hormone replacement in patients with primary hypothyroidism, and for assessment of suppressive therapy in patients with some thyroid cancers. The TSH test can detect subclinical thyroid disease in patients without symptoms of thyroid dysfunction. A TSH value within the reference interval excludes the majority of cases of primary overt thyroid disease. If the TSH is abnormal, confirm the diagnosis with free thyroxine (T4).

MEASURE TYPE: Process

NQS DOMAIN: Community, Population and Public Health; Effective Clinical Care

MEASURE TITLE: In Cases of Suspected Acute Pancreatitis Test for Lipase. Do Not Test for Amylase

MEASURE DESCRIPTION: Percentage of patients who have lipase testing performed when suspecting acute pancreatitis

INSTRUCTIONS: This measure is to be reported each time a patient with suspected acute pancreatitis has an amylase and/or lipase laboratory test performed.

DENOMINATOR: All adult patients (18 years and older) with a diagnosis of acute pancreatitis and have an amylase and/or lipase laboratory test performed

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Non-chemistry pathology blood tests, non-blood tests, point of care testing, abdominal trauma

NUMERATOR: All adult patients (18 years and older) with a diagnosis of acute pancreatitis and have a lipase laboratory test performed

RATIONALE: Amylase and lipase are digestive enzymes normally released from the acinar cells of the exocrine pancreas into the duodenum. Following injury to the pancreas, these enzymes are released into the circulation. While amylase is cleared in the urine, lipase is reabsorbed back into the circulation. In cases of acute pancreatitis, serum activity for both enzymes is greatly increased.

Serum lipase is now the preferred test due to its improved sensitivity, particularly in alcohol-induced pancreatitis. Its prolonged elevation creates a wider diagnostic window than amylase. In acute pancreatitis, amylase can rise rapidly within 3-6 hours of the onset of symptoms and may remain elevated for up to five days. Lipase, however, usually peaks at 24 hours with serum concentrations elevated for 8-14 days. Therefore, it is far more useful than amylase when the clinical presentation or testing has been delayed for more than 24 hours. Current guidelines and recommendations indicate that lipase should be preferred over total and pancreatic amylase for the initial diagnosis of acute pancreatitis and that the assessment should not be repeated over time to monitor disease prognosis. Repeat testing should only be considered when the patient has signs and symptoms of persisting pancreatic or peripancreatic inflammation, blockage of the pancreatic duct or development of a pseudocyst. The combination of amylase and lipase has been discouraged as it only marginally improves the diagnostic efficiency of either marker alone, and it increases the cost of investigation.

MEASURE TYPE: Process

NQS DOMAIN: Effective Clinical Care

MEASURE TITLE: Notification to the provider ordering repeat blood chemistry panels in clinically stable patients within four days.

MEASURE DESCRIPTION: Percentage of providers who ordered a repeat blood chemistry panel within four days on an individual patient, in greater than 10% of their patients tested, who were notified by the laboratory that repeat testing is not likely beneficial in clinically stable patients.

DENOMINATOR: All providers who have ordered a repeat blood chemistry panel within four days on a single patient, where repeat testing exceeds 10% of their patients tested.

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Codes denoting clinical instability / hemodynamic instability.

NUMERATOR: The number of providers who have ordered a repeat blood chemistry panel within four days on a single patient, where repeat testing exceeds 10% of their patients tested, and were notified by the laboratory that repeat testing is not beneficial in clinically stable patients.

RATIONALE: Hospitalized patients frequently have considerable volumes of blood drawn (phlebotomy) for diagnostic testing during short periods of time. Phlebotomy is highly associated with changes in hemoglobin and hematocrit levels for patients and can contribute to anemia. This anemia, in turn, may have significant consequences, especially for patients with cardiorespiratory diseases. Additionally, reducing the frequency of daily unnecessary phlebotomy can result in significant cost savings for hospitals.

MEASURE TYPE: Process

NQS DOMAIN: Effective Clinical Care

MEANINGFUL MEASURE AREA: Appropriate use of Healthcare

MEASURE TITLE: Notification to the provider ordering repeat *C. difficile* stool toxin testing within seven days.

MEASURE DESCRIPTION: Percentage of providers who ordered repeat *C. difficile* stool toxin testing within seven days on an individual patient, who were notified by the laboratory that repeat testing is not beneficial, and can lead to increased false positive test results.

DENOMINATOR: All providers who have ordered repeat *C. difficile* stool toxin testing within seven days on a single patient.

DENOMINATOR EXCLUSIONS/EXCEPTIONS: None

NUMERATOR: The number of providers who have ordered repeat *C. difficile* stool toxin testing within seven days on a single patient, and were notified by the laboratory that repeat testing is not beneficial, and can lead to increased false positive results.

RATIONALE: Methods employed in the past with suboptimal sensitivity led to frequent retesting for *Clostridium difficile* infection (CDI), which actually had a high risk that false-positive results. Ideally, in the absence of clear changes to the clinical presentation of suspected CDI (i.e., change in character of diarrhea or new supporting clinical evidence), repeat testing should not be performed. This recommendation is based on studies that have shown that the diagnostic yield of repeat testing within a 7-day period is approximately 2%. Furthermore, use of current highly sensitive testing strategies means that the single tests have very high negative predictive value (typically >99%) for CDI.

MEASURE TYPE: Process

NQS DOMAIN: Effective Clinical Care

MEANINGFUL MEASURE AREA: Appropriate use of Healthcare

MEASURE TITLE: Notification to the provider ordering repeat complete blood counts (CBCs) in clinically stable patients within four days

MEASURE DESCRIPTION: Percentage of providers who ordered a repeat CBC within four days on an individual patient, in greater than 10% of their patients tested, who were notified by the laboratory that repeat testing is not likely beneficial in clinically stable patients.

DENOMINATOR: All providers who have ordered a repeat CBC within four days on a single patient, where repeat testing exceeds 10% of their patients tested.

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Codes denoting clinical instability or hemodynamic instability.

NUMERATOR: The number of providers who have ordered a repeat CBC within four days on a single patient, where repeat testing exceeds 10% of their patients tested, and were notified by the laboratory that repeat testing is not beneficial in clinically stable patients.

RATIONALE: Hospitalized patients frequently have considerable volumes of blood drawn (phlebotomy) for diagnostic testing during short periods of time. Phlebotomy is highly associated with changes in hemoglobin and hematocrit levels for patients and can contribute to anemia. This anemia, in turn, may have significant consequences, especially for patients with cardiorespiratory diseases. Additionally, reducing the frequency of daily unnecessary phlebotomy can result in significant cost savings for hospitals.

MEASURE TYPE: Process

NQS DOMAIN: Effective Clinical Care

MEANINGFUL MEASURE AREA: Appropriate use of Healthcare

MEASURE TITLE: Notification to the provider ordering repeat Hepatitis C serology testing on a patient with previously positive results.

MEASURE DESCRIPTION: Percentage of providers who ordered repeat Hepatitis C serology testing on a patient with previously positive results, who were notified by the laboratory that repeat testing is not beneficial.

DENOMINATOR: All providers who have ordered repeat Hepatitis C serology testing on a patient with previously positive results.

DENOMINATOR EXCLUSIONS/EXCEPTIONS: None

NUMERATOR: The number of providers who have ordered repeat Hepatitis C serology testing on a patient with previously positive results, and were notified by the laboratory that repeat testing is not beneficial.

RATIONALE: Hepatitis C virus (HCV) is the most common chronic bloodborne pathogen in the United States and a leading cause of complications from chronic liver disease. The prevalence of the anti-HCV antibody in the United States is approximately 1.6% in noninstitutionalized persons. Hepatitis C–related end-stage liver disease is the most common indication for liver transplants among U.S. adults, accounting for more than 30% of cases. Studies suggest that about one half of the recently observed 3-fold increase in incidence of hepatocellular carcinoma is related to acquisition of HCV infection 2 to 4 decades earlier. USPTF recommends screening at-risk populations with anti–HCV antibody testing followed by confirmatory polymerase chain reaction testing. Once positive, there is no indication for repeating a positive anti-HCV antibody test, as it would remain positive throughout the patient's lifetime. Despite these recommendations, duplicate HCV antibody testing is relatively common. A 2014 report from the New York City Department of Health indicated that from 2006-2010, 70,257 duplicate tests were performed for 58,886 individuals in New York City, costing an estimated $1.4 million.

MEASURE TYPE: Process

NQS DOMAIN: Effective Clinical Care

MEANINGFUL MEASURE AREA: Appropriate use of Healthcare

MEASURE TITLE: Test Not Performed or Results Canceled

MEASURE DESCRIPTION: The percentage of tests that were not performed or results not available due to any of the following reasons: inadequate container, inappropriate volume, compromised sample, sample contamination, improper storage or transport; or any combination of these reasons

INSTRUCTIONS: This measure is to be reported for all laboratory tests ordered.

DENOMINATOR: All laboratory test orders within the reporting time frame

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Point of care testing

NUMERATOR: All tests that were not performed or results not available due to any of the following reasons: inadequate container, inappropriate volume, compromised sample, sample contamination, improper storage or transport; or any combination of these reasons

RATIONALE: At a time when evidence-based laboratory medicine is increasingly used by health care professionals, the information provided by clinical lab tests helps to diagnose, make decisions for treatment, and monitor patients as accurately and quickly as possible. Tests and results can be compromised for various reasons at various stages of the laboratory process. The pre-analytic stage is extremely important in this process.

MEASURE TYPE: Process

NQS DOMAIN: Patient Safety; Efficiency and Cost Reduction Use of Healthcare Resources

MEASURE TITLE: Test Not Reordered after Cancellation Due to Pre-Analytical Issue or Error (Within 24 Hours - Inpatient)

MEASURE DESCRIPTION: Percentage of tests that were reordered as a result of that test not being performed or results not available due to any of the following reasons: inadequate container, inappropriate volume, compromised sample, contamination, improper storage or transport; or any combination of these reasons

INSTRUCTIONS: This measure is to be reported for all laboratory tests ordered.

DENOMINATOR: All laboratory tests ordered and either not performed or results not available due to any of the following reasons: inadequate container, inappropriate volume, compromised sample, sample contamination, improper storage or transport; or any combination of these reasons

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Outpatient and point of care testing

NUMERATOR: All laboratory tests that were not reordered or re-performed within 24 hours for patients with the status of inpatient due to a pre-analytical issue or error

RATIONALE: At a time when evidence-based laboratory medicine is increasingly used by health care professionals, the information provided by clinical lab tests helps to diagnose, make decisions for treatment, and monitor patients as accurately and quickly as possible. Tests and results can be compromised for various reasons at various stages of the laboratory process. The pre-analytic stage is extremely important in this process.

MEASURE TYPE: Process

NQS DOMAIN: Patient Safety; Efficiency and Cost Reduction Use of Healthcare Resources

MEASURE TITLE: Test Not Reordered after Cancellation Due to Pre-Analytical Issue or Error (Within 60 days - Outpatient)

MEASURE DESCRIPTION: Percentage of tests that were reordered as a result of that test not being performed or results not available due to any of the following reasons: inadequate container, inappropriate volume, compromised sample, contamination, improper storage or transport; or any combination of these reasons

INSTRUCTIONS: This measure is to be reported for all laboratory tests ordered.

DENOMINATOR: All laboratory tests ordered and either not performed or results not available due to any of the following reasons: inadequate container, inappropriate volume, compromised sample, sample contamination, improper storage or transport; or any combination of these reasons

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Inpatient and point of care testing

NUMERATOR: All tests that were not reordered or re-performed within 60 days for patients with the status of outpatient due to a pre-analytical issue or error

RATIONALE: At a time when evidence-based laboratory medicine is increasingly used by health care professionals, the information provided by clinical lab tests helps to diagnose, make decisions for treatment, and monitor patients as accurately and quickly as possible. Tests and results can be compromised for various reasons at various stages of the laboratory process. The pre-analytic stage is extremely important in this process.

MEASURE TYPE: Process

NQS DOMAIN: Patient Safety; Efficiency and Cost Reduction Use of Healthcare Resources

MEASURE TITLE: Time Interval: Sample Collection to Results Verified

MEASURE DESCRIPTION: Time interval of tests recorded from sample collection until results are verified (Clinical Pathology)

INSTRUCTIONS: This measure is to be reported for the laboratory tests in the numerator and denominator statements.

DENOMINATOR: All laboratory tests ordered in which time intervals are recorded. Laboratory tests include the following: CSF-WBC, Sodium, Potassium, Chloride, Calcium-total, Bicarbonate – CO2, Ammonia, Total Bilirubin – Newborn, Arterial Blood Gases – pH, PO2, PCO2, Glucose, Glucose – Newborn, Troponin, Carbamazepine, Phenobarbital, Acetaminophen, Gram Stain, Free Thyroxine, Prothrombin Time - PT, Partial Thromboplastin Time - PTT, International Normalized Ratio – INR, Hematocrit, Hemoglobin, Platelet Count

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Point of care testing

NUMERATOR: The time interval in minutes as noted in the measure description. Laboratory tests include the following: CSF-WBC, Sodium, Potassium, Chloride, Calcium-total, Bicarbonate – CO2, Ammonia, Total Bilirubin – Newborn, Arterial Blood Gases – pH, PO2, PCO2, Glucose, Glucose – Newborn, Troponin, Carbamazepine, Phenobarbital, Acetaminophen, Gram Stain, Free Thyroxine, Prothrombin Time - PT, Partial Thromboplastin Time - PTT, International Normalized Ratio – INR, Hematocrit, Hemoglobin, Platelet Count

RATIONALE: More than 7 billion clinical lab tests are performed in the U.S. each year. Clinical laboratory tests have an immeasurable impact on diagnostic and treatment decisions made by health care providers. At a time when evidence-based laboratory medicine is increasingly used by health care professionals, the information provided by clinical lab tests helps to diagnose, make decisions for treatment, and monitor patients as accurately and quickly as possible.

MEASURE TYPE: Process

NQS DOMAIN: Efficiency and Cost Reduction Use of Healthcare Resources

MEASURE TITLE: Time Interval: Sample Collection to Sample Received

MEASURE DESCRIPTION: Time interval of tests recorded from sample collection time until sample is received in the laboratory (Anatomic and Clinical Pathology)

INSTRUCTIONS: This measure is to be reported for the laboratory tests in the numerator and denominator statements.

DENOMINATOR: All laboratory tests ordered in which time intervals are recorded. Laboratory tests include the following: CSF-WBC, Sodium, Potassium, Chloride, Calcium-total, Bicarbonate – CO2, Ammonia, Total Bilirubin – Newborn, Arterial Blood Gases – pH, PO2, PCO2, Glucose, Glucose – Newborn, Troponin, Carbamazepine, Phenobarbital, Acetaminophen, Gram Stain, Free Thyroxine, Prothrombin Time - PT, Partial Thromboplastin Time - PTT, International Normalized Ratio – INR, Hematocrit, Hemoglobin, Platelet Count

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Point of care testing

NUMERATOR: The time interval in minutes as noted in the measure description. Laboratory tests include the following: CSF-WBC, Sodium, Potassium, Chloride, Calcium-total, Bicarbonate – CO2, Ammonia, Total Bilirubin – Newborn, Arterial Blood Gases – pH, PO2, PCO2, Glucose, Glucose – Newborn, Troponin, Carbamazepine, Phenobarbital, Acetaminophen, Gram Stain, Free Thyroxine, Prothrombin Time - PT, Partial Thromboplastin Time - PTT, International Normalized Ratio – INR, Hematocrit, Hemoglobin, Platelet Count

RATIONALE: More than 7 billion clinical lab tests are performed in the U.S. each year. Clinical laboratory tests have an immeasurable impact on diagnostic and treatment decisions made by health care providers. At a time when evidence-based laboratory medicine is increasingly used by health care professionals, the information provided by clinical lab tests helps to diagnose, make decisions for treatment, and monitor patients as accurately and quickly as possible.

MEASURE TYPE: Process

NQS DOMAIN: Efficiency and Cost Reduction Use of Healthcare Resources

MEASURE TITLE: Time Interval: Sample Received to Results Verified / Case Signed Out

MEASURE DESCRIPTION: Time interval of tests recorded from the time a sample is received in the laboratory until results are verified (Clinical Pathology)

INSTRUCTIONS: This measure is to be reported for the laboratory tests in the numerator and denominator statements.

DENOMINATOR: All laboratory tests ordered in which time intervals are recorded. Laboratory tests include the following: CSF-WBC, Sodium, Potassium, Chloride, Calcium-total, Bicarbonate – CO2, Ammonia, Total Bilirubin – Newborn, Arterial Blood Gases – pH, PO2, PCO2, Glucose, Glucose – Newborn, Troponin, Carbamazepine, Phenobarbital, Acetaminophen, Gram Stain, Free Thyroxine, Prothrombin Time - PT, Partial Thromboplastin Time - PTT, International Normalized Ratio – INR, Hematocrit, Hemoglobin, Platelet Count

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Point of care testing

NUMERATOR: The time interval in minutes as noted in the measure description. Laboratory tests include the following: CSF-WBC, Sodium, Potassium, Chloride, Calcium-total, Bicarbonate – CO2, Ammonia, Total Bilirubin – Newborn, Arterial Blood Gases – pH, PO2, PCO2, Glucose, Glucose – Newborn, Troponin, Carbamazepine, Phenobarbital, Acetaminophen, Gram Stain, Free Thyroxine, Prothrombin Time - PT, Partial Thromboplastin Time - PTT, International Normalized Ratio – INR, Hematocrit, Hemoglobin, Platelet Count

RATIONALE: More than 7 billion clinical lab tests are performed in the U.S. each year. Clinical laboratory tests have an immeasurable impact on diagnostic and treatment decisions made by health care providers. At a time when evidence-based laboratory medicine is increasingly used by health care professionals, the information provided by clinical lab tests helps to diagnose, make decisions for treatment, and monitor patients as accurately and quickly as possible.

MEASURE TYPE: Process

NQS DOMAIN: Efficiency and Cost Reduction Use of Healthcare Resources

MEASURE TITLE: Time Interval: Critical Value Reporting

MEASURE DESCRIPTION: Measurement of the time interval beginning when results are verified until the critical value is reported (Clinical Pathology)

INSTRUCTIONS: This measure is to be reported for the laboratory tests in the numerator and denominator statements.

DENOMINATOR: All laboratory tests ordered in which time intervals are recorded. Laboratory tests include the following: CSF-WBC, Sodium, Potassium, Chloride, Calcium-total, Bicarbonate – CO2, Ammonia, Total Bilirubin – Newborn, Arterial Blood Gases – pH, PO2, PCO2, Glucose, Glucose – Newborn, Troponin, Carbamazepine, Phenobarbital, Acetaminophen, Gram Stain, Free Thyroxine, Prothrombin Time - PT, Partial Thromboplastin Time - PTT, International Normalized Ratio – INR, Hematocrit, Hemoglobin, Platelet Count

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Point of care testing

NUMERATOR: The time interval in minutes as noted in the measure description. Laboratory tests include the following: CSF-WBC, Sodium, Potassium, Chloride, Calcium-total, Bicarbonate – CO2, Ammonia, Total Bilirubin – Newborn, Arterial Blood Gases – pH, PO2, PCO2, Glucose, Glucose – Newborn, Troponin, Carbamazepine, Phenobarbital, Acetaminophen, Gram Stain, Free Thyroxine, Prothrombin Time - PT, Partial Thromboplastin Time - PTT, International Normalized Ratio – INR, Hematocrit, Hemoglobin, Platelet Count

RATIONALE: In a rapidly changing information technology environment, lab results now compete with a chorus of alerts and alarms that physicians receive throughout their day, often from the very electronic health records designed to streamline communications. According to patient safety experts, the only way to improve communication around critical values will be for laboratorians and physicians to work closely to close the loop on follow-up for critical values and other abnormal results.

MEASURE TYPE: Process

NQS DOMAIN: Patient Safety; Efficiency and Cost Reduction Use of Healthcare Resources

MEASURE TITLE: Rate of Critical Value Reporting for Cerebrospinal Fluid - White Blood Cell (CSF-WBC)

MEASURE DESCRIPTION: The percentage of CSF-WBC tests reported by a laboratory back to the ordering provider as critical when the CSF-WBC test results in a critical value

INSTRUCTIONS: This measure is to be reported for the laboratory tests in the numerator and denominator statements.

DENOMINATOR: All CSF-WBC laboratory tests ordered in which the result is a critical value

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Point of care testing

NUMERATOR: The number of times in which the critical value is reported by the laboratory for CSF-WBC testing via phone, or secure electronic transmission, such as text messaging, messaging through Laboratory Information Systems, Electronic Health Records systems, or email.

RATIONALE: In a rapidly changing information technology environment, lab results now compete with a chorus of alerts and alarms that physicians receive throughout their day, often from the very electronic health records designed to streamline communications. According to patient safety experts, the only way to improve communication around critical values will be for laboratorians and physicians to work closely to close the loop on follow-up for critical values and other abnormal results.

MEASURE TYPE: Process

NQS DOMAIN: Patient Safety

MEASURE TITLE: Rate of Critical Value Reporting for Chemistry Tests

MEASURE DESCRIPTION: The percentage of chemistry tests; Sodium, Potassium, Chloride, Calcium, Bicarbonate, Ammonia, Total Bilirubin – Newborn, Arterial Blood Gases – pH, PO2, PCO2, Glucose, Glucose – Newborn, reported by a laboratory back to the ordering provider as critical when a chemistry test results in a critical value

INSTRUCTIONS: This measure is to be reported for the laboratory tests in the numerator and denominator statements.

DENOMINATOR: All chemistry tests ordered in which the result is a critical value for the following tests: Sodium, Potassium, Chloride, Calcium-total, Bicarbonate – CO2, Ammonia, Total Bilirubin – Newborn, Arterial Blood Gases – pH, PO2, PCO2, Glucose, Glucose – Newborn

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Point of care testing

NUMERATOR: The number of times in which the critical value is reported by the laboratory via phone, or secure electronic transmission, such as text messaging, messaging through Laboratory Information Systems, Electronic Health Records systems, or email for the following tests: Sodium, Potassium, Chloride, Calcium-total, Bicarbonate – CO2, Ammonia, Total Bilirubin – Newborn, Arterial Blood Gases – pH, PO2, PCO2, Glucose, Glucose – Newborn

RATIONALE: In a rapidly changing information technology environment, lab results now compete with a chorus of alerts and alarms that physicians receive throughout their day, often from the very electronic health records designed to streamline communications. According to patient safety experts, the only way to improve communication around critical values will be for laboratorians and physicians to work closely to close the loop on follow-up for critical values and other abnormal results.

MEASURE TYPE: Process

NQS DOMAIN: Patient Safety

MEASURE TITLE: Rate of Critical Value Reporting for Troponin

MEASURE DESCRIPTION: The percentage of troponin tests reported by a laboratory back to the ordering provider as critical when a troponin test results in a critical value

INSTRUCTIONS: This measure is to be reported for the laboratory tests in the numerator and denominator statements.

DENOMINATOR: All troponin tests ordered in which the result is a critical value

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Point of care testing

NUMERATOR: The number of times in which the critical value is reported by a laboratory via phone, or secure electronic transmission, such as text messaging, messaging through Laboratory Information Systems, Electronic Health Records systems, or email for troponin

RATIONALE: In a rapidly changing information technology environment, lab results now compete with a chorus of alerts and alarms that physicians receive throughout their day, often from the very electronic health records designed to streamline communications. According to patient safety experts, the only way to improve communication around critical values will be for laboratorians and physicians to work closely to close the loop on follow-up for critical values and other abnormal results.

MEASURE TYPE: Process

NQS DOMAIN: Patient Safety

MEASURE TITLE: Rate of Critical Value Reporting for Toxicology

MEASURE DESCRIPTION: The percentage of carbamazepine, phenobarbital, acetaminophen toxicology tests reported by a laboratory back to the ordering provider as critical when the test results in a critical value

INSTRUCTIONS: This measure is to be reported for the laboratory tests in the numerator and denominator statements.

DENOMINATOR: All carbamazepine, phenobarbital, and acetaminophen tests ordered in which the result is a critical value

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Point of care testing

NUMERATOR: The number of times in which the critical value is reported by a laboratory via phone, or secure electronic transmission, such as text messaging, messaging through Laboratory Information Systems, Electronic Health Records systems, or email for carbamazepine, phenobarbital, and acetaminophen tests

RATIONALE: In a rapidly changing information technology environment, lab results now compete with a chorus of alerts and alarms that physicians receive throughout their day, often from the very electronic health records designed to streamline communications. According to patient safety experts, the only way to improve communication around critical values will be for laboratorians and physicians to work closely to close the loop on follow-up for critical values and other abnormal results.

MEASURE TYPE: Process

NQS DOMAIN: Patient Safety

MEASURE TITLE: Total Discrepancies Overall Rate

MEASURE DESCRIPTION: Rate of major and minor discrepancies per overall cases evaluated

INSTRUCTIONS: This measure is to be reported on all anatomic pathology samples that are signed out.

DENOMINATOR: All anatomic pathology samples that are evaluated

DENOMINATOR EXCLUSIONS/EXCEPTIONS: None

NUMERATOR: The number of reports that, upon review, contain both a major and minor discrepancy in the diagnosis when compared with the initial diagnosis on the same sample(s). A major diagnostic discrepancy is defined as one causing potential major harm to/impact on patient care. Examples of major discrepancies are; missed malignancy, over-diagnosis of malignancy and/or high-grade dysplasia, misclassification of malignancy or margin status that (typically) results in a treatment change. A minor diagnostic discrepancy is defined as a potential minor harm to/impact on patient care. Examples of minor discrepancies are; misclassification of a colon polyp resulting in change in follow-up, basal cell versus squamous cell carcinoma, Gleason grade/extent of prostate cancer not resulting in change in treatment

RATIONALE: Anatomic pathology errors are reported to occur in 1% to 43% of all anatomic pathology specimens, and this wide range reflects the variation in methods of detection and the definition of what constitutes as an error. On review of the literature, it is estimated that the frequency of errors in anatomic pathology ranged from 1% to 5%, although this frequency was largely based on studies using single-institution data. Historically, error detection in anatomic pathology most often depends on some form of secondary case review. Secondary case review has been built into some pathology quality assurance practices (e.g., review of a set percentage of cases, intradepartmental “difficult case” conferences, cytologic-histologic correlation, or review of all malignancies). An error detected by one of these processes may be referred to as a discrepancy or a difference in interpretation or reporting between two pathologists. Error detection rates based on the different methods of secondary review have been variably studied.

OUTCOME OR HIGH PRIORITY: No

MEASURE TYPE: Process

NQS DOMAIN: Patient Safety, Effective Clinical Care

MEASURE TITLE: Major Discrepancy Rate

MEASURE DESCRIPTION: Rate of major discrepancies per overall cases evaluated

INSTRUCTIONS: This measure is to be reported on all anatomic pathology samples that are signed out.

DENOMINATOR: All anatomic pathology samples that are evaluated

DENOMINATOR EXCLUSIONS/EXCEPTIONS: None

NUMERATOR: The number of reports that indicate only a major discrepancy occurred in the diagnosis when compared with the initial report diagnosis on the same sample(s). A major diagnostic discrepancy is defined as one causing potential major harm to/impact on patient care. Examples of major discrepancies are; missed malignancy, over-diagnosis of malignancy and/or high-grade dysplasia, misclassification of malignancy or margin status that (typically) results in a treatment change. A minor diagnostic discrepancy is defined as a potential minor harm to/impact on patient care. Examples of minor discrepancies are; misclassification of a colon polyp resulting in change in follow-up, basal cell versus squamous cell carcinoma, Gleason grade/extent of prostate cancer not resulting in change in treatment

RATIONALE: Anatomic pathology errors are reported to occur in 1% to 43% of all anatomic pathology specimens, and this wide range reflects the variation in methods of detection and the definition of what constitutes as an error. On review of the literature, it is estimated that the frequency of errors in anatomic pathology ranged from 1% to 5%, although this frequency was largely based on studies using single-institution data. Historically, error detection in anatomic pathology most often depends on some form of secondary case review. Secondary case review has been built into some pathology quality assurance practices (e.g., review of a set percentage of cases, intradepartmental “difficult case” conferences, cytologic-histologic correlation, or review of all malignancies). An error detected by one of these processes may be referred to as a discrepancy or a difference in interpretation or reporting between two pathologists. Error detection rates based on the different methods of secondary review have been variably studied.

MEASURE TYPE: Process

NQS DOMAIN: Patient Safety, Effective Clinical Care

MEASURE TITLE: Misidentified Cases

MEASURE DESCRIPTION: Rate of cases with incorrect patient demographics and/or anatomic location

INSTRUCTIONS: This measure is to be reported on all anatomic pathology samples that are signed out.

DENOMINATOR: All anatomic pathology samples that are evaluated

DENOMINATOR EXCLUSIONS/EXCEPTIONS: None

NUMERATOR: The number of reports with incorrect patient demographics and/or anatomic location. Examples such as misspelled names, incorrect date of birth, left versus right, arm versus leg, etc.

RATIONALE: Anatomic pathology errors are reported to occur in 1% to 43% of all anatomic pathology specimens, and this wide range reflects the variation in methods of detection and the definition of what constitutes as an error. On review of the literature, it is estimated that the frequency of errors in anatomic pathology ranged from 1% to 5%, although this frequency was largely based on studies using single-institution data. Historically, error detection in anatomic pathology most often depends on some form of secondary case review. Secondary case review has been built into some pathology quality assurance practices (e.g., review of a set percentage of cases, intradepartmental “difficult case” conferences, cytologic-histologic correlation, or review of all malignancies). An error detected by one of these processes may be referred to as a discrepancy or a difference in interpretation or reporting between two pathologists. Error detection rates based on the different methods of secondary review have been variably studied.

MEASURE TYPE: Process

NQS DOMAIN: Patient Safety, Effective Clinical Care

MEASURE TITLE: Non-Diagnostic Error Rate

MEASURE DESCRIPTION: Rate of cases in which there is missing or incorrect information or typographical inaccuracies are present

INSTRUCTIONS: This measure is to be reported on all anatomic pathology samples that are signed out.

DENOMINATOR: All anatomic pathology samples that are evaluated

DENOMINATOR EXCLUSIONS/EXCEPTIONS: None

NUMERATOR: The number of reports with inaccurate information such as missing or wrong submitting provider, procedures, dates, diagnostic codes, typographical errors and aberrations of electronic formats or transmission affecting the grammatical and clerical interpretation of the report and not the diagnosis

RATIONALE: Anatomic pathology errors are reported to occur in 1% to 43% of all anatomic pathology specimens, and this wide range reflects the variation in methods of detection and the definition of what constitutes as an error. On review of the literature, it is estimated that the frequency of errors in anatomic pathology ranged from 1% to 5%, although this frequency was largely based on studies using single-institution data. Historically, error detection in anatomic pathology most often depends on some form of secondary case review. Secondary case review has been built into some pathology quality assurance practices (e.g., review of a set percentage of cases, intradepartmental “difficult case” conferences, cytologic-histologic correlation, or review of all malignancies). An error detected by one of these processes may be referred to as a discrepancy or a difference in interpretation or reporting between two pathologists. Error detection rates based on the different methods of secondary review have been variably studied.

MEASURE TYPE: Process

NQS DOMAIN: Patient Safety, Effective Clinical Care

MEASURE TITLE: All Specimen Defect Rate

MEASURE DESCRIPTION: Rate of cases in which any specimen defect occurs

INSTRUCTIONS: This measure is to be reported on all anatomic pathology samples that are signed out.

DENOMINATOR: All anatomic pathology samples that are evaluated

DENOMINATOR EXCLUSIONS/EXCEPTIONS: None

NUMERATOR: The number of cases in which a sample is not able to be processed or a defect in sample processing has occurred. A major defect is defined as a lost sample or material and/or inadequate dissection. A minor defect is defined as gross description errors and/or absent or inappropriate ancillary studies.

RATIONALE: Anatomic pathology errors are reported to occur in 1% to 43% of all anatomic pathology specimens, and this wide range reflects the variation in methods of detection and the definition of what constitutes as an error. On review of the literature, it is estimated that the frequency of errors in anatomic pathology ranged from 1% to 5%, although this frequency was largely based on studies using single-institution data. Historically, error detection in anatomic pathology most often depends on some form of secondary case review. Secondary case review has been built into some pathology quality assurance practices (e.g., review of a set percentage of cases, intradepartmental “difficult case” conferences, cytologic-histologic correlation, or review of all malignancies). An error detected by one of these processes may be referred to as a discrepancy or a difference in interpretation or reporting between two pathologists. Error detection rates based on the different methods of secondary review have been variably studied.

MEASURE TYPE: Process

NQS DOMAIN: Patient Safety, Effective Clinical Care

MEASURE TITLE: Major (Only) Specimen Defects Rate

MEASURE DESCRIPTION: Rate of cases in which a major defect in specimen processing occurs

INSTRUCTIONS: This measure is to be reported on all anatomic pathology samples that are signed out.

DENOMINATOR: All anatomic pathology samples that are evaluated

DENOMINATOR EXCLUSIONS/EXCEPTIONS: None

NUMERATOR: The number of cases in which the sample is not able to be processed or is inadequately processed. A major defect is defined as a lost sample and/or inadequate dissection

RATIONALE: Anatomic pathology errors are reported to occur in 1% to 43% of all anatomic pathology specimens, and this wide range reflects the variation in methods of detection and the definition of what constitutes as an error. On review of the literature, it is estimated that the frequency of errors in anatomic pathology ranged from 1% to 5%, although this frequency was largely based on studies using single-institution data. Historically, error detection in anatomic pathology most often depends on some form of secondary case review. Secondary case review has been built into some pathology quality assurance practices (e.g., review of a set percentage of cases, intradepartmental “difficult case” conferences, cytologic-histologic correlation, or review of all malignancies). An error detected by one of these processes may be referred to as a discrepancy or a difference in interpretation or reporting between two pathologists. Error detection rates based on the different methods of secondary review have been variably studied.

MEASURE TYPE: Process

NQS DOMAIN: Patient Safety, Effective Clinical Care

MEASURE TITLE: Rate of Major Discrepancy in Diagnosis between Frozen Section and Final Diagnosis

MEASURE DESCRIPTION: Rate of major discrepancies when comparing diagnosis from a frozen section to the final diagnosis

INSTRUCTIONS: This measure is to be reported on all specimens that have a frozen section diagnosis.

DENOMINATOR: All frozen section specimens accessioned and evaluated in the laboratory

DENOMINATOR EXCLUSIONS/EXCEPTIONS: A sample in which a frozen section is not performed

NUMERATOR: The number of reports where a frozen section is performed, and in which there is a major diagnostic discrepancy between that of the frozen section and the final diagnosis. A major diagnostic discrepancy is defined as one causing potential major harm to/impact on patient care. Examples of major discrepancies are: missed malignancy, over-diagnosis of malignancy and/or high-grade dysplasia, misclassification of malignancy or margin status that (typically) results in a treatment change. A minor diagnostic discrepancy is defined as a potential minor harm to/impact on patient care. Examples of minor discrepancies are; misclassification of a colon polyp resulting in change in follow-up, basal cell versus squamous cell carcinoma, Gleason grade/extent of prostate cancer not resulting in change in treatment.

RATIONALE: Intra-operative consultation with frozen section is an important component in the management of surgical patients. Frozen sections are performed when a rapid pathologic diagnosis is required during the performance of a surgical procedure. Examples of rapid interpretations that may be needed include surgical resection margin evaluation for malignant neoplasms, diagnosis of an unexpected disease process in order for the surgeon to decide what to do next, or adequacy interpretations to evaluate whether appropriate tissue has been obtained for further workup of a disease process.

MEASURE TYPE: Process

NQS DOMAIN: Patient Safety

MEASURE TITLE: Rate of Surgical Pathology Case Review

MEASURE DESCRIPTION: Rate of retrospective review of all surgical pathology cases

INSTRUCTIONS: This measure is to be reported on all surgical pathology cases.

DENOMINATOR: All surgical pathology cases

DENOMINATOR EXCLUSIONS/EXCEPTIONS: None

NUMERATOR: The number of surgical pathology cases that have been reviewed. Reviewed means that the pathology case has been examined by at least a second pathologist

RATIONALE: While numerous studies have shown that case reviews help detect interpretive diagnostic errors, there have been limited efforts to formalize this practice as a strategy to reduce errors. In considering processes occurring in surgical pathology and cytology, targeted case reviews are a potential component of a quality assurance plan aimed proactively at preventing errors before they have potential adverse impact on patient care. After a diagnosis is rendered, re-evaluation of case material by various QA measurements often occurs. These QA strategies are employed by practicing laboratories, not only as a means of decreasing diagnostic error, but also to meet regulatory guidelines for accreditation. Secondary case review has been built into some pathology quality assurance practices (e.g., review of a set percentage of cases, intradepartmental “difficult case” conferences, cytologic-histologic correlation, or review of all malignancies). Secondary case review also occurs in hospital patient-centered conferences (e.g., tumor board); external consultation practices; or at the behest of clinicians, who may initiate communication when the pathology report does not correlate with the clinical findings. An error detected by one of these processes may be referred to as a discrepancy or a difference in interpretation or reporting between two pathologists. Error detection rates based on the different methods of secondary review have been variably studied.

MEASURE TYPE: Process

NQS DOMAIN: Patient Safety

MEASURE TITLE: Rate of Preliminary Autopsy Diagnosis (PAD) Sign Out

MEASURE DESCRIPTION: Rate of autopsy preliminary anatomic diagnoses (PAD) signed out in less than two business days

INSTRUCTIONS: This measure is to be reported on all anatomic pathology autopsy cases.

DENOMINATOR: All anatomic pathology autopsy cases

DENOMINATOR EXCLUSIONS/EXCEPTIONS: None

NUMERATOR: The number of autopsy cases that have a PAD reported in less than two business days

RATIONALE: Autopsy followed by histopathological examination of the tissues remains an important step for the detection of disease and for further evolution of medicine. Many studies have proven the utility and indispensability of autopsies, without which a complete and accurate diagnosis sometimes cannot be made. In multiple studies spanning many decades, authors have demonstrated that the autopsy uncovers previously undiagnosed major findings, such as cancer, cirrhosis, or cardiovascular disease, in up to 50% of cases. In approximately 9% of these cases, the most serious undiagnosed findings likely affected patient outcome.

MEASURE TYPE: Process

NQS DOMAIN: Population/Community Health

MEASURE TITLE: Rate of Review of Pap Test Samples Interpreted as Negative

MEASURE DESCRIPTION: Rate of Pap test samples interpreted as negative by the cytotechnologist that are reevaluated by a pathologist or a qualified supervisory cytotechnologist prior to reporting

INSTRUCTIONS: This measure is to be reported on all negative Pap test samples.

DENOMINATOR: All Pap test samples reported as negative

DENOMINATOR EXCLUSIONS/EXCEPTIONS: None

NUMERATOR: The number of Pap test samples reported as negative by a cytotechnologist that were reviewed by either a pathologist or a qualified supervisory cytotechnologist prior to reporting

RATIONALE: CLIA regulations specify that at least 10% of samples interpreted as negative by each cytotechnologist be re-screened by a pathologist or a qualified supervisory cytotechnologist prior to reporting. Specimens from women considered to be at increased risk for cervical cancer must be included in the review process. The laboratory must have a clearly defined policy of its definition of high risk as well as its method for random selection of cases. Several quality control/quality assurance measures for cytopathology have been specified by CLIA. All quality assurance processes must be described and documented in a quality assurance program in the laboratory.

MEASURE TYPE: Process

NQS DOMAIN: Patient Safety, Effective Clinical Care

MEASURE TITLE: Non-small cell lung carcinoma (NSCLC) ancillary biomarker testing status and turnaround time from point of specimen accession date to ancillary testing completion and reporting date should be ≤10 days.

MEASURE DESCRIPTION: Percentage of lung cytopathology or pathology specimen cases with non-small cell lung carcinoma (NSCLC) that address presence or absence of actionable targets through ancillary biomarker testing

AND

meet the maximum 10-day turnaround time (TAT) requirement (report date of ancillary biomarker testing – accession date = ≤ 10 days).

This measure has two performance rates that contribute to the overall performance score:

1. Percent of cases in which ancillary biomarker testing for actionable targets with a diagnosis of non-small cell carcinoma is addressed.

2. Percent of cases that meet the maximum 10-day turnaround time.

The overall performance score submitted is a weighted average of: (Numerator 1 + Numerator 2)/(Denominator).

DENOMINATOR: All final pathology reports for lung cytopathology or pathology specimen cases with a diagnosis of non-small cell lung carcinoma.

DENOMINATOR EXCLUSIONS/EXCEPTIONS: Lung cytopathology or pathology specimens diagnosed as small cell lung carcinoma.

NUMERATOR: Percentage of lung cytopathology or pathology specimen cases with non-small cell lung carcinoma (NSCLC) that address presence or absence of actionable targets through ancillary biomarker testing

AND

The final pathology report is in the laboratory information system/electronic health record with result(s) verified and reported by the laboratory, available to the requesting physician(s) within 10 days from original specimen accession date.

Numerator definitions:

1. Biomarker testing for potential actionable targets on NSCLC can be determined by any method deemed appropriate by the signing pathologist (on final report) and requesting physician, including but not limited to immunohistochemistry, molecular, next-generation sequencing and/or other ancillary testing modalities.

2. Documentation of the presence or absence of ancillary testing and actionable targets can occur anywhere in the final pathology report deemed appropriate by the signing pathologist (e.g. final diagnosis line, microscopic description, comment, etc.) or as an addendum to add testing information without changing significant components of the final report or as an amendment.

3. Turnaround Time (TAT): Timeframe from the day the specimen is accessioned in the pathology laboratory to the day the final report is signed out with ancillary biomarker testing results.

4. Accession Date: The date recorded in the laboratory information system that documents when a specimen was received and accessioned by the laboratory.

5. Final Report Date: The date recorded in the laboratory information system that documents when a result of NSCLC is verified and reported by the laboratory and is available to the requesting physician(s) (signed out).

6. Signed Out with Ancillary Biomarker Testing Results: The pathology report with a final diagnosis released and inclusive of an indication or results of ancillary biomarker testing for actionable NSCLC targets.

RATIONALE: Biomarker testing is considered standard-of-care for all patients diagnosed with non-small cell lung carcinoma (NSCLC). Customization of specific biomarkers and assay-type may be unique by performing-institution, yet laboratory systems should support reporting the NSCLC diagnosis and biomarker results of NSCLC targetable oncogenic drivers in ≤10 days.

MEASURE TYPE: Process

NQS DOMAIN: Patient Safety, Effective Clinical Care

MEANINGFUL MEASURE AREA: Appropriate use of Healthcare