Quality Management Tools
“Through our programs, laboratories are able to compare their performance against other laboratories and continuously demonstrate the value they add to their institutions.”

– Raouf E. Nakhleh, MD, FCAP
Chair, CAP Quality Practices Committee
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Quality Management Tools

The CAP’s comprehensive collection of Quality Management Tools (QMT) strengthens your knowledge of key laboratory processes, identifies quality improvement opportunities, and provides the information you need for effective laboratory management.

- **Q-PROBES™** In-Depth Quality Assessment Program
- **Q-TRACKS®** Continuous Quality Monitoring Program
- **Q-MONITORS™** Customized Quality Monitors Program
- **LMIP®** Laboratory Management Index Program
- **CAP LINKS™** The Laboratory Integrated Knowledge Source

The CAP’s Quality Management Tools help you:

- **Identify** quality improvement opportunities and monitor progress over time
- **Establish** realistic goals for your laboratory using a set of customized external benchmarks
- **Demonstrate** the ability to meet accreditation requirements

Integrate QMT into your daily activities to support your quality improvement initiatives!

Q-PROBES, Q-TRACKS, and Q-MONITORS activities meet the American Board of Pathology MOC Part IV Practice Performance Assessment requirements.
**Q-PROBES, Q-TRACKS, and Q-MONITORS**

offer a comprehensive collection of tools to complement your quality management program needs.*

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*The CAP requires accredited laboratories to have a quality management plan that covers all areas of the laboratory and includes benchmarking key measures of laboratory performance (GEN.13806, .20316). The Joint Commission requires accredited hospitals to regularly collect and analyze performance data (PI.01.01.01, PI.02.01.01). CLIA requires laboratories to monitor, assess, and correct problems identified in preanalytic, analytic, and postanalytic systems (§493.1249, §493.1289, §493.1299).*
Monitoring of Troponin Metrics for Chest Pain Centers (QM1)

*The CAP requires accredited laboratories to have a quality management plan that covers all areas of the laboratory and includes benchmarking key measures of laboratory performance (GEN.13806, .20316). The Joint Commission requires accredited hospitals to regularly collect and analyze performance data (PI.01.01.01, PI.02.01.01). CLIA requires laboratories to monitor, assess, and correct problems identified in preanalytic, analytic, and postanalytic systems (§493.1249, §493.1289, §493.1299).

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**We’re here to assist!**

Our highly trained Customer Contact Center team is available to take your calls Monday through Friday from 7:00 AM to 5:30 PM CT. This group is dedicated to providing a full range of support services, including:

- Placing or modifying orders
- Updating contact information
- Discussing special requests
- Initiating CAPTRAKer™ emails

If we can be of assistance, please contact us at **800-323-4040 or 847-832-7000 option 1** or email us at contactcenter@cap.org.
Q-PROBES

A Program for In-depth Comprehensive Assessment

Evaluate quality improvements in your laboratory—With today’s focus on reducing medical errors, laboratories strive to achieve and maintain excellence. Using short-term studies, Q-PROBES provides a one-time comprehensive assessment of key processes in your laboratory.

Structure your data collection and analysis for success—Use Q-PROBES to help build and improve data collection and analysis processes that contribute to quality of care, patient safety, and outcomes.

Establish realistic laboratory benchmarks and performance goals—Implement Q-PROBES, an external peer-comparison program, to address process-, outcome-, and structure-oriented quality assurance issues. Establish benchmarks through external database comparisons and compare your performance to that of other organizations to establish laboratory goals and improve performance.

Q-PROBES activities meet the American Board of Pathology MOC Part IV Practice Performance Assessment requirements.

Examine the effectiveness of key processes with Q-PROBES.
Staff accounts for two-thirds of direct clinical laboratory costs and management of staffing levels is central to managing overall laboratory expenses. In this study, key staffing ratios are calculated for four different laboratory testing sections: anatomic pathology, chemistry/hematology/immunology, microbiology, and transfusion medicine. Your laboratory’s results will be benchmarked against staffing levels from all participating institutions.

**Objectives**
Measure staffing in different areas of the laboratory, calculate key staffing ratios, and compare key staffing ratios with other institutions.

**Data Collection**
Participants will use their laboratory or institution’s revenue and usage reports to obtain billable test counts and staffing figures for the most recently completed fiscal year for four key laboratory testing sections.

**Performance Indicators**

- **Anatomic Pathology:**
  - Histology blocks/histology nonmanagement FTE
  - Cytology accessions/cytology nonmanagement FTE
  - Nonmanagement FTE/management FTE

- **Chemistry/Hematology/Immunology:**
  - Total billable tests/nonmanagement FTE
  - Nonmanagement FTE/management FTE

- **Microbiology:**
  - Total billable tests/nonmanagement FTE
  - Nonmanagement FTE/management FTE

- **Transfusion Medicine:**
  - Crossmatches and/or type and screens/nonmanagement FTE
  - Transfused units/nonmanagement FTE
  - Nonmanagement FTE/management FTE

This is a one-time study conducted in the first quarter.
Laboratories must ensure the accuracy, completeness, and ease of use of information that is transmitted from the laboratory information system (LIS) to the patient’s electronic health record (EHR). This has become more important as health care providers increasingly request laboratory tests using computerized order entry and review many test results within the EHR.

This Q-PROBES study will focus on the electronic reporting of laboratory results within the EHR. Historically, laboratories met regulatory requirements for verifying test result accuracy and completeness by reviewing test results within the LIS. Participation in this Q-PROBES study will take this one step further by verifying the integrity of laboratory results within the EHR. This study can help document that your laboratory meets information technology requirements set forth in the CAP’s Laboratory Accreditation Program Laboratory General Checklist and the Code of Federal Regulations.

**Objectives**

Document the accuracy, completeness, and ease of use of laboratory test result information that is transmitted to the EHR.

**Data Collection**

Participants will retrospectively review multiple results from approximately 10-15 laboratory tests by directly viewing the results within the EHR. Results from a variety of tests performed locally or at a reference laboratory (eg, INR, eGFR, HgA1c, quantitative HIV) that are within and outside the test reference range are included. Inpatient and outpatient testing are also included. Anatomic pathology reports (eg, biopsies, cytology) are included if the results are reported within the EHR.

**Performance Indicators**

- **Primary:**
  - Percent of electronic test results that are accurately transmitted to the EHR
  - Percent of electronic test results that contain essential reporting elements

- **Secondary:**
  - Percent of electronic test results that are transmitted in an appropriate and useable format

This is a one-time study conducted in the second quarter.
Physician Satisfaction with Clinical Laboratory Services  QP143

Accessing physician satisfaction with laboratory services provides valuable information for targeting quality improvement activities. The CAP’s Laboratory Accreditation Program requires that institutions measure patients’ satisfaction with laboratory services (GEN.20335). This Q-PROBES study will assist your organization in meeting this requirement while helping to identify areas for improvement and to ensure physician satisfaction with your services.

Objectives
Assess physician satisfaction with laboratory services and correlate this with the laboratory workload, performance improvement activities, and customer support services.

Data Collection
Clinicians will be asked to complete a standardized questionnaire regarding their perceptions across various laboratory service categories, including turnaround time, critical value notification, diagnostic accuracy, communication, accessibility, responsiveness, and courtesy. Data from the first 50 returned questionnaires will be submitted for analysis.

Performance Indicators

- **Primary:**
  - Overall mean satisfaction score

- **Secondary:**
  - Mean satisfaction score for laboratory service categories

This is a one-time study conducted in the third quarter.
Delta checks are routinely performed by laboratory information systems to automatically compare two successive test results on the same patient to determine if the difference is outside the expected physiological range, which may indicate an analytical error or specimen mix-up. Delta checks are widely deployed during manual or autoverification as a check on reliability of test results before release to the medical record. While delta checks have been in use for more than 30 years, selection of tests and cut-offs are highly variable among laboratories. As analytical test systems have improved and rates of specimen misidentification decline, delta checks have become less effective due to a high fraction of false alerts that increase the amount of effort required to identify infrequent errors. This study is designed to provide comparative benchmarking information to help assess use of delta checks in laboratory practice.

**Objectives**

Evaluate laboratory practices relating to the use of delta checks including analytes and cut-offs used, actions taken, and outcomes observed.

**Data Collection**

Information about consecutive delta checks will be evaluated for 60 days or until 100 records are identified. The analyte, amount of change, action taken and outcome will be reported. Participants will also complete a questionnaire about their delta check procedures.

**Performance Indicators**

- Percent of test results that trigger a delta check
- Percent of delta checks that identify an analytical, specimen identification, or other error

This is a one-time study conducted in the fourth quarter.
Q-TRACKS

A Program of Continuous Quality Monitoring

Observe performance trends over time to identify and monitor opportunities for quality improvement through quantitative quality measures. Q-TRACKS offers continuous quality monitoring with longitudinal tracking of performance and key indicators for clinical and anatomic pathology.

**Step 1:**
Establish realistic benchmarks by comparing your laboratory to others like yours.

**Step 2:**
Identify improvement opportunities.

**Step 3:**
Monitor improvement over time to ensure accurate results, patient safety, and quality patient care.

Q-TRACKS activities meet the American Board of Pathology MOC Part IV Practice Performance Assessment requirements.
Q-TRACKS Clinical Pathology Monitors

**Patient Identification Accuracy  QT1**

In order to report accurate laboratory results and meet The Joint Commission National Patient Safety Goal #1: “Improve the accuracy of patient identification,” institutions must properly identify patients. Since most laboratories perform testing away from the patient, patient identification, and labeling of specimens and coordination with test requisitions must be performed accurately and completely. By continuously monitoring for wristband errors, participants can promptly identify and correct problems that may interfere with patient care services.

**Objectives**
Assess the incidence of wristband errors within individual institutions, compare performance between participating institutions, and identify improvement opportunities.

**Data Collection**
On six predetermined days per month, participants will monitor patient wristband identification for all phlebotomies performed at their institution. Phlebotomists will tally the total number of wristbands checked, the number of errors found, and the types of wristband error. This monitor includes all routinely wristbanded patients. Include emergency department patients only if the emergency department routinely applies wristbands to these patients.

**Performance Indicator**
- Wristband error rate (%)

**Performance Breakdown**
- Breakdown of wristband error types (%)

**Blood Culture Contamination  QT2**

Despite advances in blood culture practices and technology, false-positive blood culture results due to contaminants continue to be a critical problem. Blood culture contamination rate, the primary indicator of preanalytic performance in microbiology, is associated with increased length of hospital stay, additional expense, and the administration of unnecessary antibiotics. The CAP and other accrediting organizations require you to monitor and evaluate key indicators of quality for improvement opportunities. Use this monitor to help meet this requirement.

**Objective**
Determine the rate of blood culture contamination using standardized criteria for classifying contaminants.

**Data Collection**
On a monthly basis, participants will tabulate the total number of blood cultures processed and the total number of contaminated blood cultures. Blood cultures from neonatal patients are tabulated separately. For the purposes of this study, participants will consider a blood culture to be contaminated if they find one or more of the following organisms in only one of a series of blood culture specimens: Coagulase-negative *Staphylococcus*; *Micrococcus*; Alpha-hemolytic (viridans) *Streptococci*; *Propionibacterium acnes*; *Corynebacterium* sp. (diptheroids); or *Bacillus* sp. Participants have the option to monitor institution-specific subgroups.

**Performance Indicators**
- Neonatal contamination rate (%)
- Other contamination rate (%)
- Overall contamination rate (%)

Look for your input forms approximately three weeks prior to the quarter.
### Laboratory Specimen Acceptability  QT3

A substantial amount of rework, diagnostic and therapeutic delay, and patient inconvenience can result from specimen rejection. Patient redraws may result from unlabeled, mislabeled, and incompletely labeled specimens; clotted and/or hemolyzed specimens; or insufficient specimen quantity. By continuously monitoring specimen acceptability, collection, and transport, laboratories can promptly identify and correct problems.

**Objective**

Identify and characterize unacceptable blood specimens that are submitted to the chemistry and hematology sections of the clinical laboratory for testing.

**Data Collection**

This monitor includes all blood specimens submitted for testing to the chemistry and hematology departments of the clinical laboratory. On a weekly basis, participants will record the total number of specimens received, the number of rejected specimens, and the primary reason each specimen was rejected.

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<th>Performance Breakdown</th>
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<td>• Specimen rejection rate (%)</td>
<td>• Breakdown of reasons for rejection (%)</td>
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### In-Date Blood Product Wastage  QT4

Blood for transfusion is a precious resource. At a minimum, wastage of blood that is not out-of-date represents a financial loss to the health care system. More ominously, systemic wastage of blood may reflect an environment of care that is out of control and could pose risks to patient safety.

**Objective**

Compare the rates of blood product wastage (ie, units discarded in-date) in participating hospitals and track rates of improvement over time.

**Data Collection**

On a monthly basis, participants will use blood bank records to obtain information on the total number of units transfused for each type of blood component. Participants will track the number and type of blood units that are wasted in-date and the circumstances of wastage. Include the following types of blood components: red blood cells (allogeneic), frozen plasma, platelet concentrates, single donor platelets, and cryoprecipitate.

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Look for your input forms approximately three weeks prior to the quarter.
Satisfaction With Outpatient Specimen Collection  QT7

Specimen collection is one of the few areas of laboratory medicine that involves direct outpatient contact. As a result, patient satisfaction with this service is a vital indicator of quality laboratory performance. The CAP’s Laboratory Accreditation Program requires measurement of patient satisfaction with laboratory services (GEN.20335). Use this monitor to help meet this requirement.

**Objective**
Assess patient satisfaction with outpatient phlebotomy services by measuring patients’ assessment of waiting time, discomfort level, courteous treatment, and overall satisfaction.

**Data Collection**
On a monthly basis, participants will distribute copies of a questionnaire to a minimum of 25 outpatients (maximum of 99 outpatients), using predetermined data collection criteria. This monitor includes any outpatient undergoing venipuncture. This monitor excludes patients seen in the emergency department, ambulatory surgery area, urgent care facility, chest pain center, 23-hour short-stay facility, employee health department, outpatient health screening fair/promotion, dialysis center, nursing home, or extended care facility.

**Performance Indicators**
- Overall patient satisfaction score
- Patients “more than satisfied” (%)

Stat Test Turnaround Time Outliers  QT8

The stat test turnaround time (TAT) outlier rate, expressed as a percentage of tests missing target reporting times, is a measure of outcomes that evaluates how well the laboratory meets patient and clinician needs. This monitor helps meet CAP Checklist requirement GEN.20316, “The QM program includes monitoring key indicators of quality in the preanalytic, analytic, and postanalytic phases.”

**Objective**
Monitor the frequency with which stat test TAT intervals exceed institutional stat test TAT expectations.

**Data Collection**
Before beginning data collection, participants will establish a specimen receipt-to-report deadline for emergency department (ED) stat potassium tests. On six predetermined days per month, participants will monitor the TAT of up to 10 randomly selected ED stat potassium tests on each of three, eight-hour shifts (up to 180 tests per month) and track the number of ED stat potassium results reported later than the established reporting deadline. This monitor includes stat potassium tests ordered as part of a panel and excludes stat potassium levels that are requested on body fluids other than blood, as part of timed or protocol studies, or after the specimen arrives in the laboratory.

**Performance Indicator**
- Stat test TAT outlier rate (%)

**Performance Breakdowns**
- Breakdown of outliers by shift (%)
- Breakdown of outliers by day of week (%)
### Critical Values Reporting  QT10

Laboratories commonly refer to critical values as results requiring immediate notification to the physician or caregiver for necessary patient evaluation or treatment. Regulations from agencies and accreditors such as the CMS, The Joint Commission, and the CAP (GEN.20316, COM.30000) mandate that laboratories develop and implement an alert system for critical values. Use this monitor to document compliance with your laboratory’s alert plan.

**Objective**
Evaluate the documentation of successful critical values reporting in the general laboratory for inpatients (including discharged inpatients) and outpatients.

**Data Collection**
On a monthly basis, participants will evaluate 120 inpatient and 120 outpatient critical values. Data collection will include general chemistry, hematology, and coagulation analytes on the critical values list. Retrospectively, participants will record the total number of critical values monitored and the number with documentation of successful notification. This monitor will exclude critical values for cardiac markers, drugs of abuse, therapeutic drug levels, urinalysis, blood gases, point-of-care tests, and tests performed at reference laboratories.

**Performance Indicators**
- Total critical values reporting rate (%)
- Inpatient critical values reporting rate (%)
- Outpatient critical values reporting rate (%)

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### Turnaround Time of Troponin  QT15

The swiftness with which physicians establish diagnoses of acute myocardial infarction (AMI) in patients presenting to the emergency department (ED) with chest pain may determine the type and predict the outcome of therapy those patients will receive. Included in the total time consumed in establishing diagnoses of AMI are the component intervals required to measure biochemical markers of myocardial injury. One of the most critical biochemical markers is troponin. Use this monitor to help meet CAP Checklist requirement GEN.20316 QM Indicators of Quality.

**Objective**
Determine the median order-to-report turnaround time (TAT) of troponin (I or T) and the percent of troponin results reported by each institution’s established deadline.

**Data Collection**
On six predetermined days per month, participants will record TATs (in minutes) for three randomly selected troponin specimens obtained from ED patients on each of three traditional shifts for a total of nine measurements. Participants will measure TATs from the time of test order to the time results are available to ED personnel.

**Performance Indicators**
- Median troponin order-to-report TAT (minutes)
- Troponin TAT compliance rate (%)

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Look for your input forms approximately three weeks prior to the quarter.
## Corrected Results  QT16

The CAP developed this Q-TRACKS monitor in recognition of the importance of timely detection and correction of erroneous laboratory results. Accuracy in laboratory results is critical to the effectiveness of a physician’s plan of care for a patient. An erroneous result can delay or alter patient treatment; therefore, detection of erroneous results should be a priority in every laboratory and should be monitored as a key quality indicator. Help measure your compliance with CLIA 493.1299, Postanalytic Systems Quality Assessment, with this monitor.

### Objective
Monitor the number of corrected test results within individual institutions and compare performance with that of all institutions and those institutions similar to yours.

### Data Collection
On a monthly basis, participants will monitor the number of corrected test results and the total number of billable tests for that month. Include test results for all patients in all care settings with the following exclusions: anatomic pathology tests, narrative physician-interpreted tests (eg, bone marrow biopsies and peripheral smear reports), and point-of-care tests.

### Performance Indicator
- Test result correction rate (per 10,000 billable tests)

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## Outpatient Order Entry Errors  QT17

Order accuracy bears an obvious relationship to the quality of laboratory testing. When the laboratory fails to complete a requested test, it delays the diagnostic evaluation, potentially extending a patient’s hospital stay and prolonging therapy. When the laboratory completes a test that was not requested, the cost of care increases, patients may be subjected to unnecessary phlebotomy, and laboratory efficiency declines.

### Objective
Measure the incidence of incorrectly interpreted and entered outpatient physician test orders into the laboratory information system, compare performance across institutions, and track performance over time.

### Data Collection
On six preselected weekdays per month, participants will compare eight outpatient requisitions or order sheets to the orders entered into the laboratory’s information system to determine if any order entry errors occurred. Order entry error categories include requesting physician errors; incorrect, missing, and extra test errors; test priority errors; and nonroutine routing request errors. This monitor excludes tests performed in transfusion medicine or anatomic pathology. This monitor also excludes tests from the following patient care settings: inpatient, emergency department, ambulatory surgery, urgent care, chest pain center, 23-hour short-stay facility, employee health department, outpatient screening fair/promotion, and dialysis center.

### Performance Indicators
- Outpatient order entry error rate (%)
- Order entry error rates by type (%)

### Performance Breakdown
- Breakdown of error types (%)

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Look for your input forms approximately three weeks prior to the quarter.
The correlation of cervicovaginal cytology (Pap test) findings with cervical biopsy results is a significant part of the cytopathology laboratory’s quality assurance program. By monitoring this correlation, the laboratory can identify potential problems requiring improvement, thereby ensuring better patient results.

Quantify the correlation between the findings of cervicovaginal cytology and corresponding histologic material.

On a monthly basis, participants will record information on true-positive, false-positive, and false-negative cytology-biopsy correlations. The false-negative correlations will be classified into four error categories: screening errors, interpretive errors, screening and interpretive errors, and adequacy determination errors. Participants will also record the biopsy diagnoses for Pap tests with an interpretation of atypical squamous cells (ASC-US and ASC-H) or atypical glandular cells (AGC). This monitor includes patients for whom a cervical biopsy specimen is submitted to the laboratory and for whom a satisfactory or satisfactory but limited Pap test has been submitted within three months previous to the biopsy or at the time of the biopsy.

Performance Indicators
- Predictive value of positive cytology (%)
- Sensitivity (%)
- Screening/interpretation sensitivity (%)
- Sampling sensitivity (%)
- Percent positive for ASC-US interpretations
- Percent positive for ASC-H interpretations
- Percent positive for AGC interpretations

Look for your input forms approximately three weeks prior to the quarter.
Mislabeled Cases, Specimens, Blocks, and Slides in Surgical Pathology  QT19

Mislabeling of surgical pathology specimens has potential catastrophic consequences for patient care. By continuously monitoring the rate of mislabeled specimens, participants will be able to identify problems and variables associated with mislabeled specimens, blocks, and slides. This Q-TRACKS monitor will also help participating laboratories fulfill The Joint Commission National Patient Safety Goal #1: “Improve the accuracy of patient identification” in the discipline of surgical pathology.

Objectives
Determine the rates of mislabeled cases, specimens, blocks, and slides and the rate at which mislabeling errors led to a corrected report and compare performance to other institutions.

Data Collection
Prospectively track each time a specimen container, block or slide is relabeled or renumbered due to an identification error; and if, as a result, a corrected report is issued. Participants will also report the number of cases processed each month and the number of blocks and slides (including special stains) that are processed during the same time period. Data will be collected monthly.

This Q-TRACKS monitor is limited to routine histology processing.

Performance Indicators
- Rate of mislabeled events (either mislabeled specimens, blocks, or slides) per case
- Percent of errors that resulted in a corrected report
- Rate of mislabeled cases
- Rate of mislabeled specimens
- Rate of mislabeled blocks
- Rate of mislabeled slides

Look for your input forms approximately three weeks prior to the quarter.
Q-MONITORS

A Program for a Customized Comprehensive Assessment

Evaluate quality improvements in your laboratory

With today’s focus on reducing medical errors, achieving and maintaining excellence is key to success. Using continuous monitoring, Q-MONITORS provide a comprehensive assessment of key processes in your institution and allow your institution to meet accreditation and regulatory requirements.

Structure your data collection and analysis for success

Use Q-MONITORS to help build and improve data collection and analysis processes that contribute to quality of care, patient safety, and outcomes. Observe performance trends over time to identify and monitor opportunities for quality improvement through quantitative quality measures.

Establish realistic laboratory benchmarks and performance goals

Q-MONITORS are customized programs that address process-, outcome-, and structure-oriented quality assurance issues. Establish benchmarks through external database comparisons and compare your performance to establish goals for performance improvement.
Patients presenting to the emergency department (ED) with chest pain must be evaluated quickly. Rapid serum troponin measurement is an important part of ED practice that can provide decisive information for patient management. Reducing delays in troponin testing has been reported to result in shorter length of stay in the ED and more rapid initiation of anti-ischemic treatment. Chest pain centers should therefore have effective procedures for ensuring optimal turnaround time (TAT) for troponin and a process for ongoing monitoring to ensure that performance meets expectations. Participants will monitor two to eight metrics required by the Society of Cardiovascular Patient Care (SCPC) (Cycle IV: Key Element 4.4.0.0).

Institutions do not need to be accredited by the SCPC to participate in this monitor.

Objective
Help meet the SCPC quality performance requirements for monitoring ED troponin TAT and meeting timeliness goals.

Data Collection
Six days per month, collect data from nine patients presenting to the ED with chest pain and tested for troponin level. Data includes time of patient arrival, troponin test order, specimen collection, laboratory receipt, and result availability. It is not necessary to provide data from each turnaround time (TAT) component. Participants select which TAT metrics to monitor, with the option to monitor all metrics.

Participants will also complete a questionnaire about clinical and laboratory practices related to troponin testing.

SCPC Metrics
Main Laboratory Troponin Testing
at least one of the following:
- Patient arrival to result availability
- Specimen collection to result availability
- Test order to result availability
and at least one of the following:
- Patient arrival to test order
- Test order to specimen collection
- Specimen collection to laboratory receipt
- Laboratory receipt to result availability

Point-of-Care Troponin Testing
- Specimen collection to result availability (required)
- Patient arrival to result availability (optional)

Performance indicators
- Median TAT for troponin testing intervals (monthly)
- Test order to result availability compliance rate (if applicable)
- Specimen collection to result availability compliance rate (if applicable)

Reports
Participants will receive benchmarking, as compared to all institutions, for specimen collection to result availability and patient arrival to result availability TATs.

A report will be provided on a quarterly basis for compliance with SCPC Cycle IV: Key Element 4.4.0.0; ED Baseline Troponin Turn-Around-Time Metrics.

Look for your input forms approximately three weeks prior to the quarter.
LMIP

Laboratory Management Index Program

Manage your laboratory more effectively with LMIP—The Laboratory Management Index Program (LMIP), an effective fiscal management tool, offers a valuable peer comparison of your laboratory’s performance. LMIP can help you with the annual budget process, contract negotiations, and daily operations management.

With more than 15 years of experience and the largest laboratory participant database, LMIP is the best management resource for health care professionals charged with decision-making responsibilities. Using management ratios as performance indicators, LMIP extends beyond traditional analysis of productivity and staffing to focus on the most important factors affecting laboratory performance:

- **Productivity**—How effectively are you using your laboratory personnel?
- **Utilization**—How do your test-ordering patterns compare to those of your peers?
- **Cost-effectiveness**—How efficiently are you using your supplies, equipment, and labor?

With LMIP’s statistically valid method of peer grouping (fingerprint clustering), you receive the most meaningful comparisons. These comparisons allow you, your colleagues, and your administration to make informed and realistic decisions about staffing, budgets, and other performance targets.

Achieving quality test results involves more than just ensuring properly conducted tests. Understanding financial factors that drive laboratory processes enhances your confidence in the management decisions you make. Ultimately, these decisions will guide your organization to deliver superior patient care.
**Laboratory Management Index Program  LMB**

LMIP provides a report of your laboratory’s overall operation. Quarterly reports summarize relevant management ratios that provide analysis of the productivity of personnel, laboratory policies and procedures, salary and other expenses, physician test utilization, and organizational benefits.

<table>
<thead>
<tr>
<th>The input items you will collect include:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Blood Expense</td>
<td>• Outpatient Visits</td>
</tr>
<tr>
<td>• Consumable Expense</td>
<td>• Referred SBTs</td>
</tr>
<tr>
<td>• Equipment Depreciation Expense</td>
<td>• Referred SBT Expense</td>
</tr>
<tr>
<td>• Equipment Maintenance and Repair Expense</td>
<td>• Testing Labor Expense</td>
</tr>
<tr>
<td>• Hospital Inpatient Days</td>
<td>• Testing Paid Hours</td>
</tr>
<tr>
<td>• Hospital Inpatient Discharges</td>
<td>• Total Labor Expense</td>
</tr>
<tr>
<td>• Inpatient SBTs</td>
<td>• Total Laboratory Paid Hours</td>
</tr>
<tr>
<td>• Nonpatient SBTs</td>
<td>• Total Laboratory Worked Hours</td>
</tr>
<tr>
<td>• On-Site SBTs</td>
<td>• Total SBTs</td>
</tr>
<tr>
<td>• Outpatient SBTs</td>
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</tbody>
</table>

LMIP uses the Standardized Billable Test (SBT) as the primary unit of measure. The SBT standardizes test counts and eliminates billing, accounting, and interpretation variations to ensure valid comparisons.
CAP LINKS

The Integrated Knowledge Source

Consolidate proficiency testing, accreditation, and quality improvement data for your entire organization into concise and actionable reports.

The CAP designed CAP LINKS for multihospital systems, academic medical centers with numerous testing locations, and national commercial reference laboratories. CAP LINKS provides a high-level overview useful in identifying improvement opportunities and demonstrating good QI performance. You can access CAP LINKS data directly from the CAP laboratory improvement database. Therefore, the CAP does not require additional data submission. Use CAP LINKS for your CAP laboratory improvement programs, including:

- Surveys and Anatomic Pathology Education Programs and EXCEL®
- Laboratory Accreditation Program
- LMIP—Laboratory Management Index Program

The enhanced CAP LINKS provides you the ability to do the following:

- Download data and manipulate reports to accommodate your specific institution’s needs
- Use email to forward one or all reports to appropriate individuals for viewing
- Designate viewing options to select individuals directly via the CAP website
- Receive CAP LINKS reports promptly via the Web—the CAP will continue to forward your printed reports via regular mail
- Respond to exceptions in a more timely manner

The report package allows you to quickly see good performance and identify sites that may require special attention, both at the laboratory level and at the system or corporate level.

The CAP generates reports on a quarterly basis and distributes them via the Internet and by mail to an individual whom you designate as your system’s primary contact. Annually, your primary contact will receive an overview of the system’s full-year performance for proficiency testing. Those individuals with granted viewing privileges may view these secure online reports.
Quarterly reports summarize PT systemwide average results by discipline to allow for interlaboratory comparisons.

Accreditation reports recap inspection findings for each laboratory.
## Quality Management Tools Pricing Overview

### 2014 Q-PROBES

<table>
<thead>
<tr>
<th>Modules/Packages</th>
<th>Program Codes</th>
<th>Price</th>
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<tbody>
<tr>
<td>Individual QP Studies</td>
<td>QP141, QP142, QP143, QP144</td>
<td>$420 each</td>
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<tr>
<td>All Four QP Studies</td>
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### 2014 Q-TRACKS

<table>
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<tr>
<th>Modules/Packages</th>
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<tbody>
<tr>
<td>Individual Clinical Pathology (CP) Monitors</td>
<td>QT1, QT2, QT3, QT4, QT7, QT8, QT10, QT15, QT16, QT17</td>
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<td>Individual Anatomic Pathology (AP) Monitors</td>
<td>QT5, QT19</td>
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<td>Combined CP/AP Module – Includes all 12 QT Monitors</td>
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<td>Clinical Pathology Module – Includes all 10 CP Monitors</td>
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### 2014 Q-MONITORS

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<td>Individual QM Study</td>
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### 2014 Laboratory Management Index Program

<table>
<thead>
<tr>
<th>Module</th>
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<tr>
<td>LMIP</td>
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### 2014 CAP LINKS

<table>
<thead>
<tr>
<th>Combination Program Options</th>
<th>Program Codes</th>
<th>Surveys/EXCEL</th>
<th>LAP</th>
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<tr>
<td>Option 1</td>
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<td>Option 2</td>
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<tr>
<td>Option 3</td>
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<tr>
<td>Option 4</td>
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<table>
<thead>
<tr>
<th>Individual Program Options</th>
<th>Program Codes</th>
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<th>Price</th>
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<tr>
<td>Laboratory Accreditation Program</td>
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<tr>
<td>LMIP</td>
<td>IMRLM</td>
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Quality Management Resources
From CAP Experts

Laboratory Administration for Pathologists
Elizabeth A. Wagar, MD, FCAP, Richard E. Horowitz, MD, FCAP, and Gene P. Siegal, MD, PhD, FCAP, editors

Item number: PUB312
ISBN number: 978-0-9837068-0-9
Hardcover; 300 pages; 2011
Price: $100
Member price: $80

Quality Management in Anatomic Pathology: Promoting Patient Safety Through Systems Improvement and Error Reduction
Raouf E. Nakhleh, MD, FCAP, and Patrick L. Fitzgibbons, MD, FCAP, editors

Item number: PUB118
ISBN number: 0-930304-86-1
Softcover; 198 pages; 77 tables, figures, exhibits, and checklists; 2005
Price: $95
Member price: $76

Quality Management in Clinical Laboratories: Promoting Patient Safety Through Risk Reduction and Continuous Improvement
Paul N. Valenstein, MD, FCAP, editor

Item number: PUB214
ISBN number: 0-930304-88-8
Softcover; 265 pages; 89 exhibits and figures; 2005
Price: $95
Member price: $76

That’s the CAP’s promise—to share the knowledge and insight provided by expert pathologists volunteering more than 178,000 hours annually to help laboratories be their best. And as laboratory medicine advances, we’ll be there with solutions that help you deliver world-class care. That’s our commitment to you.