Evaluation of Laboratory Quality Indicators

IQLM Quality Indicators Workgroup

INSTITUTE FOR QUALITY IN LABORATORY MEDICINE

IQLM Quality Indicators Workgroup

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IQLM Quality Indicators Workgroup Agenda

- Identify and evaluate core set of laboratory quality measures covering:
  - Total testing process
  - Institute of Medicine's (IOM) health care quality domains (patient safety, effectiveness, equity, patient centeredness, timeliness and efficiency)
  - Various practice settings (hospital, physician office, Reference, and public health laboratories)
- Be judicial in selection to limit the number (8-12 total; 3-5 measures in 3-5 domains)
- Use existing and published indicators and evidence
- Identify indicator gaps: evidence, stages of the total testing process, IOM domains, practice settings

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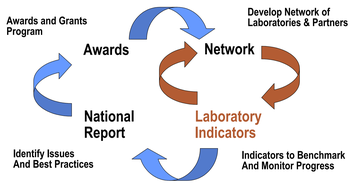
Quality Indicators Fit into the Institute Vision



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Laboratory Quality Indicators Desirable Characteristics

- Evidence-based, practice-tested measures of IOM health care domains
- Associated with identifiable health care quality problems
- Objective metrics in a standardized and comparable format, that can be implemented and evaluated
- Reliable means of external and internal evaluation of quality performance over time
- Address a wide range of laboratory tests, testing sites, and stakeholders (including laboratories, clinicians, payers and patients)

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Laboratory Quality Indicators Information Sources

- Agency for Healthcare Research & Quality (AHRQ):
  - National Quality Measures Clearinghouse
  - National Guidelines Clearinghouse
  - National Healthcare Quality Report 2003, 2004
- College of American Pathologists (CAP)
- Joint Commission on Accreditation of Healthcare Organizations (JCAHO)
- Veterans Health Administration (VHA)
- National Committee for Quality Assurance (NCQA) HEDIS measures
- US Preventive Services Task Force (USPSTF)
- Centers for Disease Control and Prevention (CDC)
- US Task Force on Community Preventive Services
- MEDLINE searches and additional references cited

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12 High Priority Items Identified

■ Diabetes monitoring	(system)
✓ Hyperlipidemia	(system)
✓ Patient identification	preanalytic
✓ Test order accuracy/appropriateness	preanalytic
✓ Blood culture contamination	preanalytic
✓ Accuracy/Adequacy of specimen info	preanalytic
■ Accuracy of Point of Care Testing	(analytic)
■ Cervical cytology/biopsy correlation	(analytic)
✓ Critical value reporting	(postanalytic)
■ Turnaround time	(infrastructure)
✓ Clinician satisfaction	(infrastructure)
■ Clinician follow up	(system/general)

✓= Evaluation information provided

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Indicator Evaluation Methods Goals

- Summarize and understandably describe the evidence, so practical healthcare decisions are feasible
- Use defined methods following recognized guidelines for reviews and desirable attributes for quality measures
- Maintain a practical perspective consistent with the constraints imposed by the limited availability and quality of evidence
- Produce a comprehensive, objective and reproducible evaluation

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General Systematic Review Methods Steps

✓ Formulating the problem
✓ Locating and selecting studies
■ Quality/validity assessment of studies
✓ Collecting data
✓ Analyzing and presenting results
✓ Interpreting results
■ Improving and updating reviews

■ = steps not performed for IQLM indicator evaluations

Cochrane Handbook for Systematic Reviews of Interventions, 3/05

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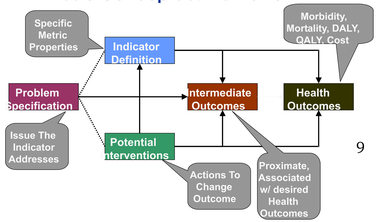
Laboratory Quality Indicators Basic Conceptual Framework



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IQLM Quality Indicator Evaluation Four Primary Criteria Dimensions

- Importance
- Scientific acceptability
- Feasibility
- Usefulness

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Evaluation Criteria: Importance

- **Health importance**
  - Ability to meaningfully impact populations
  - Measures important quality aspect(s)
    - Common: high prevalence/incidence
    - Impact: serious impact on health outcomes
- **Potential for improvement**
  - Need supported by quality variation or substandard quality
  - Literature or expert opinion support (e.g., effective interventions)

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Evaluation Criteria: Scientific Acceptability

- Strength of evidence based on peer reviewed literature
  - Quality problem is explicitly defined
  - Indicator links specifically to the problem
- Indicators must be reliable and valid
  - Findings are consistent among raters
  - Accurately measures desired attributes
- Other sources for future consideration
  - Professional organizations
  - ? Expert opinion

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Evaluation Criteria: Feasibility

- Data definitions are sufficiently clear
  - Abstraction tools can be developed
  - Data abstraction quality easily standardized
- Ability to broadly implement indicators
  - Across multiple similar laboratories
  - Across different laboratory types
- Benefits of measurement exceed financial and administrative burdens
  - Burdens: need to collect new data, abstraction and analysis time and costs, health/cost impact of erroneous results
  - Benefits: health improvement, reduced rework, reduced cost

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Evaluation Criteria: Usefulness

- Relevant
  - Stakeholder(s) find the indicator useful
  - Acceptance by laboratories, clinicians and other stakeholders
  - Relevance extends to the healthcare system (beyond the laboratory)
- Opportunity for health system to impact
  - Interventions within stakeholders' sphere of influence
  - Actionable findings to guide organizational decision making and inform public policy

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The Degree of Support for Criteria Domains is Variable

Current information supporting evaluation criteria appears adequate

Current information supporting evaluation criteria is equivocal/uncertain

Current information supporting evaluation criteria is limited or does not exist

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Summarized Information First Indicators Evaluated

○ =Pending Review	Importance	Acceptability	Feasibility	Usefulness
Diabetes monitoring	○	○	○	○
Hyperlipidemia screening	●	●	◐	●
Patient identification	●	◐	◐	●
Test order accuracy/appropriateness	◐	◐	◐	◐
Blood culture contamination	●	●	◐	●
Adequacy/adequacy of specimen info	◐	◐	◐	◐
Accuracy of Point of Care Testing	○	○	○	○
Cervical Cytology/Biopsy Correlation	○	○	○	○
Critical value reporting	◐	◐	●	◐
Turnaround time	○	○	○	○
Clinician satisfaction	◐	●	◐	◐
Clinician follow up	○	○	○	○

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Laboratory Quality Indicator Challenges

- Available laboratory indicators are limited
- Strength of evidence linking laboratory indicators to health care quality problems and outcomes is weak
- Literature and data do not directly address many defined quality problems or review questions
- Lack of standard definitions limits comparability of data and findings
- Evidence quality, generalizability and applicability not evaluated
- Many laboratory indicators have limited relevance to national health priorities

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Some General Themes Emerge

- System indicators are likely better supported by the evidence on health outcomes
  - Selected because of their impact on patient outcome
  - Results are linked to evidence supported specific care interventions
- Laboratory indicators are less frequently supported by ties to health outcomes
  - Most of the work has been done by CAP
  - Definitions for many are clear or could be standardized
  - Linked to intermediate outcomes but links to health outcomes are generally inferential

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Issues for IQLM to Consider

- Solidify a definition of quality as it relates to laboratory practice
- Assure selected/future indicators map to laboratory quality definitions
- Focus on test utilization: overuse, underuse and misuse of testing services
- Consider whether intermediate outcomes should be sufficient
  - Identify direct and indirect ways to link intermediate processes to health outcomes
  - Accept intermediate outcomes as final outcomes for most laboratory services

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Logical NEXT STEPS for Indicators

- Begin a broader discussion of indicators with key stakeholders
- Link indicators to awards and network groups
- Determine the extent to which indicator validation will be studied
- Select one or two for more in depth exploration

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CDC Centers for Disease Control and Prevention