Laboratory Stewardship Checklist: Governance

Leadership Commitment

It is extremely important that the Laboratory Stewardship Committee is sanctioned by the hospital leadership. This may be recognized by the appointment of the Chair or Co-Chairs of the Committee. The official establishment of the committee and the committee leadership provides an opportunity to discuss support and committee membership. The appointment will also make apparent the section in which the committee resides (e.g., Quality, Medical Operations). It is recommended that the Laboratory Stewardship lead(s) report back to institutional leadership on a regular basis. This is both an opportunity to share successes, as well as to request assistance when challenges cannot be overcome at the committee level.

1. Does your facility have a formal, written statement of support from leadership that encourages efforts to improve utility of laboratory tests (i.e. laboratory stewardship)?
    a. Yes
    b. No
    c. No, but under consideration.

2. Does your facility receive any budgeted financial support for laboratory stewardship activities (e.g., support for salary, training, or IT support)?
    a. Yes
    b. No
    c. No budgeted support, but ancillary support is provided.

3. Does the institution have a dedicated hospital-wide committee geared towards the improvement of laboratory test stewardship?
    a. Yes
    b. No

Expertise and Key Support

The selected committee leader(s) should have a record of leadership. Leaders should be sought who have a history of respect and collegiality within the institution. Individuals who are very early in their careers may lack the political clout needed to influence Department Chairs and other member of leadership. Members with laboratory and clinical subspecialty expertise are needed for focused projects. These individuals may be standing members of the committee or may be assembled *ad hoc* as particular projects are formed. A cadre of pathologists, doctoral-level scientists, administrators and genetic counselors often form the nucleus of the committee. Individuals with the ability to retrieve data from the hospital and laboratory information systems are also important members. A project manager is a highly valuable member of the team. Other potential permanent or *ad hoc* members include nurses, financial analysts, statisticians, quality specialists and continuous improvement professionals.

4. Is there a physician leader responsible for program outcomes of stewardship activities at your facility?
    a. Yes
    b. No

5. Is there a laboratory leader responsible for working to improve laboratory utilization at your facility?
    a. Yes
    b. No
    c. No single lead is responsible; sectional or subspecialty leads are responsible for their respective areas.

6. Are any of the staff below represented in the committee for laboratory test stewardship (Check all that apply)?
    a. Clinicians
    b. Quality Improvement
    c. Finance/ Revenue Cycle
    d. Information Technology (IT)
    e. Nursing
    f. Genetic Counselors
    g. Physician Assistants
    h. Residents/Fellows

Accountability

Accountability occurs at both the individual and the group level. Institutions that wish to promote active engagement of their professional staff and other member of their leadership (eg, administrators) should consider including a review of the individual's participation in laboratory stewardship activities in the annual review process. The inclusion of the topic itself raises the level of the importance of the topic within the institution. In-depth conversations within the review may disclose challenges with which leadership can assist, and provides an opportunity to discuss future projects and expectations.

The Laboratory Stewardship Committee should have a mechanism to provide periodic feedback to the institutional leadership that has provided support for the program. This is best achieved through scheduled periodic update meetings with leadership. The development of an annual report of the activities of the committee is a good way to summarize the activity of the group, and can be used as a means by which to initiative additional conversations when further support is needed.

7. Does the Chair(s) of the Laboratory Stewardship Committee have periodic meeting with institutional leadership, particularly within the area to which they report?

a. Yes
b. No
c. No, because we do not have a program.

8. Is an annual report submitted from the Laboratory Stewardship/Test Utilization Chair to the institutional leadership?
    a. Yes
    b. No
    c. No, because we do not have a program.

9. If an annual professional review of professional staff at your institution is undertaken, are efforts to improve test utilization addressed during that review.
    a. Yes
    b. No
    c. N/A

Policies and Procedures

A key task for the Laboratory Stewardship Committee is to create institutional policies and procedures which support the activities and goals of the stewardship program. Institutional policies provide visibility to the rest of the organization as well as recognition that the content of the policies are valuable to the leadership.

10. Does your facility have a policy that requires tests that meet defined criteria undergo a specific review and approval process before testing is performed and resulted?
    a. Yes
    b. No
    c. No, but it this is being considered.

11. Does your facility have institution-specific laboratory formulary, based on national guidelines, to assist with laboratory test selection?
    a. Yes
    b. No
    c. No, but this is being considered.

Laboratory Stewardship Checklist: Interventions

Introduction: There are many potential interventions that may improve Laboratory Stewardship in various healthcare settings. Implementing these interventions can range from simple to difficult; while the effectiveness of the interventions can range from least effective to most effective. The table (below) highlights 20 interventions to improve Laboratory Stewardship classified by ease of implementation and effectiveness. Please note that the ease of implementation and effectiveness may vary from institution to institution based on Electronic Medical Record capability and medical staff acceptance.

HIGH IMPACT	Do you change test names to make it easier to order the right test? Do you use reflex testing? Do you display turnaround times in your ordering system on reference tests?	Do you use duplicate alerts providing the previous result and date when a duplicate test is ordered? Do you use other lab algorithms for complex cases (e.g. Celiac dx)?	Do you use duplicate alerts for genetic tests, other once in a lifetime tests? Do you have formal governance in your hospital for creating clinical decision support for lab testing? Do you have a system for periodic review of provider preference lists? Is the lab involved in periodic review of order sets? Do you limit the duration of a recurring order (for standing orders)? Do you use benchmarking to evaluate providers? Do you have a laboratory formulary? Does the laboratory participate in Diagnostic Management Teams?
MEDIUM IMPACT	Do you have a method to assess when reference tests should be insourced?	Do you display turnaround times in your ordering system on in house tests? Can your providers see test costs or charges at the time of placing a lab test order? Do you require review of orders based on test costs?	Do you use best practice alerts in conjunction with lab orders? For certain tests or specialties, do you require additional review or approval?
LOW IMPACT	Do you provide education about lab tests?		
	EASY EFFORT	MEDIUM EFFORT	HIGH EFFORT

Laboratory Stewardship Checklist: Data and Monitoring

Introduction: Effective laboratory stewardship requires granular utilization data in order to identify and quantify issues, prioritize efforts, and monitor the effectiveness of interventions. Not only does this data need to be captured and stored, but it must be managed in such a way as to be easily analyzable, and there must be technical and human resources available for retrieving the data rapidly and in useful formats.

Resources for access to data and reports

Business intelligence software can be configured to allow stakeholders such as lab managers and pathologists to directly access utilization reports. Managing and configuring these systems typically requires specialized IT personnel. Some types of customized queries may also require IT personnel.

1. Does your facility provide online access to routine laboratory utilization reports?

   ☐ Yes

   ☐ No

2. Does your laboratory stewardship group have access to at least one dedicated data analyst who can provide custom lab utilization data extracts and reports? Access to a centralized resource or team can satisfy this requirement provided that typical response times for requests are within 1-2 days.

   ☐ Yes

   ☐ No

Data availability

For effective utilization analysis, laboratory ordering data must be captured and stored at a sufficient level of granularity. CPT-level data alone, such as is typically available within billing systems, is inadequate to support many laboratory stewardship needs.

Using the table below, answer the following:

3. Which of the following data items are available on demand for analysis using the resources available (typically within 1-2 days) to the laboratory stewardship group?
4. Which are available but not as rapidly, possibly due to limitations of hospital or health system or competition for the laboratory IT system?
5. Which data items are not available to the lab stewardship group at all?

Patient demographics	Available on demand	Available but not rapid	Not available
Unique identifier			
Date of birth			
Gender			
Location at time of order			
Status at time of order (inpatient, outpatient, etc.)			
Admission date/time (for inpatient orders)			
Discharge date/time (for inpatient orders)			

Test information	Available on demand	Available but not rapid	Not available
Unique identifier of ordered test (not just CPT code)			
Test result			
Testing location (in-house vs. sendout)			
Test cost (if sendout)			
Test charge (useful if the focus is on reducing cost to patient/insurer)			
Date/time of order			
Date/time of specimen collection			
Date/time of result verification			
Activity-based costing for test			

Ordering provider information	Available on demand	Available but not rapid	Not available
Unique identifier (ideally NPI number)			
Clinical specialty			
Level of credentials (i.e. attending, fellow, resident (this may help target interventions)			

Associated clinical information	Available on demand	Available but not rapid	Not available
ICD codes associated with the test order			
DRG code associates with the test order (for inpatient orders)			
Pharmacy orders			

Data governance

For data to be useful and available there must be processes to ensure data quality and comparability.

6. Is there documentation of the following data governance processes?
    a. Data elements in the tables above are clearly documented to indicate what each field means, what system the data comes from, who is responsible for entering the data, and any limitations about using the data (i.e. Is there a data dictionary available to those accessing the data?)

☐ Yes

☐ No

    b. Prevention/correction of missing and erroneous data

☐ Yes

☐ No

    c. Timeliness of data uploads

☐ Yes

☐ No

Overall assessment of data resources

7. In the judgment of the laboratory stewardship committee leadership, are the data resources sufficient to support the needs of the committee?

☐ Yes

☐ No

Laboratory Stewardship Checklist: Review and Improve

Introduction: Laboratory stewardship projects represent organized efforts to improve the ordering, retrieval, or interpretation of clinical laboratory tests. Stewardship also includes developing systems to improve payment–on behalf of both labs and patients. This financial aspect of stewardship encompasses aims such as transparency, fair payment, fair medical necessity policies and less burdensome administrative policies and procedures.

The purpose of the review and improve checklist is to evaluate the stewardship system for its sustainability. This includes demonstrating that the system does the following:

1) Maintains sufficient resources;
2) identifies and prioritizes stewardship opportunities; and
3) Incorporates any form of continuous process improvement that periodically monitors and attempts to improve the whole system.

Identifying Stewardship Opportunities

1. Does your facility have a system in place for <u>identifying</u> potential laboratory stewardship projects?
   - ☐ Yes
   - ☐ No

   a. If yes, which of the following are used to identify potential projects (check all that apply)?
      - ☐ Frequency data such as test tallies by clinical section or individual care provider[1]
      - ☐ Conformance to a published guideline, recommendation, or scholarly work[2].
      - ☐ Conformance to a benchmark[3]
      - ☐ Surveys of care providers[4]
      - ☐ Surveys of laboratory staff at all levels including pathologists and other doctoral level staff.
      - ☐ Incident reports, occurrence reports or patient safety reports[5].
      - ☐ Cost data
      - ☐ Alignment with strategic priorities[6]
      - ☐ External assessment/consulting engagement/inspection finding[7]
      - ☐ Analysis of send out (reference lab) testing[8]
      - ☐ Other. Describe _____.

      Footnotes:
      1 Test tallies for individual providers or sections can help identify a variety of issues including individual providers or groups of providers who:
      - Fail to order certain tests for specific diagnostic workups
      - Order uncommon tests that may be outside the scope of their routine practice
      - Order test panels that are larger than recommended by guidelines
      - Order tests at inappropriate intervals (usually too frequently)

2 Examples include comparisons to Choosing Wisely™, and US Preventive Services Taskforce guidelines
3 Examples include a benchmark set by a consensus of experts within an institution or borrowed from a peer institution. It does not have to be a published benchmark.
4 Examples include computerized surveys or structured interviews.
5 This section refers to an institution's official procedure for reporting errors and other service problems.
6 Specific clinical strategies are often associated with stewardship opportunities. For example: If a facility is putting in a heart center, stewardship around tests frequently ordered by the heart center is given a high priority.
7 Examples include CAP inspection, other CLIA inspection, or AABB inspection. There are a variety of consulting services, both independent and associated with commercial reference laboratories, which can help identify stewardship opportunities
8. Send outs are a common source of stewardship opportunities since they often involve rarer tests that are understood less well by clinicians, and which have longer turnaround times. They are often expensive and performed by out-of-network laboratories, which provide opportunities for financial interventions.

Prioritizing Stewardship Opportunities

2. Does your facility have a system in place for prioritizing laboratory stewardship projects?
   - ☐ Yes
   - ☐ No

a. If yes, which of the following are included as factors in prioritizing stewardship projects (check all that apply):
   - ☐ Impact on patient safety[1]
   - ☐ Impact on patient outcomes[2]
   - ☐ Provider alignment and support[3]
   - ☐ Alignment with organizational (e.g. hospital) strategic goals[4]
   - ☐ Likelihood of carrying out the project[5]
   - ☐ Impact on costs[6]
   - ☐ Impact on revenue[7]
   - ☐ Size of the project[8]
   - ☐ Cost of the project[9]
   - ☐ Scalability or generalizability of the project[10]

Footnotes:
[1]Patient safety impact refers to projects which decrease patient harm to patients caused by medical care and not their underlying condition.
[2] Patient outcomes refer to improvements in a patient's medical condition including any aspect of quality or life.
[3]Often times, projects are favored because they have a physician champion in the organization. Projects aligned with physician champions are more likely to succeed.

[4] For commercial labs, this may include alignment with goals of a parent organization.
[5] The probability of success matters. Sometimes an easier project is given high priority in an attempt to build momentum for the stewardship program.
[6] Stewardship projects can decrease costs in a number of ways including decreasing unnecessary testing and decreasing downstream medical costs.
[7]Stewardship projects can produce increased revenue in a variety of ways. For example, many stewardship projects emphasize improvements in payment systems that benefit both the labs and patients. This includes collaborating with insurance companies to produce faster and fairer administrative and medical policies (E.g test preauthorization).
[8,9] It tends to be easier to complete smaller projects that are less expensive, and this may influence priorities.
[10]Scalability refers to projects whose growth in impact is associated with little or no incremental cost. One example is a computer rule that is working in one hospital that can be easily spread to another hospital in the same health system that is on the same electronic health record. In stewardship, generalizability refers to the ability to spread a general concept like a general type of intervention, such as computerized rules that fire when ordering tests.

b. If yes, how is priority determined?
- ☐ By an individual leader who has authority to make a decision
- ☐ Consensus
- ☐ Scoring system[1]
- ☐ Other (describe): _____

Footnotes:
[1] A stewardship project can be scored in multiple categories including patient impact, likelihood of success, cost to perform, predicted financial savings, and others. The weight of each category can vary depending on the needs and philosophy of the institution.

c. If yes, who has authority to approve large stewardship projects (check all that apply)?
- ☐ Laboratory Stewardship committee
- ☐ Hospital Utilization review committee or its equivalent[1]
- ☐ Ad hoc committees
- ☐ Clinical leadership outside the laboratory[2]
- ☐ Laboratory leadership
- ☐ Administrative leadership[3]
- ☐ Other. Describe_____.

Footnotes:
[1] The hospital utilization review committee or its equivalent usually is situated above the laboratory stewardship committee in the institutional hierarchy. It can often have an oversight function and also be used for escalation, for example, to adjudicate issues that the laboratory stewardship committee is unable to resolve.
[2] Clinical leadership usually refers to leaders in the medical or nursing chain of command who are licensed professionals. Examples include the chief medical officer, chief medical information officer, chief nursing officer, surgeon-in-chief, head of hospital medicine, as well as other medical professionals in their chains of command.

[3] Administrative leadership traditionally refers to professional administrators, who usually do not have a medical or nursing degree or are no longer practicing. This includes the chief financial officer, chief legal officer, chief information officer, and a variety of presidents and vice presidents who oversee operations but who do not make medical or nursing policy.

Resources for Laboratory Stewardship

For the purpose of this section, it is assumed that small stewardship projects, which require no additional resources, can be handled locally by the laboratory. Large stewardship projects refer to those that require significant resources such as hospital IT or FTE, and they also involve significant decisions that affect clinical care. Examples might include developing a Computerized Provider Order Entry (CPOE) template for primary care or other major changes in CPOE; implementing a laboratory genetic counseling program to review all genetic test orders, or changing the testing inside a clinical pathway.

3. My facility has adequate resources (FTE, IT, other) for clinical laboratory stewardship?
   - ☐ Strongly disagree
   - ☐ Disagree
   - ☐ Neutral
   - ☐ Agree
   - ☐ Strongly agree

4. List the resources readily available to the stewardship program (check all that apply)[1]
   - ☐ Administrative support
   - ☐ Laboratory Genetic Counselor
   - ☐ Pathologists or other doctoral level staff in the clinical laboratory[2]
   - Data analyst
   - ☐ Physician champion
   - ☐ Nurse champion
   - ☐ Project Manager
   - ☐ External consultative support
   - ☐ Other. Describe_____.

   Footnotes:
   1 Check the box if these human resources are accessible. The human resource does not have to constitute a full FTE(or more) dedicated to the described function or person. The person just has to be available, within a reasonable amount of time, to participate in a project.
   [2]Doctoral level staff can include a clinical chemist, clinical microbiologist, molecular geneticist, or others.

Continuous Performance Improvement Cycle for the Overall Stewardship Program

5. Do you have an annual or more frequent review of the overall laboratory stewardship program including a description of opportunities and improvements?
   - ☐ Yes
   - ☐ No

Reviews can take different forms. One example of a review is a dedicated meeting whose focus is describing the accomplishments, challenges and opportunities of the stewardship program. More detailed reviews involve review of a variety of kinds of data, for example the results of surveys of care providers who interact with the stewardship program, or the results of particular stewardship projects.

6. If yes, how frequently is the overall program reviewed?
   - ☐ Annually
   - ☐ Semi-annual
   - ☐ Quarterly
   - ☐ Other. Describe _____.

a. If yes, where is the review presented (check all that apply)?

- ☐ Medical Executive Committee or its equivalent
- ☐ Laboratory Stewardship Committee meeting
- ☐ Utilization Review Committee or its equivalent[1]
- ☐ Other hospital leadership meeting. Describe _____.
- ☐ Laboratory Staff Meeting
- ☐ Other. Describe _____.

Footnotes:
[1] The hospital utilization review committee or its equivalent usually is situated above the laboratory stewardship committee in the institutional hierarchy. It can often have an oversight function and also be used for escalation, for example, to adjudicate issues that the laboratory stewardship committee is unable to resolve.

7. Does your facility apply a disciplined problem solving approach to the overall laboratory stewardship effort (e.g. Lean, Six Sigma, other)
   - ☐ Yes
   - ☐ No

Disciplined problem solving methods like Lean or Six Sigma employ basic models, tools and measurements to enable quality improvement efforts. Examples of a model include the DMAIC (Define, Measure, Analyze, Intervene, Control) model of performance improvement used in Six Sigma or the Plan Do Check Act/Adjust (PDCA) approach commonly used in Lean. Tools include process maps and a variety of graphs and tables including run charts such as those showing test tallies or spending over time.

8. Does your facility use a dashboard or other visual representation that describes the overall laboratory stewardship effort?
   - ☐ Yes
   - ☐ No

Dashboards or other visual representations often list significant performance metrics for the stewardship program. An example of a performance metric would be a test tally over time for tests that are under management. Dashboards also often include a listing of projects with key performance indicators and milestones for those projects.